Kentucky Retirement Systems

Investment Performance Analysis

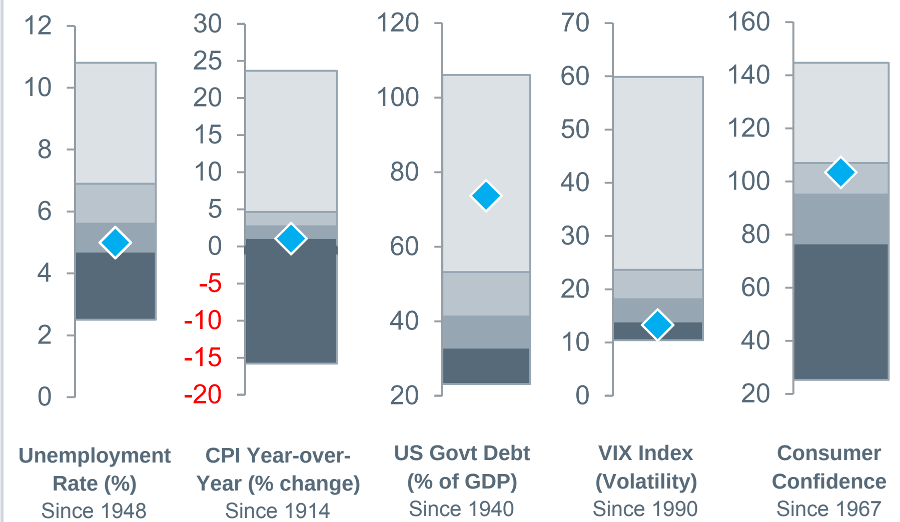
Period Ended: September 30, 2016

Third Quarter Economic Environment

Key Economic Indicators

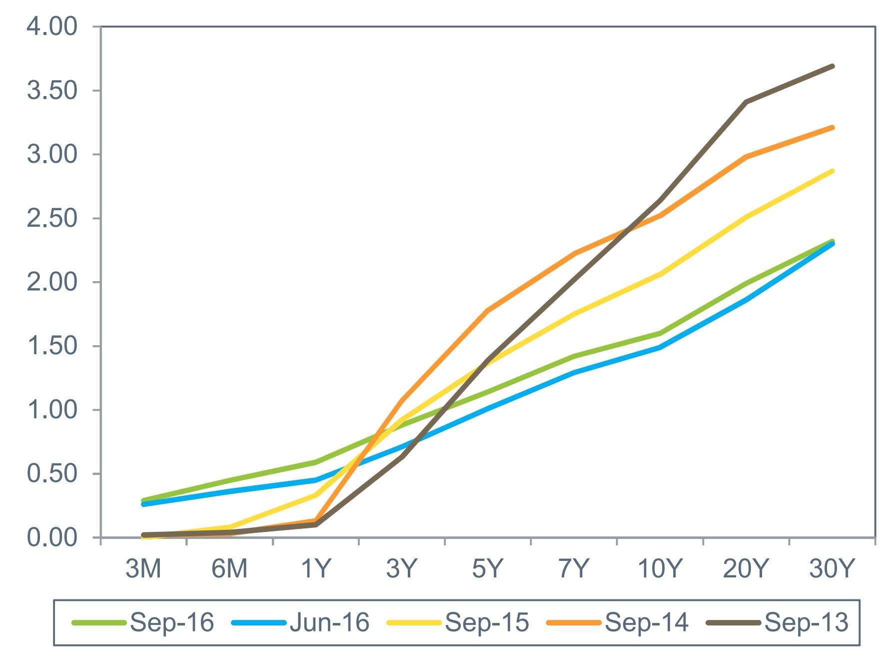
The third quarter of 2016 was generally positive for risk assets. Global equity and credit markets rallied, with both developed and emerging markets adding to gains realized earlier in the year. July was a particularly strong month for equities as volatility sparked by the UK referendum vote in June subsided. Government bond returns were mainly flat during the third quarter, though long duration assets in the US underperformed other global developed markets as the market began to price in a Federal Reserve interest rate hike. Commodity returns were mixed during the quarter, with energy and agricultural commodities giving back prior gains while precious metals performed well.

Key Economic Indicators



Economic Indicators	Sep-16		Jun-16	Sep-15	Sep-13	20 Yr
Federal Funds Rate (%)	0.29	▼	0.30	0.07	0.06	2.41
Breakeven Infl. - 1 Yr (%)	0.95	▼	1.17	-1.75	0.41	N/A
Breakeven Infl. - 10 Yr (%)	1.61	▲	1.44	1.43	2.19	N/A
CPI YoY (Headline) (%)	1.5	▲	1.0	0.0	1.2	2.2
Unemployment Rate (%)	5.0	▲	4.9	5.1	7.3	6.0
Real GDP YoY (%)	1.5	▲	1.3	2.2	1.7	2.4
PMI - Manufacturing	51.50	▼	53.20	50.00	55.40	52.18
USD Total Wtd Idx	90.01	▼	90.65	92.10	75.20	86.79
WTI Crude Oil per Barrel ($)	48.2	▼	48.3	45.1	102.3	55.7
Gold Spot per Oz ($)	1,315.8	▼	1,322.2	1,115.1	1,328.9	773.8

Treasury Yield Curve (%)



Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	3.85	7.84	15.43	16.37	7.24
Russell 2000	9.05	11.46	15.47	15.82	7.07
MSCI EAFE (Net)	6.43	1.73	6.52	7.39	1.82
MSCI EAFE SC (Net)	8.64	5.19	12.33	11.07	4.39
MSCI Emg Mkts (Net)	9.03	16.02	16.78	3.03	3.94
Bloomberg US Agg Bond	0.46	5.80	5.19	3.08	4.79
BofA ML 3 Mo US T-Bill	0.10	0.24	0.27	0.10	0.92
NCREIF ODCE (Gross)	2.07	6.52	10.08	12.40	6.02
Wilshire US REIT	-1.21	9.75	17.94	15.82	5.93
HFRI FOF Comp	2.44	-0.20	0.52	3.17	1.78
Bloomberg Cmdty (TR)	-3.86	8.85	-2.59	-9.37	-5.33

Treasury data courtesy of the US Department of the Treasury. Economic data courtesy of Bloomberg Professional Service.
Breakeven Inflation does not have 20 years of history; therefore, its 20-year average is shown as N/A.

Kentucky Retirement Systems

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Asset Allocation & Performance

	Allocation		Performance (%)
	Market Value ($)	%	FYTD
Total Fund	**11,055,393,018**	**100.00**	**4.02**
U.S. Equity Composite	**2,878,027,907**	**26.03**	**4.22**
River Road Asset Management (SA)	116,697,188	1.06	3.51
River Road FAV (SA)	74,782,571	0.68	8.54
Westfield Capital (SA)	119,364,368	1.08	6.56
Scientific Beta	333,863,347	3.02	2.51
Internal S&P 500 Index (SA)	1,508,654,420	13.65	3.83
Internal US Mid Cap (SA)	264,834,336	2.40	4.02
Systematic Financial Management (SA)	235,577,366	2.13	5.85
NT Structured Small Cap (SA)	224,078,861	2.03	7.24
Pension Transition	15,596	0.00	3.93
Non-U.S. Equity Composite	**2,859,605,475**	**25.87**	**7.03**
Lazard Int'l Strategic Equity (SA)	492,985,857	4.46	4.63
LSV Int'l Concentrated Value Equity (SA)	424,747,223	3.84	9.05
BTC ACWI Ex US Fund (CF)	1,167,328,261	10.56	6.95
American Century Non-US Growth Equity (SA)	352,909,991	3.19	7.56
Franklin Templeton Non-US Equity (SA)	242,894,741	2.20	7.64
NT Int'l Sm Cap Eq Index (SA)	172,234,362	1.56	7.92
Non-US Transition Account	2,087,603	0.02	10.95
Fixed Income Composite	**1,496,127,113**	**13.53**	**2.49**
NISA Core Agg Fixed Income (SA)	303,381,702	2.74	0.49
Cerberus KRS Levered Loan Opps, L.P.	91,656,580	0.83	1.55
Columbia HY Fixed Income (SA)	254,156,551	2.30	4.69
Marathon Bluegrass Credit Fund	200,384,939	1.81	5.13
Shenkman Capital (SA)	86,335,078	0.78	3.14
Waterfall (SA)	134,553,221	1.22	4.07
Manulife Asset Mgmt (SA)	425,181,362	3.85	1.02
Real Return Composite	**917,269,189**	**8.30**	**3.20**
Internal TIPS (SA)	116,447,337	1.05	0.95
Nuveen Real Asset Income (SA)	219,388,452	1.98	3.43
PIMCO:All Asset;Inst (PAAIX)	328,495,733	2.97	3.85
Tortoise Capital (CF)	75,996,580	0.69	2.43
Amerra Ag Fund II (CF)	33,567,396	0.30	1.71
Amerra-AGRI Holding (CF)	35,733,093	0.32	0.26
BTG Pactual Brazil Timberland Fund I, L.P.	6,239,030	0.06	9.20
Magnetar MTP Energy Fund, L.P.	74,770,284	0.68	4.94
Magnetar MTP EOF II, L.P.	12,766,008	0.12	13.32
Oberland Capital Healthcare, L.P.	3,628,800	0.03	1.94
Taurus Mining Finance Fund	9,059,528	0.08	2.86
Tenaska Power Fund II (CF)	1,176,947	0.01	10.94

Asset Allocation & Performance

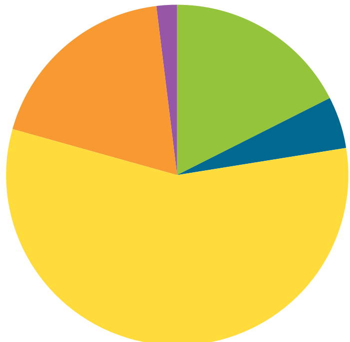
	Allocation		Performance (%)
	Market Value ($)	%	FYTD
Real Estate Composite	**512,041,036**	**4.63**	**2.18**
H/2 Credit Partners (CF)	74,555,829	0.67	2.13
H/2 Core Real Estate Debt Fund, L.P.	16,092,501	0.15	2.14
Harrison Street Core (CF)	74,108,944	0.67	2.64
Mesa West Core Lending, L.P.	57,513,452	0.52	1.51
Prologis Targeted U.S. Logistics Fund (CF)	58,392,671	0.53	2.17
Stockbridge SmtMkts, L.P.	78,568,464	0.71	1.58
DivcoWest Fund IV, L.P.	20,353,567	0.18	11.33
Greenfield Acquisition Partners VI, L.P.	18,921,025	0.17	-4.19
Greenfield Acquisition Partners VII, L.P.	22,659,729	0.20	3.91
Lubert Adler Real Estate Fund VII, L.P.	24,403,478	0.22	3.86
Patron Capital V, L.P.	5,147,575	0.05	N/A
Rubenstein Properties Fund II, L.P.	12,475,522	0.11	0.13
Walton Street Real Estate Fund VI, L.P.	17,845,859	0.16	0.26
Walton Street Real Estate Fund VII, L.P.	31,002,420	0.28	2.31
Absolute Return Composite	**1,101,311,480**	**9.96**	**2.38**
BAAM (SA)	161,150,913	1.46	3.05
Davidson-Kemper, L.P.	44,762,645	0.40	2.66
PAAMCO (SA)	11,606,034	0.10	-0.01
Prisma Capital Partners (SA)	519,849,224	4.70	2.41
Senator Investment Group, L.P.	21,975,098	0.20	N/A
Tourbillon Global Master Fund, Ltd	27,784,716	0.25	9.32
Anchorage Capital	25,240,993	0.23	N/A
Blackrock GAO Fund, Ltd (CF)	29,011,201	0.26	N/A
Coatue Qualified Partners, L.P.	16,685,523	0.15	4.84
DSAM Fund, L.P.	15,024,914	0.14	0.27
Finisterre Global Op	18,951,221	0.17	N/A
Glenview Capital (CF)	16,664,481	0.15	6.20
HBK II (CF)	42,560,120	0.38	1.42
Jana Partners (CF)	14,008,384	0.13	5.71
Knighthead Capital (CF)	14,287,803	0.13	1.96
LibreMax Capital (CF)	11,708,488	0.11	3.22
Liquidalts H2O Force (CF)	14,316,880	0.13	N/A
Luxor Capital (CF)	10,521,293	0.10	4.02
Myriad Opportunities	30,253,951	0.27	2.19
Pine River (CF)	14,971,614	0.14	3.31
QMS Diversified Global Macro (CF)	18,958,349	0.17	-1.69
Scopia PX, LLC	21,017,635	0.19	1.99
Private Equity Composite	**1,096,696,029**	**9.92**	**2.00**
Cash Equivalent Composite	**187,263,782**	**1.69**	**0.11**
Cash Equivalents (SA)	187,263,782	1.69	0.11
Other Composite	**7,051,007**	**0.06**	**0.00**

Performance shown is net of fees. Fiscal year ends June 30th. Allocations shown may not sum up to 100% exactly due to rounding. Other Composite consists of Perimeter Park (SA) and BNY fee accruals. Real Estate and Private Equity valuations shown are as of the most recent date available.

RVK

Asset Allocation by Sub-Plan

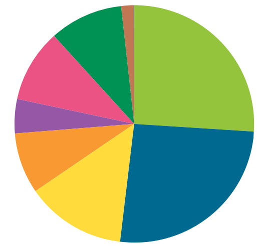
September 30, 2016 : $11,055,393,017



	Market Value ($)	Allocation (%)
KERS (P)	1,937,304,234	17.52
KERS Haz (P)	545,716,283	4.94
CERS (P)	6,290,484,104	56.90
CERS Haz (P)	2,064,895,561	18.68
SPRS (P)	216,992,835	1.96

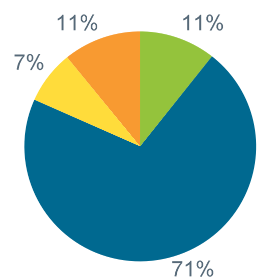
Asset Allocation by Asset Class

September 30, 2016 : $11,055,393,018

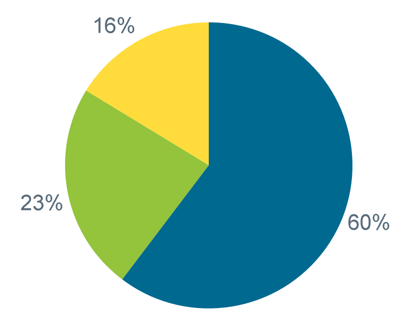


	Market Value ($)	Allocation (%)
U.S. Equity Composite	2,878,027,907	26.03
Non-U.S. Equity Composite	2,859,605,475	25.87
Fixed Income Composite	1,496,127,113	13.53
Real Return Composite	917,269,189	8.30
Real Estate Composite	512,041,036	4.63
Absolute Return Composite	1,101,311,480	9.96
Private Equity Composite	1,096,696,029	9.92
Cash Equivalent Composite	187,263,782	1.69
Other Composite	7,051,007	0.06

Asset Allocation by Theme



Asset Allocation by Liquidity



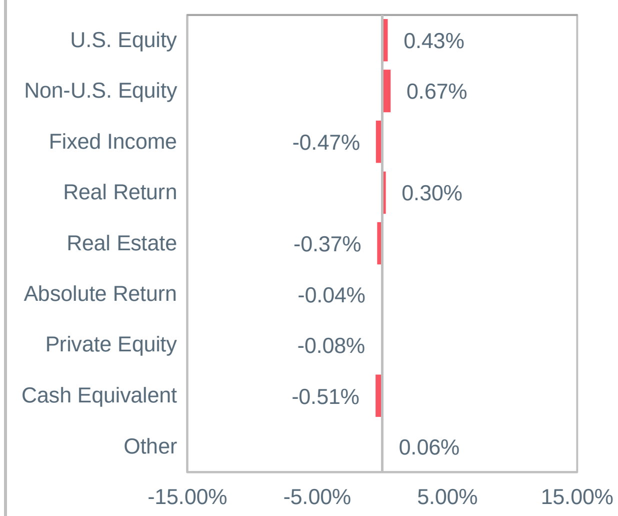
Allocations shown may not sum up to 100% exactly due to rounding. Totals shown may not match due to differences between BNY Mellon's performance and accounting departments. Other Composite consists of Perimeter Park (SA) and BNY fee accruals.

RVK

Asset Allocation vs. Target Allocation

	Asset Allocation ($)	Asset Allocation (%)	Minimum Allocation (%)	Target Allocation (%)	Maximum Allocation (%)
Total Fund	11,055,393,018	100.00	-	100.00	-
U.S. Equity Composite	2,878,027,907	26.03	20.60	25.60	30.60
Non-U.S. Equity Composite	2,859,605,475	25.87	20.20	25.20	30.20
Fixed Income Composite	1,496,127,113	13.53	10.00	14.00	18.00
Real Return Composite	917,269,189	8.30	6.00	8.00	10.00
Real Estate Composite	512,041,036	4.63	3.00	5.00	7.00
Absolute Return Composite	1,101,311,480	9.96	8.00	10.00	12.00
Private Equity Composite	1,096,696,029	9.92	7.00	10.00	13.00
Cash Equivalent Composite	187,263,782	1.69	0.20	2.20	4.20
Other Composite	7,051,007	0.06	-	-	-

Asset Allocation vs. Target Allocation Differences



Individual Plan Asset Allocation Monitor

	KERS	KERS Haz	CERS	CERS Haz	SPRS
U.S. Equity Composite	In Range	In Range	In Range	In Range	In Range
Non-U.S. Equity Composite	In Range	In Range	In Range	In Range	In Range
Fixed Income Composite	In Range	In Range	In Range	In Range	In Range
Real Return Composite	In Range	In Range	In Range	In Range	In Range
Real Estate Composite	In Range	In Range	In Range	In Range	In Range
Absolute Return Composite	In Range	In Range	In Range	In Range	In Range
Private Equity Composite	**Over Max**	In Range	In Range	In Range	In Range
Cash Equivalent Composite	In Range	In Range	In Range	In Range	In Range
Other Composite	In Range	In Range	In Range	In Range	In Range

Allocations shown may not sum to 100% exactly due to rounding. Other Composite consists of Perimeter Park (SA) and BNY fee accruals.
KERS Private Equity Composite is over the maximum allocation by 0.91%. This is an illiquid asset class and may take additional time to bring back into target range.

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	Since Incep.	Inception Date
Total Fund	**4.02**	**4.02**	**6.63**	**8.69**	**5.36**	**7.96**	**5.02**	**-0.02**	**5.14**	**12.70**	**9.09**	**04/01/1984**
Target Allocation Index (P)	4.05	4.05	6.94	9.06	5.86	8.43	5.48	0.75	5.84	13.34	9.25	
Difference	-0.03	-0.03	-0.31	-0.37	-0.50	-0.47	-0.46	-0.77	-0.70	-0.64	-0.16	
KERS (P)	**3.70**	**3.70**	**5.46**	**7.33**	**5.37**	**7.93**	**5.01**	**0.61**	**5.98**	**12.16**	**9.08**	**04/01/1984**
Target Allocation Index (KERS P)	3.82	3.82	7.23	9.26	5.85	8.43	5.48	0.58	5.57	13.53	9.25	
Difference	-0.12	-0.12	-1.77	-1.93	-0.48	-0.50	-0.47	0.03	0.41	-1.37	-0.17	
KERS Haz (P)	**3.84**	**3.84**	**6.76**	**8.82**	**5.38**	**7.98**	**5.03**	**0.03**	**4.90**	**12.84**	**9.09**	**04/01/1984**
Target Allocation Index (KERS Haz P)	4.11	4.11	6.87	8.88	5.54	8.28	5.40	0.22	5.43	13.67	9.23	
Difference	-0.27	-0.27	-0.11	-0.06	-0.16	-0.30	-0.37	-0.19	-0.53	-0.83	-0.14	
CERS (P)	**4.11**	**4.11**	**6.91**	**9.04**	**5.34**	**7.96**	**5.02**	**-0.20**	**4.91**	**12.85**	**9.09**	**04/01/1984**
Target Allocation Index (CERS P)	4.11	4.11	6.87	8.88	5.54	8.28	5.40	0.22	5.43	13.67	9.23	
Difference	0.00	0.00	0.04	0.16	-0.20	-0.32	-0.38	-0.42	-0.52	-0.82	-0.14	
CERS Haz (P)	**4.09**	**4.09**	**6.96**	**9.06**	**5.38**	**7.98**	**5.03**	**-0.10**	**4.92**	**12.80**	**9.09**	**04/01/1984**
Target Allocation Index (CERS Haz P)	4.11	4.11	6.87	8.88	5.54	8.28	5.40	0.22	5.43	13.67	9.23	
Difference	-0.02	-0.02	0.09	0.18	-0.16	-0.30	-0.37	-0.32	-0.51	-0.87	-0.14	
SPRS (P)	**3.58**	**3.58**	**5.51**	**7.58**	**4.80**	**7.64**	**4.87**	**-0.41**	**4.96**	**12.86**	**9.04**	**04/01/1984**
Target Allocation Index (SPRS P)	3.90	3.90	7.00	9.02	5.56	8.29	5.41	0.21	5.37	13.67	9.23	
Difference	-0.32	-0.32	-1.49	-1.44	-0.76	-0.65	-0.54	-0.62	-0.41	-0.81	-0.19	

Performance shown is net of fees. All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon. Fiscal year ends June 30th. See the Addendum for the complete historical composition of custom indices.

Composite Comparative Performance

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
U.S. Equity Composite	**4.22**	**4.22**	**8.61**	**14.78**	**9.38**	**15.65**	**-0.95**	**10.78**	**33.73**	**11.12**	**04/01/1984**
R 3000 Index (P)*	4.40	4.40	8.18	14.96	10.44	16.36	0.48	12.56	33.55	11.12	
Difference	-0.18	-0.18	0.43	-0.18	-1.06	-0.71	-1.43	-1.78	0.18	0.00	
Non-U.S. Equity Composite	**7.03**	**7.03**	**6.17**	**10.41**	**1.17**	**6.58**	**-3.34**	**-4.12**	**18.34**	**2.23**	**07/01/2000**
MSCI ACW Ex US Investable Mkt Index (Gross) (P)*	7.14	7.14	6.52	10.04	0.71	6.57	-5.25	-3.44	15.78	2.68	
Difference	-0.11	-0.11	-0.35	0.37	0.46	0.01	1.91	-0.68	2.56	-0.45	
Fixed Income Composite	**2.49**	**2.49**	**7.75**	**7.46**	**4.82**	**4.87**	**0.48**	**5.42**	**-0.04**	**7.74**	**04/01/1984**
50/50 Bloomberg US Unv Bond/US Corp: Hi Yld Index (P)*	3.24	3.24	10.87	10.27	5.61	4.42	0.43	5.56	-1.35	7.58	
Difference	-0.75	-0.75	-3.12	-2.81	-0.79	0.45	0.05	-0.14	1.31	0.16	
Real Return Composite	**3.20**	**3.20**	**11.94**	**11.07**	**2.49**	**3.07**	**-5.96**	**3.20**	**-4.37**	**3.77**	**07/01/2011**
Real Return Actual Allocation Index (P)*	1.53	1.53	8.20	7.34	1.74	2.88	-4.07	2.95	2.33	2.93	
Difference	1.67	1.67	3.74	3.73	0.75	0.19	-1.89	0.25	-6.70	0.84	
Real Estate Composite	**2.18**	**2.18**	**7.17**	**8.38**	**8.55**	**8.99**	**8.89**	**8.85**	**9.17**	**5.86**	**07/01/1984**
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)	1.91	1.91	7.12	10.80	11.97	11.66	13.86	11.36	11.97	6.42	
Difference	0.27	0.27	0.05	-2.42	-3.42	-2.67	-4.97	-2.51	-2.80	-0.56	
Absolute Return Composite	**2.38**	**2.38**	**-1.20**	**-1.60**	**3.10**	**4.54**	**1.70**	**4.84**	**12.08**	**3.96**	**04/01/2010**
HFRI FOF: Dvf'd Index (1 Mo Lag)	1.26	1.26	-1.44	-2.10	2.53	2.61	0.79	4.72	8.61	2.49	
Difference	1.12	1.12	0.24	0.50	0.57	1.93	0.91	0.12	3.47	1.47	
Private Equity Composite	**2.00**	**2.00**	**3.74**	**3.99**	**12.17**	**11.73**	**11.15**	**16.20**	**15.11**	**10.78**	**07/01/2002**
Private Equity Benchmark (P) [Short Term]	2.00	2.00	3.74	3.99	12.17	11.73	11.15	16.20	15.11	10.78	
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
R 3000 Index + 3% (Qtr Lag) (P)* [Long Term]	3.59	3.59	12.17	5.13	14.77	15.39	3.51	21.76	25.61	10.34	
Difference	-1.59	-1.59	-8.43	-1.14	-2.60	-3.66	7.64	-5.56	-10.50	0.44	
Cash Equivalent Composite	**0.11**	**0.11**	**0.46**	**0.51**	**0.30**	**0.36**	**0.20**	**0.17**	**0.64**	**3.72**	**01/01/1988**
Citi 3 Mo T-Bill Index	0.07	0.07	0.19	0.20	0.08	0.08	0.03	0.02	0.06	3.28	
Difference	0.04	0.04	0.27	0.31	0.22	0.28	0.17	0.15	0.58	0.44	

Performance shown is net of fees, except where noted. All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon. Fiscal year ends June 30th. An index marked with an asterisk (*) represents the current benchmark. See the Addendum for the complete historical composition of custom indices.

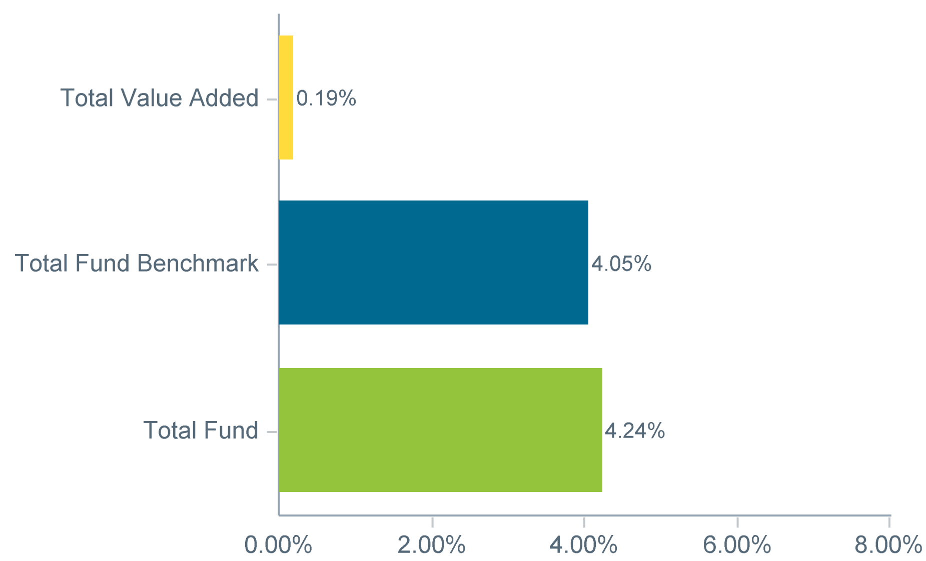
	7 Years	10 Years	12 Years	15 Years	20 Years	25 Years
U.S. Equity Composite	**12.60**	**7.13**	**8.05**	**7.55**	**8.25**	**9.74**
R 3000 Index (P)*	13.22	7.40	8.26	7.82	8.28	9.66
Difference	-0.62	-0.27	-0.21	-0.27	-0.03	0.08
Non-U.S. Equity Composite	**3.94**	**2.36**	**5.38**	**5.90**	**N/A**	**N/A**
MSCI ACW Ex US Investable Mkt Index (Gross) (P)*	4.22	2.23	5.42	6.17	N/A	N/A
Difference	-0.28	0.13	-0.04	-0.27	N/A	N/A
Fixed Income Composite	**5.68**	**5.35**	**5.02**	**5.42**	**5.98**	**6.27**
50/50 Bloomberg US Unv Bond/US Corp: Hi Yld Index (P)*	5.12	5.44	5.07	5.50	6.04	6.30
Difference	0.56	-0.09	-0.05	-0.08	-0.06	-0.03
Real Return Composite	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Real Return Actual Allocation Index (P)*	N/A	N/A	N/A	N/A	N/A	N/A
Difference	N/A	N/A	N/A	N/A	N/A	N/A
Real Estate Composite	**10.84**	**6.47**	**6.87**	**6.11**	**5.80**	**4.87**
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)	9.85	5.19	7.11	6.95	8.36	6.78
Difference	0.99	1.28	-0.24	-0.84	-2.56	-1.91
Absolute Return Composite	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
HFRI FOF: Dvf'd Index (1 Mo Lag)	2.78	1.81	2.99	3.29	4.66	5.75
Difference	N/A	N/A	N/A	N/A	N/A	N/A
Private Equity Composite	**13.74**	**7.22**	**9.90**	**N/A**	**N/A**	**N/A**
Private Equity Benchmark (P) [Short Term]	13.74	7.22	9.90	N/A	N/A	N/A
Difference	0.00	0.00	0.00	N/A	N/A	N/A
R 3000 Index + 3% (Qtr Lag) (P)* [Long Term]	15.20	10.13	10.12	9.74	9.16	N/A
Difference	-1.46	-2.91	-0.22	N/A	N/A	N/A
Cash Equivalent Composite	**0.46**	**1.40**	**1.79**	**1.76**	**2.69**	**3.09**
Citi 3 Mo T-Bill Index	0.08	0.84	1.27	1.30	2.25	2.67
Difference	0.38	0.56	0.52	0.46	0.44	0.42

Performance shown is net of fees, except where noted. All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon. Fiscal year ends June 30th. An index marked with an asterisk (*) represents the current benchmark. See the Addendum for the complete historical composition of custom indices.

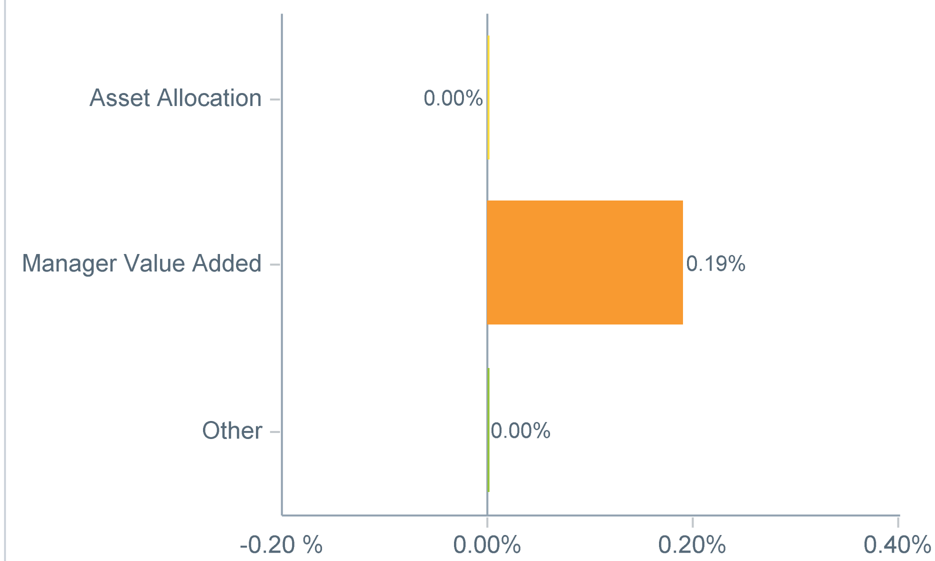
Kentucky Retirement Systems - Pension Plan
Total Fund vs. Target Allocation Index (P)
Total Fund Attribution

Quarter To Date Ending September 30, 2016

Total Fund Performance

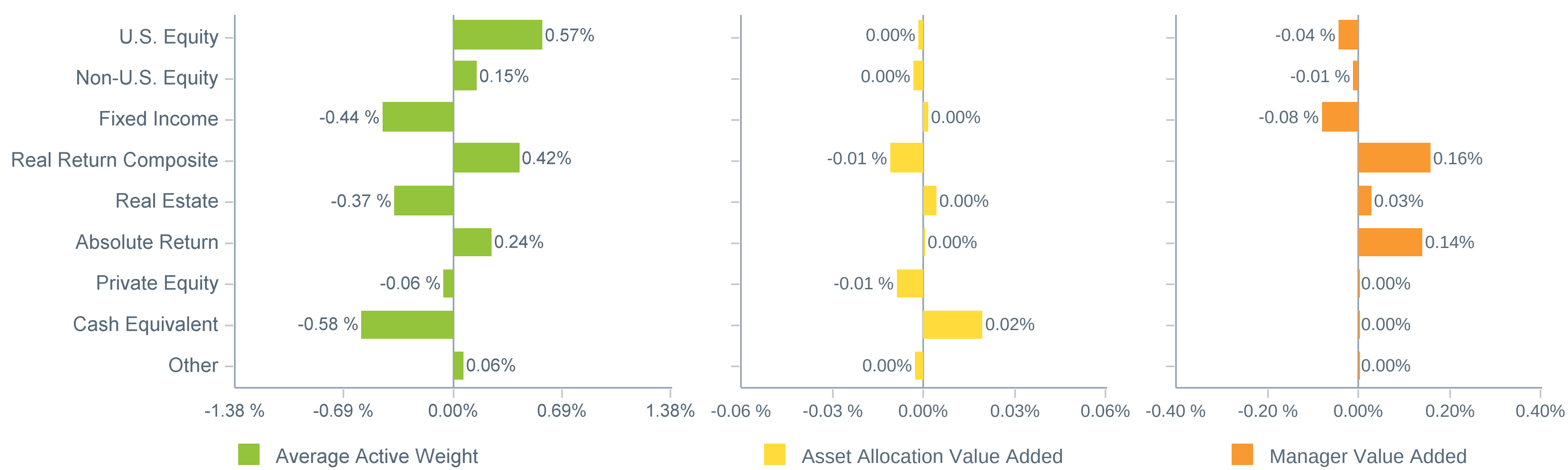


Total Value Added: 0.19%



Total Asset Allocation: 0.00%

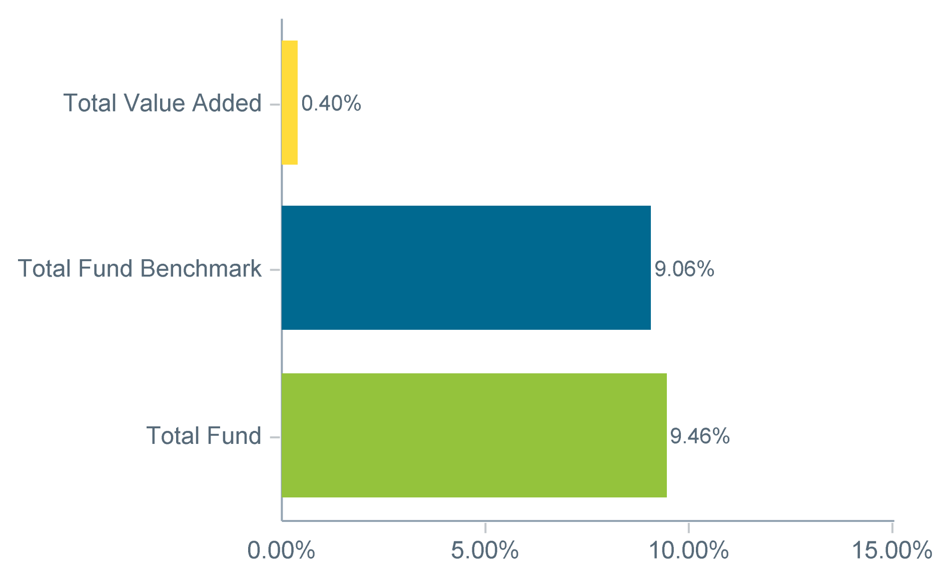
Total Manager Value Added: 0.19%



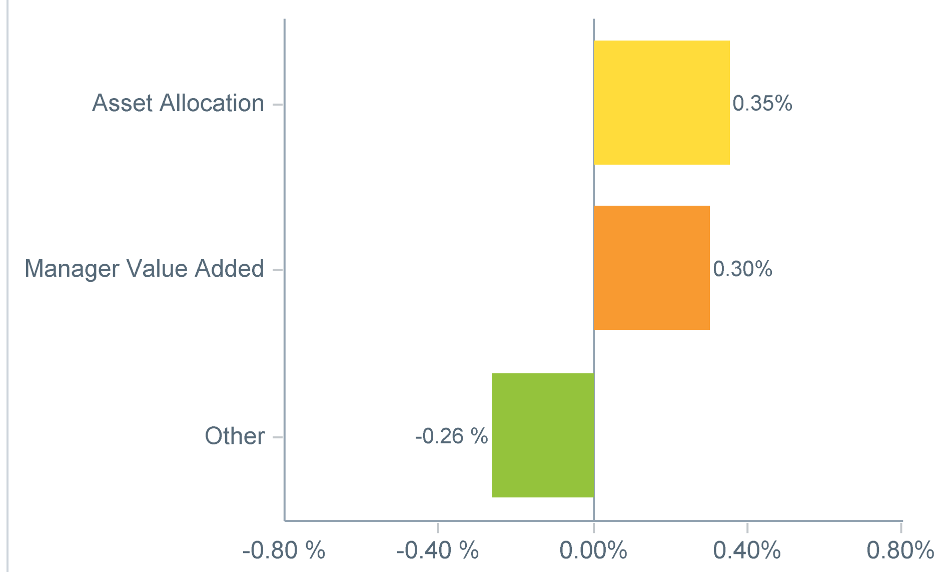
Performance shown is gross of fees. Calculation is based on monthly periodicity. Allocation to "Other" is the contribution of other residual factors, including market timing and cash flows.

RVK

Total Fund Performance

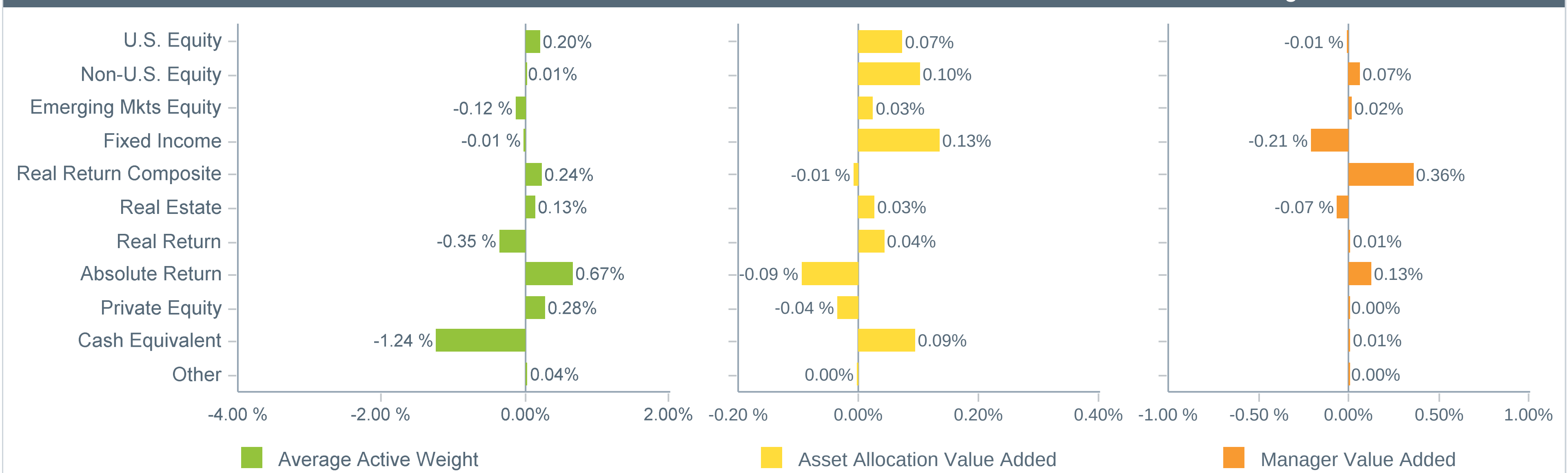


Total Value Added: 0.40%



Total Asset Allocation: 0.35%

Total Manager Value Added: 0.30%



Performance shown is gross of fees. Calculation is based on monthly periodicity. Allocation to "Other" is the contribution of other residual factors, including market timing and cash flows.

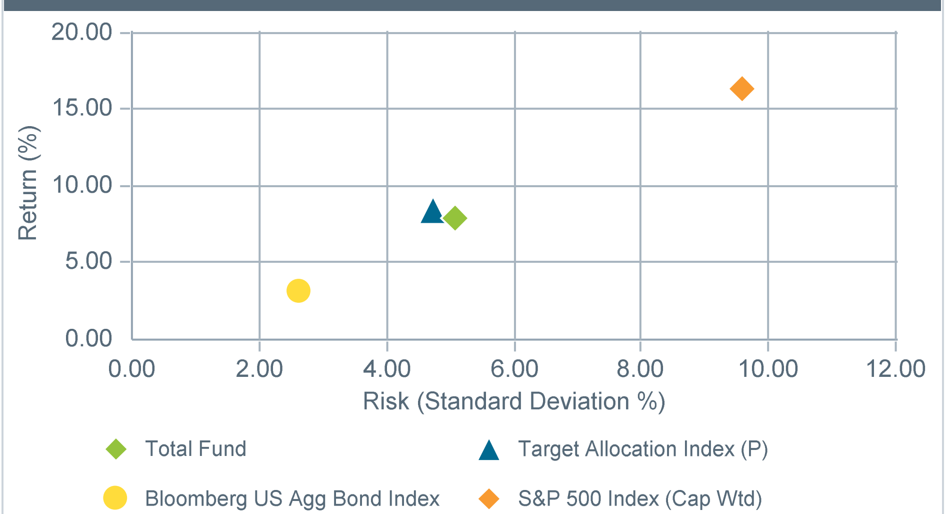
Historical Statistics - 5 Years

	Total Fund	U.S. Equity Composite	Non-U.S. Equity Composite	Fixed Income Composite	Real Return Composite	Real Estate Composite	Absolute Return Composite	Private Equity Composite	Cash Equivalent Composite
Standard Deviation	5.84	11.56	13.58	3.09	5.42	3.19	3.42	5.82	0.17
Sharpe Ratio	1.33	1.31	0.53	1.53	0.58	2.70	1.29	1.93	1.56
Downside Risk	3.10	5.81	8.63	1.76	3.47	0.30	1.97	0.43	0.00
Excess Return	7.75	15.18	7.22	4.71	3.14	8.59	4.41	11.20	0.26

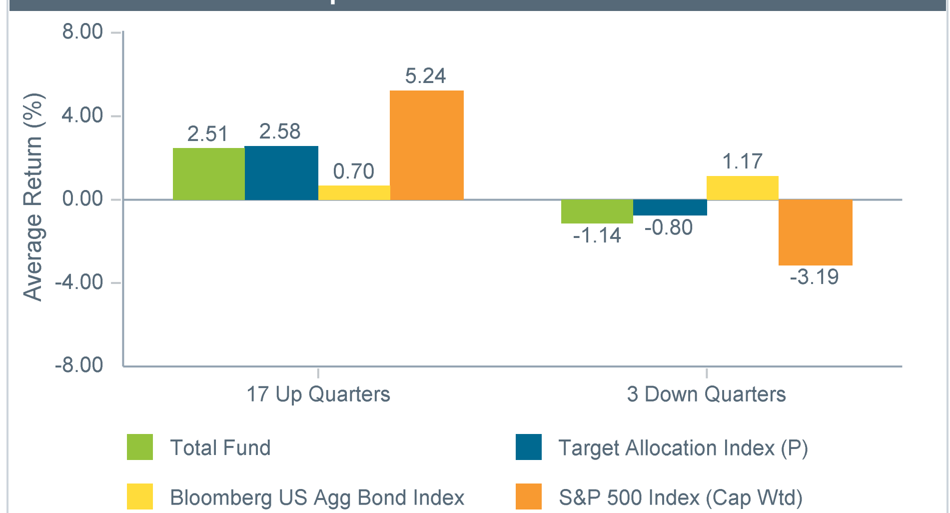
Correlation Matrix - 5 Years

	Total Fund	U.S. Equity Composite	Non-U.S. Equity Composite	Fixed Income Composite	Real Return Composite	Real Estate Composite	Absolute Return Composite	Private Equity Composite	Cash Equivalent Composite
Total Fund	1.00								
U.S. Equity Composite	0.91	1.00							
Non-U.S. Equity Composite	0.96	0.85	1.00						
Fixed Income Composite	0.57	0.37	0.52	1.00					
Real Return Composite	0.65	0.45	0.58	0.75	1.00				
Real Estate Composite	-0.08	-0.17	-0.17	-0.22	-0.05	1.00			
Absolute Return Composite	-0.13	-0.21	-0.17	-0.23	-0.22	0.17	1.00		
Private Equity Composite	-0.05	-0.14	-0.17	-0.25	-0.18	0.64	0.28	1.00	
Cash Equivalent Composite	0.15	0.15	0.16	0.11	0.18	-0.13	-0.15	-0.10	1.00

Risk/Return - 5 Years

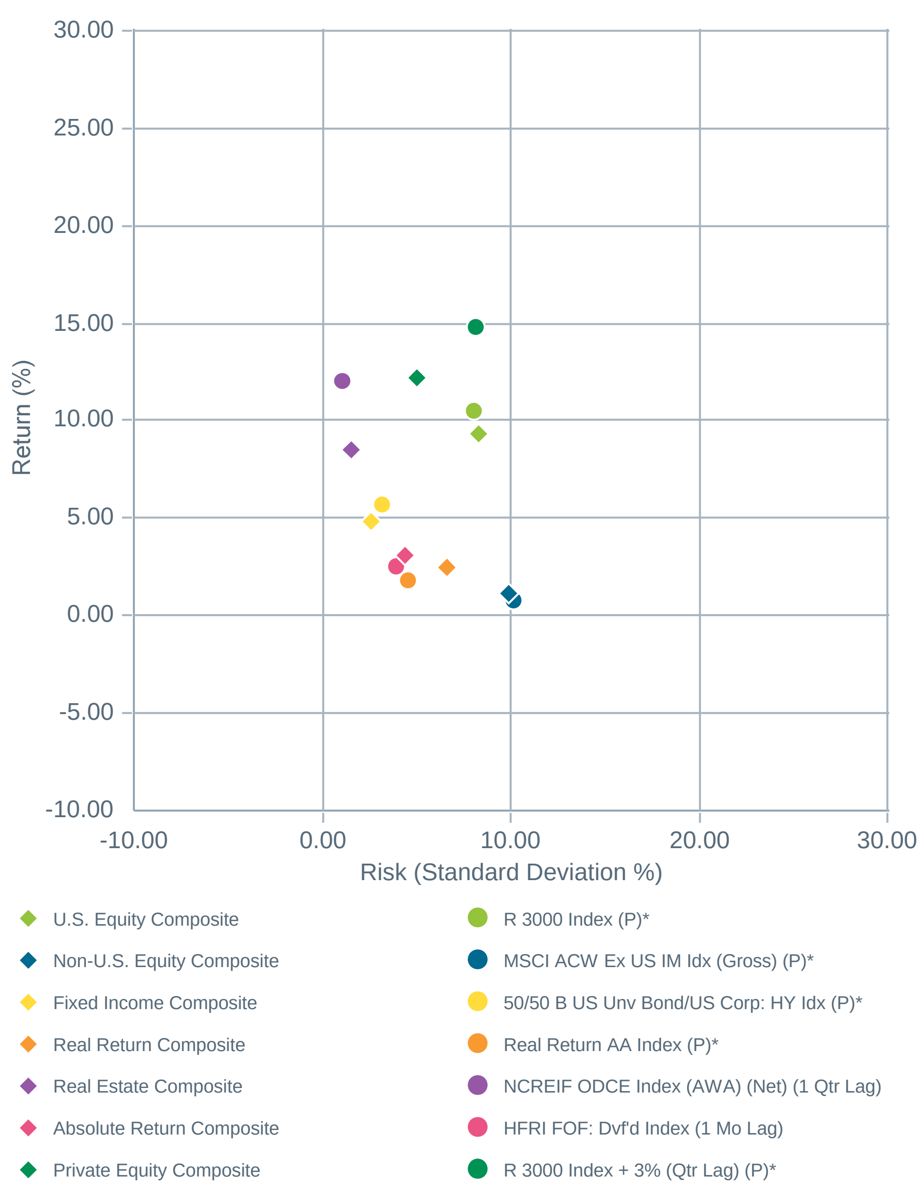


Up Down Market Bar Chart

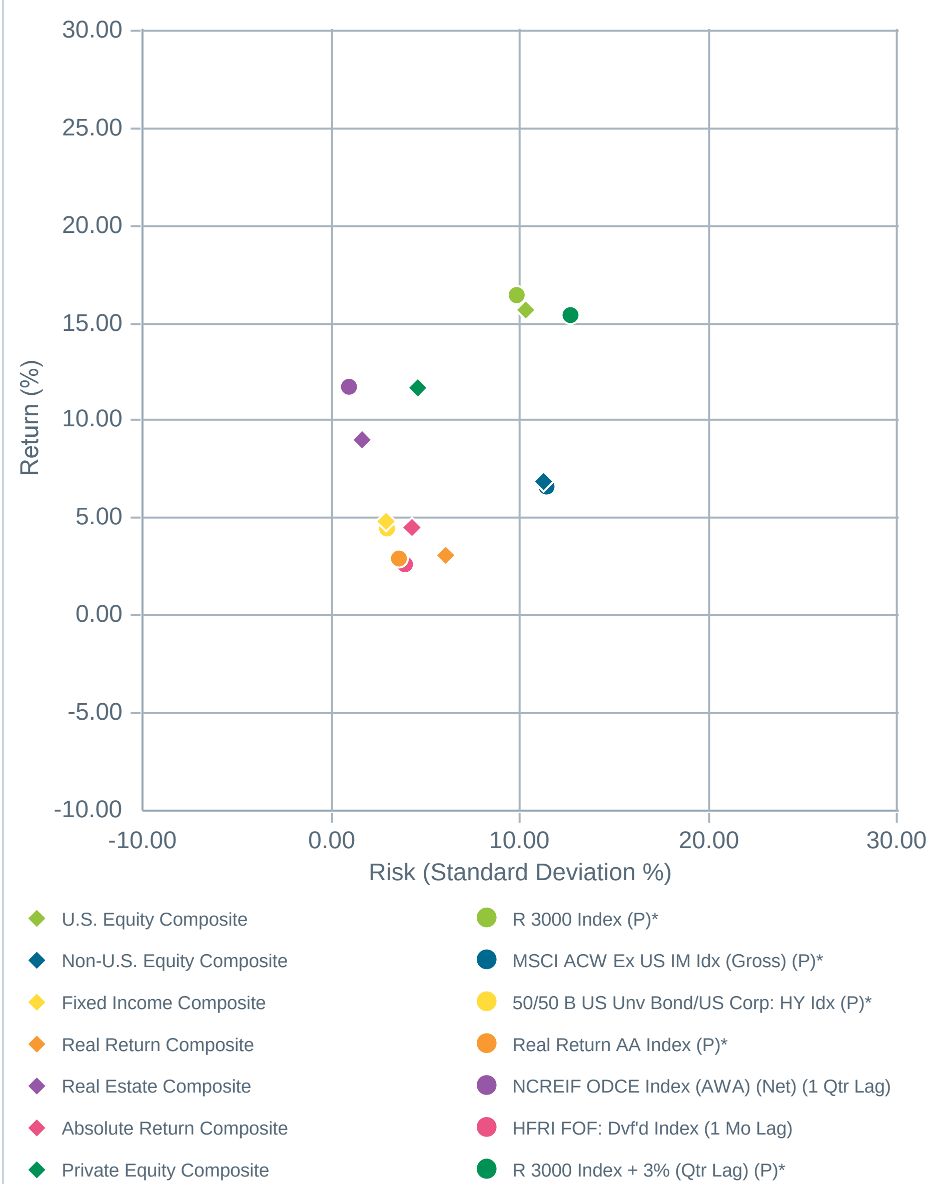


Performance shown is net of fees. Calculation is based on quarterly periodicity.
Excess return is measured against the BofA ML 3 Mo US T-Bill Index.

Asset Class Risk/Return - 3 Years Ending September 30, 2016



Asset Class Risk/Return - 5 Years Ending September 30, 2016

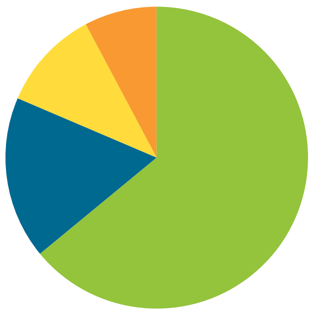


Performance shown is net of fees. Composites with less history than the specified time period will not appear in the chart.

RVK

U.S. Equity

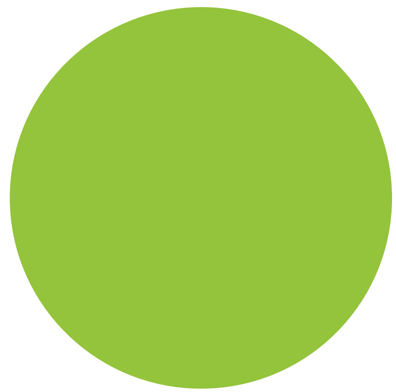
September 30, 2016 : $2,878,027,907



	Market Value ($)	Allocation (%)
U.S. Large Cap Equity	1,842,620,666	64.02
U.S. Mid Cap Equity	500,484,252	17.39
U.S. All Cap Equity	310,844,129	10.80
U.S. Small Cap Equity	224,078,861	7.79

Non-U.S. Equity

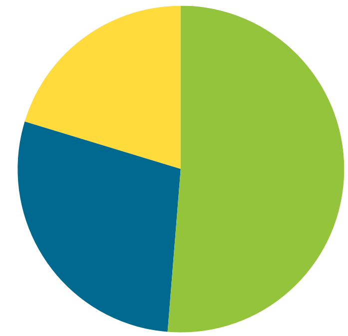
September 30, 2016 : $2,859,605,475



	Market Value ($)	Allocation (%)
Non-U.S. Equity	2,859,605,475	100.00

Fixed Income

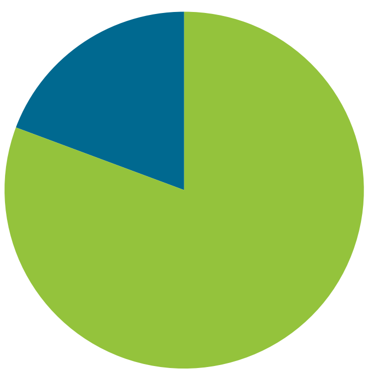
September 30, 2016 : $1,496,127,113



	Market Value ($)	Allocation (%)
High Yield Fixed Income	767,239,661	51.28
Global Fixed Income	425,181,362	28.42
Core Fixed Income	303,706,090	20.30

Real Return

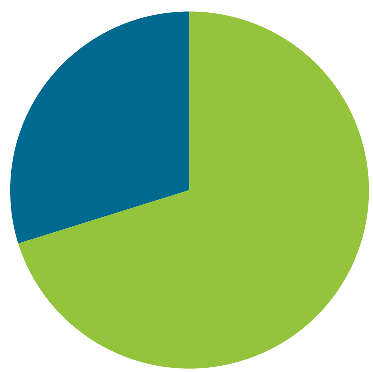
September 30, 2016 : $917,269,189



	Market Value ($)	Allocation (%)
Liquid Real Return	740,328,103	80.71
Illiquid Real Return	176,941,086	19.29

Real Estate

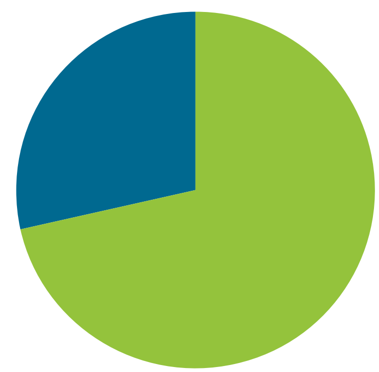
September 30, 2016 : $512,041,036



	Market Value ($)	Allocation (%)
Core Real Estate	359,231,861	70.16
Opp. & VA Real Estate	152,809,175	29.84

Absolute Return

September 30, 2016 : $1,101,311,480



	Market Value ($)	Allocation (%)
Absolute Return (FoF)	787,128,630	71.47
Absolute Return (Direct)	314,182,849	28.53

Allocations shown may not sum to 100% exactly due to rounding. Pension Transition account is included in U.S. Large Cap Equity.

RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
River Road Asset Management (SA)	**3.51**	**3.51**	**13.29**	**18.41**	**9.06**	**14.16**	**-3.83**	**9.82**	**32.55**	**11.17**	**07/01/2011**
Russell 3000 Val Index	3.87	3.87	10.40	16.38	9.46	16.09	-4.13	12.70	32.69	11.34	
Difference	-0.36	-0.36	2.89	2.03	-0.40	-1.93	0.30	-2.88	-0.14	-0.17	
River Road FAV (SA)	**8.54**	**8.54**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**8.54**	**07/01/2016**
Russell 3000 Val Index	3.87	3.87	10.40	16.38	9.46	16.09	-4.13	12.70	32.69	3.87	
Difference	4.67	4.67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.67	
Westfield Capital (SA)	**6.56**	**6.56**	**1.55**	**7.64**	**7.89**	**15.91**	**-1.37**	**12.34**	**38.88**	**10.69**	**07/01/2011**
Russell 3000 Grth Index	4.92	4.92	6.12	13.64	11.40	16.56	5.09	12.44	34.23	12.46	
Difference	1.64	1.64	-4.57	-6.00	-3.51	-0.65	-6.46	-0.10	4.65	-1.77	
U.S. All Cap Equity Composite	**5.27**	**5.27**	**5.56**	**10.60**	**8.20**	**15.28**	**-2.31**	**11.30**	**36.05**	**10.33**	**07/01/2011**
Russell 3000 Index	4.40	4.40	8.18	14.96	10.44	16.36	0.48	12.56	33.55	11.93	
Difference	0.87	0.87	-2.62	-4.36	-2.24	-1.08	-2.79	-1.26	2.50	-1.60	
Scientific Beta	**2.51**	**2.51**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**2.51**	**07/01/2016**
S&P 500 Index (Cap Wtd)	3.85	3.85	7.84	15.43	11.16	16.37	1.38	13.69	32.39	3.85	
Difference	-1.34	-1.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.34	
Internal S&P 500 Index (SA)	**3.83**	**3.83**	**7.65**	**15.19**	**11.06**	**16.26**	**1.37**	**13.61**	**32.34**	**6.36**	**07/01/2001**
S&P 500 Index (Cap Wtd)*	3.85	3.85	7.84	15.43	11.16	16.37	1.38	13.69	32.39	6.32	
Difference	-0.02	-0.02	-0.19	-0.24	-0.10	-0.11	-0.01	-0.08	-0.05	0.04	
U.S. Large Cap Equity Composite	**3.63**	**3.63**	**7.94**	**15.16**	**10.84**	**N/A**	**0.77**	**13.20**	**N/A**	**11.72**	**07/01/2013**
Russell 1000 Index	4.03	4.03	7.92	14.93	10.78	16.41	0.92	13.24	33.11	11.90	
Difference	-0.40	-0.40	0.02	0.23	0.06	N/A	-0.15	-0.04	N/A	-0.18	

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	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Internal US Mid Cap (SA)	**4.02**	**4.02**	**12.25**	**15.09**	**N/A**	**N/A**	**-2.37**	**N/A**	**N/A**	**7.45**	**08/01/2014**
S&P Mid Cap 400 Index (Cap Wtd)	4.14	4.14	12.40	15.33	9.35	16.50	-2.18	9.77	33.50	7.64	
Difference	-0.12	-0.12	-0.15	-0.24	N/A	N/A	-0.19	N/A	N/A	-0.19	
Systematic Financial Management (SA)	**5.85**	**5.85**	**8.80**	**15.05**	**5.55**	**N/A**	**-5.24**	**5.34**	**34.69**	**11.59**	**07/01/2012**
Russell Mid Cap Val Index	4.45	4.45	13.72	17.26	10.49	17.38	-4.78	14.75	33.46	15.18	
Difference	1.40	1.40	-4.92	-2.21	-4.94	N/A	-0.46	-9.41	1.23	-3.59	
U.S. Mid Cap Equity Composite	**4.79**	**4.79**	**12.00**	**16.05**	**5.98**	**N/A**	**-4.79**	**3.72**	**N/A**	**8.79**	**07/01/2013**
S&P Mid Cap 400 Index (Cap Wtd)	4.14	4.14	12.40	15.33	9.35	16.50	-2.18	9.77	33.50	11.06	
Difference	0.65	0.65	-0.40	0.72	-3.37	N/A	-2.61	-6.05	N/A	-2.27	
NT Structured Small Cap (SA)	**7.24**	**7.24**	**11.12**	**15.30**	**7.66**	**16.82**	**-3.18**	**6.55**	**39.27**	**9.76**	**10/01/1999**
Russell 2000 Index	9.05	9.05	11.46	15.47	6.71	15.82	-4.41	4.89	38.82	7.95	
Difference	-1.81	-1.81	-0.34	-0.17	0.95	1.00	1.23	1.66	0.45	1.81	
U.S. Small Cap Equity Composite	**7.18**	**7.18**	**11.06**	**15.24**	**7.61**	**N/A**	**-3.26**	**6.55**	**N/A**	**10.39**	**07/01/2013**
Russell 2000 Index	9.05	9.05	11.46	15.47	6.71	15.82	-4.41	4.89	38.82	9.40	
Difference	-1.87	-1.87	-0.40	-0.23	0.90	N/A	1.15	1.66	N/A	0.99	
U.S. Equity Composite	**4.22**	**4.22**	**8.61**	**14.78**	**9.38**	**15.65**	**-0.95**	**10.78**	**33.73**	**11.12**	**04/01/1984**
R 3000 Index (P)*	4.40	4.40	8.18	14.96	10.44	16.36	0.48	12.56	33.55	11.12	
Difference	-0.18	-0.18	0.43	-0.18	-1.06	-0.71	-1.43	-1.78	0.18	0.00	

Performance shown is net of fees. All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon. Fiscal year ends June 30th. An index marked with an asterisk (*) represents the current benchmark. See the Addendum for the complete historical composition of custom indices. Manager inception dates shown represent the first full month following initial funding.

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Lazard Int'l Strategic Equity (SA)	**4.63**	**4.63**	**4.21**	**8.55**	**N/A**	**N/A**	**-0.62**	**N/A**	**N/A**	**-1.47**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	-2.37	-2.37	-2.08	-1.25	N/A	N/A	4.63	N/A	N/A	2.25	
LSV Int'l Concentrated Value Equity (SA)	**9.05**	**9.05**	**5.07**	**5.75**	**N/A**	**N/A**	**-5.96**	**N/A**	**N/A**	**-4.09**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	2.05	2.05	-1.22	-4.05	N/A	N/A	-0.71	N/A	N/A	-0.37	
BTC ACWI Ex US Fund (CF)	**6.95**	**6.95**	**6.14**	**9.59**	**0.42**	**6.26**	**-5.42**	**-3.85**	**15.55**	**6.34**	**07/01/2009**
MSCI ACW Ex US Index (USD) (Net)	6.91	6.91	5.82	9.26	0.18	6.04	-5.66	-3.87	15.29	6.13	
Difference	0.04	0.04	0.32	0.33	0.24	0.22	0.24	0.02	0.26	0.21	
American Century Non-US Growth Equity (SA)	**7.56**	**7.56**	**1.23**	**7.83**	**N/A**	**N/A**	**-0.88**	**N/A**	**N/A**	**-2.60**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	0.56	0.56	-5.06	-1.97	N/A	N/A	4.37	N/A	N/A	1.12	
Franklin Templeton Non-US Equity (SA)	**7.64**	**7.64**	**5.85**	**12.26**	**N/A**	**N/A**	**1.00**	**N/A**	**N/A**	**-0.43**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	0.64	0.64	-0.44	2.46	N/A	N/A	6.25	N/A	N/A	3.29	
NT Int'l Sm Cap Eq Index (SA)	**7.92**	**7.92**	**7.79**	**13.49**	**3.76**	**8.83**	**2.87**	**-3.76**	**20.73**	**13.06**	**12/01/2008**
MSCI ACW Ex US Sm Cap Index (USD) (Net)	7.91	7.91	7.70	13.38	3.52	8.60	2.60	-4.03	19.73	13.50	
Difference	0.01	0.01	0.09	0.11	0.24	0.23	0.27	0.27	1.00	-0.44	
Non-U.S. Equity Composite	**7.03**	**7.03**	**6.17**	**10.41**	**1.17**	**6.58**	**-3.34**	**-4.12**	**18.34**	**2.23**	**07/01/2000**
MSCI ACW Ex US Investable Mkt Index (Gross) (P)*	7.14	7.14	6.52	10.04	0.71	6.57	-5.25	-3.44	15.78	2.68	
Difference	-0.11	-0.11	-0.35	0.37	0.46	0.01	1.91	-0.68	2.56	-0.45	

Performance shown is net of fees. All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon. Fiscal year ends June 30th. An index marked with an asterisk (*) represents the current benchmark. See the Addendum for the complete historical composition of custom indices. Manager inception dates shown represent the first full month following initial funding.

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
NISA Core Agg Fixed Income (SA)	**0.49**	**0.49**	**6.18**	**5.78**	**4.35**	**3.25**	**0.87**	**6.27**	**-2.19**	**4.83**	**02/01/2009**
Bloomberg US Agg Bond Index	0.46	0.46	5.80	5.19	4.03	3.08	0.55	5.97	-2.02	4.62	
Difference	0.03	0.03	0.38	0.59	0.32	0.17	0.32	0.30	-0.17	0.21	
Core Fixed Income Composite	**0.49**	**0.49**	**6.24**	**5.84**	**4.10**	**N/A**	**0.61**	**5.67**	**N/A**	**4.09**	**07/01/2013**
Bloomberg US Agg Bond Index	0.46	0.46	5.80	5.19	4.03	3.08	0.55	5.97	-2.02	3.89	
Difference	0.03	0.03	0.44	0.65	0.07	N/A	0.06	-0.30	N/A	0.20	
Cerberus KRS Levered Loan Opps, L.P.	**1.55**	**1.55**	**6.21**	**8.02**	**N/A**	**N/A**	**9.29**	**N/A**	**N/A**	**8.02**	**09/01/2014**
S&P-LSTA Lvg'd Loan Index	3.07	3.07	7.72	5.46	3.39	5.25	-0.69	1.60	5.29	2.74	
Difference	-1.52	-1.52	-1.51	2.56	N/A	N/A	9.98	N/A	N/A	5.28	
Columbia HY Fixed Income (SA)	**4.69**	**4.69**	**10.76**	**10.76**	**5.93**	**N/A**	**-0.25**	**4.38**	**6.45**	**7.65**	**11/01/2011**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	7.21	
Difference	-0.86	-0.86	-4.35	-1.97	0.65	N/A	4.22	1.93	-0.99	0.44	
Marathon Bluegrass Credit Fund	**5.13**	**5.13**	**9.46**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**9.46**	**01/01/2016**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	15.11	
Difference	-0.42	-0.42	-5.65	N/A	N/A	N/A	N/A	N/A	N/A	-5.65	
Shenkman Capital (SA)	**3.14**	**3.14**	**6.94**	**4.23**	**3.56**	**5.67**	**-0.61**	**1.64**	**5.67**	**4.89**	**10/01/2010**
Shenkman Blended Index	3.07	3.07	7.72	5.46	4.19	6.78	-0.69	2.98	6.42	5.89	
Difference	0.07	0.07	-0.78	-1.23	-0.63	-1.11	0.08	-1.34	-0.75	-1.00	
Waterfall (SA)	**4.07**	**4.07**	**5.53**	**5.08**	**8.08**	**9.11**	**3.17**	**10.71**	**12.84**	**11.70**	**02/01/2010**
Opportunistic FI Blended Index	3.66	3.66	9.28	7.90	3.56	5.45	-2.73	2.16	5.06	5.30	
Difference	0.41	0.41	-3.75	-2.82	4.52	3.66	5.90	8.55	7.78	6.40	
High Yield Fixed Income Composite	**4.16**	**4.16**	**8.41**	**7.39**	**5.89**	**N/A**	**0.20**	**5.61**	**N/A**	**6.09**	**07/01/2013**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	5.60	
Difference	-1.39	-1.39	-6.70	-5.34	0.61	N/A	4.67	3.16	N/A	0.49	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Manulife Asset Mgmt (SA)	**1.02**	**1.02**	**5.78**	**6.00**	**3.97**	**N/A**	**0.59**	**3.95**	**1.57**	**4.89**	**12/01/2011**
Bloomberg US Unv Bond Index*	0.96	0.96	6.69	5.75	1.12	1.31	-3.29	0.48	-2.19	1.42	
Difference	0.06	0.06	-0.91	0.25	2.85	N/A	3.88	3.47	3.76	3.47	
Global Fixed Income Composite	**1.03**	**1.03**	**5.76**	**6.46**	**3.62**	**N/A**	**0.98**	**3.63**	**N/A**	**3.44**	**07/01/2013**
Bloomberg Gbl Agg Bond Index	0.82	0.82	9.85	8.83	2.13	1.74	-3.15	0.59	-2.60	2.84	
Difference	0.21	0.21	-4.09	-2.37	1.49	N/A	4.13	3.04	N/A	0.60	
Fixed Income Composite	**2.49**	**2.49**	**7.75**	**7.46**	**4.82**	**4.87**	**0.48**	**5.42**	**-0.04**	**7.74**	**04/01/1984**
50/50 Bloomberg US Unv Bond/US Corp: Hi Yld Index (P)*	3.24	3.24	10.87	10.27	5.61	4.42	0.43	5.56	-1.35	7.58	
Difference	-0.75	-0.75	-3.12	-2.81	-0.79	0.45	0.05	-0.14	1.31	0.16	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Internal TIPS (SA)	**0.95**	**0.95**	**6.05**	**5.45**	**2.40**	**1.93**	**0.22**	**3.03**	**-8.45**	**5.42**	**05/01/2002**
Internal US TIPS Blend	0.57	0.57	5.57	4.83	1.84	1.59	-0.52	2.63	-8.61	5.28	
Difference	0.38	0.38	0.48	0.62	0.56	0.34	0.74	0.40	0.16	0.14	
Nuveen Real Asset Income (SA)	**3.43**	**3.43**	**14.15**	**15.94**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**5.19**	**02/01/2015**
Nuveen Real Asset Custom Index	1.92	1.92	12.36	13.75	N/A	N/A	N/A	N/A	N/A	4.89	
Difference	1.51	1.51	1.79	2.19	N/A	N/A	N/A	N/A	N/A	0.30	
PIMCO:All Asset;Inst (PAAIX)	**3.85**	**3.85**	**15.91**	**13.68**	**2.00**	**N/A**	**-7.87**	**0.52**	**-1.66**	**4.28**	**12/01/2011**
Bloomberg US Trsy Infl Notes: 1-10 Yr Index	0.57	0.57	5.57	4.83	1.51	1.34	-0.52	0.91	-5.58	1.00	
Difference	3.28	3.28	10.34	8.85	0.49	N/A	-7.35	-0.39	3.92	3.28	
Tortoise Capital (CF)	**2.43**	**2.43**	**12.84**	**15.31**	**1.07**	**10.37**	**-27.04**	**15.54**	**36.72**	**14.48**	**08/01/2009**
Alerian MLP Index	1.07	1.07	15.94	12.74	-4.82	4.96	-32.59	4.80	27.58	10.18	
Difference	1.36	1.36	-3.10	2.57	5.89	5.41	5.55	10.74	9.14	4.30	
Amerra Ag Fund II (CF)	**1.71**	**1.71**	**3.80**	**5.94**	**9.35**	**N/A**	**14.34**	**8.63**	**0.06**	**6.87**	**12/01/2012**
Amerra-AGRI Holding (CF)	**0.26**	**0.26**	**1.17**	**0.82**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**0.71**	**08/01/2015**
BTG Pactual Brazil Timberland Fund I, L.P.	**9.20**	**9.20**	**-16.66**	**-16.66**	**N/A**	**N/A**	**-17.41**	**N/A**	**N/A**	**-18.43**	**12/01/2014**
Magnetar MTP Energy Fund, L.P.	**4.94**	**4.94**	**9.92**	**1.32**	**-1.24**	**N/A**	**-15.63**	**2.98**	**N/A**	**-0.49**	**07/01/2013**
Magnetar MTP EOF II, L.P.	**13.32**	**13.32**	**-5.31**	**-5.31**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**-4.57**	**08/01/2015**
Oberland Capital Healthcare, L.P.	**1.94**	**1.94**	**72.46**	**78.65**	**N/A**	**N/A**	**-27.53**	**N/A**	**N/A**	**10.00**	**10/01/2014**
Taurus Mining Finance Fund	**2.86**	**2.86**	**19.18**	**22.09**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**12.79**	**04/01/2015**
Tenaska Power Fund II (CF)	**10.94**	**10.94**	**-24.75**	**-21.85**	**-7.27**	**-5.29**	**16.85**	**-0.88**	**-16.55**	**-4.93**	**10/01/2008**
Real Return Composite	**3.20**	**3.20**	**11.94**	**11.07**	**2.49**	**3.07**	**-5.96**	**3.20**	**-4.37**	**3.77**	**07/01/2011**
Real Return Actual Allocation Index (P)*	1.53	1.53	8.20	7.34	1.74	2.88	-4.07	2.95	2.33	2.93	
Difference	1.67	1.67	3.74	3.73	0.75	0.19	-1.89	0.25	-6.70	0.84	

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RVK

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H/2 Credit Partners (CF)	**2.13**	**2.13**	**4.01**	**0.57**	**4.42**	**5.96**	**2.11**	**6.57**	**4.52**	**5.53**	**07/01/2011**
H/2 Core Real Estate Debt Fund, L.P.	**2.14**	**2.14**	**5.47**	**5.88**	**4.10**	**N/A**	**4.06**	**2.80**	**N/A**	**4.10**	**10/01/2013**
Harrison Street Core (CF)	**2.64**	**2.64**	**8.64**	**10.95**	**10.39**	**N/A**	**9.53**	**10.12**	**9.69**	**8.68**	**05/01/2012**
Mesa West Core Lending, L.P.	**1.51**	**1.51**	**4.90**	**6.93**	**6.13**	**N/A**	**7.56**	**4.84**	**N/A**	**5.89**	**05/01/2013**
Prologis Targeted U.S. Logistics Fund (CF)	**2.17**	**2.17**	**10.20**	**12.60**	**N/A**	**N/A**	**14.74**	**N/A**	**N/A**	**12.45**	**10/01/2014**
Stockbridge SmtMkts, L.P.	**1.58**	**1.58**	**6.92**	**9.63**	**N/A**	**N/A**	**12.00**	**N/A**	**N/A**	**9.79**	**05/01/2014**
DivcoWest Fund IV, L.P.	**11.33**	**11.33**	**29.10**	**41.13**	**N/A**	**N/A**	**28.79**	**N/A**	**N/A**	**23.32**	**03/01/2014**
Greenfield Acquisition Partners VI, L.P.	**-4.19**	**-4.19**	**0.17**	**2.54**	**11.81**	**N/A**	**18.77**	**16.59**	**11.34**	**12.01**	**12/01/2012**
Greenfield Acquisition Partners VII, L.P.	**3.91**	**3.91**	**12.20**	**13.48**	**N/A**	**N/A**	**15.29**	**N/A**	**N/A**	**11.02**	**07/01/2014**
Lubert Adler Real Estate Fund VII, L.P.	**3.86**	**3.86**	**4.19**	**4.10**	**N/A**	**N/A**	**-0.33**	**N/A**	**N/A**	**-9.67**	**07/01/2014**
Patron Capital V, L.P.	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**-0.36**	**08/01/2016**
Rubenstein Properties Fund II, L.P.	**0.13**	**0.13**	**0.23**	**2.64**	**15.83**	**N/A**	**11.17**	**44.51**	**N/A**	**14.53**	**07/01/2013**
Walton Street Real Estate Fund VI, L.P.	**0.26**	**0.26**	**2.90**	**5.38**	**11.27**	**11.15**	**12.99**	**16.41**	**15.24**	**-22.48**	**05/01/2009**
Walton Street Real Estate Fund VII, L.P.	**2.31**	**2.31**	**8.60**	**11.30**	**14.58**	**N/A**	**16.78**	**15.13**	**N/A**	**14.28**	**07/01/2013**
Real Estate Composite	**2.18**	**2.18**	**7.17**	**8.38**	**8.55**	**8.99**	**8.89**	**8.85**	**9.17**	**5.86**	**07/01/1984**
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)	1.91	1.91	7.12	10.80	11.97	11.66	13.86	11.36	11.97	6.42	
Difference	0.27	0.27	0.05	-2.42	-3.42	-2.67	-4.97	-2.51	-2.80	-0.56	

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	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
BAAM (SA)	3.05	3.05	0.02	1.15	5.81	6.68	6.10	7.97	11.54	6.57	09/01/2011
Davidson-Kemper, L.P.	2.66	2.66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.47	02/01/2016
PAAMCO (SA)	-0.01	-0.01	-1.85	-3.40	1.60	3.88	-2.01	3.83	15.09	3.82	09/01/2011
Prisma Capital Partners (SA)	2.41	2.41	-1.95	-2.37	2.54	3.61	2.52	3.30	9.78	3.55	09/01/2011
Senator Investment Group, L.P.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.59	09/01/2016
Tourbillon Global Master Fund, Ltd	9.32	9.32	-8.03	N/A	N/A	N/A	N/A	N/A	N/A	-7.39	11/01/2015
Anchorage Capital	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.44	08/01/2016
Blackrock GAO Fund, Ltd (CF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.16	08/01/2016
Coatue Qualified Partners, L.P.	4.84	4.84	5.09	11.24	N/A	N/A	N/A	N/A	N/A	8.89	07/01/2015
DSAM Fund, L.P.	0.27	0.27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.17	05/01/2016
Finisterre Global Op	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.10	08/01/2016
Glenview Capital (CF)	6.20	6.20	-6.08	N/A	N/A	N/A	N/A	N/A	N/A	-9.25	11/01/2015
HBK II (CF)	1.42	1.42	2.92	0.95	N/A	N/A	-1.46	3.93	N/A	2.22	12/01/2013
Jana Partners (CF)	5.71	5.71	-0.01	-3.54	N/A	N/A	-5.99	N/A	N/A	-3.23	09/01/2014
Knighthead Capital (CF)	1.96	1.96	0.48	-1.86	N/A	N/A	-10.22	5.59	N/A	-1.75	01/01/2014
LibreMax Capital (CF)	3.22	3.22	0.97	-1.33	N/A	N/A	-0.16	N/A	N/A	1.79	08/01/2014
Liquidalts H2O Force (CF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.16	08/01/2016
Luxor Capital (CF)	4.02	4.02	-10.62	-18.19	N/A	N/A	-16.70	N/A	N/A	-13.23	04/01/2014
Myriad Opportunities	2.19	2.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.71	05/01/2016
Pine River (CF)	3.31	3.31	-0.78	-4.55	N/A	N/A	0.09	N/A	N/A	-0.08	05/01/2014
QMS Diversified Global Macro (CF)	-1.69	-1.69	-0.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	07/01/2014
Scopia PX, LLC	1.99	1.99	-8.21	-4.85	N/A	N/A	0.92	N/A	N/A	-1.73	11/01/2014
Absolute Return Composite	2.38	2.38	-1.20	-1.60	3.10	4.54	1.70	4.84	12.08	3.96	04/01/2010
HFRI FOF: Dvf'd Index (1 Mo Lag)	1.26	1.26	-1.44	-2.10	2.53	2.61	0.79	4.72	8.61	2.49	
Difference	1.12	1.12	0.24	0.50	0.57	1.93	0.91	0.12	3.47	1.47	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Cash Equivalents (SA)	**0.11**	**0.11**	**0.47**	**0.53**	**0.30**	**0.36**	**0.21**	**0.17**	**0.64**	**3.72**	**01/01/1988**
Citi 3 Mo T-Bill Index	0.07	0.07	0.19	0.20	0.08	0.08	0.03	0.02	0.06	3.28	
Difference	0.04	0.04	0.28	0.33	0.22	0.28	0.18	0.15	0.58	0.44	

Performance for Absolute Return managers and the HFRI FOF Diversified Index is lagged by one month.

Performance for the NCREIF ODCE Index (Net) (AWA) is lagged by one quarter and available quarterly; interim month returns assume a 0.00% return.

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	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
River Road Asset Management (SA)	**3.59**	**3.59**	**13.63**	**18.92**	**9.66**	**14.81**	**-3.27**	**10.50**	**33.33**	**11.77**	**07/01/2011**
Russell 3000 Val Index	3.87	3.87	10.40	16.38	9.46	16.09	-4.13	12.70	32.69	11.34	
Difference	-0.28	-0.28	3.23	2.54	0.20	-1.28	0.86	-2.20	0.64	0.43	
IM U.S. All Cap Value Equity (SA+CF) Median	4.91	4.91	8.71	14.21	8.93	15.48	-3.25	10.22	34.74	10.94	
Rank	75	75	20	13	33	62	51	49	63	31	
River Road FAV (SA)	**8.60**	**8.60**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**8.60**	**07/01/2016**
Russell 3000 Val Index	3.87	3.87	10.40	16.38	9.46	16.09	-4.13	12.70	32.69	3.87	
Difference	4.73	4.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.73	
IM U.S. All Cap Value Equity (SA+CF) Median	4.91	4.91	8.71	14.21	8.93	15.48	-3.25	10.22	34.74	4.91	
Rank	6	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6	
Westfield Capital (SA)	**6.69**	**6.69**	**1.99**	**8.25**	**8.53**	**16.60**	**-0.81**	**13.03**	**39.68**	**11.32**	**07/01/2011**
Russell 3000 Grth Index	4.92	4.92	6.12	13.64	11.40	16.56	5.09	12.44	34.23	12.46	
Difference	1.77	1.77	-4.13	-5.39	-2.87	0.04	-5.90	0.59	5.45	-1.14	
IM U.S. All Cap Growth Equity (SA+CF) Median	5.70	5.70	4.28	11.30	8.41	15.27	3.50	8.95	35.96	10.48	
Rank	32	32	72	71	49	24	86	21	22	36	
U.S. All Cap Equity Composite	**5.39**	**5.39**	**5.98**	**11.18**	**8.78**	**15.91**	**-1.81**	**11.93**	**36.78**	**10.91**	**07/01/2011**
Russell 3000 Index	4.40	4.40	8.18	14.96	10.44	16.36	0.48	12.56	33.55	11.93	
Difference	0.99	0.99	-2.20	-3.78	-1.66	-0.45	-2.29	-0.63	3.23	-1.02	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Scientific Beta	**2.51**	**2.51**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**2.51**	**07/01/2016**
S&P 500 Index (Cap Wtd)	3.85	3.85	7.84	15.43	11.16	16.37	1.38	13.69	32.39	3.85	
Difference	-1.34	-1.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.34	
IM U.S. Large Cap Index Equity (SA+CF) Median	3.99	3.99	7.89	15.16	10.88	16.36	0.96	13.29	32.56	3.99	
Rank	96	96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	96	
Internal S&P 500 Index (SA)	**3.83**	**3.83**	**7.65**	**15.19**	**11.07**	**16.26**	**1.37**	**13.61**	**32.34**	**6.36**	**07/01/2001**
S&P 500 Index (Cap Wtd)*	3.85	3.85	7.84	15.43	11.16	16.37	1.38	13.69	32.39	6.32	
Difference	-0.02	-0.02	-0.19	-0.24	-0.09	-0.11	-0.01	-0.08	-0.05	0.04	
IM U.S. Large Cap Index Equity (SA+CF) Median	3.99	3.99	7.89	15.16	10.88	16.36	0.96	13.29	32.56	6.03	
Rank	77	77	77	50	48	75	41	38	74	23	
U.S. Large Cap Equity Composite	**3.63**	**3.63**	**7.94**	**15.17**	**10.86**	**N/A**	**0.79**	**13.22**	**N/A**	**11.74**	**07/01/2013**
Russell 1000 Index	4.03	4.03	7.92	14.93	10.78	16.41	0.92	13.24	33.11	11.90	
Difference	-0.40	-0.40	0.02	0.24	0.08	N/A	-0.13	-0.02	N/A	-0.16	
Internal US Mid Cap (SA)	**4.02**	**4.02**	**12.35**	**15.19**	**N/A**	**N/A**	**-2.37**	**N/A**	**N/A**	**7.49**	**08/01/2014**
S&P Mid Cap 400 Index (Cap Wtd)	4.14	4.14	12.40	15.33	9.35	16.50	-2.18	9.77	33.50	7.64	
Difference	-0.12	-0.12	-0.05	-0.14	N/A	N/A	-0.19	N/A	N/A	-0.15	
IM U.S. Mid Cap Equity (SA+CF) Median	4.75	4.75	7.70	11.35	8.97	16.36	-1.19	9.76	36.37	6.36	
Rank	71	71	18	28	N/A	N/A	64	N/A	N/A	34	
Systematic Financial Management (SA)	**5.93**	**5.93**	**9.10**	**15.49**	**5.96**	**N/A**	**-4.86**	**5.73**	**35.26**	**12.00**	**07/01/2012**
Russell Mid Cap Val Index	4.45	4.45	13.72	17.26	10.49	17.38	-4.78	14.75	33.46	15.18	
Difference	1.48	1.48	-4.62	-1.77	-4.53	N/A	-0.08	-9.02	1.80	-3.18	
IM U.S. Mid Cap Value Equity (SA+CF) Median	5.14	5.14	10.69	14.02	9.46	17.20	-3.57	11.73	36.06	14.65	
Rank	33	33	68	42	90	N/A	62	87	57	92	
U.S. Mid Cap Equity Composite	**4.82**	**4.82**	**12.13**	**16.26**	**6.26**	**N/A**	**-4.58**	**4.08**	**N/A**	**9.09**	**07/01/2013**
S&P Mid Cap 400 Index (Cap Wtd)	4.14	4.14	12.40	15.33	9.35	16.50	-2.18	9.77	33.50	11.06	
Difference	0.68	0.68	-0.27	0.93	-3.09	N/A	-2.40	-5.69	N/A	-1.97	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
NT Structured Small Cap (SA)	**7.27**	**7.27**	**11.24**	**15.46**	**7.78**	**16.96**	**-3.05**	**6.65**	**39.39**	**9.80**	**10/01/1999**
Russell 2000 Index	9.05	9.05	11.46	15.47	6.71	15.82	-4.41	4.89	38.82	7.95	
Difference	-1.78	-1.78	-0.22	-0.01	1.07	1.14	1.36	1.76	0.57	1.85	
IM U.S. Small Cap Core Equity (SA+CF) Median	7.54	7.54	10.53	14.65	8.54	17.18	-1.39	6.52	41.26	10.52	
Rank	59	59	44	43	60	58	72	48	66	73	
U.S. Small Cap Equity Composite	**7.22**	**7.22**	**11.17**	**15.39**	**7.72**	**N/A**	**-3.14**	**6.65**	**N/A**	**10.51**	**07/01/2013**
Russell 2000 Index	9.05	9.05	11.46	15.47	6.71	15.82	-4.41	4.89	38.82	9.40	
Difference	-1.83	-1.83	-0.29	-0.08	1.01	N/A	1.27	1.76	N/A	1.11	
U.S. Equity Composite	**4.24**	**4.24**	**8.68**	**14.89**	**9.51**	**15.80**	**-0.84**	**10.93**	**33.95**	**11.14**	**04/01/1984**
R 3000 Index (P)*	4.40	4.40	8.18	14.96	10.44	16.36	0.48	12.56	33.55	11.12	
Difference	-0.16	-0.16	0.50	-0.07	-0.93	-0.56	-1.32	-1.63	0.40	0.02	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Lazard Int'l Strategic Equity (SA)	**4.70**	**4.70**	**4.39**	**8.83**	**N/A**	**N/A**	**-0.39**	**N/A**	**N/A**	**-1.15**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	-2.30	-2.30	-1.90	-0.97	N/A	N/A	4.86	N/A	N/A	2.57	
IM International Value Equity (SA+CF) Median	7.36	7.36	4.78	8.46	1.85	8.36	-0.83	-4.22	23.80	-2.51	
Rank	83	83	53	46	N/A	N/A	45	N/A	N/A	33	
LSV Int'l Concentrated Value Equity (SA)	**9.21**	**9.21**	**5.50**	**6.23**	**N/A**	**N/A**	**-5.43**	**N/A**	**N/A**	**-3.52**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	2.21	2.21	-0.79	-3.57	N/A	N/A	-0.18	N/A	N/A	0.20	
IM International Value Equity (SA+CF) Median	7.36	7.36	4.78	8.46	1.85	8.36	-0.83	-4.22	23.80	-2.51	
Rank	17	17	41	74	N/A	N/A	88	N/A	N/A	64	
BTC ACWI Ex US Fund (CF)	**6.96**	**6.96**	**6.17**	**9.64**	**0.41**	**6.29**	**-5.43**	**-3.80**	**15.61**	**6.36**	**07/01/2009**
MSCI ACW Ex US Index (USD) (Net)	6.91	6.91	5.82	9.26	0.18	6.04	-5.66	-3.87	15.29	6.13	
Difference	0.05	0.05	0.35	0.38	0.23	0.25	0.23	0.07	0.32	0.23	
IM International Core Equity (SA+CF) Median	6.77	6.77	3.47	8.31	2.42	9.11	1.15	-3.51	23.99	8.50	
Rank	46	46	20	35	84	97	94	55	95	97	
American Century Non-US Growth Equity (SA)	**7.66**	**7.66**	**1.55**	**8.28**	**N/A**	**N/A**	**-0.53**	**N/A**	**N/A**	**-2.21**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	0.66	0.66	-4.74	-1.52	N/A	N/A	4.72	N/A	N/A	1.51	
IM International Growth Equity (SA+CF) Median	6.78	6.78	3.81	9.58	3.18	9.53	3.26	-3.37	23.18	-0.20	
Rank	31	31	74	66	N/A	N/A	82	N/A	N/A	74	
Franklin Templeton Non-US Equity (SA)	**7.76**	**7.76**	**6.19**	**12.74**	**N/A**	**N/A**	**1.39**	**N/A**	**N/A**	**0.01**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	0.76	0.76	-0.10	2.94	N/A	N/A	6.64	N/A	N/A	3.73	
IM International Growth Equity (SA+CF) Median	6.78	6.78	3.81	9.58	3.18	9.53	3.26	-3.37	23.18	-0.20	
Rank	30	30	30	25	N/A	N/A	67	N/A	N/A	48	
NT Int'l Sm Cap Eq Index (SA)	**7.95**	**7.95**	**7.88**	**13.62**	**3.88**	**8.96**	**2.95**	**-3.62**	**20.87**	**13.14**	**12/01/2008**
MSCI ACW Ex US Sm Cap Index (USD) (Gross)	8.00	8.00	8.04	13.79	3.89	8.99	2.95	-3.69	20.13	13.90	
Difference	-0.05	-0.05	-0.16	-0.17	-0.01	-0.03	0.00	0.07	0.74	-0.76	
IM International Small Cap Equity (SA+CF) Median	8.05	8.05	5.73	12.07	6.06	12.75	10.46	-3.25	31.17	15.60	
Rank	54	54	22	32	80	96	88	57	96	87	
Non-U.S. Equity Composite	**7.09**	**7.09**	**6.37**	**10.70**	**1.40**	**6.85**	**-3.12**	**-3.90**	**18.58**	**2.31**	**07/01/2000**
MSCI ACW Ex US Investable Mkt Index (Gross) (P)*	7.14	7.14	6.52	10.04	0.71	6.57	-5.25	-3.44	15.78	2.68	
Difference	-0.05	-0.05	-0.15	0.66	0.69	0.28	2.13	-0.46	2.80	-0.37	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
NISA Core Agg Fixed Income (SA)	**0.53**	**0.53**	**6.40**	**6.04**	**4.53**	**3.43**	**0.97**	**6.44**	**-2.03**	**4.95**	**02/01/2009**
Bloomberg US Agg Bond Index	0.46	0.46	5.80	5.19	4.03	3.08	0.55	5.97	-2.02	4.62	
Difference	0.07	0.07	0.60	0.85	0.50	0.35	0.42	0.47	-0.01	0.33	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	0.68	0.68	6.13	5.62	4.31	3.66	0.81	6.14	-1.56	5.51	
Rank	67	67	35	32	35	67	31	35	74	78	
Core Fixed Income Composite	**0.53**	**0.53**	**6.36**	**6.00**	**4.29**	**N/A**	**0.73**	**5.92**	**N/A**	**4.29**	**07/01/2013**
Bloomberg US Agg Bond Index	0.46	0.46	5.80	5.19	4.03	3.08	0.55	5.97	-2.02	3.89	
Difference	0.07	0.07	0.56	0.81	0.26	N/A	0.18	-0.05	N/A	0.40	
Cerberus KRS Levered Loan Opps, L.P.	**2.32**	**2.32**	**8.58**	**11.24**	**N/A**	**N/A**	**13.09**	**N/A**	**N/A**	**10.98**	**09/01/2014**
S&P-LSTA Lvg'd Loan Index	3.07	3.07	7.72	5.46	3.39	5.25	-0.69	1.60	5.29	2.74	
Difference	-0.75	-0.75	0.86	5.78	N/A	N/A	13.78	N/A	N/A	8.24	
IM U.S. High Yield Bonds (SA+CF) Median	4.90	4.90	12.20	10.42	5.09	8.13	-2.23	2.70	7.57	3.03	
Rank	92	92	85	33	N/A	N/A	1	N/A	N/A	1	
Columbia HY Fixed Income (SA)	**4.78**	**4.78**	**11.01**	**11.12**	**6.34**	**N/A**	**0.14**	**4.82**	**6.87**	**8.05**	**11/01/2011**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	7.21	
Difference	-0.77	-0.77	-4.10	-1.61	1.06	N/A	4.61	2.37	-0.57	0.84	
IM U.S. High Yield Bonds (SA+CF) Median	4.90	4.90	12.20	10.42	5.09	8.13	-2.23	2.70	7.57	7.11	
Rank	53	53	69	34	13	N/A	17	11	66	14	
Marathon Bluegrass Credit Fund	**6.02**	**6.02**	**11.33**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**11.33**	**01/01/2016**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	15.11	
Difference	0.47	0.47	-3.78	N/A	N/A	N/A	N/A	N/A	N/A	-3.78	
IM U.S. High Yield Bonds (SA+CF) Median	4.90	4.90	12.20	10.42	5.09	8.13	-2.23	2.70	7.57	12.20	
Rank	9	9	65	N/A	N/A	N/A	N/A	N/A	N/A	65	
Shenkman Capital (SA)	**3.27**	**3.27**	**7.37**	**4.78**	**4.10**	**6.21**	**-0.10**	**2.16**	**6.20**	**5.33**	**10/01/2010**
Shenkman Blended Index	3.07	3.07	7.72	5.46	4.19	6.78	-0.69	2.98	6.42	5.89	
Difference	0.20	0.20	-0.35	-0.68	-0.09	-0.57	0.59	-0.82	-0.22	-0.56	
Waterfall (SA)	**4.20**	**4.20**	**5.96**	**5.65**	**9.37**	**10.44**	**4.57**	**12.58**	**15.13**	**12.72**	**02/01/2010**
Opportunistic FI Blended Index	3.66	3.66	9.28	7.90	3.56	5.45	-2.73	2.16	5.06	5.30	
Difference	0.54	0.54	-3.32	-2.25	5.81	4.99	7.30	10.42	10.07	7.42	
High Yield Fixed Income Composite	**4.54**	**4.54**	**9.36**	**8.55**	**6.84**	**N/A**	**1.21**	**6.36**	**N/A**	**7.01**	**07/01/2013**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	5.60	
Difference	-1.01	-1.01	-5.75	-4.18	1.56	N/A	5.68	3.91	N/A	1.41	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Manulife Asset Mgmt (SA)	**1.08**	**1.08**	**5.98**	**6.26**	**4.27**	**N/A**	**0.85**	**4.30**	**1.90**	**5.19**	**12/01/2011**
Bloomberg US Unv Bond Index*	0.96	0.96	6.69	5.75	1.12	1.31	-3.29	0.48	-2.19	1.42	
Difference	0.12	0.12	-0.71	0.51	3.15	N/A	4.14	3.82	4.09	3.77	
Global Fixed Income Composite	**1.08**	**1.08**	**5.94**	**6.70**	**3.98**	**N/A**	**1.28**	**4.09**	**N/A**	**3.80**	**07/01/2013**
Bloomberg Gbl Agg Bond Index	0.82	0.82	9.85	8.83	2.13	1.74	-3.15	0.59	-2.60	2.84	
Difference	0.26	0.26	-3.91	-2.13	1.85	N/A	4.43	3.50	N/A	0.96	
Fixed Income Composite	**2.71**	**2.71**	**8.29**	**8.09**	**5.31**	**5.30**	**0.90**	**5.83**	**0.38**	**7.80**	**04/01/1984**
50/50 Bloomberg US Unv Bond/US Corp: Hi Yld Index (P)*	3.24	3.24	10.87	10.27	5.61	4.42	0.43	5.56	-1.35	7.58	
Difference	-0.53	-0.53	-2.58	-2.18	-0.30	0.88	0.47	0.27	1.73	0.22	

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Internal TIPS (SA)	**0.95**	**0.95**	**6.05**	**5.45**	**2.43**	**1.95**	**0.22**	**3.09**	**-8.40**	**5.43**	**05/01/2002**
Internal US TIPS Blend	0.57	0.57	5.57	4.83	1.84	1.59	-0.52	2.63	-8.61	5.28	
Difference	0.38	0.38	0.48	0.62	0.59	0.36	0.74	0.46	0.21	0.15	
IM U.S. TIPS (SA+CF) Median	0.99	0.99	7.18	6.56	2.40	1.94	-1.40	3.57	-8.24	5.49	
Rank	68	68	68	72	43	50	1	67	53	71	
Nuveen Real Asset Income (SA)	**3.59**	**3.59**	**14.69**	**16.66**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**5.89**	**02/01/2015**
Nuveen Real Asset Custom Index	1.92	1.92	12.36	13.75	N/A	N/A	N/A	N/A	N/A	4.89	
Difference	1.67	1.67	2.33	2.91	N/A	N/A	N/A	N/A	N/A	1.00	
PIMCO:All Asset;Inst (PAAIX)	**3.85**	**3.85**	**15.91**	**13.68**	**2.00**	**N/A**	**-7.87**	**0.52**	**-1.66**	**4.28**	**12/01/2011**
Bloomberg US Trsy Infl Notes: 1-10 Yr Index	0.57	0.57	5.57	4.83	1.51	1.34	-0.52	0.91	-5.58	1.00	
Difference	3.28	3.28	10.34	8.85	0.49	N/A	-7.35	-0.39	3.92	3.28	
Tortoise Capital (CF)	**2.59**	**2.59**	**13.36**	**15.99**	**1.71**	**11.18**	**-26.63**	**16.37**	**37.97**	**15.07**	**08/01/2009**
Alerian MLP Index	1.07	1.07	15.94	12.74	-4.82	4.96	-32.59	4.80	27.58	10.18	
Difference	1.52	1.52	-2.58	3.25	6.53	6.22	5.96	11.57	10.39	4.89	
Amerra Ag Fund II (CF)	**2.47**	**2.47**	**5.86**	**9.00**	**13.06**	**N/A**	**21.02**	**10.65**	**1.14**	**9.85**	**12/01/2012**
Amerra-AGRI Holding (CF)	**0.91**	**0.91**	**3.50**	**3.94**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**3.37**	**08/01/2015**
BTG Pactual Brazil Timberland Fund I, L.P.	**10.90**	**10.90**	**-11.49**	**-11.49**	**N/A**	**N/A**	**-11.97**	**N/A**	**N/A**	**-12.73**	**12/01/2014**
Magnetar MTP Energy Fund, L.P.	**5.33**	**5.33**	**11.17**	**2.47**	**-0.86**	**N/A**	**-15.63**	**2.98**	**N/A**	**-0.14**	**07/01/2013**
Magnetar MTP EOF II, L.P.	**13.64**	**13.64**	**-4.30**	**-4.30**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**-3.70**	**08/01/2015**
Oberland Capital Healthcare, L.P.	**7.01**	**7.01**	**111.54**	**133.09**	**N/A**	**N/A**	**-15.28**	**N/A**	**N/A**	**31.72**	**10/01/2014**
Taurus Mining Finance Fund	**4.69**	**4.69**	**26.50**	**32.01**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**20.04**	**04/01/2015**
Tenaska Power Fund II (CF)	**11.08**	**11.08**	**-23.34**	**-20.12**	**-6.13**	**-4.52**	**18.41**	**-0.69**	**-15.95**	**-3.54**	**10/01/2008**
Real Return Composite	**3.38**	**3.38**	**12.54**	**11.81**	**2.93**	**3.38**	**-5.42**	**3.36**	**-4.23**	**4.06**	**07/01/2011**
Real Return Actual Allocation Index (P)*	1.53	1.53	8.20	7.34	1.74	2.88	-4.07	2.95	2.33	2.93	
Difference	1.85	1.85	4.34	4.47	1.19	0.50	-1.35	0.41	-6.56	1.13	

Performance shown is gross of fees. All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon. Fiscal year ends June 30th. An index marked with an asterisk (*) represents the current benchmark. See the Addendum for the complete historical composition of custom indices. Manager inception dates shown represent the first full month following initial funding.

RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
H/2 Credit Partners (CF)	2.13	2.13	4.01	0.57	4.42	5.96	2.11	6.57	4.52	5.53	07/01/2011
H/2 Core Real Estate Debt Fund, L.P.	2.36	2.36	6.13	6.54	4.32	N/A	4.06	2.80	N/A	4.32	10/01/2013
Harrison Street Core (CF)	2.84	2.84	9.32	11.85	10.90	N/A	10.16	10.33	9.69	9.02	05/01/2012
Mesa West Core Lending, L.P.	1.72	1.72	5.56	7.82	6.94	N/A	8.40	5.63	N/A	6.61	05/01/2013
Prologis Targeted U.S. Logistics Fund (CF)	2.36	2.36	11.01	14.22	N/A	N/A	15.53	N/A	N/A	13.25	10/01/2014
Stockbridge SmtMkts, L.P.	1.80	1.80	7.63	10.84	N/A	N/A	12.50	N/A	N/A	10.29	05/01/2014
DivcoWest Fund IV, L.P.	14.46	14.46	37.15	54.34	N/A	N/A	38.42	N/A	N/A	30.79	03/01/2014
Greenfield Acquisition Partners VI, L.P.	-4.98	-4.98	0.70	3.74	14.52	N/A	24.47	18.30	12.16	14.19	12/01/2012
Greenfield Acquisition Partners VII, L.P.	5.13	5.13	12.88	11.61	N/A	N/A	13.86	N/A	N/A	11.64	07/01/2014
Lubert Adler Real Estate Fund VII, L.P.	4.34	4.34	5.99	7.03	N/A	N/A	4.60	N/A	N/A	-1.76	07/01/2014
Patron Capital V, L.P.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.36	08/01/2016
Rubenstein Properties Fund II, L.P.	0.74	0.74	5.78	9.32	21.28	N/A	16.23	50.33	N/A	19.49	07/01/2013
Walton Street Real Estate Fund VI, L.P.	0.58	0.58	3.88	6.74	12.76	12.12	14.49	18.01	16.08	-22.02	05/01/2009
Walton Street Real Estate Fund VII, L.P.	2.78	2.78	9.96	13.11	16.50	N/A	18.34	16.89	N/A	16.05	07/01/2013
Real Estate Composite	2.49	2.49	8.25	9.79	9.70	9.70	10.45	9.53	9.38	5.96	07/01/1984
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)	1.91	1.91	7.12	10.80	11.97	11.66	13.86	11.36	11.97	6.42	
Difference	0.58	0.58	1.13	-1.01	-2.27	-1.96	-3.41	-1.83	-2.59	-0.46	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
BAAM (SA)	2.87	2.87	0.11	1.42	5.90	6.74	6.30	7.97	11.54	6.63	09/01/2011
Davidson-Kemper, L.P.	4.04	4.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.57	02/01/2016
PAAMCO (SA)	-0.01	-0.01	-1.85	-3.40	1.60	3.88	-2.01	3.83	15.09	3.82	09/01/2011
Prisma Capital Partners (SA)	2.60	2.60	-1.49	-2.12	2.63	3.66	2.30	3.30	9.78	3.60	09/01/2011
Senator Investment Group, L.P.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.86	09/01/2016
Tourbillon Global Master Fund, Ltd	9.79	9.79	-6.97	N/A	N/A	N/A	N/A	N/A	N/A	-6.02	11/01/2015
Anchorage Capital	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.04	08/01/2016
Blackrock GAO Fund, Ltd (CF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27	08/01/2016
Coatue Qualified Partners, L.P.	5.23	5.23	7.53	15.21	N/A	N/A	N/A	N/A	N/A	11.99	07/01/2015
DSAM Fund, L.P.	0.78	0.78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.01	05/01/2016
Finisterre Global Op	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.41	08/01/2016
Glenview Capital (CF)	6.89	6.89	-4.47	N/A	N/A	N/A	N/A	N/A	N/A	-7.38	11/01/2015
HBK II (CF)	2.30	2.30	4.82	2.90	N/A	N/A	-1.38	3.93	N/A	2.91	12/01/2013
Jana Partners (CF)	6.40	6.40	1.68	-2.54	N/A	N/A	-6.58	N/A	N/A	-2.75	09/01/2014
Knighthead Capital (CF)	2.47	2.47	2.00	-0.37	N/A	N/A	-10.22	5.59	N/A	-1.21	01/01/2014
LibreMax Capital (CF)	3.74	3.74	3.11	0.77	N/A	N/A	-0.16	N/A	N/A	2.79	08/01/2014
Liquidalts H2O Force (CF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.04	08/01/2016
Luxor Capital (CF)	4.34	4.34	-9.65	-16.59	N/A	N/A	-15.99	N/A	N/A	-12.55	04/01/2014
Myriad Opportunities	4.50	4.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.71	05/01/2016
Pine River (CF)	3.70	3.70	0.34	-2.70	N/A	N/A	0.88	N/A	N/A	0.72	05/01/2014
QMS Diversified Global Macro (CF)	-0.88	-0.88	0.51	N/A	N/A	N/A	N/A	N/A	N/A	1.66	11/01/2015
Scopia PX, LLC	2.37	2.37	-7.09	-2.90	N/A	N/A	1.74	N/A	N/A	-0.68	11/01/2014
Absolute Return Composite	2.69	2.69	-0.55	-0.90	3.34	4.69	1.74	4.84	12.08	4.07	04/01/2010
HFRI FOF: Dvf'd Index (1 Mo Lag)	1.26	1.26	-1.44	-2.10	2.53	2.61	0.79	4.72	8.61	2.49	
Difference	1.43	1.43	0.89	1.20	0.81	2.08	0.95	0.12	3.47	1.58	

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	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Cash Equivalents (SA)	**0.11**	**0.11**	**0.47**	**0.53**	**0.30**	**0.36**	**0.21**	**0.17**	**0.64**	**3.72**	**01/01/1988**
Citi 3 Mo T-Bill Index	0.07	0.07	0.19	0.20	0.08	0.08	0.03	0.02	0.06	3.28	
Difference	0.04	0.04	0.28	0.33	0.22	0.28	0.18	0.15	0.58	0.44	

Performance for Absolute Return managers and the HFRI FOF Diversified Index is lagged by one month.

Performance for the NCREIF ODCE Index (Net) (AWA) is lagged by one quarter and available quarterly; interim month returns assume a 0.00% return.

Performance shown is gross of fees. All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon. Fiscal year ends June 30th. An index marked with an asterisk (*) represents the current benchmark. See the Addendum for the complete historical composition of custom indices. Manager inception dates shown represent the first full month following initial funding.

RVK

Asset Allocation & Performance

	Allocation		Performance (%)
	Market Value ($)	%	FYTD
Total Fund	**4,362,539,832**	**100.00**	**3.99**
U.S. Equity Composite	**1,248,676,395**	**28.62**	**4.18**
River Road Asset Management (SA)	54,172,699	1.24	3.50
River Road FAV (SA)	32,259,507	0.74	8.54
Westfield Capital (SA)	51,692,555	1.18	6.59
Scientific Beta	127,680,466	2.93	1.09
Internal S&P 500 Index (SA)	638,775,677	14.64	3.81
Internal US Mid Cap (SA)	152,245,763	3.49	4.04
Systematic Financial Management (SA)	99,420,345	2.28	5.84
NT Structured Small Cap (SA)	92,388,012	2.12	7.10
Non-U.S. Equity Composite	**1,166,479,814**	**26.74**	**7.08**
Lazard Int'l Strategic Equity (SA)	176,284,405	4.04	4.64
LSV Int'l Concentrated Value Equity (SA)	189,073,489	4.33	8.93
BTC ACWI Ex US Fund (CF)	505,392,708	11.58	6.89
American Century Non-US Growth Equity (SA)	141,408,671	3.24	7.56
Franklin Templeton Non-US Equity (SA)	90,159,962	2.07	7.86
BTC ACWI Ex US Small Cap Fund (CF)	62,400,823	1.43	8.05
Non-US Transition Account	687,206	0.02	11.54
Fixed Income Composite	**523,716,808**	**12.00**	**2.02**
NISA Core Agg Fixed Income (SA)	102,974,528	2.36	0.50
Cerberus KRS Levered Loan Opps, L.P.	39,281,392	0.90	1.55
Columbia HY Fixed Income (SA)	51,483,232	1.18	4.61
Marathon Bluegrass Credit Fund	82,064,588	1.88	5.15
Shenkman Capital (SA)	40,227,486	0.92	3.00
Waterfall (SA)	47,126,883	1.08	0.66
Manulife Asset Mgmt (SA)	160,427,389	3.68	0.99
Real Return Composite	**357,560,233**	**8.20**	**2.90**
Internal TIPS (SA)	68,709,827	1.57	0.68
Nuveen Real Asset Income (SA)	89,686,874	2.06	3.35
PIMCO:All Asset;Inst (PAAIX)	107,543,726	2.47	3.85
Tortoise Capital (CF)	22,933,377	0.53	2.42
Amerra Ag Fund II (CF)	13,537,774	0.31	1.71
Amerra-AGRI Holding (CF)	19,240,897	0.44	0.26
BTG Pactual Brazil Timberland Fund I, L.P.	2,803,043	0.06	9.20
Magnetar MTP Energy Fund, L.P.	23,090,829	0.53	4.94
Magnetar MTP EOF II, L.P.	4,255,336	0.10	13.32
Oberland Capital Healthcare, L.P.	1,630,331	0.04	1.94
Taurus Mining Finance Fund	3,997,443	0.09	2.86
Tenaska Power Fund II (CF)	130,775	0.00	10.94

Asset Allocation & Performance

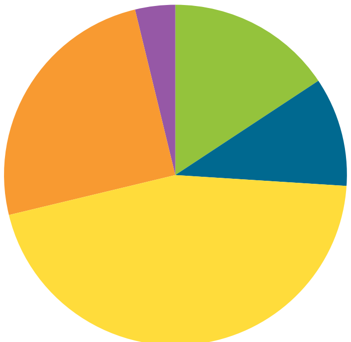
	Allocation		Performance (%)
	Market Value ($)	%	FYTD
Real Estate Composite	**211,713,858**	**4.85**	**2.32**
H/2 Credit Partners (CF)	28,993,934	0.66	2.13
H/2 Core Real Estate Debt Fund, L.P.	6,801,374	0.16	2.37
Harrison Street Core (CF)	29,562,007	0.68	2.65
Mesa West Core Lending, L.P.	30,518,396	0.70	1.47
Prologis Targeted U.S. Logistics Fund (CF)	22,687,164	0.52	3.25
Stockbridge SmtMkts, L.P.	32,074,406	0.74	1.56
DivcoWest Fund IV, L.P.	9,002,536	0.21	11.33
Greenfield Acquisition Partners VI, L.P.	8,316,416	0.19	-4.19
Greenfield Acquisition Partners VII, L.P.	9,944,196	0.23	3.91
Lubert Adler Real Estate Fund VII, L.P.	10,709,440	0.25	3.86
Patron Capital V, L.P.	1,976,510	0.05	N/A
Rubenstein Properties Fund II, L.P.	5,518,019	0.13	0.13
Walton Street Real Estate Fund VI, L.P.	1,982,873	0.05	0.26
Walton Street Real Estate Fund VII, L.P.	13,626,588	0.31	2.31
Absolute Return Composite	**436,360,261**	**10.00**	**2.34**
BAAM (SA)	63,501,699	1.46	3.05
Davidson-Kemper, L.P.	17,615,281	0.40	2.73
PAAMCO (SA)	3,127,992	0.07	-0.01
Prisma Capital Partners (SA)	215,913,744	4.95	2.46
Senator Investment Group, L.P.	9,055,702	0.21	N/A
Tourbillon Global Master Fund, Ltd	9,261,572	0.21	9.32
Anchorage Capital	10,077,331	0.23	N/A
Blackrock GAO Fund, Ltd (CF)	11,334,400	0.26	N/A
Coatue Qualified Partners, L.P.	5,561,841	0.13	4.84
DSAM Fund, L.P.	5,008,305	0.11	0.27
Finisterre Global Op	6,317,074	0.14	N/A
Glenview Capital (CF)	6,825,954	0.16	6.20
HBK II (CF)	16,782,287	0.38	1.39
Jana Partners (CF)	4,669,461	0.11	5.71
Knighthead Capital (CF)	4,762,601	0.11	1.96
LibreMax Capital (CF)	3,902,829	0.09	3.26
Liquidalts H2O Force (CF)	6,013,023	0.14	N/A
Luxor Capital (CF)	3,507,097	0.08	4.02
Myriad Opportunities	11,834,650	0.27	2.04
Pine River (CF)	4,990,538	0.11	3.31
QMS Diversified Global Macro (CF)	7,705,195	0.18	-2.04
Scopia PX, LLC	8,591,686	0.20	1.94
Private Equity Composite	**356,578,185**	**8.17**	**1.45**
Cash Equivalent Composite	**61,617,829**	**1.41**	**0.10**
Cash Equivalents (SA)	61,617,829	1.41	0.10
Other Composite	**-163,552**	**0.00**	**N/A**

Performance shown is net of fees. Fiscal year ends June 30th. Allocations shown may not sum up to 100% exactly due to rounding. Other Composite consists of BNY fee accruals. Real Estate and Private Equity valuations shown are as of the most recent date available. Market value shown for Emerging Mkts Equity Composite represents fee accruals following liquidation.

RVK

Asset Allocation by Sub-Plan

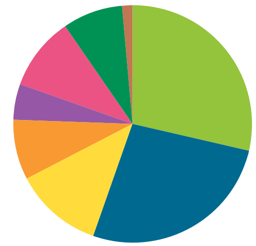
September 30, 2016 : $4,362,539,825



	Market Value ($)	Allocation (%)
KERS (I)	684,298,437	15.69
KERS Haz (I)	451,029,430	10.34
CERS (I)	1,972,298,118	45.21
CERS Haz (I)	1,089,530,248	24.97
SPRS (I)	165,383,592	3.79

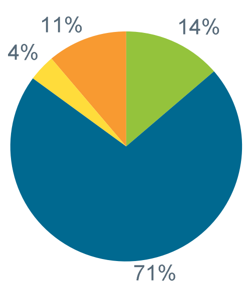
Asset Allocation by Asset Class

September 30, 2016 : $4,362,539,832

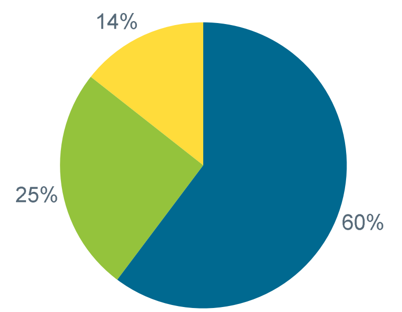


	Market Value ($)	Allocation (%)
U.S. Equity Composite	1,248,676,395	28.62
Non-U.S. Equity Composite	1,166,479,814	26.74
Fixed Income Composite	523,716,808	12.00
Real Return Composite	357,560,233	8.20
Real Estate Composite	211,713,858	4.85
Absolute Return Composite	436,360,261	10.00
Private Equity Composite	356,578,185	8.17
Cash Equivalent Composite	61,617,829	1.41
Other Composite	-163,552	0.00

Asset Allocation by Theme



Asset Allocation by Liquidity



Allocations shown may not sum up to 100% exactly due to rounding. Totals shown may not match due to differences between BNY Mellon's performance and accounting departments. Other Composite consists of BNY fee accruals.

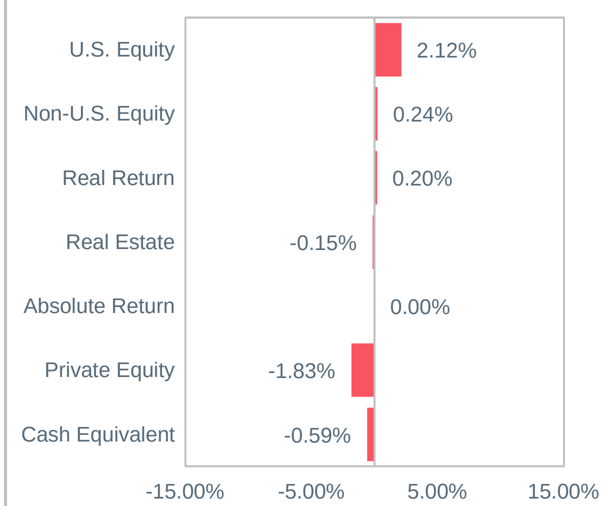
Kentucky Retirement Systems - Insurance Plan
Asset Allocation vs. Target & Plan Compliance

As of September 30, 2016

Asset Allocation vs. Target Allocation

	Asset Allocation ($)	Asset Allocation (%)	Minimum Allocation (%)	Target Allocation (%)	Maximum Allocation (%)
Total Fund	4,362,539,832	100.00	-	100.00	-
U.S. Equity Composite	1,248,676,395	28.62	21.50	26.50	31.50
Non-U.S. Equity Composite	1,166,479,814	26.74	21.50	26.50	31.50
Fixed Income Composite	523,716,808	12.00	8.00	12.00	16.00
Real Return Composite	357,560,233	8.20	6.00	8.00	10.00
Real Estate Composite	211,713,858	4.85	3.00	5.00	7.00
Absolute Return Composite	436,360,261	10.00	8.00	10.00	12.00
Private Equity Composite	356,578,185	8.17	7.00	10.00	13.00
Cash Equivalent Composite	61,617,829	1.41	-	2.00	4.00

Asset Allocation vs. Target Allocation Differences



Individual Plan Asset Allocation Monitor

	KERS	KERS Haz	CERS	CERS Haz	SPRS
U.S. Equity Composite	Over Max	In Range	In Range	In Range	In Range
Non-U.S. Equity Composite	In Range	In Range	In Range	In Range	In Range
Fixed Income Composite	In Range	In Range	In Range	In Range	In Range
Real Return Composite	In Range	In Range	In Range	In Range	In Range
Real Estate Composite	In Range	In Range	In Range	In Range	In Range
Absolute Return Composite	In Range	In Range	In Range	In Range	In Range
Private Equity Composite	Under Min	In Range	In Range	In Range	In Range
Cash Equivalent Composite	In Range	In Range	In Range	In Range	In Range

Allocations shown may not sum up to 100% due to rounding and the exclusion of the Other Composite from this page. Other Composite consists of BNY fee accruals.
KERS U.S. Equity Composite is over the maximum allocation by 0.84%
KERS Private Equity Composite is under the minimum allocation by 3.13%. This is an illiquid asset class and may take additional time to bring back into target range.

RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	Since Incep.	Inception Date
Total Fund	**3.99**	**3.99**	**7.00**	**9.33**	**5.24**	**7.61**	**4.27**	**-0.12**	**4.46**	**12.30**	**7.29**	**04/01/1987**
Target Allocation Index (I)	4.03	4.03	7.16	9.36	6.19	8.64	4.90	1.38	6.05	13.23	7.73	
Difference	-0.04	-0.04	-0.16	-0.03	-0.95	-1.03	-0.63	-1.50	-1.59	-0.93	-0.44	
KERS (I)	**4.11**	**4.11**	**6.93**	**9.38**	**4.89**	**7.36**	**4.14**	**-0.68**	**4.27**	**11.87**	**7.24**	**04/01/1987**
Target Allocation Index (KERS I)	4.03	4.03	7.16	9.26	5.95	8.52	4.84	0.96	5.67	13.50	7.71	
Difference	0.08	0.08	-0.23	0.12	-1.06	-1.16	-0.70	-1.64	-1.40	-1.63	-0.47	
KERS Haz (I)	**3.98**	**3.98**	**6.90**	**9.27**	**5.22**	**7.61**	**4.27**	**-0.24**	**4.51**	**12.50**	**7.29**	**04/01/1987**
Target Allocation Index (KERS Haz I)	4.03	4.03	7.16	9.26	5.95	8.52	4.84	0.96	5.67	13.52	7.71	
Difference	-0.05	-0.05	-0.26	0.01	-0.73	-0.91	-0.57	-1.20	-1.16	-1.02	-0.42	
CERS (I)	**3.97**	**3.97**	**6.99**	**9.31**	**5.30**	**7.66**	**4.29**	**-0.01**	**4.51**	**12.40**	**7.29**	**04/01/1987**
Target Allocation Index (CERS I)	4.03	4.03	7.16	9.26	5.95	8.52	4.84	0.96	5.67	13.52	7.71	
Difference	-0.06	-0.06	-0.17	0.05	-0.65	-0.86	-0.55	-0.97	-1.16	-1.12	-0.42	
CERS Haz (I)	**3.96**	**3.96**	**7.06**	**9.35**	**5.34**	**7.69**	**4.30**	**0.06**	**4.51**	**12.35**	**7.30**	**04/01/1987**
Target Allocation Index (CERS Haz I)	4.03	4.03	7.16	9.26	5.95	8.52	4.84	0.96	5.67	13.52	7.71	
Difference	-0.07	-0.07	-0.10	0.09	-0.61	-0.83	-0.54	-0.90	-1.16	-1.17	-0.41	
SPRS (I)	**3.97**	**3.97**	**6.99**	**9.26**	**5.30**	**7.66**	**4.29**	**0.02**	**4.50**	**12.38**	**7.29**	**04/01/1987**
Target Allocation Index (SPRS I)	4.03	4.03	7.16	9.26	5.95	8.52	4.84	0.96	5.67	13.52	7.71	
Difference	-0.06	-0.06	-0.17	0.00	-0.65	-0.86	-0.55	-0.94	-1.17	-1.14	-0.42	

Performance shown is net of fees. All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon. Fiscal year ends June 30th. An index marked with an asterisk (*) represents the current benchmark. See the Addendum for the complete historical composition of custom indices.

Composite Comparative Performance

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
U.S. Equity Composite	**4.18**	**4.18**	**9.09**	**15.57**	**9.65**	**15.82**	**-0.48**	**10.58**	**33.56**	**9.30**	**07/01/1992**
R 3000 Index (I)*	4.40	4.40	8.18	14.96	10.44	16.36	0.48	12.56	33.55	N/A	
Difference	-0.22	-0.22	0.91	0.61	-0.79	-0.54	-0.96	-1.98	0.01	N/A	
Non-U.S. Equity Composite	**7.08**	**7.08**	**6.03**	**10.26**	**1.06**	**6.13**	**-3.46**	**-4.28**	**17.94**	**2.24**	**04/01/2000**
MSCI ACW Ex US Investable Mkt Index (Gross) (I)*	7.14	7.14	6.52	10.04	0.71	6.57	-5.25	-3.44	15.78	1.75	
Difference	-0.06	-0.06	-0.49	0.22	0.35	-0.44	1.79	-0.84	2.16	0.49	
Fixed Income Composite	**2.02**	**2.02**	**7.52**	**7.26**	**4.14**	**4.48**	**0.53**	**3.79**	**-0.33**	**6.57**	**07/01/1992**
50/50 Bloomberg US Unv Bond/US Corp: Hi Yld Index (I)*	3.24	3.24	10.87	10.27	5.61	4.42	0.43	5.56	-1.35	6.57	
Difference	-1.22	-1.22	-3.35	-3.01	-1.47	0.06	0.10	-1.77	1.02	0.00	
Real Return Composite	**2.90**	**2.90**	**11.30**	**10.64**	**2.40**	**2.83**	**-6.13**	**3.78**	**-4.92**	**3.52**	**07/01/2011**
Real Return Actual Allocation Index (I)*	1.46	1.46	8.03	7.34	1.92	2.99	-3.56	3.15	2.29	3.04	
Difference	1.44	1.44	3.27	3.30	0.48	-0.16	-2.57	0.63	-7.21	0.48	
Real Estate Composite	**2.32**	**2.32**	**7.21**	**8.70**	**9.62**	**8.67**	**8.99**	**7.46**	**8.85**	**8.82**	**05/01/2009**
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)	1.91	1.91	7.12	10.80	11.97	11.66	13.86	11.36	11.97	5.70	
Difference	0.41	0.41	0.09	-2.10	-2.35	-2.99	-4.87	-3.90	-3.12	3.12	
Absolute Return Composite	**2.34**	**2.34**	**-1.21**	**-1.57**	**3.11**	**4.54**	**1.80**	**4.80**	**11.99**	**3.88**	**04/01/2010**
HFRI FOF: Dvf'd Index (1 Mo Lag)	1.26	1.26	-1.44	-2.10	2.53	2.61	0.79	4.72	8.61	2.49	
Difference	1.08	1.08	0.23	0.53	0.58	1.93	1.01	0.08	3.38	1.39	
Private Equity Composite	**1.45**	**1.45**	**6.48**	**6.99**	**14.89**	**13.28**	**15.93**	**17.50**	**16.32**	**9.46**	**07/01/2002**
Private Equity Benchmark (I) [Short Term]	1.45	1.45	6.48	6.99	14.89	13.28	15.93	17.50	16.32	9.46	
Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
R 3000 Index + 3% (Qtr Lag) (I)* [Long Term]	3.59	3.59	12.17	5.13	14.77	15.39	3.51	21.76	25.61	9.70	
Difference	-2.14	-2.14	-5.69	1.86	0.12	-2.11	12.42	-4.26	-9.29	-0.24	
Cash Equivalent Composite	**0.10**	**0.10**	**0.31**	**0.37**	**0.26**	**0.30**	**0.21**	**0.19**	**0.27**	**2.75**	**07/01/1992**
Citi 3 Mo T-Bill Index	0.07	0.07	0.19	0.20	0.08	0.08	0.03	0.02	0.06	2.62	
Difference	0.03	0.03	0.12	0.17	0.18	0.22	0.18	0.17	0.21	0.13	

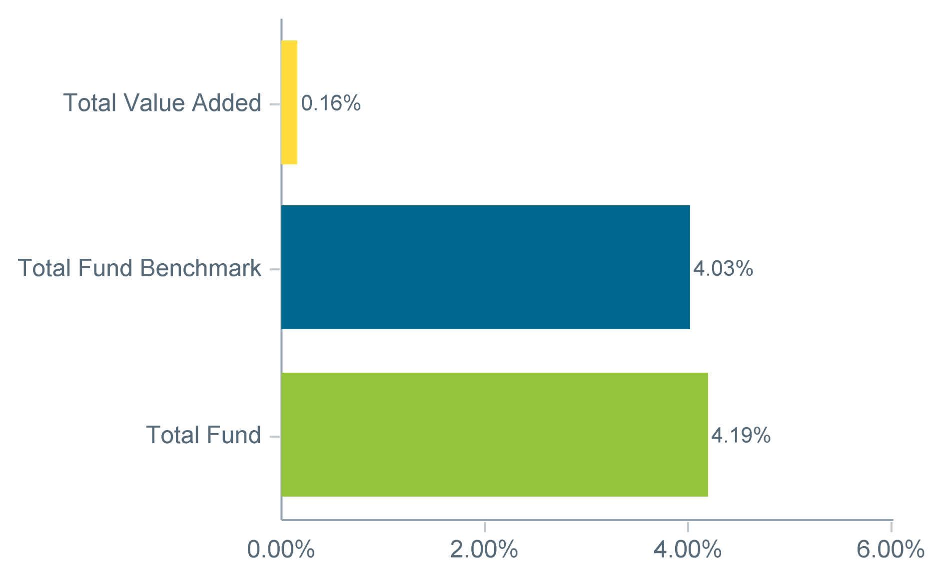
Performance shown is net of fees. All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon. Fiscal year ends June 30th. An index marked with an asterisk (*) represents the current benchmark. See the Addendum for the complete historical composition of custom indices.

	7 Years	10 Years	12 Years	15 Years	20 Years	25 Years
U.S. Equity Composite	**12.64**	**7.02**	**7.87**	**7.33**	**7.89**	**N/A**
R 3000 Index (I)*	13.11	7.32	8.06	7.45	8.14	N/A
Difference	-0.47	-0.30	-0.19	-0.12	-0.25	N/A
Non-U.S. Equity Composite	**3.57**	**2.43**	**5.45**	**6.40**	**N/A**	**N/A**
MSCI ACW Ex US Investable Mkt Index (Gross) (I)*	4.01	1.88	5.12	5.94	N/A	N/A
Difference	-0.44	0.55	0.33	0.46	N/A	N/A
Fixed Income Composite	**5.36**	**5.45**	**5.14**	**6.06**	**6.43**	**N/A**
50/50 Bloomberg US Unv Bond/US Corp: Hi Yld Index (I)*	5.52	5.54	5.22	6.11	6.46	6.70
Difference	-0.16	-0.09	-0.08	-0.05	-0.03	N/A
Real Return Composite	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Real Return Actual Allocation Index (I)*	N/A	N/A	N/A	N/A	N/A	N/A
Difference	N/A	N/A	N/A	N/A	N/A	N/A
Real Estate Composite	**11.45**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)	9.85	5.19	7.11	6.95	8.36	6.78
Difference	1.60	N/A	N/A	N/A	N/A	N/A
Absolute Return Composite	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
HFRI FOF: Dvf'd Index (1 Mo Lag)	2.78	1.81	2.99	3.29	4.66	5.75
Difference	N/A	N/A	N/A	N/A	N/A	N/A
Private Equity Composite	**15.19**	**9.40**	**9.87**	**N/A**	**N/A**	**N/A**
Private Equity Benchmark (I) [Short Term]	15.19	9.40	9.87	N/A	N/A	N/A
Difference	0.00	0.00	0.00	N/A	N/A	N/A
R 3000 Index + 3% (Qtr Lag) (I)* [Long Term]	15.25	9.46	9.71	9.10	9.04	N/A
Difference	-0.06	-0.06	0.16	N/A	N/A	N/A
Cash Equivalent Composite	**0.28**	**1.14**	**1.63**	**1.59**	**2.41**	**N/A**
Citi 3 Mo T-Bill Index	0.08	0.84	1.27	1.30	2.25	2.67
Difference	0.20	0.30	0.36	0.29	0.16	N/A

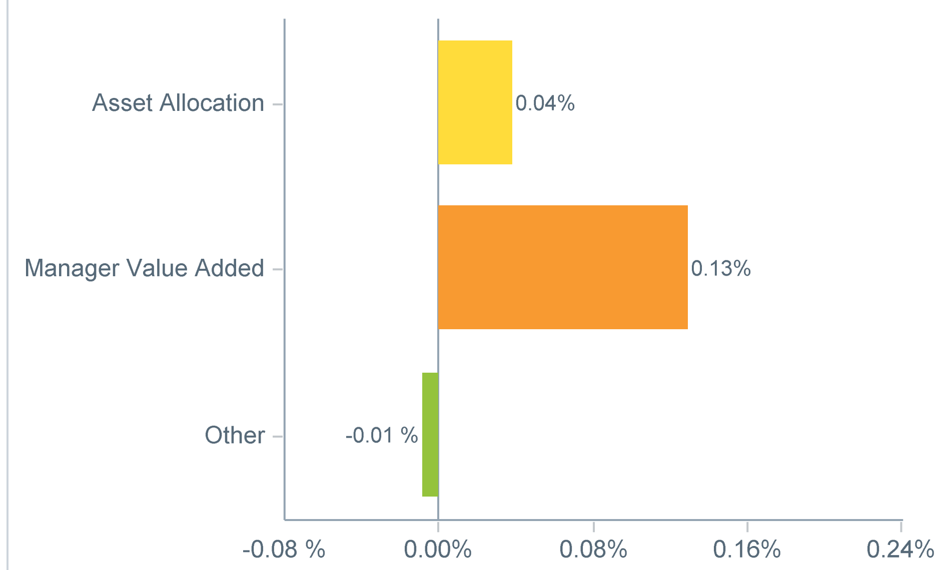
Performance shown is net of fees. All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon. Fiscal year ends June 30th. An index marked with an asterisk (*) represents the current benchmark. See the Addendum for the complete historical composition of custom indices.

RVK

Total Fund Performance

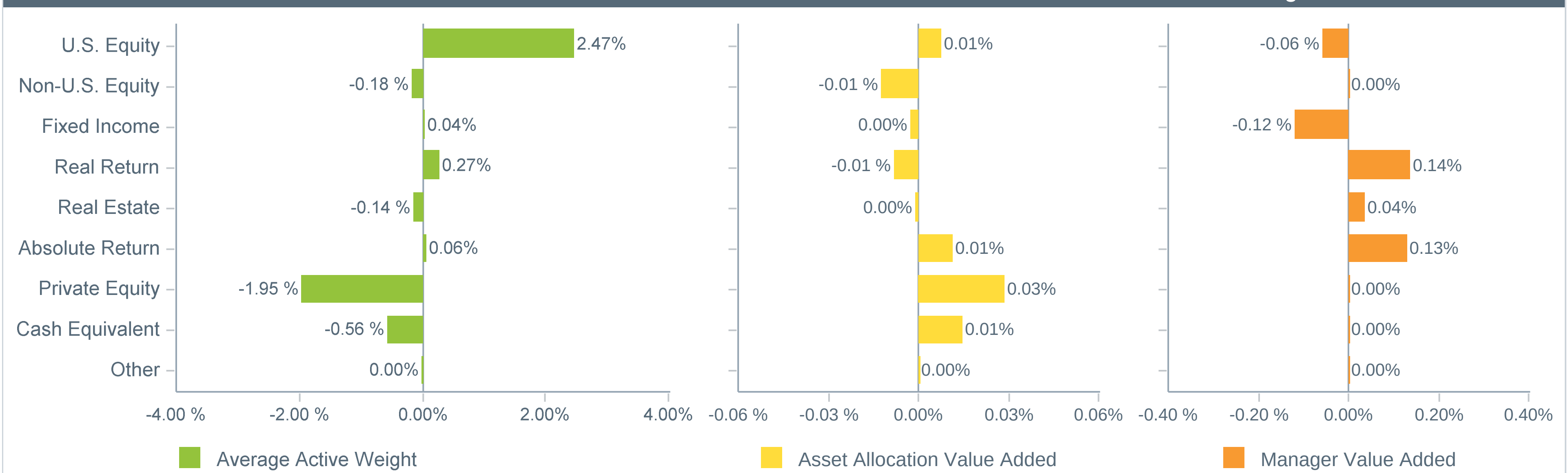


Total Value Added: 0.16%



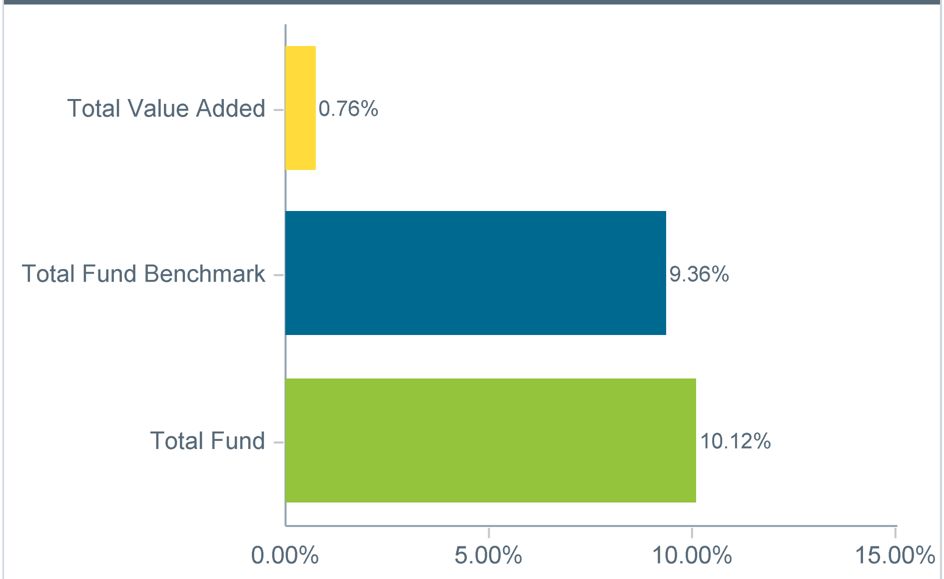
Total Asset Allocation: 0.04%

Total Manager Value Added: 0.13%

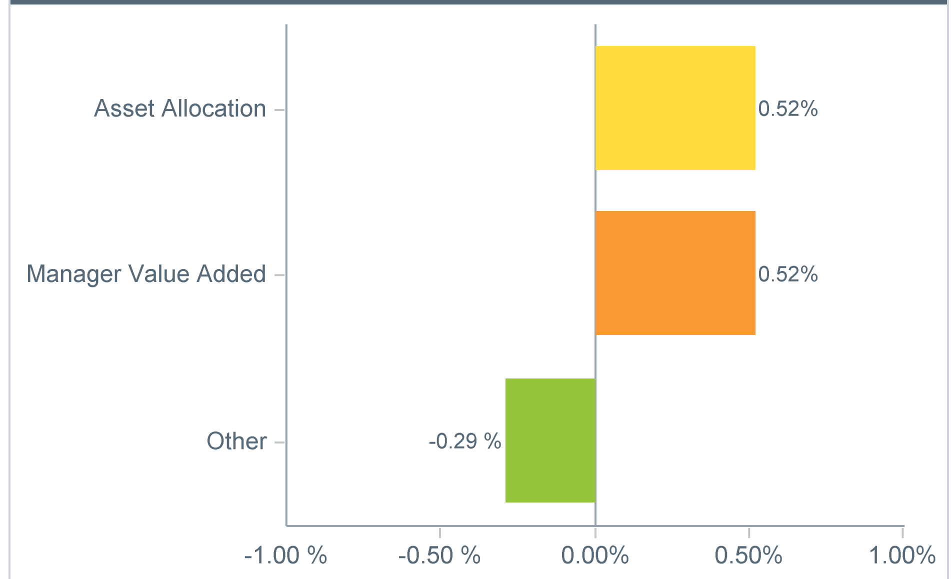


Performance shown is gross of fees. Calculation is based on monthly periodicity. Allocation to "Other" is the contribution of other residual factors, including market timing and cash flows.

Total Fund Performance

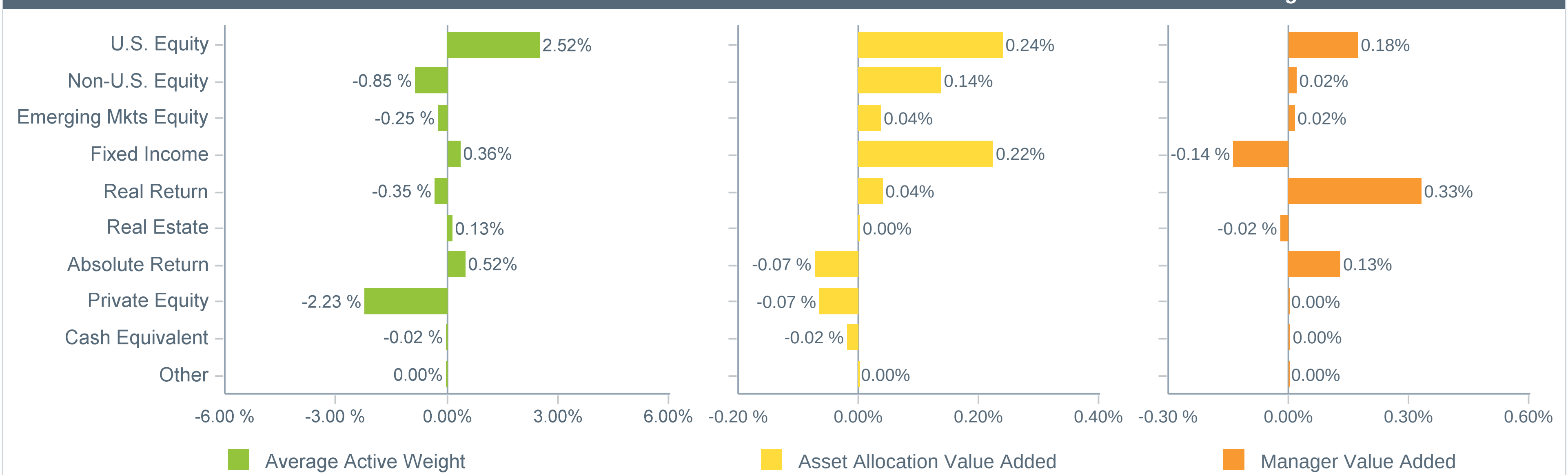


Total Value Added: 0.76%



Total Asset Allocation: 0.52%

Total Manager Value Added: 0.52%



Performance shown is gross of fees. Calculation is based on monthly periodicity. Allocation to "Other" is the contribution of other residual factors, including market timing and cash flows.

Historical Statistics - 5 Years

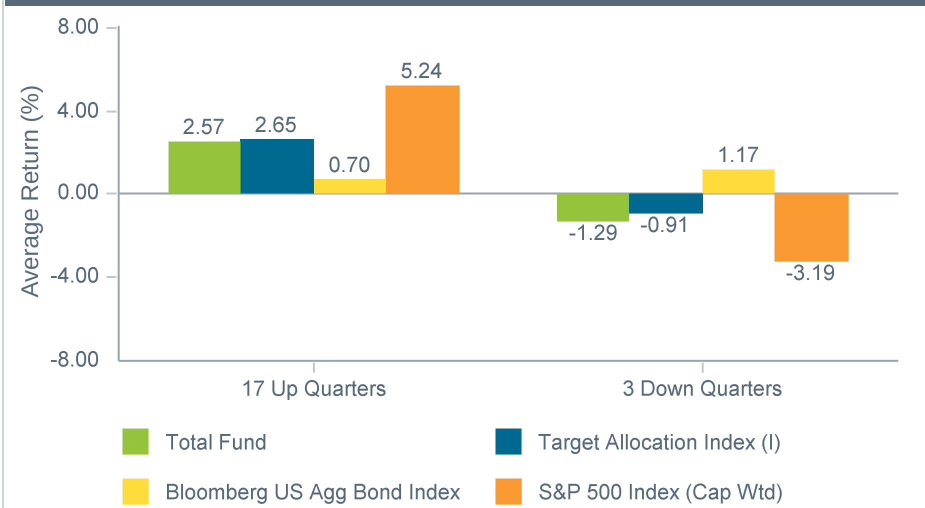
	Total Fund	U.S. Equity Composite	Non-U.S. Equity Composite	Fixed Income Composite	Real Return Composite	Real Estate Composite	Absolute Return Composite	Private Equity Composite	Cash Equivalent Composite
Standard Deviation	6.01	11.50	13.49	3.04	5.42	3.58	3.39	5.99	0.17
Sharpe Ratio	1.24	1.33	0.50	1.43	0.58	2.33	1.30	2.11	1.56
Downside Risk	3.27	5.70	8.70	1.79	3.47	0.87	1.95	0.57	0.00
Excess Return	7.44	15.32	6.78	4.33	3.14	8.30	4.40	12.61	0.26

Correlation Matrix - 5 Years

	Total Fund	U.S. Equity Composite	Non-U.S. Equity Composite	Fixed Income Composite	Real Return Composite	Real Estate Composite	Absolute Return Composite	Private Equity Composite	Cash Equivalent Composite
Total Fund	1.00								
U.S. Equity Composite	0.91	1.00							
Non-U.S. Equity Composite	0.96	0.83	1.00						
Fixed Income Composite	0.55	0.33	0.49	1.00					
Real Return Composite	0.63	0.42	0.55	0.77	1.00				
Real Estate Composite	-0.16	-0.19	-0.23	-0.26	-0.14	1.00			
Absolute Return Composite	-0.15	-0.22	-0.16	-0.25	-0.24	0.16	1.00		
Private Equity Composite	-0.09	-0.17	-0.17	-0.22	-0.17	0.56	0.27	1.00	
Cash Equivalent Composite	0.10	0.02	0.15	0.11	0.04	-0.03	-0.01	-0.06	1.00

Risk/Return - 5 Years

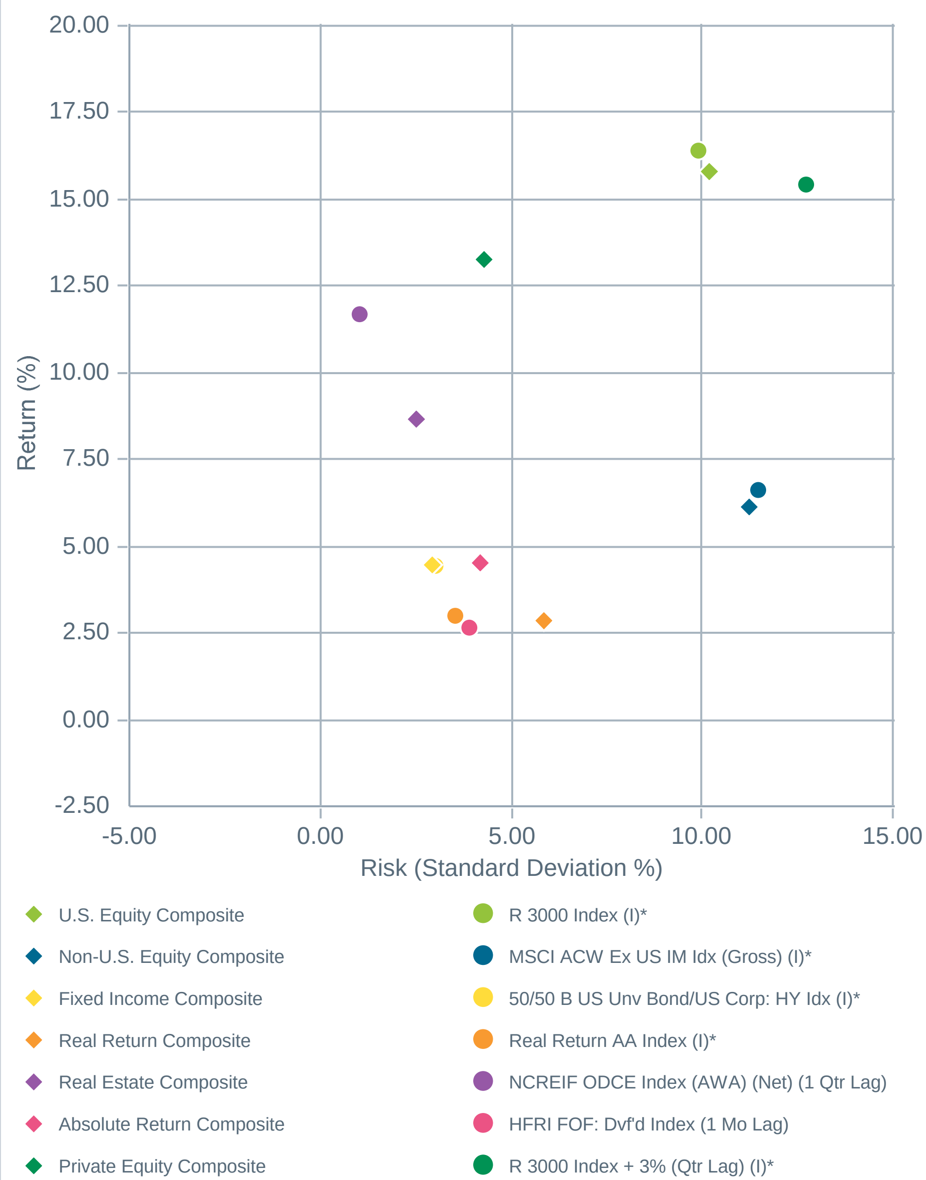
Up Down Market Bar Chart



Performance shown is net of fees, except where noted. Calculation is based on quarterly periodicity. Excess return is measured against the BofA ML 3 Mo US T-Bill Index.

Asset Class Risk/Return - 3 Years Ending September 30, 2016

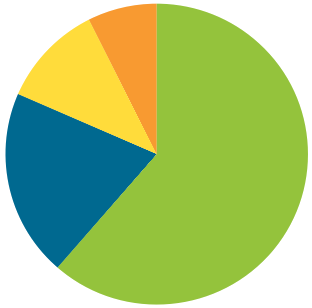
Asset Class Risk/Return - 5 Years Ending September 30, 2016



Performance shown is net of fees. Composites with less history than the specified time period will not appear in the chart.

U.S. Equity

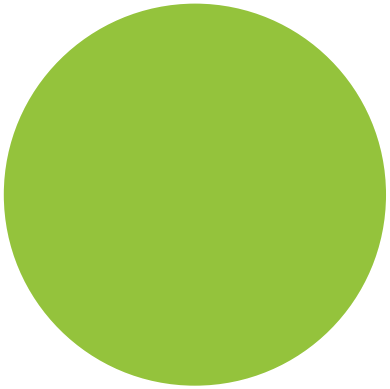
September 30, 2016 : $1,248,676,395



	Market Value ($)	Allocation (%)
U.S. Large Cap Equity	766,462,738	61.38
U.S. Mid Cap Equity	251,700,884	20.16
U.S. All Cap Equity	138,124,761	11.06
U.S. Small Cap Equity	92,388,012	7.40

Non-U.S. Equity

September 30, 2016 : $1,166,479,814



	Market Value ($)	Allocation (%)
Non-U.S. Equity	1,166,479,814	100.00

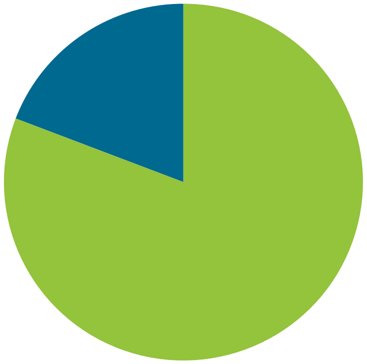
Fixed Income

September 30, 2016 : $523,716,808

	Market Value ($)	Allocation (%)
High Yield Fixed Income	260,244,226	49.69
Global Fixed Income	160,427,389	30.63
Core Fixed Income	103,045,194	19.68

Real Return

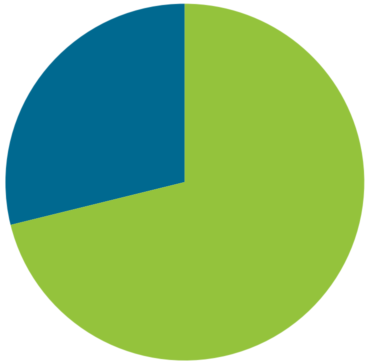
September 30, 2016 : $357,560,233



	Market Value ($)	Allocation (%)
Liquid Real Return	288,873,805	80.79
Illiquid Real Return	68,686,428	19.21

Real Estate

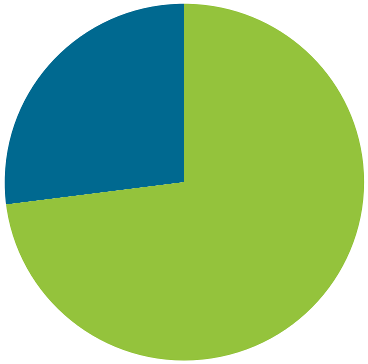
September 30, 2016 : $211,713,858



	Market Value ($)	Allocation (%)
Core Real Estate	150,637,280	71.15
Opp. & VA Real Estate	61,076,578	28.85

Absolute Return

September 30, 2016 : $436,360,261



	Market Value ($)	Allocation (%)
Absolute Return (FoF)	318,475,989	72.98
Absolute Return (Direct)	117,884,272	27.02

Allocations shown may not sum to 100% exactly due to rounding. Insurance Transition account is included in U.S. Large Cap Equity.

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
River Road Asset Management (SA)	**3.50**	**3.50**	**13.14**	**18.25**	**8.99**	**14.14**	**-3.97**	**9.86**	**32.64**	**11.15**	**07/01/2011**
Russell 3000 Val Index	3.87	3.87	10.40	16.38	9.46	16.09	-4.13	12.70	32.69	11.34	
Difference	-0.37	-0.37	2.74	1.87	-0.47	-1.95	0.16	-2.84	-0.05	-0.19	
River Road FAV (SA)	**8.54**	**8.54**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**8.54**	**07/01/2016**
Russell 3000 Val Index	3.87	3.87	10.40	16.38	9.46	16.09	-4.13	12.70	32.69	3.87	
Difference	4.67	4.67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.67	
Westfield Capital (SA)	**6.59**	**6.59**	**1.55**	**7.64**	**8.09**	**16.05**	**-1.42**	**12.82**	**39.06**	**10.82**	**07/01/2011**
Russell 3000 Grth Index	4.92	4.92	6.12	13.64	11.40	16.56	5.09	12.44	34.23	12.46	
Difference	1.67	1.67	-4.57	-6.00	-3.31	-0.51	-6.51	0.38	4.83	-1.64	
U.S. All Cap Equity Composite	**5.20**	**5.20**	**5.53**	**10.59**	**8.21**	**15.29**	**-2.26**	**11.13**	**36.25**	**10.35**	**07/01/2011**
Russell 3000 Index	4.40	4.40	8.18	14.96	10.44	16.36	0.48	12.56	33.55	11.93	
Difference	0.80	0.80	-2.65	-4.37	-2.23	-1.07	-2.74	-1.43	2.70	-1.58	
Scientific Beta	**1.09**	**1.09**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**1.09**	**07/01/2016**
S&P 500 Index (Cap Wtd)	3.85	3.85	7.84	15.43	11.16	16.37	1.38	13.69	32.39	3.85	
Difference	-2.76	-2.76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2.76	
Internal S&P 500 Index (SA)	**3.81**	**3.81**	**7.62**	**15.25**	**11.09**	**16.30**	**1.46**	**13.63**	**32.27**	**6.42**	**07/01/2001**
S&P 500 Index (Cap Wtd)*	3.85	3.85	7.84	15.43	11.16	16.37	1.38	13.69	32.39	6.32	
Difference	-0.04	-0.04	-0.22	-0.18	-0.07	-0.07	0.08	-0.06	-0.12	0.10	
U.S. Large Cap Equity Composite	**3.62**	**3.62**	**8.43**	**16.11**	**11.28**	**N/A**	**1.53**	**13.29**	**N/A**	**12.12**	**07/01/2013**
Russell 1000 Index	4.03	4.03	7.92	14.93	10.78	16.41	0.92	13.24	33.11	11.90	
Difference	-0.41	-0.41	0.51	1.18	0.50	N/A	0.61	0.05	N/A	0.22	

Performance shown is net of fees. All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon. Fiscal year ends June 30th. An index marked with an asterisk (*) represents the current benchmark. See the Addendum for the complete historical composition of custom indices. Manager inception dates shown represent the first full month following initial funding.

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Internal US Mid Cap (SA)	**4.04**	**4.04**	**12.86**	**15.72**	**N/A**	**N/A**	**-2.39**	**N/A**	**N/A**	**7.72**	**08/01/2014**
S&P Mid Cap 400 Index (Cap Wtd)	4.14	4.14	12.40	15.33	9.35	16.50	-2.18	9.77	33.50	7.64	
Difference	-0.10	-0.10	0.46	0.39	N/A	N/A	-0.21	N/A	N/A	0.08	
Systematic Financial Management (SA)	**5.84**	**5.84**	**8.77**	**15.02**	**5.51**	**N/A**	**-5.14**	**5.09**	**34.70**	**11.55**	**07/01/2012**
Russell Mid Cap Val Index	4.45	4.45	13.72	17.26	10.49	17.38	-4.78	14.75	33.46	15.18	
Difference	1.39	1.39	-4.95	-2.24	-4.98	N/A	-0.36	-9.66	1.24	-3.63	
U.S. Mid Cap Equity Composite	**4.63**	**4.63**	**12.25**	**16.31**	**6.06**	**N/A**	**-4.74**	**3.65**	**N/A**	**8.86**	**07/01/2013**
S&P Mid Cap 400 Index (Cap Wtd)	4.14	4.14	12.40	15.33	9.35	16.50	-2.18	9.77	33.50	11.06	
Difference	0.49	0.49	-0.15	0.98	-3.29	N/A	-2.56	-6.12	N/A	-2.20	
NT Structured Small Cap (SA)	**7.10**	**7.10**	**11.04**	**15.13**	**7.40**	**16.50**	**-3.27**	**5.80**	**39.24**	**10.79**	**07/01/2011**
Russell 2000 Index	9.05	9.05	11.46	15.47	6.71	15.82	-4.41	4.89	38.82	9.74	
Difference	-1.95	-1.95	-0.42	-0.34	0.69	0.68	1.14	0.91	0.42	1.05	
U.S. Small Cap Equity Composite	**7.07**	**7.07**	**11.00**	**15.09**	**7.41**	**N/A**	**-3.34**	**5.93**	**N/A**	**10.12**	**07/01/2013**
Russell 2000 Index	9.05	9.05	11.46	15.47	6.71	15.82	-4.41	4.89	38.82	9.40	
Difference	-1.98	-1.98	-0.46	-0.38	0.70	N/A	1.07	1.04	N/A	0.72	
U.S. Equity Composite	**4.18**	**4.18**	**9.09**	**15.57**	**9.65**	**15.82**	**-0.48**	**10.58**	**33.56**	**9.30**	**07/01/1992**
R 3000 Index (I)*	4.40	4.40	8.18	14.96	10.44	16.36	0.48	12.56	33.55	N/A	
Difference	-0.22	-0.22	0.91	0.61	-0.79	-0.54	-0.96	-1.98	0.01	N/A	

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	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Lazard Int'l Strategic Equity (SA)	**4.64**	**4.64**	**4.06**	**8.40**	**N/A**	**N/A**	**-0.61**	**N/A**	**N/A**	**-1.56**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	-2.36	-2.36	-2.23	-1.40	N/A	N/A	4.64	N/A	N/A	2.16	
LSV Int'l Concentrated Value Equity (SA)	**8.93**	**8.93**	**4.36**	**5.01**	**N/A**	**N/A**	**-5.97**	**N/A**	**N/A**	**-4.55**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	1.93	1.93	-1.93	-4.79	N/A	N/A	-0.72	N/A	N/A	-0.83	
BTC ACWI Ex US Fund (CF)	**6.89**	**6.89**	**6.80**	**10.25**	**0.54**	**N/A**	**-5.62**	**-3.88**	**14.68**	**6.94**	**06/01/2012**
MSCI ACW Ex US Index (USD) (Net)	6.91	6.91	5.82	9.26	0.18	6.04	-5.66	-3.87	15.29	6.84	
Difference	-0.02	-0.02	0.98	0.99	0.36	N/A	0.04	-0.01	-0.61	0.10	
American Century Non-US Growth Equity (SA)	**7.56**	**7.56**	**1.06**	**7.70**	**N/A**	**N/A**	**-0.89**	**N/A**	**N/A**	**-2.68**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	0.56	0.56	-5.23	-2.10	N/A	N/A	4.36	N/A	N/A	1.04	
Franklin Templeton Non-US Equity (SA)	**7.86**	**7.86**	**5.79**	**12.10**	**N/A**	**N/A**	**0.60**	**N/A**	**N/A**	**-0.56**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	0.86	0.86	-0.50	2.30	N/A	N/A	5.85	N/A	N/A	3.16	
BTC ACWI Ex US Small Cap Fund (CF)	**8.05**	**8.05**	**7.61**	**13.55**	**3.64**	**N/A**	**2.85**	**-3.90**	**N/A**	**7.84**	**07/01/2013**
MSCI ACW Ex US Sm Cap Index (USD) (Net)	7.91	7.91	7.70	13.38	3.52	8.60	2.60	-4.03	19.73	7.02	
Difference	0.14	0.14	-0.09	0.17	0.12	N/A	0.25	0.13	N/A	0.82	
Non-U.S. Equity Composite	**7.08**	**7.08**	**6.03**	**10.26**	**1.06**	**6.13**	**-3.46**	**-4.28**	**17.94**	**2.24**	**04/01/2000**
MSCI ACW Ex US Investable Mkt Index (Gross) (I)*	7.14	7.14	6.52	10.04	0.71	6.57	-5.25	-3.44	15.78	1.75	
Difference	-0.06	-0.06	-0.49	0.22	0.35	-0.44	1.79	-0.84	2.16	0.49	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
NISA Core Agg Fixed Income (SA)	**0.50**	**0.50**	**6.21**	**5.70**	**4.29**	**3.23**	**0.77**	**6.16**	**-2.12**	**3.86**	**07/01/2011**
Bloomberg US Agg Bond Index	0.46	0.46	5.80	5.19	4.03	3.08	0.55	5.97	-2.02	3.67	
Difference	0.04	0.04	0.41	0.51	0.26	0.15	0.22	0.19	-0.10	0.19	
Core Fixed Income Composite	**0.50**	**0.50**	**6.41**	**5.91**	**3.41**	**N/A**	**0.59**	**3.63**	**N/A**	**3.47**	**07/01/2013**
Bloomberg US Agg Bond Index	0.46	0.46	5.80	5.19	4.03	3.08	0.55	5.97	-2.02	3.89	
Difference	0.04	0.04	0.61	0.72	-0.62	N/A	0.04	-2.34	N/A	-0.42	
Cerberus KRS Levered Loan Opps, L.P.	**1.55**	**1.55**	**6.21**	**8.02**	**N/A**	**N/A**	**9.29**	**N/A**	**N/A**	**8.02**	**09/01/2014**
S&P-LSTA Lvg'd Loan Index	3.07	3.07	7.72	5.46	3.39	5.25	-0.69	1.60	5.29	2.74	
Difference	-1.52	-1.52	-1.51	2.56	N/A	N/A	9.98	N/A	N/A	5.28	
Columbia HY Fixed Income (SA)	**4.61**	**4.61**	**11.30**	**11.39**	**6.13**	**N/A**	**-0.17**	**4.45**	**6.04**	**7.70**	**11/01/2011**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	7.21	
Difference	-0.94	-0.94	-3.81	-1.34	0.85	N/A	4.30	2.00	-1.40	0.49	
Marathon Bluegrass Credit Fund	**5.15**	**5.15**	**9.85**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**9.85**	**01/01/2016**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	15.11	
Difference	-0.40	-0.40	-5.26	N/A	N/A	N/A	N/A	N/A	N/A	-5.26	
Shenkman Capital (SA)	**3.00**	**3.00**	**6.65**	**4.46**	**2.46**	**5.17**	**-0.38**	**-1.32**	**5.61**	**3.96**	**07/01/2011**
Shenkman Blended Index	3.07	3.07	7.72	5.46	4.19	6.78	-0.69	2.98	6.42	5.36	
Difference	-0.07	-0.07	-1.07	-1.00	-1.73	-1.61	0.31	-4.30	-0.81	-1.40	
Waterfall (SA)	**0.66**	**0.66**	**4.54**	**4.04**	**6.73**	**9.84**	**2.82**	**8.91**	**12.30**	**9.74**	**07/01/2011**
Opportunistic FI Blended Index	3.66	3.66	9.28	7.90	3.56	5.45	-2.73	2.16	5.06	4.38	
Difference	-3.00	-3.00	-4.74	-3.86	3.17	4.39	5.55	6.75	7.24	5.36	
High Yield Fixed Income Composite	**3.29**	**3.29**	**7.84**	**7.08**	**5.40**	**N/A**	**0.56**	**4.74**	**N/A**	**5.65**	**07/01/2013**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	5.60	
Difference	-2.26	-2.26	-7.27	-5.65	0.12	N/A	5.03	2.29	N/A	0.05	

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	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Manulife Asset Mgmt (SA)	**0.99**	**0.99**	**5.71**	**5.85**	**3.69**	**N/A**	**0.47**	**3.19**	**2.78**	**4.86**	**12/01/2011**
Bloomberg US Unv Bond Index*	0.96	0.96	6.69	5.75	1.12	1.31	-3.29	0.48	-2.19	1.42	
Difference	0.03	0.03	-0.98	0.10	2.57	N/A	3.76	2.71	4.97	3.44	
Global Fixed Income Composite	**0.99**	**0.99**	**5.70**	**6.50**	**3.22**	**N/A**	**0.69**	**2.64**	**N/A**	**3.26**	**07/01/2013**
Bloomberg Gbl Agg Bond Index	0.82	0.82	9.85	8.83	2.13	1.74	-3.15	0.59	-2.60	2.84	
Difference	0.17	0.17	-4.15	-2.33	1.09	N/A	3.84	2.05	N/A	0.42	
Fixed Income Composite	**2.02**	**2.02**	**7.52**	**7.26**	**4.14**	**4.48**	**0.53**	**3.79**	**-0.33**	**6.57**	**07/01/1992**
50/50 Bloomberg US Unv Bond/US Corp: Hi Yld Index (I)*	3.24	3.24	10.87	10.27	5.61	4.42	0.43	5.56	-1.35	6.57	
Difference	-1.22	-1.22	-3.35	-3.01	-1.47	0.06	0.10	-1.77	1.02	0.00	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Internal TIPS (SA)	**0.68**	**0.68**	**5.66**	**5.04**	**2.29**	**2.04**	**0.26**	**3.02**	**-7.78**	**4.78**	**10/01/2003**
Internal US TIPS Blend	0.57	0.57	5.57	4.83	1.84	1.59	-0.52	2.63	-8.61	4.44	
Difference	0.11	0.11	0.09	0.21	0.45	0.45	0.78	0.39	0.83	0.34	
Nuveen Real Asset Income (SA)	**3.35**	**3.35**	**14.14**	**15.98**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**5.20**	**02/01/2015**
Nuveen Real Asset Custom Index	1.92	1.92	12.36	13.75	N/A	N/A	N/A	N/A	N/A	4.89	
Difference	1.43	1.43	1.78	2.23	N/A	N/A	N/A	N/A	N/A	0.31	
PIMCO:All Asset;Inst (PAAIX)	**3.85**	**3.85**	**15.91**	**13.68**	**1.98**	**N/A**	**-10.43**	**3.34**	**-1.66**	**4.27**	**12/01/2011**
Bloomberg US Trsy Infl Notes: 1-10 Yr Index	0.57	0.57	5.57	4.83	1.51	1.34	-0.52	0.91	-5.58	1.00	
Difference	3.28	3.28	10.34	8.85	0.47	N/A	-9.91	2.43	3.92	3.27	
Tortoise Capital (CF)	**2.42**	**2.42**	**12.71**	**15.16**	**0.87**	**10.65**	**-26.95**	**14.90**	**36.32**	**14.69**	**08/01/2009**
Alerian MLP Index	1.07	1.07	15.94	12.74	-4.82	4.96	-32.59	4.80	27.58	10.18	
Difference	1.35	1.35	-3.23	2.42	5.69	5.69	5.64	10.10	8.74	4.51	
Amerra Ag Fund II (CF)	**1.71**	**1.71**	**3.80**	**5.94**	**9.35**	**N/A**	**14.34**	**8.63**	**0.06**	**6.87**	**12/01/2012**
Amerra-AGRI Holding (CF)	**0.26**	**0.26**	**1.17**	**0.82**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**0.71**	**08/01/2015**
BTG Pactual Brazil Timberland Fund I, L.P.	**9.20**	**9.20**	**-16.66**	**-16.66**	**N/A**	**N/A**	**-17.41**	**N/A**	**N/A**	**-18.43**	**12/01/2014**
Magnetar MTP Energy Fund, L.P.	**4.94**	**4.94**	**9.92**	**1.32**	**-1.24**	**N/A**	**-15.63**	**2.98**	**N/A**	**-0.49**	**07/01/2013**
Magnetar MTP EOF II, L.P.	**13.32**	**13.32**	**-5.31**	**-5.31**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**-4.57**	**08/01/2015**
Oberland Capital Healthcare, L.P.	**1.94**	**1.94**	**72.46**	**78.65**	**N/A**	**N/A**	**-27.53**	**N/A**	**N/A**	**10.00**	**10/01/2014**
Taurus Mining Finance Fund	**2.86**	**2.86**	**19.18**	**22.09**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**12.79**	**04/01/2015**
Tenaska Power Fund II (CF)	**10.94**	**10.94**	**-24.75**	**-21.85**	**-7.27**	**-5.29**	**16.85**	**-0.88**	**-16.55**	**-4.93**	**10/01/2008**
Real Return Composite	**2.90**	**2.90**	**11.30**	**10.64**	**2.40**	**2.83**	**-6.13**	**3.78**	**-4.92**	**3.52**	**07/01/2011**
Real Return Actual Allocation Index (I)*	1.46	1.46	8.03	7.34	1.92	2.99	-3.56	3.15	2.29	3.04	
Difference	1.44	1.44	3.27	3.30	0.48	-0.16	-2.57	0.63	-7.21	0.48	

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H/2 Credit Partners (CF)	2.13	2.13	3.89	0.45	4.37	5.91	2.11	6.57	4.51	5.48	07/01/2011
H/2 Core Real Estate Debt Fund, L.P.	2.37	2.37	5.71	6.12	4.18	N/A	4.06	2.80	N/A	4.18	10/01/2013
Harrison Street Core (CF)	2.65	2.65	8.54	10.84	15.28	N/A	7.00	12.03	6.81	7.85	05/01/2012
Mesa West Core Lending, L.P.	1.47	1.47	4.75	6.70	5.93	N/A	7.29	4.68	N/A	5.71	05/01/2013
Prologis Targeted U.S. Logistics Fund (CF)	3.25	3.25	10.12	13.29	N/A	N/A	13.54	N/A	N/A	11.81	10/01/2014
Stockbridge SmtMkts, L.P.	1.56	1.56	6.85	9.53	N/A	N/A	11.30	N/A	N/A	9.79	05/01/2014
DivcoWest Fund IV, L.P.	11.33	11.33	29.10	41.13	N/A	N/A	28.79	N/A	N/A	23.31	03/01/2014
Greenfield Acquisition Partners VI, L.P.	-4.19	-4.19	0.17	2.54	11.81	N/A	18.77	16.59	11.34	12.00	12/01/2012
Greenfield Acquisition Partners VII, L.P.	3.91	3.91	12.20	13.48	N/A	N/A	15.29	N/A	N/A	11.02	07/01/2014
Lubert Adler Real Estate Fund VII, L.P.	3.86	3.86	4.19	4.10	N/A	N/A	-0.33	N/A	N/A	-9.67	07/01/2014
Patron Capital V, L.P.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2.07	08/01/2016
Rubenstein Properties Fund II, L.P.	0.13	0.13	0.23	2.64	15.83	N/A	11.17	44.51	N/A	14.53	07/01/2013
Walton Street Real Estate Fund VI, L.P.	0.26	0.26	2.90	5.38	11.27	11.14	12.99	16.41	15.24	-22.48	05/01/2009
Walton Street Real Estate Fund VII, L.P.	2.31	2.31	8.60	11.30	14.58	N/A	16.78	15.13	N/A	14.28	07/01/2013
Real Estate Composite	2.32	2.32	7.21	8.70	9.62	8.67	8.99	7.46	8.85	8.82	05/01/2009
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)	1.91	1.91	7.12	10.80	11.97	11.66	13.86	11.36	11.97	5.70	
Difference	0.41	0.41	0.09	-2.10	-2.35	-2.99	-4.87	-3.90	-3.12	3.12	

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BAAM (SA)	3.05	3.05	0.02	1.15	5.79	6.70	6.11	7.91	11.51	6.59	09/01/2011
Davidson-Kemper, L.P.	2.73	2.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.55	02/01/2016
PAAMCO (SA)	-0.01	-0.01	-1.84	-3.38	1.58	3.88	-2.05	3.81	14.91	3.82	09/01/2011
Prisma Capital Partners (SA)	2.46	2.46	-1.90	-2.32	2.53	3.63	2.54	3.18	9.75	3.57	09/01/2011
Senator Investment Group, L.P.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.59	09/01/2016
Tourbillon Global Master Fund, Ltd	9.32	9.32	-8.03	N/A	N/A	N/A	N/A	N/A	N/A	-7.38	11/01/2015
Anchorage Capital	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.44	08/01/2016
Blackrock GAO Fund, Ltd (CF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.16	08/01/2016
Coatue Qualified Partners, L.P.	4.84	4.84	5.01	11.24	N/A	N/A	N/A	N/A	N/A	8.89	07/01/2015
DSAM Fund, L.P.	0.27	0.27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.17	05/01/2016
Finisterre Global Op	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.10	08/01/2016
Glenview Capital (CF)	6.20	6.20	-6.08	N/A	N/A	N/A	N/A	N/A	N/A	-9.25	11/01/2015
HBK II (CF)	1.39	1.39	2.88	0.91	N/A	N/A	-1.46	3.93	N/A	2.20	12/01/2013
Jana Partners (CF)	5.71	5.71	-0.01	-3.54	N/A	N/A	-5.99	N/A	N/A	-3.23	09/01/2014
Knighthead Capital (CF)	1.96	1.96	0.48	-1.86	N/A	N/A	-10.22	5.59	N/A	-1.75	01/01/2014
LibreMax Capital (CF)	3.26	3.26	1.00	-1.30	N/A	N/A	-0.16	N/A	N/A	1.81	08/01/2014
Liquidalts H2O Force (CF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.16	08/01/2016
Luxor Capital (CF)	4.02	4.02	-10.62	-18.19	N/A	N/A	-16.70	N/A	N/A	-13.23	04/01/2014
Myriad Opportunities	2.04	2.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.55	05/01/2016
Pine River (CF)	3.31	3.31	-0.78	-4.55	N/A	N/A	0.09	N/A	N/A	-0.08	05/01/2014
QMS Diversified Global Macro (CF)	-2.04	-2.04	-1.05	N/A	N/A	N/A	N/A	N/A	N/A	-0.28	11/01/2015
Scopia PX, LLC	1.94	1.94	-8.30	-4.94	N/A	N/A	0.92	N/A	N/A	-1.78	11/01/2014
Absolute Return Composite	2.34	2.34	-1.21	-1.57	3.11	4.54	1.80	4.80	11.99	3.88	04/01/2010
HFRI FOF: Dvf'd Index (1 Mo Lag)	1.26	1.26	-1.44	-2.10	2.53	2.61	0.79	4.72	8.61	2.49	
Difference	1.08	1.08	0.23	0.53	0.58	1.93	1.01	0.08	3.38	1.39	

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	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Cash Equivalents (SA)	**0.10**	**0.10**	**0.31**	**0.37**	**0.26**	**0.30**	**0.21**	**0.19**	**0.27**	**2.75**	**07/01/1992**
Citi 3 Mo T-Bill Index	0.07	0.07	0.19	0.20	0.08	0.08	0.03	0.02	0.06	2.62	
Difference	0.03	0.03	0.12	0.17	0.18	0.22	0.18	0.17	0.21	0.13	

Performance for Absolute Return managers and the HFRI FOF Diversified Index is lagged by one month.

Performance for the NCREIF ODCE Index (Net) (AWA) is lagged by one quarter and available quarterly; interim month returns assume a 0.00% return.

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	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
River Road Asset Management (SA)	**3.60**	**3.60**	**13.47**	**18.77**	**9.59**	**14.78**	**-3.47**	**10.60**	**33.42**	**11.74**	**07/01/2011**
Russell 3000 Val Index	3.87	3.87	10.40	16.38	9.46	16.09	-4.13	12.70	32.69	11.34	
Difference	-0.27	-0.27	3.07	2.39	0.13	-1.31	0.66	-2.10	0.73	0.40	
IM U.S. All Cap Value Equity (SA+CF) Median	4.91	4.91	8.71	14.21	8.93	15.48	-3.25	10.22	34.74	10.94	
Rank	75	75	20	13	35	63	52	49	62	31	
River Road FAV (SA)	**8.60**	**8.60**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**8.60**	**07/01/2016**
Russell 3000 Val Index	3.87	3.87	10.40	16.38	9.46	16.09	-4.13	12.70	32.69	3.87	
Difference	4.73	4.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.73	
IM U.S. All Cap Value Equity (SA+CF) Median	4.91	4.91	8.71	14.21	8.93	15.48	-3.25	10.22	34.74	4.91	
Rank	6	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6	
Westfield Capital (SA)	**6.70**	**6.70**	**1.97**	**8.23**	**8.72**	**16.72**	**-0.97**	**13.62**	**39.90**	**11.43**	**07/01/2011**
Russell 3000 Grth Index	4.92	4.92	6.12	13.64	11.40	16.56	5.09	12.44	34.23	12.46	
Difference	1.78	1.78	-4.15	-5.41	-2.68	0.16	-6.06	1.18	5.67	-1.03	
IM U.S. All Cap Growth Equity (SA+CF) Median	5.70	5.70	4.28	11.30	8.41	15.27	3.50	8.95	35.96	10.48	
Rank	32	32	72	71	45	23	88	20	22	33	
U.S. All Cap Equity Composite	**5.31**	**5.31**	**5.95**	**11.17**	**8.79**	**15.92**	**-1.82**	**11.86**	**36.97**	**10.92**	**07/01/2011**
Russell 3000 Index	4.40	4.40	8.18	14.96	10.44	16.36	0.48	12.56	33.55	11.93	
Difference	0.91	0.91	-2.23	-3.79	-1.65	-0.44	-2.30	-0.70	3.42	-1.01	
Scientific Beta	**1.09**	**1.09**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**1.09**	**07/01/2016**
S&P 500 Index (Cap Wtd)	3.85	3.85	7.84	15.43	11.16	16.37	1.38	13.69	32.39	3.85	
Difference	-2.76	-2.76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2.76	
IM U.S. Large Cap Index Equity (SA+CF) Median	3.99	3.99	7.89	15.16	10.88	16.36	0.96	13.29	32.56	3.99	
Rank	99	99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	99	
Internal S&P 500 Index (SA)	**3.81**	**3.81**	**7.62**	**15.25**	**11.09**	**16.30**	**1.46**	**13.64**	**32.27**	**6.42**	**07/01/2001**
S&P 500 Index (Cap Wtd)*	3.85	3.85	7.84	15.43	11.16	16.37	1.38	13.69	32.39	6.32	
Difference	-0.04	-0.04	-0.22	-0.18	-0.07	-0.07	0.08	-0.05	-0.12	0.10	
IM U.S. Large Cap Index Equity (SA+CF) Median	3.99	3.99	7.89	15.16	10.88	16.36	0.96	13.29	32.56	6.03	
Rank	77	77	78	48	45	73	23	37	82	18	
U.S. Large Cap Equity Composite	**3.62**	**3.62**	**8.43**	**16.11**	**11.28**	**N/A**	**1.53**	**13.29**	**N/A**	**12.12**	**07/01/2013**
Russell 1000 Index	4.03	4.03	7.92	14.93	10.78	16.41	0.92	13.24	33.11	11.90	
Difference	-0.41	-0.41	0.51	1.18	0.50	N/A	0.61	0.05	N/A	0.22	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Internal US Mid Cap (SA)	**4.04**	**4.04**	**12.86**	**15.72**	**N/A**	**N/A**	**-2.39**	**N/A**	**N/A**	**7.72**	**08/01/2014**
S&P Mid Cap 400 Index (Cap Wtd)	4.14	4.14	12.40	15.33	9.35	16.50	-2.18	9.77	33.50	7.64	
Difference	-0.10	-0.10	0.46	0.39	N/A	N/A	-0.21	N/A	N/A	0.08	
IM U.S. Mid Cap Equity (SA+CF) Median	4.75	4.75	7.70	11.35	8.97	16.36	-1.19	9.76	36.37	6.36	
Rank	70	70	14	22	N/A	N/A	65	N/A	N/A	29	
Systematic Financial Management (SA)	**5.91**	**5.91**	**9.07**	**15.44**	**5.91**	**N/A**	**-4.97**	**5.69**	**35.33**	**11.97**	**07/01/2012**
Russell Mid Cap Val Index	4.45	4.45	13.72	17.26	10.49	17.38	-4.78	14.75	33.46	15.18	
Difference	1.46	1.46	-4.65	-1.82	-4.58	N/A	-0.19	-9.06	1.87	-3.21	
IM U.S. Mid Cap Value Equity (SA+CF) Median	5.14	5.14	10.69	14.02	9.46	17.20	-3.57	11.73	36.06	14.65	
Rank	34	34	69	42	90	N/A	66	87	55	92	
U.S. Mid Cap Equity Composite	**4.65**	**4.65**	**12.37**	**16.50**	**6.34**	**N/A**	**-4.64**	**4.11**	**N/A**	**9.16**	**07/01/2013**
S&P Mid Cap 400 Index (Cap Wtd)	4.14	4.14	12.40	15.33	9.35	16.50	-2.18	9.77	33.50	11.06	
Difference	0.51	0.51	-0.03	1.17	-3.01	N/A	-2.46	-5.66	N/A	-1.90	
NT Structured Small Cap (SA)	**7.13**	**7.13**	**11.16**	**15.29**	**7.53**	**16.64**	**-3.15**	**5.92**	**39.43**	**10.92**	**07/01/2011**
Russell 2000 Index	9.05	9.05	11.46	15.47	6.71	15.82	-4.41	4.89	38.82	9.74	
Difference	-1.92	-1.92	-0.30	-0.18	0.82	0.82	1.26	1.03	0.61	1.18	
IM U.S. Small Cap Core Equity (SA+CF) Median	7.54	7.54	10.53	14.65	8.54	17.18	-1.39	6.52	41.26	11.40	
Rank	64	64	44	44	63	63	72	55	66	58	
U.S. Small Cap Equity Composite	**7.10**	**7.10**	**11.12**	**15.25**	**7.53**	**N/A**	**-3.22**	**6.04**	**N/A**	**10.24**	**07/01/2013**
Russell 2000 Index	9.05	9.05	11.46	15.47	6.71	15.82	-4.41	4.89	38.82	9.40	
Difference	-1.95	-1.95	-0.34	-0.22	0.82	N/A	1.19	1.15	N/A	0.84	
U.S. Equity Composite	**4.20**	**4.20**	**9.15**	**15.67**	**9.77**	**15.95**	**-0.40**	**10.75**	**33.78**	**9.33**	**07/01/1992**
R 3000 Index (I)*	4.40	4.40	8.18	14.96	10.44	16.36	0.48	12.56	33.55	N/A	
Difference	-0.20	-0.20	0.97	0.71	-0.67	-0.41	-0.88	-1.81	0.23	N/A	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Lazard Int'l Strategic Equity (SA)	**4.71**	**4.71**	**4.24**	**8.68**	**N/A**	**N/A**	**-0.42**	**N/A**	**N/A**	**-1.24**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	-2.29	-2.29	-2.05	-1.12	N/A	N/A	4.83	N/A	N/A	2.48	
IM International Value Equity (SA+CF) Median	7.36	7.36	4.78	8.46	1.85	8.36	-0.83	-4.22	23.80	-2.51	
Rank	83	83	53	47	N/A	N/A	45	N/A	N/A	34	
LSV Int'l Concentrated Value Equity (SA)	**9.08**	**9.08**	**4.74**	**5.43**	**N/A**	**N/A**	**-5.50**	**N/A**	**N/A**	**-3.99**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	2.08	2.08	-1.55	-4.37	N/A	N/A	-0.25	N/A	N/A	-0.27	
IM International Value Equity (SA+CF) Median	7.36	7.36	4.78	8.46	1.85	8.36	-0.83	-4.22	23.80	-2.51	
Rank	18	18	51	78	N/A	N/A	88	N/A	N/A	71	
BTC ACWI Ex US Fund (CF)	**6.91**	**6.91**	**6.84**	**10.31**	**0.53**	**N/A**	**-5.63**	**-3.83**	**14.73**	**6.98**	**06/01/2012**
MSCI ACW Ex US Index (USD) (Net)	6.91	6.91	5.82	9.26	0.18	6.04	-5.66	-3.87	15.29	6.84	
Difference	0.00	0.00	1.02	1.05	0.35	N/A	0.03	0.04	-0.56	0.14	
IM International Core Equity (SA+CF) Median	6.77	6.77	3.47	8.31	2.42	9.11	1.15	-3.51	23.99	10.04	
Rank	48	48	15	31	81	N/A	94	55	97	95	
American Century Non-US Growth Equity (SA)	**7.66**	**7.66**	**1.37**	**8.14**	**N/A**	**N/A**	**-0.56**	**N/A**	**N/A**	**-2.29**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	0.66	0.66	-4.92	-1.66	N/A	N/A	4.69	N/A	N/A	1.43	
IM International Growth Equity (SA+CF) Median	6.78	6.78	3.81	9.58	3.18	9.53	3.26	-3.37	23.18	-0.20	
Rank	31	31	76	67	N/A	N/A	83	N/A	N/A	77	
Franklin Templeton Non-US Equity (SA)	**8.00**	**8.00**	**6.16**	**12.61**	**N/A**	**N/A**	**0.95**	**N/A**	**N/A**	**-0.11**	**07/01/2014**
MSCI ACW Ex US Index (USD) (Gross)	7.00	7.00	6.29	9.80	0.64	6.52	-5.25	-3.44	15.78	-3.72	
Difference	1.00	1.00	-0.13	2.81	N/A	N/A	6.20	N/A	N/A	3.61	
IM International Growth Equity (SA+CF) Median	6.78	6.78	3.81	9.58	3.18	9.53	3.26	-3.37	23.18	-0.20	
Rank	25	25	30	26	N/A	N/A	72	N/A	N/A	49	
BTC ACWI Ex US Small Cap Fund (CF)	**8.08**	**8.08**	**7.70**	**13.67**	**3.76**	**N/A**	**2.97**	**-3.79**	**N/A**	**7.97**	**07/01/2013**
MSCI ACW Ex US Sm Cap Index (USD) (Net)	7.91	7.91	7.70	13.38	3.52	8.60	2.60	-4.03	19.73	7.02	
Difference	0.17	0.17	0.00	0.29	0.24	N/A	0.37	0.24	N/A	0.95	
IM International Small Cap Equity (SA+CF) Median	8.05	8.05	5.73	12.07	6.06	12.75	10.46	-3.25	31.17	9.79	
Rank	49	49	25	32	82	N/A	88	57	N/A	73	
Non-U.S. Equity Composite	**7.14**	**7.14**	**6.23**	**10.54**	**1.29**	**6.42**	**-3.27**	**-4.02**	**18.22**	**2.30**	**04/01/2000**
MSCI ACW Ex US Investable Mkt Index (Gross) (I)*	7.14	7.14	6.52	10.04	0.71	6.57	-5.25	-3.44	15.78	1.75	
Difference	0.00	0.00	-0.29	0.50	0.58	-0.15	1.98	-0.58	2.44	0.55	

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	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
NISA Core Agg Fixed Income (SA)	**0.54**	**0.54**	**6.48**	**6.01**	**4.49**	**3.41**	**0.83**	**6.38**	**-1.95**	**4.03**	**07/01/2011**
Bloomberg US Agg Bond Index	0.46	0.46	5.80	5.19	4.03	3.08	0.55	5.97	-2.02	3.67	
Difference	0.08	0.08	0.68	0.82	0.46	0.33	0.28	0.41	0.07	0.36	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	0.68	0.68	6.13	5.62	4.31	3.66	0.81	6.14	-1.56	4.06	
Rank	63	63	32	32	39	67	48	36	71	55	
Core Fixed Income Composite	**0.54**	**0.54**	**6.51**	**6.04**	**3.59**	**N/A**	**0.68**	**3.91**	**N/A**	**3.66**	**07/01/2013**
Bloomberg US Agg Bond Index	0.46	0.46	5.80	5.19	4.03	3.08	0.55	5.97	-2.02	3.89	
Difference	0.08	0.08	0.71	0.85	-0.44	N/A	0.13	-2.06	N/A	-0.23	
Cerberus KRS Levered Loan Opps, L.P.	**2.32**	**2.32**	**8.58**	**11.23**	**N/A**	**N/A**	**13.09**	**N/A**	**N/A**	**10.98**	**09/01/2014**
S&P-LSTA Lvg'd Loan Index	3.07	3.07	7.72	5.46	3.39	5.25	-0.69	1.60	5.29	2.74	
Difference	-0.75	-0.75	0.86	5.77	N/A	N/A	13.78	N/A	N/A	8.24	
IM U.S. High Yield Bonds (SA+CF) Median	4.90	4.90	12.20	10.42	5.09	8.13	-2.23	2.70	7.57	3.03	
Rank	92	92	85	33	N/A	N/A	1	N/A	N/A	1	
Columbia HY Fixed Income (SA)	**4.69**	**4.69**	**11.60**	**11.80**	**6.52**	**N/A**	**0.16**	**4.84**	**6.60**	**8.11**	**11/01/2011**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	7.21	
Difference	-0.86	-0.86	-3.51	-0.93	1.24	N/A	4.63	2.39	-0.84	0.90	
IM U.S. High Yield Bonds (SA+CF) Median	4.90	4.90	12.20	10.42	5.09	8.13	-2.23	2.70	7.57	7.11	
Rank	61	61	59	21	8	N/A	17	9	70	13	
Marathon Bluegrass Credit Fund	**6.04**	**6.04**	**11.82**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**11.82**	**01/01/2016**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	15.11	
Difference	0.49	0.49	-3.29	N/A	N/A	N/A	N/A	N/A	N/A	-3.29	
IM U.S. High Yield Bonds (SA+CF) Median	4.90	4.90	12.20	10.42	5.09	8.13	-2.23	2.70	7.57	12.20	
Rank	9	9	57	N/A	N/A	N/A	N/A	N/A	N/A	57	
Shenkman Capital (SA)	**3.12**	**3.12**	**7.05**	**4.98**	**2.97**	**5.69**	**0.12**	**-0.83**	**6.12**	**4.46**	**07/01/2011**
Shenkman Blended Index	3.07	3.07	7.72	5.46	4.19	6.78	-0.69	2.98	6.42	5.36	
Difference	0.05	0.05	-0.67	-0.48	-1.22	-1.09	0.81	-3.81	-0.30	-0.90	
Waterfall (SA)	**0.80**	**0.80**	**4.97**	**4.61**	**7.87**	**11.18**	**3.82**	**10.73**	**14.94**	**11.01**	**07/01/2011**
Opportunistic FI Blended Index	3.66	3.66	9.28	7.90	3.56	5.45	-2.73	2.16	5.06	4.38	
Difference	-2.86	-2.86	-4.31	-3.29	4.31	5.73	6.55	8.57	9.88	6.63	
High Yield Fixed Income Composite	**3.76**	**3.76**	**9.03**	**8.49**	**6.42**	**N/A**	**1.54**	**5.48**	**N/A**	**6.64**	**07/01/2013**
Bloomberg US Corp: Hi Yld Index	5.55	5.55	15.11	12.73	5.28	8.34	-4.47	2.45	7.44	5.60	
Difference	-1.79	-1.79	-6.08	-4.24	1.14	N/A	6.01	3.03	N/A	1.04	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Manulife Asset Mgmt (SA)	**1.05**	**1.05**	**5.90**	**6.10**	**3.98**	**N/A**	**0.73**	**3.51**	**3.12**	**5.16**	**12/01/2011**
Bloomberg US Unv Bond Index*	0.96	0.96	6.69	5.75	1.12	1.31	-3.29	0.48	-2.19	1.42	
Difference	0.09	0.09	-0.79	0.35	2.86	N/A	4.02	3.03	5.31	3.74	
Global Fixed Income Composite	**1.05**	**1.05**	**5.89**	**6.74**	**3.44**	**N/A**	**0.90**	**2.83**	**N/A**	**3.47**	**07/01/2013**
Bloomberg Gbl Agg Bond Index	0.82	0.82	9.85	8.83	2.13	1.74	-3.15	0.59	-2.60	2.84	
Difference	0.23	0.23	-3.96	-2.09	1.31	N/A	4.05	2.24	N/A	0.63	
Fixed Income Composite	**2.26**	**2.26**	**8.13**	**7.97**	**4.61**	**4.89**	**0.88**	**4.18**	**0.08**	**6.67**	**07/01/1992**
50/50 Bloomberg US Unv Bond/US Corp: Hi Yld Index (I)*	3.24	3.24	10.87	10.27	5.61	4.42	0.43	5.56	-1.35	6.57	
Difference	-0.98	-0.98	-2.74	-2.30	-1.00	0.47	0.45	-1.38	1.43	0.10	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Internal TIPS (SA)	**0.68**	**0.68**	**5.66**	**5.04**	**2.32**	**2.06**	**0.26**	**3.08**	**-7.73**	**4.79**	**10/01/2003**
Internal US TIPS Blend	0.57	0.57	5.57	4.83	1.84	1.59	-0.52	2.63	-8.61	4.44	
Difference	0.11	0.11	0.09	0.21	0.48	0.47	0.78	0.45	0.88	0.35	
IM U.S. TIPS (SA+CF) Median	0.99	0.99	7.18	6.56	2.40	1.94	-1.40	3.57	-8.24	4.65	
Rank	85	85	89	81	60	28	1	67	36	31	
Nuveen Real Asset Income (SA)	**3.52**	**3.52**	**14.67**	**16.69**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**5.90**	**02/01/2015**
Nuveen Real Asset Custom Index	1.92	1.92	12.36	13.75	N/A	N/A	N/A	N/A	N/A	4.89	
Difference	1.60	1.60	2.31	2.94	N/A	N/A	N/A	N/A	N/A	1.01	
PIMCO:All Asset;Inst (PAAIX)	**3.85**	**3.85**	**15.91**	**13.68**	**1.98**	**N/A**	**-10.43**	**3.34**	**-1.66**	**4.27**	**12/01/2011**
Bloomberg US Trsy Infl Notes: 1-10 Yr Index	0.57	0.57	5.57	4.83	1.51	1.34	-0.52	0.91	-5.58	1.00	
Difference	3.28	3.28	10.34	8.85	0.47	N/A	-9.91	2.43	3.92	3.27	
Tortoise Capital (CF)	**2.58**	**2.58**	**13.23**	**15.84**	**1.51**	**11.45**	**-26.68**	**15.93**	**37.66**	**15.26**	**08/01/2009**
Alerian MLP Index	1.07	1.07	15.94	12.74	-4.82	4.96	-32.59	4.80	27.58	10.18	
Difference	1.51	1.51	-2.71	3.10	6.33	6.49	5.91	11.13	10.08	5.08	
Amerra Ag Fund II (CF)	**2.47**	**2.47**	**5.86**	**8.99**	**13.06**	**N/A**	**21.01**	**10.65**	**1.14**	**9.85**	**12/01/2012**
Amerra-AGRI Holding (CF)	**0.91**	**0.91**	**3.50**	**3.94**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**3.37**	**08/01/2015**
BTG Pactual Brazil Timberland Fund I, L.P.	**10.90**	**10.90**	**-11.49**	**-11.49**	**N/A**	**N/A**	**-11.97**	**N/A**	**N/A**	**-12.73**	**12/01/2014**
Magnetar MTP Energy Fund, L.P.	**5.33**	**5.33**	**11.04**	**2.35**	**-0.91**	**N/A**	**-15.63**	**2.98**	**N/A**	**-0.18**	**07/01/2013**
Magnetar MTP EOF II, L.P.	**13.64**	**13.64**	**-4.64**	**-4.64**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**-3.99**	**08/01/2015**
Oberland Capital Healthcare, L.P.	**7.01**	**7.01**	**111.54**	**133.09**	**N/A**	**N/A**	**14.09**	**N/A**	**N/A**	**52.85**	**10/01/2014**
Taurus Mining Finance Fund	**4.69**	**4.69**	**26.50**	**32.01**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**20.04**	**04/01/2015**
Tenaska Power Fund II (CF)	**11.08**	**11.08**	**-23.33**	**-20.12**	**-6.13**	**-4.52**	**18.41**	**-0.69**	**-15.95**	**-3.54**	**10/01/2008**
Real Return Composite	**3.09**	**3.09**	**11.93**	**11.42**	**2.88**	**3.14**	**-5.53**	**3.94**	**-4.82**	**3.81**	**07/01/2011**
Real Return Actual Allocation Index (I)*	1.46	1.46	8.03	7.34	1.92	2.99	-3.56	3.15	2.29	3.04	
Difference	1.63	1.63	3.90	4.08	0.96	0.15	-1.97	0.79	-7.11	0.77	

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	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
H/2 Credit Partners (CF)	2.13	2.13	3.89	0.45	4.37	5.91	2.11	6.57	4.51	5.48	07/01/2011
H/2 Core Real Estate Debt Fund, L.P.	2.59	2.59	6.37	6.78	4.40	N/A	4.06	2.80	N/A	4.40	10/01/2013
Harrison Street Core (CF)	2.85	2.85	9.21	11.74	15.74	N/A	7.61	12.03	6.81	8.14	05/01/2012
Mesa West Core Lending, L.P.	1.67	1.67	5.38	7.56	6.71	N/A	8.10	5.45	N/A	6.42	05/01/2013
Prologis Targeted U.S. Logistics Fund (CF)	3.44	3.44	10.94	14.93	N/A	N/A	14.32	N/A	N/A	12.62	10/01/2014
Stockbridge SmtMkts, L.P.	1.78	1.78	7.55	10.73	N/A	N/A	11.78	N/A	N/A	10.29	05/01/2014
DivcoWest Fund IV, L.P.	14.46	14.46	37.15	54.34	N/A	N/A	38.42	N/A	N/A	30.78	03/01/2014
Greenfield Acquisition Partners VI, L.P.	-4.98	-4.98	-0.75	6.08	14.09	N/A	24.88	18.30	12.15	13.86	12/01/2012
Greenfield Acquisition Partners VII, L.P.	5.13	5.13	16.27	19.69	N/A	N/A	19.62	N/A	N/A	15.63	07/01/2014
Lubert Adler Real Estate Fund VII, L.P.	4.34	4.34	5.99	7.03	N/A	N/A	4.60	N/A	N/A	-1.76	07/01/2014
Patron Capital V, L.P.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2.07	08/01/2016
Rubenstein Properties Fund II, L.P.	0.74	0.74	5.78	9.32	21.28	N/A	16.23	50.33	N/A	19.49	07/01/2013
Walton Street Real Estate Fund VI, L.P.	0.58	0.58	3.88	6.73	12.76	12.12	14.49	18.01	16.08	-22.02	05/01/2009
Walton Street Real Estate Fund VII, L.P.	2.78	2.78	9.96	13.11	16.50	N/A	18.34	16.89	N/A	16.05	07/01/2013
Real Estate Composite	2.64	2.64	8.37	10.60	10.76	9.36	10.49	8.07	9.02	9.29	05/01/2009
NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag)	1.91	1.91	7.12	10.80	11.97	11.66	13.86	11.36	11.97	5.70	
Difference	0.73	0.73	1.25	-0.20	-1.21	-2.30	-3.37	-3.29	-2.95	3.59	

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RVK

Kentucky Retirement Systems - Insurance Plan
Manager Comparative Performance (Gross of Fees)

As of September 30, 2016

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
BAAM (SA)	3.19	3.19	0.42	1.75	6.00	6.82	6.30	7.91	11.51	6.71	09/01/2011
Davidson-Kemper, L.P.	4.08	4.08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.61	02/01/2016
PAAMCO (SA)	-0.01	-0.01	-1.84	-3.38	1.58	3.88	-2.05	3.81	14.91	3.82	09/01/2011
Prisma Capital Partners (SA)	2.64	2.64	-1.52	-2.15	2.59	3.67	2.32	3.18	9.75	3.61	09/01/2011
Senator Investment Group, L.P.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.86	09/01/2016
Tourbillon Global Master Fund, Ltd	9.79	9.79	-6.94	N/A	N/A	N/A	N/A	N/A	N/A	-5.99	11/01/2015
Anchorage Capital	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.04	08/01/2016
Blackrock GAO Fund, Ltd (CF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27	08/01/2016
Coatue Qualified Partners, L.P.	5.23	5.23	7.53	15.20	N/A	N/A	N/A	N/A	N/A	11.99	07/01/2015
DSAM Fund, L.P.	0.78	0.78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.01	05/01/2016
Finisterre Global Op	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.41	08/01/2016
Glenview Capital (CF)	6.88	6.88	-4.48	N/A	N/A	N/A	N/A	N/A	N/A	-7.39	11/01/2015
HBK II (CF)	2.25	2.25	4.77	2.85	N/A	N/A	-1.38	3.93	N/A	2.89	12/01/2013
Jana Partners (CF)	6.40	6.40	1.68	-2.54	N/A	N/A	-6.58	N/A	N/A	-2.75	09/01/2014
Knighthead Capital (CF)	2.47	2.47	1.83	-0.54	N/A	N/A	-10.22	5.59	N/A	-1.27	01/01/2014
LibreMax Capital (CF)	3.77	3.77	2.97	0.64	N/A	N/A	-0.16	N/A	N/A	2.72	08/01/2014
Liquidalts H2O Force (CF)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.04	08/01/2016
Luxor Capital (CF)	4.34	4.34	-9.65	-16.59	N/A	N/A	-15.99	N/A	N/A	-12.55	04/01/2014
Myriad Opportunities	5.00	5.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.46	05/01/2016
Pine River (CF)	3.70	3.70	0.22	-2.82	N/A	N/A	0.88	N/A	N/A	0.66	05/01/2014
QMS Diversified Global Macro (CF)	-1.18	-1.18	0.20	N/A	N/A	N/A	N/A	N/A	N/A	1.35	11/01/2015
Scopia PX, LLC	2.32	2.32	-7.13	-2.95	N/A	N/A	1.74	N/A	N/A	-0.71	11/01/2014
Absolute Return Composite	2.69	2.69	-0.56	-0.89	3.35	4.69	1.84	4.80	11.99	4.00	04/01/2010
HFRI FOF: Dvf'd Index (1 Mo Lag)	1.26	1.26	-1.44	-2.10	2.53	2.61	0.79	4.72	8.61	2.49	
Difference	1.43	1.43	0.88	1.21	0.82	2.08	1.05	0.08	3.38	1.51	

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RVK

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	2015	2014	2013	Since Incep.	Inception Date
Cash Equivalents (SA)	**0.10**	**0.10**	**0.31**	**0.37**	**0.26**	**0.30**	**0.21**	**0.19**	**0.27**	**2.75**	**07/01/1992**
Citi 3 Mo T-Bill Index	0.07	0.07	0.19	0.20	0.08	0.08	0.03	0.02	0.06	2.62	
Difference	0.03	0.03	0.12	0.17	0.18	0.22	0.18	0.17	0.21	0.13	

Performance for Absolute Return managers and the HFRI FOF Diversified Index is lagged by one month.

Performance for the NCREIF ODCE Index (Net) (AWA) is lagged by one quarter and available quarterly; interim month returns assume a 0.00% return.

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Third Quarter Review

Broad Market

US equity markets finished the quarter with positive returns as the Russell 3000 Index returned 4.4%. Returns were positive across all market capitalizations and styles.

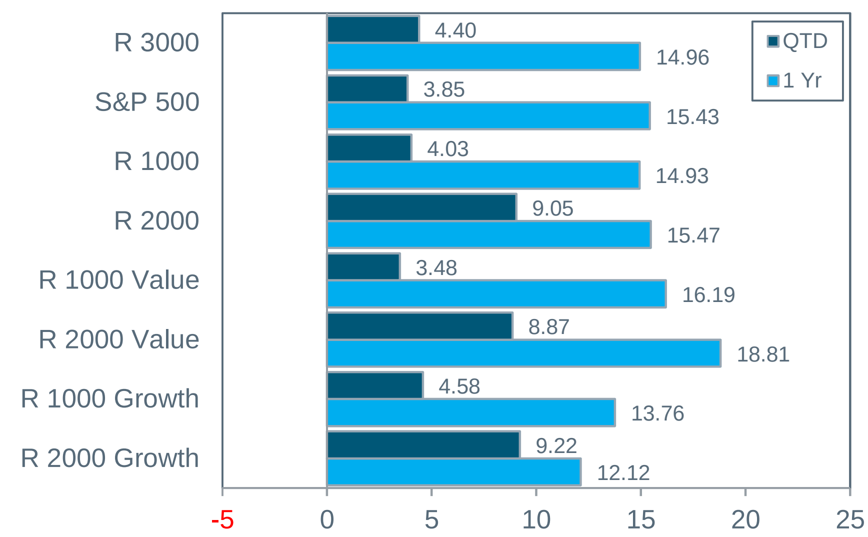
Market Cap

The Russell Micro Cap Index returned 11.2%, which established micro-cap as the best performing cap range. Smaller-cap indices have also performed well year-to-date, led by the Russell 2000 Value index, which has returned 15.5% in 2016.

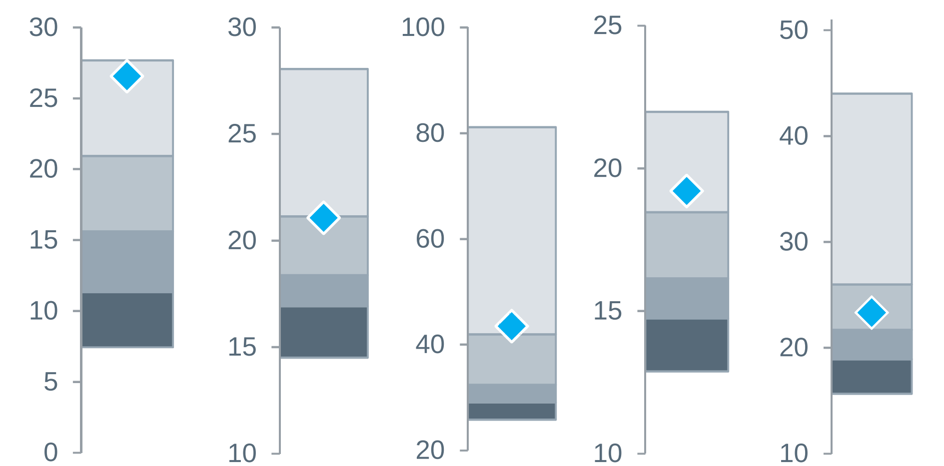
Style and Sector

In an environment of muted volatility, there was a notable reversal in sector performance as income-oriented stocks posted negative returns. For example, telecom and utilities sectors within the S&P 500 returned -5.6% and -5.9%, respectively. More economically sensitive sectors, such as information technology, industrials, and financials, outperformed during the third quarter.

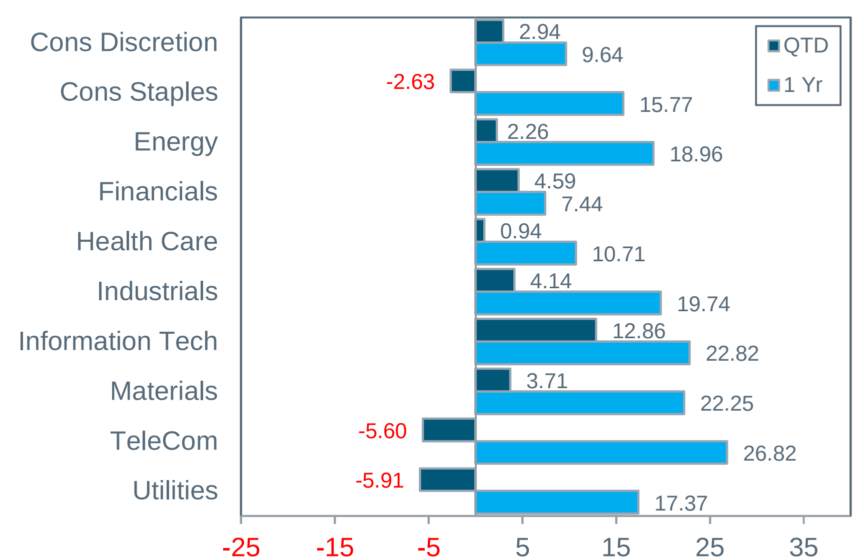
Style and Capitalization Market Performance (%)



Valuations



S&P 500 Index Sector Performance (%)



Valuation data courtesy of Bloomberg Professional Service and Robert J. Shiller, Irrational Exuberance, Second Edition.
P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.

Third Quarter Review

Developed Markets

After a weak second quarter, developed international markets saw strong, positive returns in the third quarter, on both an absolute basis and relative to the broad US equity market. Country returns were largely positive with only a few in the red.

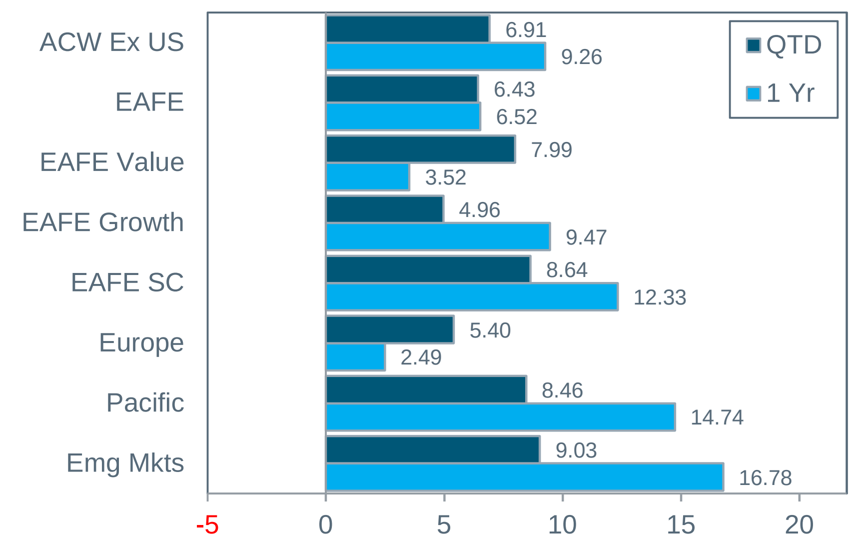
Emerging Markets

Emerging markets continued their rally for the year and outperformed all other equity regions.

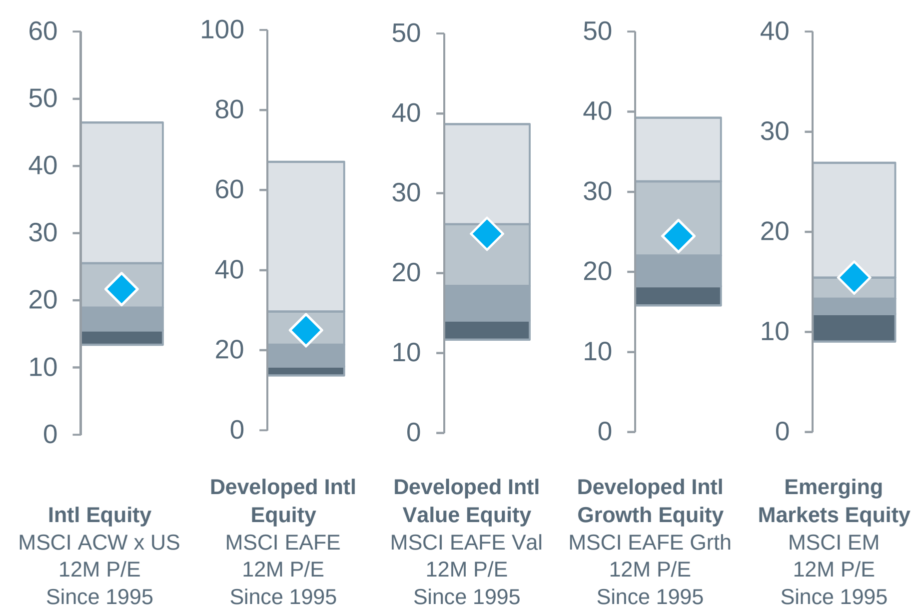
Market Cap & Style

The style trend reversed in Developed Markets, with value outperforming growth stocks and small cap outperforming large cap. In contrast to developed markets, small cap stocks in emerging markets could not keep pace with the rally in larger stocks, and growth outperformed value for the quarter.

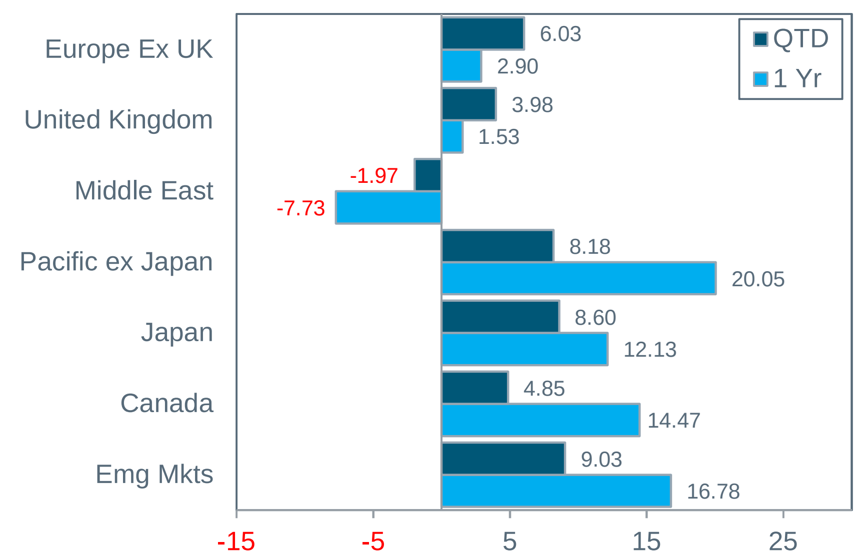
MSCI Style and Capitalization Market Performance (%)



Valuations



MSCI Region Performance (%)



Valuation data courtesy of Bloomberg Professional Service.
P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.
All returns are shown net of foreign taxes on dividends.

Third Quarter Review

Broad Market

Virtually all fixed income sectors posted slight positive performance as interest rates remained flat during the quarter. The Bloomberg US Aggregate posted a quarterly return of 0.46%.

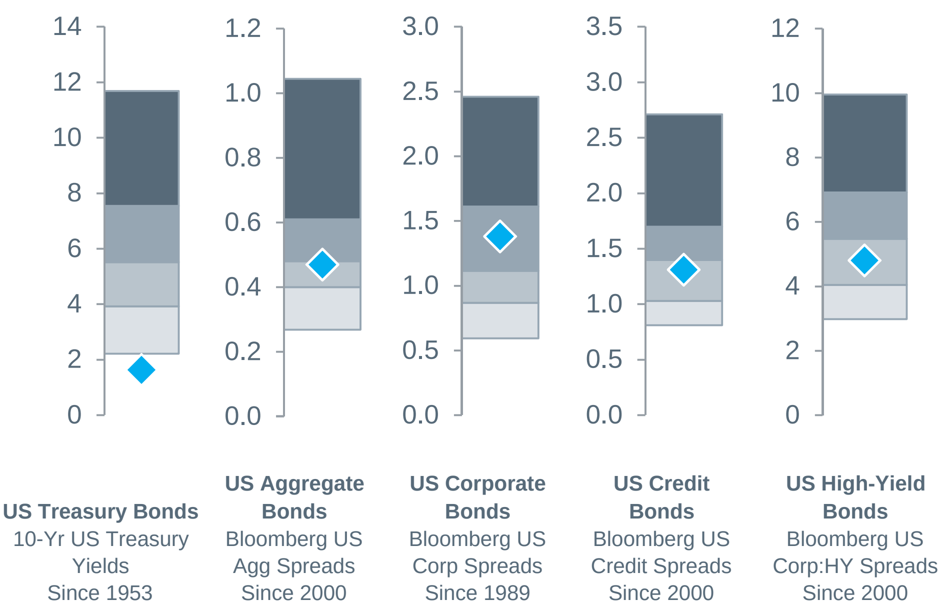
Credit Market

Credit spreads tightened for the quarter, led by a continued resurgence of energy and commodity credits. The Bloomberg US Corporate High Yield Index returned 5.55%, as lower quality credits appreciated significantly.

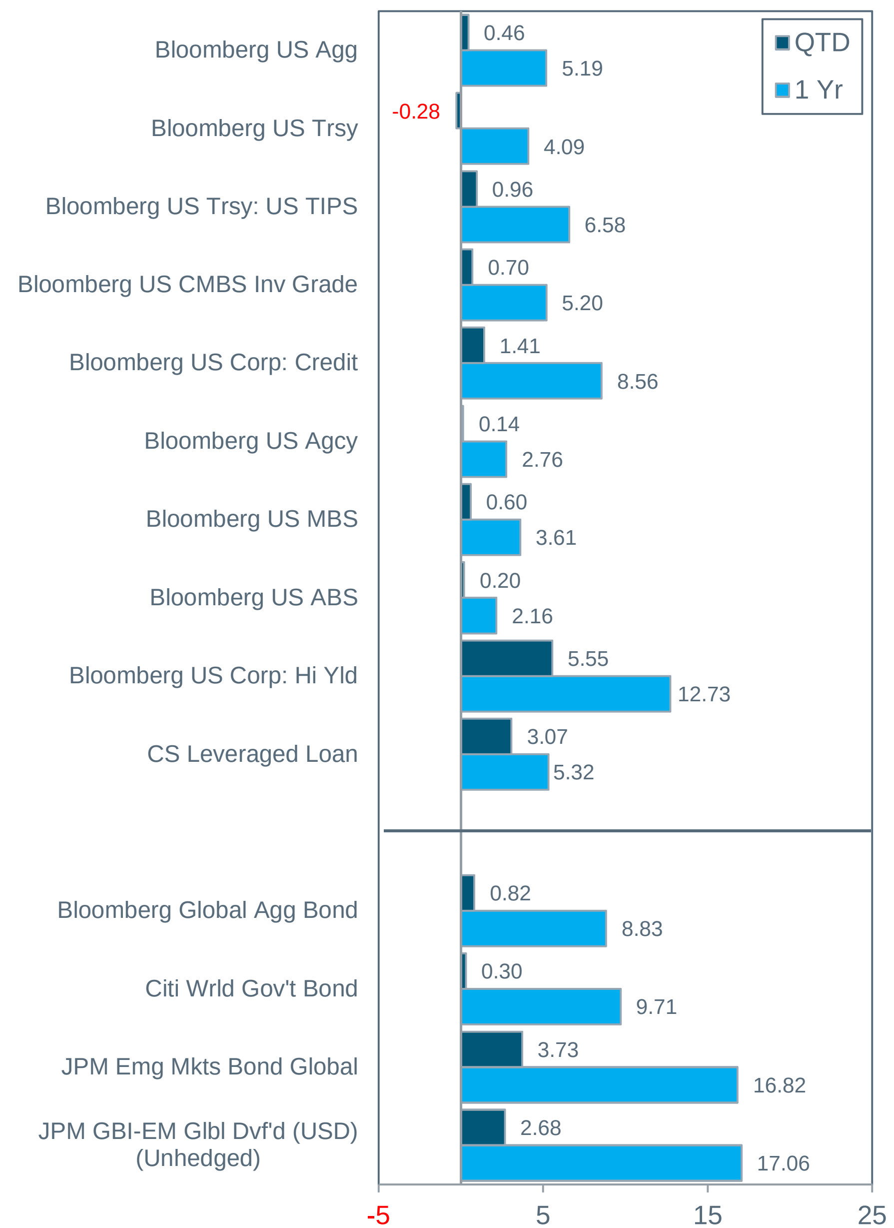
Money Market Reform

Money market reforms, which became effective on October 14, 2016, drove many investors to transition from prime money market funds to government money market funds in order to avoid floating NAVs and liquidity restrictions. The spread widened due to increased demand for government securities coupled with reduced demand for short-dated bank debt and commercial paper.

Valuations



Fixed Income Performance (%)



Valuation data courtesy of Bloomberg Professional Service.
Valuations shown represent the 5th through 95th percentiles to minimize the effect of outliers.

Third Quarter Review - Absolute Return

General Market - Hedge Funds

Hedge funds built on a better-than-expected second quarter and posted strong returns again in the third quarter. The Fund of Hedge Fund (“FoHF”) managers that RVK closely follows were up anywhere from 2% to 4% during the quarter and have in most cases recovered losses from earlier in the year. Preliminary peer group data show that this was the best quarter for FoHFs since the fourth quarter of 2013. Drivers of returns for the group came from Equity Long/Short (“ELS”), Event Driven, and Credit strategies.

General Market - Global Tactical Asset Allocation (GTAA)

GTAA managers provided a relatively narrow range of performance during the third quarter. Those among the top performing managers avoided or de-emphasized US large cap equity exposure in favor of emerging market equity and credit-sensitive fixed income. Managers with overweight exposure to Japan were also rewarded. Despite strong performance for the broader group during the quarter, those with larger positions in cash, yield-oriented US equity, and MLP exposures lagged the group by the widest margin.

Third Quarter Review - Real Assets

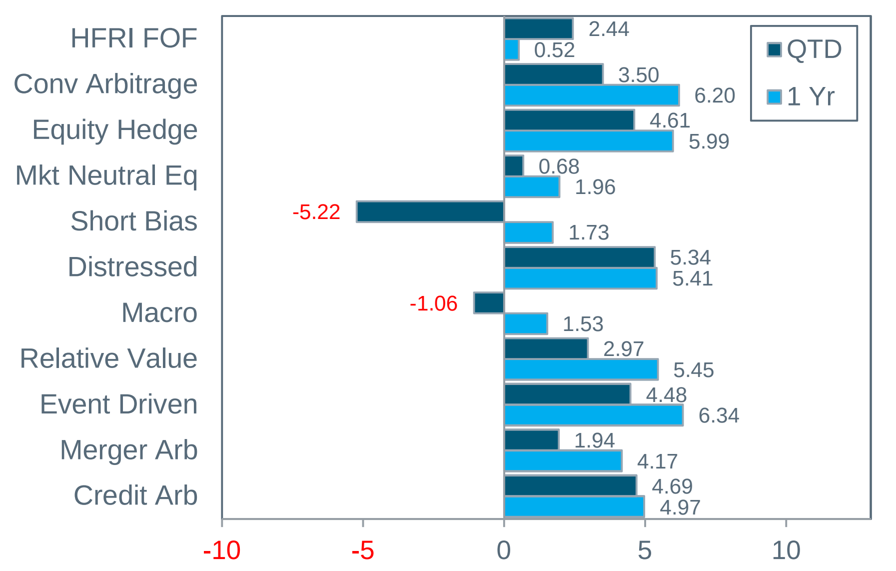
General Market - Diversified Inflation Strategies (DIS)

During the quarter, performance of various inflation-sensitive assets varied and manager performance mirrored this trend. For the second consecutive quarter, managers with larger TIPS allocations tended to lag peers; however, this exposure was not as much of a key differentiator as it had been in previous quarters. Managers that introduced commodity exposure at the expense of natural resource equity, which correlated more heavily with the global equity rally, tended to underperform.

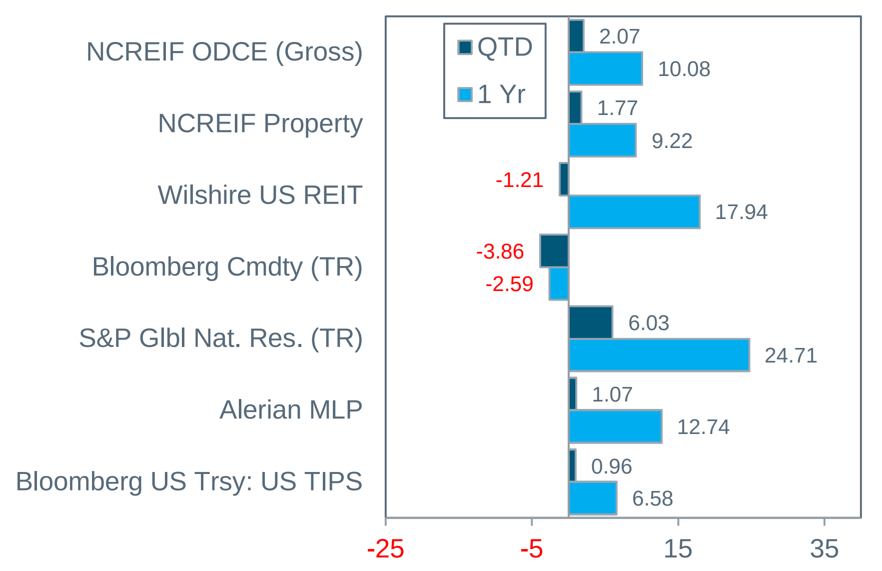
General Market - Real Estate

Core real estate continued a trend of delivering modest, positive returns, with the third quarter seeing a nearly equal mix of income and appreciation driving a 2.1% return for the NCREIF ODCE Index. The public real estate space did not fare as well, as the FTSE NAREIT All REITs Index posted a -1.0% return for the quarter. In general, increasing property valuations coupled with strong fundamentals, such as rental growth and occupancy, fueled solid returns in core real estate.

HFRI Hedge Fund Performance (%)



Real Asset Performance (%)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	YTD
Best	25.91	61.34	33.16	34.00	35.97	39.38	8.44	78.51	28.60	22.49	20.00	38.82	31.78	15.02	16.02
	16.56	55.81	31.45	26.19	32.18	16.23	5.24	58.21	26.85	15.99	18.23	32.39	19.31	9.59	15.74
	14.84	47.25	25.55	21.39	26.34	15.97	2.06	46.78	22.04	13.56	17.59	29.30	13.69	4.23	15.11
	10.27	38.59	20.25	21.36	19.31	11.63	-2.35	31.78	18.88	9.24	17.32	22.78	12.50	1.38	11.46
	5.54	36.18	18.33	13.82	18.37	11.17	-10.01	28.60	16.83	7.84	16.35	13.94	5.97	0.55	9.75
	3.58	28.96	13.06	13.54	16.32	10.25	-21.37	27.17	16.36	4.98	16.00	8.96	4.89	0.05	8.85
	1.78	28.68	11.14	7.49	15.79	6.97	-26.16	26.46	15.12	2.11	15.81	7.44	3.64	-0.27	7.84
	1.02	23.93	10.88	5.34	11.86	6.60	-33.79	18.91	15.06	0.10	10.94	1.86	3.37	-0.81	7.27
	-1.37	11.61	9.15	4.91	10.39	5.49	-35.65	11.47	10.16	-4.18	8.78	0.07	2.45	-1.44	6.52
	-6.17	9.28	8.56	4.55	4.85	5.00	-37.00	11.41	7.75	-5.72	6.98	-2.02	0.04	-3.30	5.80
	-7.83	8.39	8.46	3.07	4.34	1.87	-39.20	5.93	6.54	-12.14	4.79	-2.60	-2.19	-4.41	5.19
	-15.94	5.88	6.86	2.84	2.72	1.45	-43.38	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47	1.73
	-20.48	4.11	4.34	2.74	2.07	-1.57	-47.01	0.21	5.70	-15.94	0.11	-8.83	-4.95	-14.92	0.24
Worst	-22.10	1.15	1.33	2.43	0.49	-17.55	-53.33	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66	-0.20

S&P 500 - US Large Cap	R 2000 - US Small Cap	MSCI EAFE (Net) - Int'l Dev.	MSCI EAFE SC (Net) - Int'l SC	MSCI EM (Net) - Int'l Emg Mkts	Bloombrg US Agg Bond - FI	Bloombrg US Corp: Hi Yield - FI	Bloombrg US Trsy: US TIPS - FI	Bloombrg US Gov/Credit: Lng - FI	NCREIF ODCE (Gross) - Real Estate	Wilshire US REIT - REITs	HFRI FOF Comp Index - ARS	Bloombrg Cmdty (TR) - Commod.	BofA ML 3 Mo T-Bill - Cash Equiv

NCREIF ODCE (Gross) performance is reported quarterly; performance is shown N/A in interim-quarter months.

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Performance Comments

- Performance shown is net of fees, except where noted.
- Indices show N/A for Since Inception returns when the fund contains more history than the corresponding benchmark.
- All data reported for Kentucky Retirement Systems, including manager and composite performance, is provided by BNY Mellon.
- Real Estate and Private Equity valuations are as of the most recent date available.

Asset Allocation Comments

- The Private Equity Composite includes Internal Alternative Assets.
- Market values shown include fee accruals.

Manager Transition Comments

- International Account (SA) (Pension) and Arrowhawk Durable Alpha Fund L.P. were liquidated in December 2012.
- Equitization Assets Program (Pension) and Equitization Assets Program (Insurance) were fully liquidated in January 2013.
- Amerra Ag Fund II (CF) (Pension and Insurance) and Greenfield Acquisition Parters VI (CF) (Pension and Insurance) were funded in January 2013.
- Internal Mid Cap (SA) (Pension and Insurance) and International Account (Insurance) were fully liquidated in March 2013.
- Mesa West Core Lending, L.P. (Pension and Insurance) was funded in May 2013.
- BTC Emerging Markets (CF) (Pension and Insurance) and Walton Street Real Estate Fund VII, L.P. (Pension and Insurance) were funded in June 2013.
- Magnetar MTP Energy Fund, L.P. (Pension and Insurance) and Rubenstein Properties Fund II, L.P., (Pension and Insurance) were funded in July 2013.
- H/2 Core Real Estate Debt Fund, L.P. (Pension and Insurance) was funded in October 2013.
- MKP Opportunity Fund (CF) (Pension and Insurance) was funded in October 2013.
- HBK II (CF) (Pension and Insurance) was funded in November 2013.
- Knighthead Capital (CF) (Pension and Insurance) was funded in December 2013.
- Luxor Capital (CF) (Pension and Insurance) was funded in February 2014.
- DivcoWest Fund IV, L.P. (Pension and Insurance) was funded in March 2014.
- Pine River (CF) (Pension and Insurance) was funded in March 2014.
- Stockbridge SmtMkts, L.P. (Pension and Insurance) was funded in May 2014.
- American Century Non-US Growth Equity (SA) (Pension and Insurance) was funded in June 2014.
- Franklin Templeton Non-US Equity (SA) (Pension and Insurance) was funded in June 2014.
- Lazard Int’l Strategic Equity (SA) (Pension and Insurance) was funded in June 2014.
- LSV Int’l Concentrated Value Equity (SA) (Pension and Insurance) was funded in June 2014.
- Geneva Capital Management (SA) (Pension and Insurance) was liquidated in July 2014.
- Internal US Mid Cap (SA) (Pension and Insurance) was funded in July 2014.
- Greenfield Acquisition Partners VII, L.P. (Pension and Insurance) was funded in July 2014.
- Lubert Adler Real Estate Fund VII, L.P. (Pension and Insurance) was funded in July 2014.
- Jana Partners (CF) (Pension and Insurance) was funded in July 2014.
- LibreMax Capital (CF) (Pension and Insurance) was funded in July 2014.
- Cerberus KRS Levered Loan Opps, L.P. (Pension and Insurance) was funded in September 2014.
- Scopia PX, LLC (Pension and Insurance) was funded in September 2014.
- Oberland Capital Healthcare, L.P. (Pension and Insurance) was funded in October 2014.
- Prologis Targeted U.S. Logistics Fund (CF) (Pension and Insurance) was funded in October 2014.
- MKP Opportunity Fund (CF) (Pension and Insurance) was liquidated in October 2014.
- BTG Pactual Brazil Timberland Fund I, L.P. (Pension and Insurance) was funded in December 2014.
- Nuveen Real Asset Income (SA) (Pension and Insurance) was funded in January 2015.
- Weaver Barksdale TIPS (SA) (Pension) was liquidated in March 2015.

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Addendum

- Taurus Mining Finance Fund (Pension and Insurance) was funded in April 2015.
- Coatue Qualified Partners, L.P. (Pension and Insurance) was funded in June 2015.
- Magnetar MTP EOF II, L.P. (Pension and Insurance) was funded in August 2015.
- Amerra-AGRI Holding (CF) (Pension and Insurance) was funded in August 2015.
- Glenview Capital (CF) (Pension and Insurance) was funded in September 2015.
- QMS Diversified Global Macro (CF) (Pension and Insurance) was funded in September 2015.
- Tourbillon Global Master Fund, Ltd (Pension and Insurance) was funded in October 2015.
- The Boston Co. Non-US Value (SA) (Pension and Insurance) was liquidated in November 2015.
- Aberdeen Emg Mkts Equity (CF) (Pension and Insurance) was liquidated in December 2015.
- Stone Harbor (SA) (Pension and Insurance) was liquidated in December 2015.
- Mesa West Real Estate Income Fund II L.P. (Pension and Insurance) was liquidated in December 2015.
- Davidson-Kemper, L.P. (Pension and Insurance) was funded in December 2015.
- Wellington Emg Mkts Equity (CF) (Pension and Insurance) was liquidated in January 2016.
- BTC Emg Mkts Equity (CF) (Pension and Insurance) was liquidated in January 2016.
- Loomis Sayles HY Fixed Income (SA) (Pension and Insurance) was liquidated in January 2016.
- Prima Mortgage Invest Trust, LLC (Pension and Insurance) was liquidated in January 2016.
- Marathon Bluegrass Credit Fund (Pension and Insurance) was funded in January 2016.
- DSAM Fund, L.P. (Pension and Insurance) was funded in March 2016.
- Myriad Opportunities (Pension and Insurance) was funded in March 2016.
- Anchorage Capital (Pension and Insurance) was funded in June 2016.
- BlackRock GAO Fund, Ltd (CF) (Pension and Insurance) was funded in June 2016.
- Finisterre Global Op (Pension and Insurance) was funded in June 2016.
- Liquidalts H2O Force (CF) (Pension and Insurance) was funded in June 2016.
- River Road FAV (SA) (Pension and Insurance) was funded in June 2016.
- Westwood Management (SA) (Pension and Insurance) was liquidated in July 2016.
- INVESCO Struct'd Core Equity (SA) (Pension and Insurance) was liquidated in July 2016.
- Sasco Capital Inc. (SA) (Pension and Insurance) was liquidated in July 2016.
- Patron Capital V, L.P. (Pension and Insurance) was funded in July 2016.
- Senator Investment Group, L.P. (Pension and Insurance) was funded in July 2016.

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Composite/Manager	Benchmark		Since
Total Fund Target Allocation Index (P)	RVK, Inc. began calculating the custom index as of September 1, 2008. The custom index is calculated monthly and consists of:		
	6.00%	S&P 500 Index (Cap Wtd)	
	27.20%	S&P 1500 Composite Index	
	4.00%	R 2000 Index	
	18.00%	MSCI EAFE Index (Gross)	
	2.00%	MSCI Emerging Markets Index (Gross)	
	25.00%	Barclays US Aggregate Bond Index	
	10.00%	Barclays US Treasury: US TIPS Index	
	4.80%	Barclays US Corporate: High Yield Index	
	3.00%	Citigroup 3 Mo T-Bill Index	9/1/2008
	6.00%	S&P 500 Index (Cap Wtd)	
	27.20%	S&P 1500 Composite Index	
	4.00%	R 2000 Index	
	12.00%	MSCI World Ex US Index (Gross)	
	4.00%	MSCI ACW Ex US Index (Gross)	
	2.00%	MSCI ACW Ex US Small Cap Index (Gross)	
	2.00%	MSCI Emerging Markets Index (Gross)	
	25.00%	Barclays US Aggregate Bond Index	
	10.00%	Barclays US Treasury: US TIPS Index	
	4.80%	Barclays US Corporate: High Yield Index	
	3.00%	Citigroup 3 Mo T-Bill Index	7/1/2009
	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emerging Markets Index (Gross)	
	20.00%	Barclays US Unv Index	
	10.00%	Consumer Price Index + 3%	
	5.00%	NCREIF ODCE Index (Gross) (AWA)	
	10.05%	HFRI FOF Div Index (Lagged)	
	9.93%	R 3000 Index +4% (Qtr Lag)	
	1.02%	Citi 3 Mo T-Bill Index	7/1/2011
	20.50%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	2.90%	MSCI Emerging Markets Index (Gross)	
	19.30%	Barclays Universal Bond Index	
	10.00%	Consumer Price Index + 3%	
	4.50%	NCREIF ODCE Index (Gross) (AWA)	
	10.00%	HFRI FOF Div Index (Month Lag)	
	10.00%	R 3000 Index +4% (Qtr Lag)	
	2.80%	Citi 3 Mo T-Bill Index	1/1/2013

Composite/Manager	Benchmark		Since
Total Fund Target Allocation Index (P) (Cont.)	20.50%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	2.90%	MSCI Emerging Markets Index (Gross)	
	19.30%	Barclays Universal Bond Index	
	10.00%	Consumer Price Index + 3%	
	4.50%	NCREIF ODCE Index (Net) (AWA) (Qtr Lag)	
	10.00%	HFRI FOF Div Index (Month Lag)	
	10.00%	Private Equity Composite	
	2.80%	Citi 3 Mo T-Bill Index	7/1/2013
	20.50%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	2.90%	MSCI Emerging Markets Index (Gross)	
	19.30%	Barclays Universal Bond Index	
	10.00%	Real Return Actual Allocation Index	
	4.50%	NCREIF ODCE Index (Net) (AWA) (Qtr Lag)	
	10.00%	HFRI FOF Div Index (Month Lag)	
	10.00%	Private Equity Composite	
	2.80%	Citi 3 Mo T-Bill Index	11/1/2013
	25.60%	**R 3000 Index**	
	25.20%	**MSCI ACW Ex US Investable Market Index (Gross)**	
	6.80%	**Bloomberg US Univ Bond Index**	
	7.20%	**Bloomberg US Corp HY Index**	
	8.00%	**Real Return Actual Allocation Index**	
	5.00%	**NCREIF ODCE Index (Net) (AWA) (Qtr Lag)**	
	10.00%	**HFRI FOF Div Index (Month Lag)**	
	10.00%	**Private Equity Composite**	
	2.20%	**Citi 3 Mo T-Bill Index**	**1/1/2016**

Composite/Manager	Benchmark		Since
Total Fund Target Allocation Index (I)	The custom index is calculated monthly and consists of:		
	27.50%	S&P 500 Index (Cap Wtd)	
	62.50%	Barclays US Gov't/Credit Bond index	
	10.00%	Citigroup 3 Mo T-Bill Index	Inception
	50.00%	S&P 500 Index (Cap Wtd)	
	20.00%	S&P SmallCap 600 Index (Cap Wtd)	
	25.00%	Barclays US Gov't/Credit Bond index	
	5.00%	Citigroup 3 Mo T-Bill Index	8/1/1996
	35.00%	S&P 500 Index (Cap Wtd)	
	20.00%	S&P SmallCap 600 Index (Cap Wtd)	
	25.00%	Barclays US Gov't/Credit Bond index	
	15.00%	BNY Mellon ADR Index	
	5.00%	Citigroup 3 Mo T-Bill Index	7/1/2000
	60.00%	S&P 1500 Composite Index	
	15.00%	MSCI EAFE Index (Gross)	
	10.00%	Barclays US Treasury: US TIPS Index	
	5.00%	R 3000 Index + 4% (Qtr Lag) (I)*	
	5.00%	BNY Mellon ADR Index	
	5.00%	Citigroup 3 Mo T-Bill Index	7/1/2001
	60.00%	S&P 1500 Composite Index	
	15.00%	MSCI EAFE Index (Gross)	
	10.00%	Barclays US Treasury: US TIPS Index	
	5.00%	R 3000 Index + 4% (Qtr Lag) (I)*	
	5.00%	S&P American Depositary Receipt Index	
	5.00%	Citigroup 3 Mo T-Bill Index	7/1/2002
	60.00%	S&P 1500 Composite Index	
	16.00%	MSCI EAFE Index (Gross)	
	10.00%	Barclays US Treasury: US TIPS Index	
	5.00%	R 3000 Index + 4% (Qtr Lag) (I)*	
	4.00%	S&P American Depositary Receipt Index	
	5.00%	Citigroup 3 Mo T-Bill Index	7/1/2003
	60.00%	S&P 1500 Composite Index	
	20.00%	MSCI EAFE Index (Gross)	
	10.00%	Barclays US Treasury: US TIPS Index	
	5.00%	R 3000 Index + 4% (Qtr Lag) (I)*	
	5.00%	Citigroup 3 Mo T-Bill Index	4/1/2004
	40.00%	S&P 1500 Composite Index	
	30.00%	MSCI EAFE Index (Gross)	
	12.00%	Barclays US Treasury: US TIPS Index	
	15.00%	R 3000 Index + 4% (Qtr Lag) (I)*	
	3.00%	Citigroup 3 Mo T-Bill Index	7/1/2007

Composite/Manager	Benchmark		Since
Total Fund Target Allocation Index (I) (Cont.)	40.00%	S&P 1500 Composite Index	
	27.00%	MSCI EAFE Index (Gross)	
	3.00%	MSCI Emerging Markets Index (Gross)	
	12.00%	Barclays US Treasury: US TIPS Index	
	15.00%	R 3000 Index + 4% (Qtr Lag) (I)*	
	3.00%	Citigroup 3 Mo T-Bill Index	5/1/2008
	40.00%	S&P 1500 Composite Index	
	24.00%	MSCI World Ex US Index (Gross)	
	3.00%	MSCI ACW Ex US Index (Gross)	
	3.00%	MSCI Emerging Markets Index (Gross)	
	12.00%	70% Barclays US Treasury: US TIPS Index/30% Barclays US Aggregate Bond Index	
	15.00%	R 3000 Index + 4% (Qtr Lag) (I)*	
	3.00%	Citigroup 3 Mo T-Bill Index	7/1/2009
	21.11%	R 3000 Index	
	20.97%	MSCI ACW Ex US Index (Gross)	
	3.45%	MSCI Emerging Markets Index (Gross)	
	19.30%	Barclays US Unv Index	
	11.39%	Consumer Price Index + 3%	
	4.31%	NCREIF ODCE Index (Gross) (AWA)	
	10.21%	HFRI FOF Div Index (Lagged)	
	8.30%	R 3000 Index +4% (Qtr Lag)	
	0.96%	Citi 3 Mo T-Bill Index	7/1/2011
	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emerging Markets Index (Gross)	
	20.00%	Barclays Universal Bond Index	
	10.00%	Consumer Price Index + 3%	
	5.00%	NCREIF ODCE Index (Gross) (AWA)	
	10.00%	HFRI FOF Div Index (Month Lag)	
	10.00%	R 3000 Index +4% (Qtr Lag)	
	1.00%	Citi 3 Mo T-Bill Index	1/1/2013
	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emerging Markets Index (Gross)	
	20.00%	Barclays Universal Bond Index	
	10.00%	Consumer Price Index + 3%	
	5.00%	NCREIF ODCE Index (Net) (AWA) (Qtr Lag)	
	10.00%	HFRI FOF Div Index (Month Lag)	
	10.00%	Private Equity Composite	
	1.00%	Citi 3 Mo T-Bill Index	7/1/2013

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Composite/Manager	Benchmark		Since
Total Fund Target Allocation Index (I) (Cont.)	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emerging Markets Index (Gross)	
	20.00%	Barclays Universal Bond Index	
	10.00%	Real Return Actual Allocation Index	
	5.00%	NCREIF ODCE Index (Net) (AWA) (Qtr Lag)	
	10.00%	HFRI FOF Div Index (Month Lag)	
	10.00%	Private Equity Composite	
	1.00%	Citi 3 Mo T-Bill Index	11/1/2013
	26.50%	**R 3000 Index**	
	26.50%	**MSCI ACW Ex US Investable Market Index (Gross)**	
	6.00%	**Bloomberg US Univ Bond Index**	
	6.00%	**Bloomberg US Corp HY Index**	
	8.00%	**Real Return Actual Allocation Index**	
	5.00%	**NCREIF ODCE Index (Net) (AWA) (Qtr Lag)**	
	10.00%	**HFRI FOF Div Index (Month Lag)**	
	10.00%	**Private Equity Composite**	
	2.00%	**Citi 3 Mo T-Bill Index**	**1/1/2016**

Composite/Manager	Benchmark		Since
U.S. Equity Composite (P)	The custom index is calculated monthly and consists of:		
	90.00%	S&P 500 Index (Cap Wtd)	
	10.00%	R 2000 Index	Inception
	85.00%	S&P 500 Index (Cap Wtd)	
	15.00%	R 2000 Index	8/1/1996
	80.52%	S&P 500 Index (Cap Wtd)	
	19.48%	R 2000 Index	7/1/2000
	41.10%	S&P 500 Index (Cap Wtd)	
	42.46%	S&P 1500 Composite Index	
	16.44%	R 2000 Index	7/1/2001
	36.98%	S&P 500 Index (Cap Wtd)	
	42.47%	S&P 1500 Composite Index	
	12.33%	R 2000 Index	
	8.22%	R 2500 Growth Index	7/1/2003
	27.50%	S&P 500 Index (Cap Wtd)	
	50.00%	S&P 1500 Composite Index	
	12.50%	R 2000 Index	
	10.00%	R 2500 Growth Index	11/1/2003
	12.50%	S&P 500 Index (Cap Wtd)	
	65.00%	S&P 1500 Composite Index	
	12.50%	R 2000 Index	
	10.00%	R 2500 Growth Index	8/1/2005
	16.50%	S&P 500 Index (Cap Wtd)	
	71.00%	S&P 1500 Composite Index	
	12.50%	R 2000 Index	3/1/2006
	20.00%	S&P 500 Index (Cap Wtd)	
	66.67%	S&P 1500 Composite Index	
	13.33%	R 2000 Index	7/1/2007
	100.00%	**R 3000 Index**	**7/1/2011**
U.S. Equity Composite (I)	The custom index is calculated monthly and consists of:		
	100.00%	S&P 1500 Composite Index	Inception
	100.00%	**R 3000 Index**	**7/1/2011**

Composite/Manager	Benchmark	Since
Non-U.S. Equity Composite (P)	The custom index is calculated monthly and consists of:	
	100.00% BNY Mellon ADR Index	Inception
	33.00% BNY Mellon ADR Index 67.00% MSCI EAFE Index (Gross)	8/1/2001
	33.00% S&P American Depositary Receipt Index 67.00% MSCI EAFE Index (Gross)	7/1/2002
	27.00% S&P American Depositary Receipt Index 73.00% MSCI EAFE Index (Gross)	7/1/2003
	100.00% MSCI EAFE Index (Gross)	4/1/2004
	90.00% MSCI EAFE Index (Gross) 10.00% MSCI Emerging Markets Index (Gross)	5/1/2008
	80.00% MSCI EAFE Index (Gross) 10.00% MSCI Emerging Markets Index (Gross) 10.00% MSCI ACW Ex US Small Cap Index (Gross)	1/1/2009
	60.00% MSCI World Ex US Index (Gross) 20.00% MSCI ACW Ex US Index (Gross) 10.00% MSCI Emerging Markets Index (Gross) 10.00% MSCI ACW Ex US Small Cap Index (Gross)	7/1/2009
	100.00% MSCI ACW Ex US Index (Gross)	7/1/2011
	100.00% MSCI ACW Ex US Investable Market Index (Gross)	**1/1/2016**
Non-U.S. Equity Composite (I)	The custom index is calculated monthly and consists of:	
	100.00% BNY Mellon ADR Index	Inception
	25.00% BNY Mellon ADR Index 75.00% MSCI EAFE Index (Gross)	7/1/2001
	25.00% S&P American Depositary Receipt Index 75.00% MSCI EAFE Index (Gross)	7/1/2002
	20.00% S&P American Depositary Receipt Index 80.00% MSCI EAFE Index (Gross)	7/1/2003
	100.00% MSCI EAFE Index (Gross)	4/1/2004
	90.00% MSCI EAFE Index (Gross) 10.00% MSCI Emerging Markets Index (Gross)	5/1/2008
	80.00% MSCI World Ex US Index (Gross) 10.00% MSCI ACW Ex US Index (Gross) 10.00% MSCI Emerging Markets Index (Gross)	7/1/2009

Composite/Manager	Benchmark	Since
Non-U.S. Equity Composite (I) (Cont.)	100.00% MSCI ACW Ex US Index (Gross)	7/1/2011
	100.00% MSCI ACW Ex US Investable Market Index (Gross)	**1/1/2016**
Fixed Income Composite (P)	The custom index is calculated monthly and consists of:	
	80.00% Barclays US Govt/Credit Bond Index 20.00% BofA ML 1-3 Year US Treasury Index	Inception
	54.00% Barclays US Govt/Credit Bond Index 27.00% Barclays US Tsry: US TIPS Index 19.00% Barclays US Agg Bond Index	7/1/2001
	38.00% Barclays US Agg Bond Index 35.00% Barclays US Govt/Credit Bond Index 27.00% Barclays US Tsry: US TIPS Index	7/1/2003
	71.43% Barclays US Agg Bond Index 28.57% Barclays US Tsry: US TIPS Index	7/1/2007
	100.00% Barclays US Unv Bond Index	7/1/2011
	50.00% Bloomberg US Unv Bond Index **50.00% Bloomberg US Corp: Hi Yld Index**	**1/1/2016**
Fixed Income Composite (I)	The custom index is calculated monthly and consists of:	
	100.00% Barclays US Govt/Credit Bond Index	Inception
	100.00% Barclays US Tsry: US TIPS Index	7/1/2001
	70.00% Barclays US Tsry: US TIPS Index 30.00% Barclays US Agg Bond Index	4/1/2011
	100.00% Barclays US Unv Bond Index	7/1/2011
	50.00% Bloomberg US Unv Bond Index **50.00% Bloomberg US Corp: Hi Yld Index**	**1/1/2016**
Real Estate Composite (P) & Real Estate Composite (I)	The custom index is calculated monthly and consists of:	
	100.00% NCREIF ODCE Index (AWA) (Net) (Qtr Lag)	**Inception**
Real Return Actual Allocation Index (P) & Real Return Actual Allocation Index (I)	The custom index is calculated monthly and consists of:	
	100.00% Consumer Price Index + 3%	Inception
	100.00% Real Return Actual Allocation Index	**11/1/2013**

Composite/Manager	Benchmark	Since
Private Equity Composite (P) [Long Term]	The custom index is calculated monthly and consists of:	
	60.00% S&P 1500 Composite Index 40.00% Barclays US Corp: High Yield Index	Inception
	100.00% R 3000 Index + 4% (Qtr Lag)	7/1/2011
	100.00% R 3000 Index + 3% (Qtr Lag)	**1/1/2016**
Private Equity Composite (P) [Short Term]	The custom index is calculated monthly and consists of:	
	100.00% Pension Private Equity Composite	**Inception**
Private Equity Composite (I) [Long Term]	The custom index is calculated monthly and consists of:	
	80.00% S&P 1500 Composite Index 20.00% Barclays US Corp: High Yield Index	Inception
	100.00% R 3000 Index + 4% (Qtr Lag)	7/1/2011
	100.00% R 3000 Index + 3% (Qtr Lag)	**1/1/2016**
Private Equity Composite (I) [Short Term]	The custom index is calculated monthly and consists of:	
	100.00% Insurance Private Equity Composite	**Inception**

Composite/Manager	Benchmark	Since
Internal S&P 500 Index (SA)	The custom index is calculated monthly and consists of:	
	100.00% S&P 1500 Composite Index	Inception
	100.00% S&P 500 Index (Cap Wtd)	**7/1/2011**
Waterfall (SA) *Opportunistic FI Blended Index*	The blended index is calculated monthly and consists of:	
	60.00% Bloomberg US Corp: High Yield Index **40.00% Bloomberg US ABS Floating Rate Index**	**Inception**
Shenkman Capital (SA) *Shenkman Blended Index*	The blended index is calculated monthly and consists of:	
	50.00% Barclays US Corp: High Yield Index 50.00% Barclays US High Yield Loans Index	Inception
	100.00% S&P/LSTA Leveraged Loan Index	**7/1/2014**
Internal TIPS (SA) *Internal US TIPS Blend*	The blended index is calculated monthly and consists of:	
	100.00% Barclays US Trsy: US TIPS Index	Inception
	100.00% Bloomberg Global Investors US IL 1-10 Years Index	**10/1/2014**
Nuveen Real Asset Income (SA) *Nuveen Real Asset Custom Index*	The blended index is calculated monthly and consists of:	
	33.00% S&P Global Infrastructure Index **20.00% Bloomberg US Corp: High Yield Index** **20.00% BofA Merrill Lynch REIT Preferred Index** **15.00% MSCI US REIT Index** **12.00% BofA Merrill Lynch Preferred Stock, Fixed Rate Index**	**Inception**
Manulife Asset Mgmt (SA)	The blended index is calculated monthly and consists of:	
	100.00% Barclays Multiverse Index	Inception
	100.00% Bloomberg US Unv Bond Index	**1/1/2016**

Composite/Manager	Benchmark		Since
KERS (P) Target Allocation Index	The blended index is calculated monthly and consists of:		
	Total Fund Target Allocation Index (P)		Inception
	22.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	10.00%	Barclays US Agg Bond Index	
	5.00%	Barclays US Corp: Hi Yld Index	
	5.00%	Barclays Global Agg Bond Index	
	10.00%	Consumer Price Index + 3%	
	3.00%	NCREIF ODCE (Net) (Qtr Lag)	
	10.00%	HFRI FOF Diversified (Mth Lag)	
	10.00%	Private Equity Composite	
	5.00%	Citi 3 Mo T-Bill Index	7/1/2013
	22.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	10.00%	Barclays US Agg Bond Index	
	5.00%	Barclays US Corp: Hi Yld Index	
	5.00%	Barclays Global Agg Bond Index	
	10.00%	Real Return Actual Allocation Index	
	3.00%	NCREIF ODCE (Net) (Qtr Lag)	
	10.00%	HFRI FOF Diversified (Mth Lag)	
	10.00%	Private Equity Composite	
	5.00%	Citi 3 Mo T-Bill Index	11/1/2013
	22.00%	**R 3000 Index**	
	20.00%	**MSCI ACW Ex US Investable Market Index (Gross)**	
	10.00%	**Bloomberg US Univ Bond Index**	
	12.00%	**Bloomberg US Corp: Hi Yld Index**	
	8.00%	**Real Return Actual Allocation Index**	
	5.00%	**NCREIF ODCE (Net) (Qtr Lag)**	
	10.00%	**HFRI FOF Diversified (Mth Lag)**	
	10.00%	**Private Equity Composite**	
	3.00%	**Citi 3 Mo T-Bill Index**	**1/1/2016**
KERS Haz (P) Target Allocation Index, CERS (P) Target Allocation Index, & CERS Haz (P) Target Allocation Index	The blended index is calculated monthly and consists of:		
	Total Fund Target Allocation Index (P)		Inception
	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emg Mkts Index (Gross)	
	9.00%	Barclays US Agg Bond Index	
	5.00%	Barclays US Corp: Hi Yld Index	
	5.00%	Barclays Global Agg Bond Index	
	10.00%	Consumer Price Index + 3%	
	5.00%	NCREIF ODCE (Net) (Qtr Lag)	
	10.00%	HFRI FOF Diversified (Mth Lag)	
	10.00%	Private Equity Composite	
	2.00%	Citi 3 Mo T-Bill Index	7/1/2013

Composite/Manager	Benchmark		Since
KERS Haz (P) Target Allocation Index, CERS (P) Target Allocation Index, & CERS Haz (P) Target Allocation Index (Cont.)	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emg Mkts Index (Gross)	
	9.00%	Barclays US Agg Bond Index	
	5.00%	Barclays US Corp: Hi Yld Index	
	5.00%	Barclays Global Agg Bond Index	
	10.00%	Real Return Actual Allocation Index	
	5.00%	NCREIF ODCE (Net) (Qtr Lag)	
	10.00%	HFRI FOF Diversified (Mth Lag)	
	10.00%	Private Equity Composite	
	2.00%	Citi 3 Mo T-Bill Index	11/1/2013
	26.50%	**R 3000 Index**	
	26.50%	**MSCI ACW Ex US Investable Market Index (Gross)**	
	6.00%	**Bloomberg US Univ Bond Index**	
	6.00%	**Bloomberg US Corp: Hi Yld Index**	
	8.00%	**Real Return Actual Allocation Index**	
	5.00%	**NCREIF ODCE (Net) (Qtr Lag)**	
	10.00%	**HFRI FOF Diversified (Mth Lag)**	
	10.00%	**Private Equity Composite**	
	2.00%	**Citi 3 Mo T-Bill Index**	**1/1/2016**
SPRS (P) Target Allocation Index	The blended index is calculated monthly and consists of:		
	Total Fund Target Allocation Index (P)		Inception
	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emg Mkts Index (Gross)	
	8.00%	Barclays US Agg Bond Index	
	5.00%	Barclays US Corp: Hi Yld Index	
	5.00%	Barclays Global Agg Bond Index	
	10.00%	Consumer Price Index + 3%	
	5.00%	NCREIF ODCE (Net) (Qtr Lag)	
	10.00%	HFRI FOF Diversified (Mth Lag)	
	10.00%	Private Equity Composite	
	3.00%	Citi 3 Mo T-Bill Index	7/1/2013
	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emg Mkts Index (Gross)	
	8.00%	Barclays US Agg Bond Index	
	5.00%	Barclays US Corp: Hi Yld Index	
	5.00%	Barclays Global Agg Bond Index	
	10.00%	Real Return Actual Allocation Index	
	5.00%	NCREIF ODCE (Net) (Qtr Lag)	
	10.00%	HFRI FOF Diversified (Mth Lag)	
	10.00%	Private Equity Composite	
	3.00%	Citi 3 Mo T-Bill Index	11/1/2013

Composite/Manager	Benchmark		Since
SPRS (P) Target Allocation Index (Cont.)			
	23.00%	**R 3000 Index**	
	23.00%	**MSCI ACW Ex US Investable Market Index (Gross)**	
	9.00%	**Bloomberg US Univ Bond Index**	
	9.00%	**Bloomberg US Corp: Hi Yld Index**	
	8.00%	**Real Return Actual Allocation Index**	
	5.00%	**NCREIF ODCE (Net) (Qtr Lag)**	
	10.00%	**HFRI FOF Diversified (Mth Lag)**	
	10.00%	**Private Equity Composite**	
	3.00%	**Citi 3 Mo T-Bill Index**	**1/1/2016**
KERS (I) Target Allocation Index	The blended index is calculated monthly and consists of:		
	Total Fund Target Allocation Index (I)		Inception
	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emg Mkts Index (Gross)	
	10.00%	Barclays US Agg Bond Index	
	5.00%	Barclays US Corp: Hi Yld Index	
	5.00%	Barclays Global Agg Bond Index	
	10.00%	Consumer Price Index + 2.5%	
	5.00%	NCREIF ODCE (Net) (Qtr Lag)	
	10.00%	HFRI FOF Diversified (Mth Lag)	
	10.00%	Private Equity Composite	
	1.00%	Citi 3 Mo T-Bill Index	7/1/2013
	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emg Mkts Index (Gross)	
	10.00%	Barclays US Agg Bond Index	
	5.00%	Barclays US Corp: Hi Yld Index	
	5.00%	Barclays Global Agg Bond Index	
	10.00%	Real Return Actual Allocation Index	
	5.00%	NCREIF ODCE (Net) (Qtr Lag)	
	10.00%	HFRI FOF Diversified (Mth Lag)	
	10.00%	Private Equity Composite	
	1.00%	Citi 3 Mo T-Bill Index	11/1/2013
	26.50%	**R 3000 Index**	
	26.50%	**MSCI ACW Ex US Investable Market Index (Gross)**	
	6.00%	**Bloomberg US Univ Bond Index**	
	6.00%	**Bloomberg US Corp: Hi Yld Index**	
	8.00%	**Real Return Actual Allocation Index**	
	5.00%	**NCREIF ODCE (Net) (Qtr Lag)**	
	10.00%	**HFRI FOF Diversified (Mth Lag)**	
	10.00%	**Private Equity Composite**	
	2.00%	**Citi 3 Mo T-Bill Index**	**1/1/2016**

Composite/Manager	Benchmark		Since
KERS Haz (I) Target Allocation Index, CERS (I) Target Allocation Index, CERS Haz (I) Target Allocation Index , & SPRS (I) Target Allocation Index	The blended index is calculated monthly and consists of:		
	Total Fund Target Allocation Index (I)		Inception
	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emg Mkts Index (Gross)	
	10.00%	Barclays US Agg Bond Index	
	5.00%	Barclays US Corp: Hi Yld Index	
	5.00%	Barclays Global Agg Bond Index	
	10.00%	Consumer Price Index + 3%	
	5.00%	NCREIF ODCE (Net) (Qtr Lag)	
	10.00%	HFRI FOF Diversified (Mth Lag)	
	10.00%	Private Equity Composite	
	1.00%	Citi 3 Mo T-Bill Index	7/1/2013
	20.00%	R 3000 Index	
	20.00%	MSCI ACW Ex US Index (Gross)	
	4.00%	MSCI Emg Mkts Index (Gross)	
	10.00%	Barclays US Agg Bond Index	
	5.00%	Barclays US Corp: Hi Yld Index	
	5.00%	Barclays Global Agg Bond Index	
	10.00%	Real Return Actual Allocation Index	
	5.00%	NCREIF ODCE (Net) (Qtr Lag)	
	10.00%	HFRI FOF Diversified (Mth Lag)	
	10.00%	Private Equity Composite	
	1.00%	Citi 3 Mo T-Bill Index	11/1/2013
	26.50%	**R 3000 Index**	
	26.50%	**MSCI ACW Ex US Investable Market Index (Gross)**	
	6.00%	**Bloomberg US Univ Bond Index**	
	6.00%	**Bloomberg US Corp: Hi Yld Index**	
	8.00%	**Real Return Actual Allocation Index**	
	5.00%	**NCREIF ODCE (Net) (Qtr Lag)**	
	10.00%	**HFRI FOF Diversified (Mth Lag)**	
	10.00%	**Private Equity Composite**	
	2.00%	**Citi 3 Mo T-Bill Index**	**1/1/2016**

Glossary

Alpha - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market or a portfolio's non-systematic return.

Alpha Ratio - A measure of a portfolio's non-systematic return per unit of downside risk. It is measured by dividing the alpha of a portfolio by the downside risk. The non-systematic return is a measure of a portfolio's historical performance not explained by movements of the market.

Average Quality - Bond quality ratings are reported using the investment managers' and the index providers' preferred rating agency. ***Average Quality for managers unable to provide this statistic is instead provided by Morningstar; if unavailable on Morningstar, it has been estimated using a credit quality distribution provided by the manager.*** There are two primary rating agencies in the US. *Moody's* assigns ratings on a system that employs up to four symbols (consisting of letters and numbers) such as, Aaa, Aa2, etc., with Aaa being the highest or safest rating. S*tandard & Poor's (S&P)* employs a system that uses + and - along with letters such as AAA, AA+, etc. The two rating agencies' systems are summarized below:

S&P	Moody's	Explanation	S&P	Moody's	Explanation
Higher Credit Quality – Investment Grade			**Lower Credit Quality – Below Investment Grade**		
AAA	Aaa	Prime/Highest credit quality	BB+	Ba1	Speculative/Low credit quality
AA+	Aa1	High credit quality	BB	Ba2	
AA	Aa2		BB-	Ba3	
AA-	Aa3		B+	B1	Highly speculative
A+	A1	Upper-medium credit quality	B	B2	
A	A2		B-	B3	
A-	A3		CCC+	Caa1	Substantial credit/default risk
BBB+	Baa1	Lower-medium credit quality	CCC	Caa2	Extremely speculative
BBB	Baa2		CCC-	Caa3	
BBB-	Baa3		CC	Ca	Vulnerable to default
			C	Ca	
			D	C	In default

Beta - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

Box Plots - A graphical representation of the distribution of observations. From top to bottom, the four boxes represent the spread between the maximum value and the minimum value in each quartile. A quartile represents the values that divide the observations into four quarters (i.e., 1st quartile, 2nd quartile, 3rd quartile, and 4th quartile). The median observation is where the 2nd quartile and 3rd quartile meet.

Buy and Hold Attribution - At the beginning of the time period under analysis, the manager and benchmark portfolios are broken down into segments (i.e., styles, sectors, countries, and regions) based on the desired type of attribution. The formula assumes zero turn-over to the manager and benchmark portfolios throughout the period and calculates the segment returns ("buy and hold returns") to arrive at performance attribution. Due to portfolio turnover, buy and hold attribution may not accurately represent quarterly performance relative to the benchmark. Country, region, sector, and style allocations are as of the date one quarter prior to the reporting date, and the returns shown are for those segments throughout the quarter reported. Due to disclosure guidelines set by each investment manager, equity characteristics shown are as of the most recent date available. The following is the methodology for segment classification:

Sector - Attribution is calculated using the Global Industry Classification Standard (GICS) which is a detailed and comprehensive structure for sector and industry analysis. Stocks are classified by their primary sector, as defined by S&P Capital IQ data.

Country/Region - Attribution is calculated using the Morgan Stanley Capital International (MSCI) region standards. Stocks are classified by their domicile country/region, as defined by S&P Capital IQ data.

Style - Stocks are classified into the following style boxes: large/mid/small vs. growth/neutral/value. Stocks are classified along large/mid/small categories at the time of the Russell index rebalancing, using the index market cap boundaries as cutoff points. Stocks are classified along growth/neutral/value categories at the time of the Russell index rebalancing, using the price/book ratio as supplied by S&P Capital IQ. Stocks in the Russell 3000 Index portfolio are sorted by price/book ratio; names with the highest price/book ratio that make up 1/3 of the total market capitalization are assigned to the growth category, names that make up the subsequent 1/3 of the total market capitalization are assigned to the neutral category, while the balance of the names are assigned to the value category.

Portfolio Characteristics and Buy and Hold Attribution reports utilize product-specific data for all mutual funds and commingled funds.

Capital Markets Review -

Breakeven Inflation - Measures the expected inflation rate at each stated maturity by taking the difference between the real yield of the inflation-linked maturity curve and the yield of the closest nominal Treasury maturity.

Consumer Confidence - Measures domestic consumer confidence as defined by the degree of optimism on the state of the economy that consumers express through saving and spending.

Consumer Price Index (CPI) - Measures the change in the price level of consumer goods and services.

Federal Funds Rate - The interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. It is one of the most influential interest rates in the US economy, since it affects monetary and financial conditions, which in turn have a bearing on key aspects of the broad economy including employment, growth and inflation.

Option-Adjusted Spread - Measures the flat spread of an index or bond to the Treasury yield curve after removing the effect of any embedded options.

Purchasing Managers Index (PMI) - Measures economic activity by surveying purchasing managers on a monthly basis as to whether business conditions have improved, worsened, or stayed the same.

RVK

Glossary

- **Real Gross Domestic Product (Real GDP)** - An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year.
- **US Dollar Total Weighted Index** - Measures the value of the US Dollar relative to a basket of other world currencies. It is calculated as the weighted geometric mean of the dollar's value versus the EUR, GBP, CAD, SEK, CHF, and JPY.
- **Unemployment Rate** - The percentage of the total labor force that is unemployed but actively seeking employment.
- **VIX** - Measures the implied volatility of S&P 500 Index options by looking at the market's expectation of the S&P 500 Index volatility over the next 30 day period. Commonly referred to as the "fear index" or the "fear gauge."

Consistency - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.

Convexity - A measure of the shape of the curve that describes the relationship between bond prices and bond yields.

Correlation - A statistical measure of the relationship between asset class returns. A value of 1.00 is a perfect correlation; that is, the asset classes always move in the same direction. A value of -1.00 indicates a perfect negative correlation, in which the asset classes always move in opposite directions of each other. A value of 0 indicates there is no relationship between the direction of returns of the two asset classes. Correlation calculations only consider the direction of changes relative to two variables and not the magnitude of those changes.

Coupon Rate - The percentage rate of interest paid on a bond or fixed income security; it is typically paid twice per year.

Current Yield - The annual income of a security divided by the security's current price.

Down Market Capture - Down market by definition is negative benchmark return and down market capture represents the ratio in % terms of the average portfolios return over the benchmark during the down market period. The lower the value of the down market capture the better the product's performance.

Downside Risk - A measure similar to standard deviation, but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative monthly returns. The higher the factor, the riskier the product.

Earnings Per Share - It is backward looking, calculated using the one year current EPS divided by the one year EPS five years ago.

Effective Duration - The approximate percentage change in a bond's price for a 100 basis point change in yield.

Excess Return vs. Market - Average of the monthly arithmetic difference between the manager's return and the benchmark return over a specified time period, shown on an annualized basis.

Excess Return vs. Risk Free - Average of the monthly arithmetic difference between the manager's return and the risk-free return (i.e., BofA ML 3 Mo US T-Bill Index unless specified otherwise) over a specified time period, shown on an annualized basis.

Excess Risk - A measure of the standard deviation of a portfolio's performance relative to the risk free return.

Expense Ratios - Morningstar is the source for mutual fund expense ratios.

Gain/Loss - The net increase or decrease in the market value of a portfolio excluding its Net Cash Flow for a given period.

Indices - All indices and related information are considered intellectual property and are licensed by each index provider. The indices may not be copied, used or distributed without the index provider's prior written approval. Index providers make no warranties and bear no liability with respect to the indices, any related data, their quality, accuracy, suitability and/or completeness.

Information Ratio - Measured by dividing the active rate of return by the tracking error. The higher the information ratio, the more value-added contribution by the manager.

Liability Driven Investing (LDI) - A method to optimally structure asset investments relative to liabilities. The change in liabilities is estimated by the Ryan Labs Generic PPA Index of appropriate duration for that Plan. This benchmark is based on generic data and is therefore an approximation. RVK is not an actuarial firm, and does not have actuarial expertise.

- **Estimated Funded Status** - The estimated ratio of a Plan's assets relative to its future liabilities. This is calculated by dividing the Plan's asset market value by the estimated present value of its liabilities. The higher the estimated funded status, the better the Plan's ability to cover its projected benefit obligations. An estimated funded status of 100% indicates a Plan that is fully funded.
- **Estimated PV of Liabilities** - An estimate of a Plan's future liabilities in present value terms. The beginning of the period liability is provided by the Plan's actuary. The period-end present value liability estimate provided in this report is derived by applying the estimated percentage change generated using the Ryan Labs Generic PPA Index with duration similar to that reported on the most recent actuarial valuation report.
- **Duration of Liabilities** - The sensitivity of the value of a Plan's liabilities to changes in interest rates, as calculated by the Plan's actuary.
- **Duration of Assets** - The dollar-weighted average duration of all the individual Plan assets.
- **Estimated Plan Hedge Ratio** - The estimate of how well a Plan's investment portfolio is hedged against changes in interest rates - a primary driver of funded status movements. This is calculated by dividing the dollar-weighted values of both the Plan asset duration by the liability duration and multiplying by the estimated funded status. An estimated plan hedge ratio of zero indicates that the Plan's liabilities have not been hedged, whereas a value of one indicates fully hedged.

RVK

Glossary

Modified Duration - The approximate percentage change in a bond's price for a 100 basis point change in yield, assuming the bonds' expected cash flows do not change.

Mutual Fund Performance - Whenever possible, manager performance is extended for any share class that does not have 10 years of history. Using Morningstar's methodology, a single ticker within the same fund family (often the oldest share class) is chosen to append historical performance.

Net Cash Flow - The sum, in dollars, of a portfolio's contributions and withdrawals. This includes all management fees and expenses only when performance shown is gross of fees.

Peer Groups -

Plan Sponsor Peer Groups - RVK utilizes the Mellon Analytical Solutions Trust Universe along with the Investment Metrics Plan Sponsor Universe. The combined Mellon Analytical Solutions Trust Universe and Investment Metrics Plan Sponsor Universe is used for comparison of total fund composite results and utilizes actual client returns compiled from consultant and custodial data. The Plan Sponsor Peer Group database includes performance and other quantitative data for over 2,100 plans which include corporate, endowment, foundation, public, and Taft Hartley plans. Plan Sponsor Peer Groups are gross of fees.

Institutional Peer Groups (Separate Account and Commingled Fund) - RVK utilizes the Investment Metrics Separate Account and Commingled Fund Manager Peer Groups for peer comparison and rankings. The Separate Account and Commingled Fund Peer Group database includes performance and other quantitative data for over 1,000 investment management firms, 6,400 investment products, across 100 standard peer groups. Separate Account and Commingled Fund Peer Groups are gross of fees.

Mutual Fund (MF) Peer Groups - RVK utilizes the Lipper Mutual Fund Manager Peer Groups for peer comparison and rankings. The Lipper Manager Peer Group database includes performance and other quantitative data for over 700 investment management firms and 24,500 investment products, across more than 140 standard peer groups. Mutual Fund Peer Groups are net of fees.

Percentile Rankings - Percentile rank compares an individual fund's performance with those of other funds within a defined peer group of managers possessing a similar investment style. Percentile rank identifies the percentage of a fund's peer group that has a higher return (or other comparative measurement) than the fund being ranked. Conversely, 100 minus the individual fund's ranking will identify the percentage of funds within the peer group that have a lower return than the fund being ranked.

1 - Highest Statistical Value 100 - Lowest Statistical Value

Example: American Funds AMCP;R-4 (RAFEX) is ranked in the 4th percentile within the IM US Equity Large-Cap Growth Funds (MF) Peer Group for the Sharpe Ratio. Within the IM US Equity Large-Cap Growth Funds peer group, 4% of the other funds performed better than American Funds AMCP;R-4 (RAFEX), while 96% of the funds performed worse.

Performance Methodology - RVK endorses the Global Investment Performance Standards (GIPS) and calculates performance for investment managers and composites using different methodologies. Investment manager performance is calculated by revaluing the portfolio on the date of all large external cash flows while composite performance is calculated using the Modified Dietz calculation methodology. According to the CFA Institute, "Only investment management firms that actually manage assets can claim compliance with the Standards. Plan Sponsors and consultants cannot make a claim of compliance unless they actually manage assets for which they are making a claim of compliance. They can claim to endorse the Standards and/or require that their investment managers comply with the Standards."

Investment Managers - Performance is calculated for interim periods between all large external cash flows for a given month and geometrically linked to calculate period returns. An external cash flow is defined as cash, securities, or assets that enter or exit a portfolio. RVK defines a "large cash flow" as a net aggregate cash flow of ≥10% of the beginning-period portfolio market value or any cash flow that causes RVK calculated performance to deviate from manager/custodian reported performance in excess of 5 basis points for a given month.

Composites - The Modified Dietz methodology is utilized to calculate asset class, sub-asset class, and total fund composite performance. The Modified Dietz method calculates a time-weighted total rate of return that considers the timing of external cash flows; however, it does not utilize interim period performance to mitigate the impact of significant cash in- and outflows to the composite.

RVK calculates performance beginning with the first full month following inception. Since inception performance may vary from manager reported performance due to RVK using the first full month of returns as the inception date. Performance for both managers and composites is annualized for periods greater than one year.

Portfolio Characteristics - Due to disclosure guidelines set by each investment manager, portfolio characteristics shown are as of the most recent date available.

Price to Earnings Ratio - The ratio of a company's share price to its per-share earnings

Private Equity Quartile Ranks - Private Equity quartile ranks are generated using vintage year peer group data provided by Thomson Reuters, and are based on each fund's annualized, since inception internal rate of return (IRR). Three Private Equity peer groups are available via Thomson Reuters: Buyout, Venture, and All Private Equity. Ranks are available quarterly, at a one-quarter lag.

Return - Compounded rate of return for the period.

% Return - The time-weighted rate of return of a portfolio for a given period.

R-Squared - The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

Risk Free Benchmark - BofA ML 3 Mo US T-Bill Index unless specified otherwise.

Glossary

RVK Liquidity Rating - A qualitative method for determining the relative amount of liquidity in a portfolio. The characteristics considered when determining relative liquidity include trading volume, gates for redemption, leverage, nature of transactions, and pricing mechanisms. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating.

Asset Class	RVK Liquidity Rating	Asset Class	RVK Liquidity Rating
Liquid Investments		**Less Liquid Investments**	
T-Bills and Treasurys	100	Fixed Income Plus Sector	50
Cash Equivalents	98	Bank Loans	50
TIPS	95	Stable Value (Plan Sponsor Directed)	50
US Large Cap Equity	95	Absolute Return Strategies	35
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Non-US Large Cap Equity	90	**Not Liquid Investments**	
Global Tactical Asset Allocation	88	Core Real Estate	25
US Small Cap Equity	85	Core Plus Real Estate	15
REITS	85	Plus Only Real Estate	5
Non-US Small Cap Equity	85	Private Equity Funds of Funds	5
Emerging Markets Equity	85		
Core Fixed Income	85		
Core Plus Fixed Income	80		

Sharpe Ratio - Represents the excess rate of return over the risk-free return (i.e., BofA ML 3 Mo US T-Bill Index unless specified otherwise), divided by the standard deviation of the excess return. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.

Simple Alpha - The difference between the manager's return and the benchmark's return.

Spread Duration - The approximate percentage change in a bond's price for a 100 basis point change in its spread over a Treasury of the same maturity.

Standard Deviation - A statistical measure of the range of a portfolio's performance. The variability of a return around its average return over a specified time period.

Time Period Abbreviations - **QTD** - Quarter-to-Date. **CYTD** - Calendar Year-to-Date. **FYTD** - Fiscal Year-to-Date. **YOY** - Year Over Year.

Thematic Classification - Represents dedicated manager allocations; as such, thematic allocations are approximations. RVK categorizes the following asset classes as Alpha, Capital Appreciation, Capital Preservation, and Inflation:

Alpha	Capital Appreciation	Capital Preservation	Inflation
Absolute Return Strategies	Public Equity	Core Fixed Income	TIPS
Currency Overlay	Private Equity	CMBS Fixed Income	Bank Loans
	Preferred Securities	Asset Backed Fixed Income	Core Real Estate
	High Yield	Domestic Core Plus Fixed Income	Real Return
	Convertible Fixed Income	Mortgage Backed Fixed Income	Inflation Hedges
	TALF Funds	International Developed Fixed Income	REITS
	Distressed Debt	Cash Equivalents	Commodities
	Emerging Market Fixed Income	Stable Value	
	Value Added Real Estate		
	Opportunistic Real Estate		

Total Fund Attribution - A method for identifying the sources of a total fund's over- or underperformance relative to its benchmark. The calculation identifies the contributions of positive or negative total fund excess return caused by allocation differences relative to the total fund's custom benchmark, and performance differences of the investment managers relative to the benchmark components that represent them.

- **Total Fund Performance** -
  - **Total Fund** - The percentage return of the total fund for the specified time period.
  - **Total Fund Benchmark** - The percentage return of the total fund benchmark for the specified time period; calculated using the target asset allocation and the corresponding benchmark returns.
  - **Total Value Added** - The percentage of over- or underperformance of the total fund as compared to the total fund benchmark.
- **Total Value Added** -
  - **Asset Allocation** - Shows how the variance of the total fund's actual allocation from its target allocation added to or subtracted from fund performance.
  - **Manager Value Added** - The portion of the total value added attributable to the outperformance or underperformance of the fund's investment managers, relative to the individual benchmarks that represent them in the total fund benchmark.
  - **Market Timing/Other** - The contribution of other residual factors, including estimation error and transaction timing.

Total Fund Beta - Total Fund Beta is calculated using the S&P 500 as the benchmark. It represents a measure of the sensitivity of the total fund to movements in the S&P 500 and is a measure of the Total Fund's non-diversifiable or systematic risk.

Glossary

Tracking Error - A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.

Treynor Ratio - Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Treynor ratio represents the excess rate of return over the risk-free rate (i.e., BofA ML 3 Mo US T-Bill Index unless specified otherwise) divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better historical risk-adjusted performance.

Unit Value - The dollar value of a portfolio, assuming an initial nominal investment of $100, growing at the compounded rate of %Return for a given period.

Up Market Capture - Up market by definition is positive benchmark return and up market capture represents the ratio in % terms of the average portfolios return over the benchmark during the up market period. The higher the value of the up market capture the better the product's performance.

Yield to Maturity - The rate of return achieved on a bond or other fixed income security assuming the security is bought and held to maturity and that the coupon interest paid over the life of the bond will be reinvested at the same rate of return. The 30-Day SEC Yield is similar to the Yield to Maturity and is reported for mutual funds.

Yield to Worst - The bond yield calculated by using the worst possible yield taking into consideration all call, put, and optional sink dates.

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