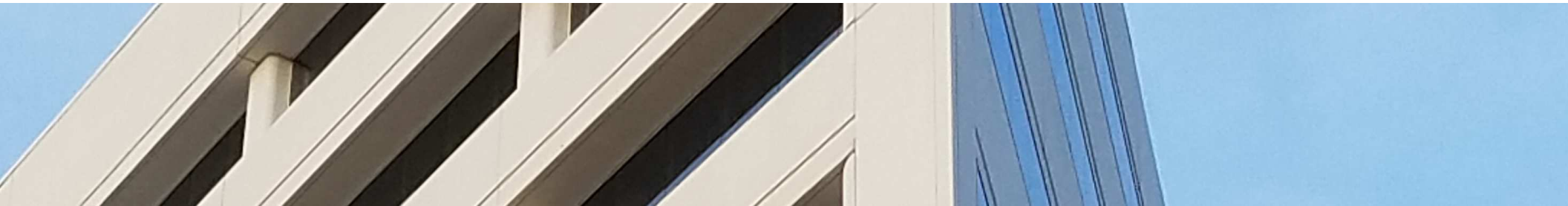




WILSHIRE ASSOCIATES

Wilshire Consulting



Kentucky Retirement Systems Pension

Monthly Performance Summary

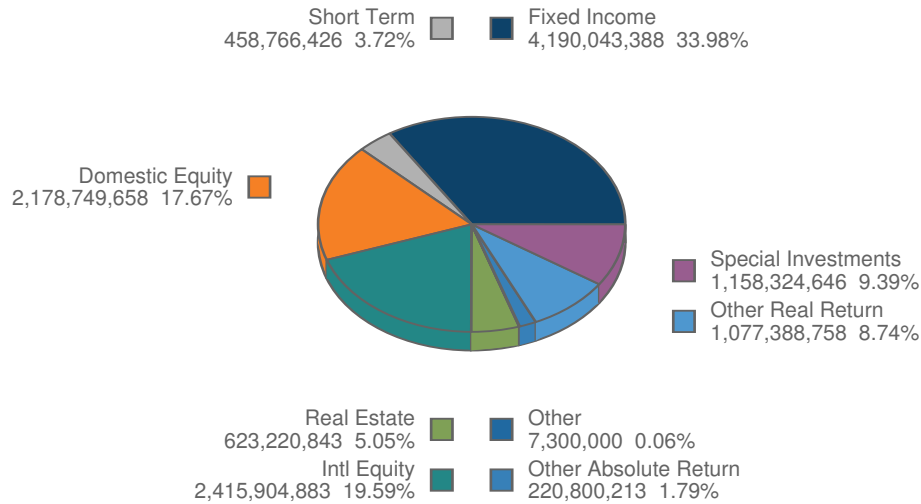
May 31, 2019

ACTUAL ALLOCATION VS POLICY ALLOCATION

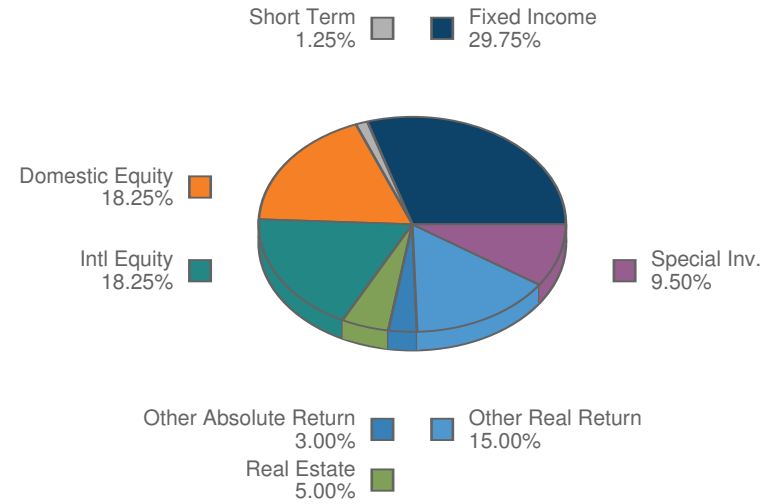
KRS Pension Plan Composite

As of May 31, 2019

Total Fund



Policy Index



MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$
KRS Pension Plan	-2.00	-0.55	5.51	2.35	2.30	8.00	5.41	8.96	3/31/84	12,330,498,816
KRS Allocation Index	-2.18	-0.61	6.12	2.45	2.42	7.96	5.64	9.09	3/31/84	
Value Added	0.18	0.06	-0.61	-0.09	-0.12	0.04	-0.22	-0.13	3/31/84	
KRS IPS Benchmark	-2.06	-0.53	6.34	3.01	3.23				3/31/84	
KERS Pension Plan	-1.60	-0.38	4.72	2.67	2.51	7.38	5.05	8.91	3/31/84	2,107,643,190
KERS Allocation Index	-1.90	-0.46	5.77	2.84	2.72	7.13	5.06	9.01	3/31/84	
Value Added	0.30	0.08	-1.06	-0.17	-0.21	0.25	-0.01	-0.10	3/31/84	
KERS IPS Benchmark	-1.69	-0.30	6.11	3.26	3.28				3/31/84	
Assumed Rate 5.25%	0.43	0.86	2.15	4.80	5.25				3/31/84	
KERS (H) Pension Plan	-2.06	-0.59	5.52	2.20	2.14	7.95	5.43	8.97	3/31/84	661,547,508
KERS (H) Allocation Index	-2.23	-0.65	6.14	2.38	2.38	8.25	5.59	9.10	3/31/84	
Value Added	0.17	0.06	-0.61	-0.19	-0.24	-0.30	-0.16	-0.13	3/31/84	
KERS (H) IPS Benchmark	-2.14	-0.57	6.38	2.96	3.19				3/31/84	
Assumed Rate 6.25%	0.51	1.02	2.56	5.71	6.25				3/31/84	
CERS Pension Plan	-2.11	-0.62	5.62	2.19	2.15	8.10	5.46	8.97	3/31/84	6,953,592,452
CERS Allocation Index	-2.23	-0.64	6.15	2.38	2.40	8.26	5.60	9.10	3/31/84	
Value Added	0.12	0.02	-0.53	-0.19	-0.25	-0.16	-0.13	-0.13	3/31/84	
CERS IPS Benchmark	-2.14	-0.57	6.39	2.95	3.21				3/31/84	
Assumed Rate 6.25%	0.51	1.02	2.56	5.71	6.25				3/31/84	

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$
	CERS (H) Pension Plan	-2.10	-0.61	5.64	2.23	2.22	8.09	5.50	8.97	3/31/84
CERS (H) Allocation Index	-2.23	-0.65	6.17	2.41	2.46	8.29	5.61	9.10	3/31/84	
Value Added	0.13	0.03	-0.53	-0.18	-0.24	-0.20	-0.12	-0.13	3/31/84	
CERS (H) IPS Benchmark	-2.14	-0.57	6.42	2.98	3.27				3/31/84	
Assumed Rate 6.25%	0.51	1.02	2.56	5.71	6.25				3/31/84	
SPRS Pension Plan	-1.64	-0.33	5.25	2.62	2.47	7.52	4.88	8.89	3/31/84	270,917,586
SPRS Allocation Index	-2.04	-0.57	5.51	2.76	2.82	7.83	5.37	9.06	3/31/84	
Value Added	0.40	0.24	-0.26	-0.15	-0.35	-0.30	-0.50	-0.18	3/31/84	
SPRS IPS Benchmark	-1.69	-0.30	6.20	3.28	3.39				3/31/84	
Assumed Rate 5.25%	0.43	0.86	2.15	4.80	5.25				3/31/84	

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
KERS Pension Plan	-1.60	-0.38	4.72	2.67	2.51	7.38	5.05	8.91	3/31/84	2,107,643,190	
KERS Allocation Index	-1.90	-0.46	5.77	2.84	2.72	7.13	5.06	9.01	3/31/84		
Value Added	0.30	0.08	-1.06	-0.17	-0.21	0.25	-0.01	-0.10	3/31/84		
KERS IPS Benchmark	-1.69	-0.30	6.11	3.26	3.28				3/31/84		
Assumed Rate 5.25%	0.43	0.86	2.15	4.80	5.25				3/31/84		
US Equity Composite	-6.30	-2.58	11.31	0.71	1.43	10.96	8.84	11.29	6/30/13	319,457,618	15.16
Russell 3000	-6.47	-2.74	10.92	1.83	2.50	11.55	9.25	11.47	6/30/13		
Value Added	0.17	0.16	0.38	-1.12	-1.07	-0.58	-0.41	-0.18	6/30/13		
Non-US Equity Composite	-5.25	-2.69	8.18	-4.71	-6.59	7.38	2.28	5.00	6/30/13	346,362,963	16.43
Policy Index	-5.34	-2.89	7.11	-5.24	-7.14	6.72	1.55	4.51	6/30/13		
Value Added	0.09	0.20	1.06	0.53	0.55	0.66	0.73	0.48	6/30/13		
Fixed Income Composite	0.94	1.35	4.42	6.08	6.10	5.07	3.88	4.38	6/30/13	761,496,611	36.13
Policy Index	0.93	1.23	5.11	5.46	5.39	4.74	4.41	4.58	6/30/13		
Value Added	0.01	0.12	-0.68	0.61	0.71	0.32	-0.53	-0.21	6/30/13		
Real Return Composite	-0.65	-0.47	6.83	2.64	2.09	5.29	1.96	2.88	6/30/13	163,369,901	7.75
Real Return Index (P)	0.33	0.55	6.63	3.64	3.93	3.37	1.53	2.07	6/30/13		
Value Added	-0.98	-1.02	0.20	-1.00	-1.84	1.93	0.43	0.81	6/30/13		
Real Estate Composite	-0.04	0.32	1.40	5.93	6.36	8.79	8.02	7.70	6/30/13	106,710,936	5.06
NCREIF ODCE NOF 1 Quarter Lag	0.00	1.20	2.74	6.55	6.55	7.01	9.17	9.91	6/30/13		
Value Added	-0.04	-0.88	-1.34	-0.62	-0.19	1.79	-1.15	-2.20	6/30/13		

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Absolute Return Composite	0.02	0.51	1.50	0.47	0.66	3.71	2.26	3.08	6/30/13	40,412,180	1.92
HFRI FOF Div (1 Month Lag)	0.95	1.70	3.71	0.84	1.55	3.87	2.50	2.76	6/30/13		
Value Added	-0.92	-1.19	-2.21	-0.37	-0.88	-0.16	-0.24	0.32	6/30/13		
Private Equity Composite	-0.02	0.01	-3.60	7.47	8.49	11.38	9.83	11.43	6/30/13	200,265,040	9.50
KERS Short Term PE Index	-0.02	0.01	-3.60	7.47	8.49	11.38	9.83	11.43	6/30/13		
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6/30/13		
Russell 3000 +3% Qtr Lag	3.77	12.93	-2.45	10.17	8.23	19.90	14.14	16.22	6/30/13		
Cash Composite	0.24	0.46	1.13	2.24	2.39	1.70	1.14	1.03	6/30/13	167,688,036	7.96
91-Day Treasury Bill	0.23	0.42	1.02	2.09	2.26	1.32	0.83	0.71	6/30/13		
Value Added	0.02	0.05	0.11	0.15	0.13	0.38	0.31	0.32	6/30/13		
Other Assets	0.00	0.00	0.00	0.00	0.00			0.00	8/31/17	1,879,904	0.09

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
KERS (H) Pension Plan	-2.06	-0.59	5.52	2.20	2.14	7.95	5.43	8.97	3/31/84	661,547,508	
KERS (H) Allocation Index	-2.23	-0.65	6.14	2.38	2.38	8.25	5.59	9.10	3/31/84		
Value Added	0.17	0.06	-0.61	-0.19	-0.24	-0.30	-0.16	-0.13	3/31/84		
KERS (H) IPS Benchmark	-2.14	-0.57	6.38	2.96	3.19				3/31/84		
Assumed Rate 6.25%	0.51	1.02	2.56	5.71	6.25				3/31/84		
US Equity Composite	-6.30	-2.58	11.31	0.71	1.43	10.58	8.39	10.61	6/30/13	120,109,252	18.16
Russell 3000	-6.47	-2.74	10.92	1.83	2.50	11.55	9.25	11.47	6/30/13		
Value Added	0.17	0.16	0.38	-1.12	-1.07	-0.97	-0.86	-0.85	6/30/13		
Non-US Equity Composite	-5.25	-2.69	8.17	-4.71	-6.59	7.36	2.58	5.29	6/30/13	130,233,519	19.69
Policy Index	-5.34	-2.89	7.11	-5.24	-7.14	6.72	1.55	4.51	6/30/13		
Value Added	0.09	0.20	1.06	0.53	0.55	0.65	1.02	0.78	6/30/13		
Fixed Income Composite	0.70	1.25	4.78	5.80	5.75	4.70	3.66	4.22	6/30/13	218,529,409	33.03
Policy Index	0.17	0.95	6.29	5.87	6.01	5.01	4.57	4.72	6/30/13		
Value Added	0.53	0.30	-1.51	-0.07	-0.26	-0.31	-0.91	-0.50	6/30/13		
Real Return Composite	-0.58	-0.40	6.27	2.52	1.94	5.05	2.08	3.12	6/30/13	56,335,443	8.52
Real Return Index (P)	0.33	0.55	6.63	3.64	3.93	3.37	1.53	2.07	6/30/13		
Value Added	-0.91	-0.95	-0.36	-1.13	-1.99	1.69	0.55	1.04	6/30/13		
Real Estate Composite	-0.04	0.48	1.93	6.56	7.60	9.43	9.30	8.82	6/30/13	32,021,087	4.84
NCREIF ODCE NOF 1 Quarter Lag	0.00	1.20	2.74	6.55	6.55	7.01	9.17	9.91	6/30/13		
Value Added	-0.04	-0.72	-0.81	0.01	1.05	2.43	0.13	-1.09	6/30/13		

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Absolute Return Composite	0.02	0.51	1.50	0.47	0.66	3.71	2.26	3.11	6/30/13	10,543,774	1.59
HFRI FOF Div (1 Month Lag)	0.95	1.70	3.71	0.84	1.55	3.87	2.50	2.76	6/30/13		
Value Added	-0.92	-1.19	-2.21	-0.37	-0.88	-0.16	-0.24	0.36	6/30/13		
Private Equity Composite	0.12	0.25	-1.54	8.18	11.15	13.56	11.84	13.05	6/30/13	60,341,412	9.12
KERS (H) Short Term PE Index	0.12	0.25	-1.54	8.18	11.15	13.56	11.84	13.05	6/30/13		
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6/30/13		
Russell 3000 +3% Qtr Lag	3.77	12.93	-2.45	10.17	8.23	19.90	14.14	16.22	6/30/13		
Cash Composite	0.25	0.48	1.16	2.28	2.43	1.75	1.17	1.06	6/30/13	31,892,889	4.82
91-Day Treasury Bill	0.23	0.42	1.02	2.09	2.26	1.32	0.83	0.71	6/30/13		
Value Added	0.03	0.06	0.14	0.19	0.17	0.43	0.34	0.35	6/30/13		
Other Assets	0.00	0.00	0.00	0.00	0.00			0.00	8/31/17	1,540,723	0.23

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
CERS Pension Plan	-2.11	-0.62	5.62	2.19	2.15	8.10	5.46	8.97	3/31/84	6,953,592,452	
CERS Allocation Index	-2.23	-0.64	6.15	2.38	2.40	8.26	5.60	9.10	3/31/84		
Value Added	0.12	0.02	-0.53	-0.19	-0.25	-0.16	-0.13	-0.13	3/31/84		
CERS IPS Benchmark	-2.14	-0.57	6.39	2.95	3.21				3/31/84		
Assumed Rate 6.25%	0.51	1.02	2.56	5.71	6.25				3/31/84		
US Equity Composite	-6.30	-2.58	11.31	0.70	1.42	10.81	8.39	10.60	6/30/13	1,273,146,805	18.31
Russell 3000	-6.47	-2.74	10.92	1.83	2.50	11.55	9.25	11.47	6/30/13		
Value Added	0.17	0.16	0.38	-1.13	-1.08	-0.74	-0.85	-0.87	6/30/13		
Non-US Equity Composite	-5.25	-2.69	8.17	-4.71	-6.59	7.38	2.57	5.28	6/30/13	1,419,210,646	20.41
Policy Index	-5.34	-2.89	7.11	-5.24	-7.14	6.72	1.55	4.51	6/30/13		
Value Added	0.09	0.20	1.06	0.53	0.55	0.66	1.02	0.77	6/30/13		
Fixed Income Composite	0.72	1.25	4.76	5.85	5.80	4.71	3.68	4.24	6/30/13	2,332,173,611	33.54
Policy Index	0.17	0.95	6.29	5.87	6.01	5.01	4.57	4.72	6/30/13		
Value Added	0.55	0.30	-1.53	-0.02	-0.21	-0.29	-0.89	-0.47	6/30/13		
Real Return Composite	-0.58	-0.40	6.26	2.51	1.94	5.03	2.06	2.97	6/30/13	622,919,713	8.96
Real Return Index (P)	0.33	0.55	6.63	3.64	3.93	3.37	1.53	2.07	6/30/13		
Value Added	-0.91	-0.95	-0.37	-1.13	-2.00	1.66	0.53	0.90	6/30/13		
Real Estate Composite	-0.04	0.48	1.97	6.58	7.63	9.51	9.32	8.88	6/30/13	358,049,192	5.15
NCREIF ODCE NOF 1 Quarter Lag	0.00	1.20	2.74	6.55	6.55	7.01	9.17	9.91	6/30/13		
Value Added	-0.04	-0.72	-0.77	0.03	1.07	2.51	0.15	-1.03	6/30/13		

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Absolute Return Composite	0.02	0.51	1.50	0.47	0.66	3.71	2.27	3.12	6/30/13	125,757,059	1.81
HFRI FOF Div (1 Month Lag)	0.95	1.70	3.71	0.84	1.55	3.87	2.50	2.76	6/30/13		
Value Added	-0.92	-1.19	-2.21	-0.37	-0.88	-0.16	-0.23	0.37	6/30/13		
Private Equity Composite	0.15	0.28	-1.39	8.12	11.33	13.84	12.18	13.29	6/30/13	655,191,974	9.42
CERS Short Term PE Index	0.15	0.28	-1.39	8.12	11.33	13.84	12.18	13.29	6/30/13		
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6/30/13		
Russell 3000 +3% Qtr Lag	3.77	12.93	-2.45	10.17	8.23	19.90	14.14	16.22	6/30/13		
Cash Composite	0.28	0.52	1.22	2.35	2.50	1.82	1.21	1.09	6/30/13	165,460,992	2.38
91-Day Treasury Bill	0.23	0.42	1.02	2.09	2.26	1.32	0.83	0.71	6/30/13		
Value Added	0.05	0.10	0.20	0.26	0.24	0.49	0.38	0.38	6/30/13		
Other Assets	0.00	0.00	0.00	0.00	0.00			0.00	8/31/17	1,682,460	0.02

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
CERS (H) Pension Plan	-2.10	-0.61	5.64	2.23	2.22	8.09	5.50	8.97	3/31/84	2,336,798,080	
CERS (H) Allocation Index	-2.23	-0.65	6.17	2.41	2.46	8.29	5.61	9.10	3/31/84		
Value Added	0.13	0.03	-0.53	-0.18	-0.24	-0.20	-0.12	-0.13	3/31/84		
CERS (H) IPS Benchmark	-2.14	-0.57	6.42	2.98	3.27				3/31/84		
Assumed Rate 6.25%	0.51	1.02	2.56	5.71	6.25				3/31/84		
US Equity Composite	-6.30	-2.58	11.31	0.71	1.42	10.83	8.43	10.63	6/30/13	424,930,443	18.18
Russell 3000	-6.47	-2.74	10.92	1.83	2.50	11.55	9.25	11.47	6/30/13		
Value Added	0.17	0.16	0.38	-1.12	-1.08	-0.72	-0.82	-0.84	6/30/13		
Non-US Equity Composite	-5.25	-2.69	8.17	-4.71	-6.59	7.37	2.57	5.29	6/30/13	474,346,557	20.30
Policy Index	-5.34	-2.89	7.11	-5.24	-7.14	6.72	1.55	4.51	6/30/13		
Value Added	0.09	0.20	1.06	0.53	0.55	0.66	1.01	0.77	6/30/13		
Fixed Income Composite	0.71	1.25	4.75	5.83	5.78	4.67	3.66	4.21	6/30/13	770,784,174	32.98
Policy Index	0.17	0.95	6.29	5.87	6.01	5.01	4.57	4.72	6/30/13		
Value Added	0.54	0.30	-1.54	-0.04	-0.23	-0.34	-0.91	-0.50	6/30/13		
Real Return Composite	-0.58	-0.41	6.31	2.53	1.96	5.06	2.09	3.06	6/30/13	212,284,552	9.08
Real Return Index (P)	0.33	0.55	6.63	3.64	3.93	3.37	1.53	2.07	6/30/13		
Value Added	-0.92	-0.96	-0.31	-1.11	-1.97	1.70	0.56	0.99	6/30/13		
Real Estate Composite	-0.04	0.48	1.96	6.58	7.62	9.48	9.32	8.86	6/30/13	113,006,588	4.84
NCREIF ODCE NOF 1 Quarter Lag	0.00	1.20	2.74	6.55	6.55	7.01	9.17	9.91	6/30/13		
Value Added	-0.04	-0.72	-0.78	0.03	1.07	2.48	0.14	-1.05	6/30/13		

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Absolute Return Composite	0.02	0.51	1.50	0.47	0.66	3.71	2.27	3.12	6/30/13	39,835,313	1.70
HFRI FOF Div (1 Month Lag)	0.95	1.70	3.71	0.84	1.55	3.87	2.50	2.76	6/30/13		
Value Added	-0.92	-1.19	-2.21	-0.37	-0.88	-0.16	-0.23	0.37	6/30/13		
Private Equity Composite	0.12	0.25	-1.17	8.46	12.00	14.11	12.71	13.75	6/30/13	223,509,684	9.56
CERS (H) Short Term PE Index	0.12	0.25	-1.17	8.46	12.00	14.11	12.71	13.75	6/30/13		
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6/30/13		
Russell 3000 +3% Qtr Lag	3.77	12.93	-2.45	10.17	8.23	19.90	14.14	16.22	6/30/13		
Cash Composite	0.27	0.50	1.19	2.32	2.47	1.80	1.19	1.08	6/30/13	76,269,069	3.26
91-Day Treasury Bill	0.23	0.42	1.02	2.09	2.26	1.32	0.83	0.71	6/30/13		
Value Added	0.04	0.08	0.17	0.23	0.21	0.47	0.37	0.37	6/30/13		
Other Assets	0.00	0.00	0.00	0.00	0.00			0.00	8/31/17	1,831,701	0.08

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
SPRS Pension Plan	-1.64	-0.33	5.25	2.62	2.47	7.52	4.88	8.89	3/31/84	270,917,586	
SPRS Allocation Index	-2.04	-0.57	5.51	2.76	2.82	7.83	5.37	9.06	3/31/84		
Value Added	0.40	0.24	-0.26	-0.15	-0.35	-0.30	-0.50	-0.18	3/31/84		
SPRS IPS Benchmark	-1.69	-0.30	6.20	3.28	3.39				3/31/84		
Assumed Rate 5.25%	0.43	0.86	2.15	4.80	5.25				3/31/84		
US Equity Composite	-6.30	-2.58	11.31	0.69	1.40	10.45	8.09	10.40	6/30/13	41,105,535	15.17
Russell 3000	-6.47	-2.74	10.92	1.83	2.50	11.55	9.25	11.47	6/30/13		
Value Added	0.17	0.16	0.39	-1.14	-1.10	-1.10	-1.16	-1.07	6/30/13		
Non-US Equity Composite	-5.25	-2.69	8.18	-4.71	-6.59	7.40	2.31	5.04	6/30/13	45,751,200	16.89
Policy Index	-5.34	-2.89	7.11	-5.24	-7.14	6.72	1.55	4.51	6/30/13		
Value Added	0.09	0.20	1.06	0.53	0.55	0.68	0.76	0.53	6/30/13		
Fixed Income Composite	0.84	1.33	4.68	5.91	5.86	4.60	3.59	4.18	6/30/13	107,059,584	39.52
Policy Index	0.17	0.95	6.29	5.87	6.01	5.01	4.57	4.72	6/30/13		
Value Added	0.67	0.37	-1.61	0.03	-0.15	-0.40	-0.98	-0.53	6/30/13		
Real Return Composite	-0.56	-0.38	6.10	2.38	1.80	4.89	1.93	2.92	6/30/13	22,479,153	8.30
Real Return Index (P)	0.33	0.55	6.63	3.64	3.93	3.37	1.53	2.07	6/30/13		
Value Added	-0.90	-0.92	-0.53	-1.26	-2.14	1.52	0.41	0.85	6/30/13		
Real Estate Composite	-0.04	0.42	1.86	6.43	7.33	9.42	9.09	8.78	6/30/13	13,433,042	4.96
NCREIF ODCE NOF 1 Quarter Lag	0.00	1.20	2.74	6.55	6.55	7.01	9.17	9.91	6/30/13		
Value Added	-0.04	-0.78	-0.88	-0.12	0.77	2.42	-0.09	-1.13	6/30/13		

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Absolute Return Composite	0.02	0.51	1.50	0.47	0.66	3.71	2.25	3.09	6/30/13	4,251,886	1.57
HFRI FOF Div (1 Month Lag)	0.95	1.70	3.71	0.84	1.55	3.87	2.50	2.76	6/30/13		
Value Added	-0.92	-1.19	-2.21	-0.37	-0.88	-0.16	-0.24	0.33	6/30/13		
Private Equity Composite	-0.01	0.12	-2.35	7.87	9.82	12.25	10.27	11.83	6/30/13	19,016,535	7.02
SPRS Short Term PE Index	-0.01	0.12	-2.35	7.87	9.82	12.25	10.27	11.83	6/30/13		
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6/30/13		
Russell 3000 +3% Qtr Lag	3.77	12.93	-2.45	10.17	8.23	19.90	14.14	16.22	6/30/13		
Cash Composite	0.25	0.47	1.14	2.25	2.40	1.70	1.14	1.03	6/30/13	17,455,439	6.44
91-Day Treasury Bill	0.23	0.42	1.02	2.09	2.26	1.32	0.83	0.71	6/30/13		
Value Added	0.02	0.06	0.12	0.16	0.14	0.38	0.31	0.33	6/30/13		
Other Assets	0.00	0.00	0.00	0.00	0.00			0.00	8/31/17	365,213	0.13

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
KRS Pension Plan	-2.00	-0.55	5.51	2.35	2.30	8.00	5.41	8.96	3/31/84	12,330,498,816	
KRS Allocation Index	-2.18	-0.61	6.12	2.45	2.42	7.96	5.64	9.09	3/31/84		
Value Added	0.18	0.06	-0.61	-0.09	-0.12	0.04	-0.22	-0.13	3/31/84		
KRS IPS Benchmark	-2.06	-0.53	6.34	3.01	3.23				3/31/84		
US Equity Composite	-6.29	-2.57	11.32	0.70	1.41	10.83	8.48	11.07	3/31/84	2,178,749,658	17.67
Russell 3000	-6.47	-2.74	10.92	1.83	2.50	11.55	9.25	11.13	3/31/84		
Value Added	0.18	0.17	0.40	-1.13	-1.08	-0.72	-0.77	-0.06	3/31/84		
S&P 500 Index	-6.34	-2.53	10.80	3.19	3.98	11.82	9.69	7.14	6/30/01	1,064,103,100	8.63
Standard & Poor's 500	-6.35	-2.56	10.74	3.15	3.79	11.72	9.66	6.74	6/30/01		
Value Added	0.01	0.04	0.06	0.04	0.19	0.09	0.03	0.40	6/30/01		
Scientific Beta	-4.77	-1.65	11.76	2.87	3.64			10.10	6/30/16	396,807,228	3.22
Standard & Poor's 500	-6.35	-2.56	10.74	3.15	3.79			11.98	6/30/16		
Value Added	1.58	0.92	1.02	-0.28	-0.15			-1.87	6/30/16		
River Road FAV	-6.18	-2.12	13.25	5.44	8.67			13.71	6/30/16	148,008,713	1.20
Russell 3000 Value	-6.55	-3.22	8.33	0.20	0.48			7.92	6/30/16		
Value Added	0.37	1.10	4.92	5.24	8.19			5.79	6/30/16		
Westfield Capital	-5.75	-1.03	17.64	5.89	5.86	14.97	9.86	12.24	6/30/11	143,044,877	1.16
Russell 3000 Growth	-6.40	-2.27	13.54	3.44	4.42	15.06	12.02	13.37	6/30/11		
Value Added	0.65	1.24	4.10	2.45	1.44	-0.09	-2.15	-1.13	6/30/11		

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns								Market Value		
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Internal US Mid Cap	-7.97	-4.32	9.65	-5.44	-5.03	8.89		7.88	7/31/14	253,490,884	2.06
S&P 400 Mid Cap	-7.97	-4.27	9.60	-5.83	-5.44	8.36		7.64	7/31/14		
Value Added	0.00	-0.05	0.05	0.39	0.41	0.53		0.24	7/31/14		
NTGI Structured	-7.55	-4.05	9.27	-7.42	-6.66	10.39	7.67	9.63	9/30/99	173,270,158	1.41
Russell 2000	-7.78	-4.64	9.26	-9.69	-9.04	9.75	6.71	7.89	9/30/99		
Value Added	0.23	0.60	0.00	2.27	2.38	0.64	0.96	1.74	9/30/99		
Invesco									7/31/05	7,581	0.00
Transition Account									6/30/11	17,115	0.00

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Non-US Equity Composite	-5.25	-2.69	8.17	-4.70	-6.58	7.38	2.50	2.99	6/30/00	2,415,904,883	19.59
Policy Index	-5.34	-2.89	7.11	-5.24	-7.14	6.72	1.55	3.07	6/30/00		
Value Added	0.09	0.20	1.06	0.54	0.55	0.66	0.95	-0.08	6/30/00		
BlackRock ACWI Ex US	-5.31	-2.74	7.32	-4.26	-5.75	7.02	1.56	6.21	6/30/09	955,757,956	7.75
MSCI ACWI X US (N)	-5.37	-2.87	7.15	-4.46	-6.26	6.72	1.31	5.97	6/30/09		
Value Added	0.06	0.12	0.17	0.21	0.51	0.29	0.24	0.23	6/30/09		
American Century	-4.68	-1.52	12.25	-5.55	-6.81	8.59		3.41	6/30/14	329,384,485	2.67
Policy Index	-5.34	-2.89	7.11	-5.24	-7.14	6.76		1.19	6/30/14		
Value Added	0.66	1.38	5.14	-0.31	0.32	1.82		2.21	6/30/14		
Franklin Templeton	-5.67	-2.98	12.41	-9.39	-10.17	9.56		4.87	6/30/14	238,641,752	1.94
Policy Index	-5.34	-2.89	7.11	-5.24	-7.14	6.76		1.19	6/30/14		
Value Added	-0.33	-0.09	5.29	-4.15	-3.03	2.80		3.68	6/30/14		
Lazard Asset Mgmt	-4.37	-1.68	9.03	-1.90	-4.17	7.07		2.87	6/30/14	442,967,934	3.59
Policy Index	-5.34	-2.89	7.11	-5.24	-7.14	6.76		1.19	6/30/14		
Value Added	0.97	1.21	1.92	3.34	2.97	0.30		1.68	6/30/14		
LSV Asset Mgmt	-6.39	-4.56	3.56	-4.64	-8.35	6.64		0.99	6/30/14	370,552,971	3.01
Policy Index	-5.34	-2.89	7.11	-5.24	-7.14	6.76		1.19	6/30/14		
Value Added	-1.05	-1.67	-3.55	0.60	-1.21	-0.13		-0.21	6/30/14		
NTGI Int'l Small Cap	-5.25	-2.93	7.22	-9.53	-11.88	5.48	2.62	10.78	11/30/08	74,486,018	0.60
MSCI ACWI X US Small Cap (N)	-5.16	-3.06	6.89	-9.92	-12.37	5.17	2.33	11.01	11/30/08		
Value Added	-0.09	0.13	0.34	0.39	0.50	0.31	0.29	-0.24	11/30/08		

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Pyramis Intl									7/31/01	2,094,081	0.02
Boston Company									4/30/05	722,107	0.01
Non-US Equity Transition									5/31/14	1,297,579	0.01

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns								Market Value		
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Fixed Income Composite	0.76	1.28	4.68	5.79	5.75	4.83	3.97	7.46	3/31/84	4,190,043,388	33.98
Policy Index	0.17	0.95	6.29	5.87	6.01	5.01	4.57	7.30	3/31/84		
Value Added	0.59	0.32	-1.62	-0.08	-0.26	-0.18	-0.60	0.16	3/31/84		
Bloomberg Global Aggregate	1.35	1.05	3.28	3.55	3.09	1.86	0.91		3/31/84		
Core Fixed Composite	1.17	1.45	4.26					5.23	9/30/18	2,262,232,689	18.35
Bloomberg Universal	1.53	1.67	5.05					6.28	9/30/18		
Value Added	-0.36	-0.22	-0.79					-1.05	9/30/18		
BNY IG Credit	1.05	1.49	5.13	6.70	6.59			3.27	11/30/17	520,372,645	4.22
Bloomberg Int Credit	1.05	1.49	5.09	6.65	6.48			3.54	11/30/17		
Value Added	0.00	0.01	0.05	0.06	0.10			-0.27	11/30/17		
Loomis Sayles Intmd	1.28	1.44						3.01	1/31/19	570,652,101	4.63
Bloomberg Intermediate Agg.	1.32	1.43						2.88	1/31/19		
Value Added	-0.04	0.01						0.13	1/31/19		
Lord Abbett	0.53	1.07	3.20					3.75	9/30/18	561,294,589	4.55
Bloomberg Aggregate	1.78	1.80	4.80					6.51	9/30/18		
Value Added	-1.25	-0.73	-1.60					-2.76	9/30/18		
NISA	1.76	1.79	4.84	6.44	6.33	2.61	2.94	4.11	1/31/09	609,913,355	4.95
Bloomberg Aggregate	1.78	1.80	4.80	6.53	6.40	2.50	2.70	3.92	1/31/09		
Value Added	-0.02	-0.01	0.05	-0.09	-0.07	0.11	0.23	0.19	1/31/09		

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Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns								Market Value		
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Opportunistic Fixed Composite	0.29	1.07	5.14					3.75	9/30/18	1,927,810,699	15.63
Bloomberg High Yield	-1.19	0.22	7.49					2.62	9/30/18		
Value Added	1.47	0.85	-2.35					1.14	9/30/18		
Arrowmark	0.88	1.44	4.77	9.81	9.81			9.81	5/31/18	98,658,368	0.80
S&P LSTA Leverage Loan Index	-0.22	1.43	5.49	3.72	3.84			3.84	5/31/18		
Value Added	1.10	0.01	-0.72	6.09	5.97			5.97	5/31/18		
BSP Private Credit	0.00	0.00	-1.56	1.19	0.89			0.67	1/31/18	53,348,933	0.43
S&P LSTA Leverage Loan Index	-0.22	1.43	5.49	3.72	3.84			3.69	1/31/18		
Value Added	0.22	-1.43	-7.05	-2.53	-2.95			-3.02	1/31/18		
Cerberus Capital Mgmt	0.00	0.63	2.79	8.44	9.42	8.47		8.23	8/31/14	89,911,696	0.73
S&P LSTA Leverage Loan	-0.22	1.43	5.49	3.72	3.84	5.17		3.80	8/31/14		
Value Added	0.22	-0.80	-2.70	4.72	5.58	3.30		4.44	8/31/14		
Columbia	-1.16	0.33	8.59	6.64	6.82	6.14	4.60	6.69	10/31/11	350,402,202	2.84
Bloomberg High Yield	-1.19	0.22	7.49	5.08	5.51	7.04	4.40	6.58	10/31/11		
Value Added	0.03	0.12	1.10	1.56	1.32	-0.91	0.19	0.11	10/31/11		
Manulife Asset Mgmt	0.60	0.98	5.33	4.80	4.35	2.66	2.40	3.90	11/30/11	460,965,055	3.74
Policy Index	1.53	1.67	5.05	6.57	6.41	2.96	1.11	1.73	11/30/11		
Value Added	-0.93	-0.69	0.28	-1.77	-2.06	-0.29	1.29	2.16	11/30/11		
Marathon Bluegrass	1.44	1.67	4.10	7.73	7.93	7.81		7.66	12/31/15	349,362,152	2.83
Bloomberg High Yield	-1.19	0.22	7.49	5.08	5.51	7.04		8.59	12/31/15		
Value Added	2.63	1.46	-3.39	2.65	2.42	0.77		-0.93	12/31/15		

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Shenkman Capital	-0.27	1.26	5.75	4.28	4.30	4.77	3.26	4.69	9/30/10	238,817,851	1.94
S&P LSTA Leverage Loan	-0.22	1.43	5.49	3.72	3.84	5.17	3.78	5.50	9/30/10		
Value Added	-0.05	-0.18	0.26	0.57	0.47	-0.40	-0.52	-0.81	9/30/10		
Waterfall	0.84	2.08	4.41	6.86	7.68	11.72	8.65	11.59	1/31/10	194,527,923	1.58
Policy Index	-0.68	0.28	4.98	3.97	4.29	5.62	3.52	5.11	1/31/10		
Value Added	1.52	1.80	-0.57	2.90	3.38	6.10	5.13	6.48	1/31/10		
White Oak Yield Spectrum	0.00	0.00	0.61	3.04	3.39			2.70	2/28/18	91,776,450	0.74
S&P LSTA Leverage Loan Index	-0.22	1.43	5.49	3.72	3.84			3.77	2/28/18		
Value Added	0.22	-1.43	-4.88	-0.68	-0.45			-1.07	2/28/18		
Loomis									10/31/11	40,071	0.00

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Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns								Market Value		
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Real Return Composite	-0.59	-0.41	6.37	2.51	1.94	5.05	2.05	3.59	6/30/11	1,077,388,758	8.74
Real Return Index (P)	0.33	0.55	6.63	3.64	3.93	3.37	1.53	2.69	6/30/11		
Value Added	-0.92	-0.96	-0.26	-1.14	-2.00	1.69	0.52	0.90	6/30/11		
Internal TIPS	0.71	1.22	3.22	3.13	3.31	2.02	1.49	4.77	4/30/02	233,178,048	1.89
Bloomberg 1-10 Yrs TIPS	1.09	1.53	4.13	3.65	3.94	2.15	1.27	4.69	4/30/02		
Value Added	-0.38	-0.30	-0.91	-0.52	-0.64	-0.13	0.22	0.08	4/30/02		
PIMCO All Asset	-1.13	-0.53	4.84	1.72	0.56	6.66	2.35	4.44	11/30/11	336,985,691	2.73
Bloomberg 1-10 Yrs TIPS	1.09	1.53	4.13	3.65	3.94	2.15	1.28	1.20	11/30/11		
Value Added	-2.22	-2.05	0.70	-1.93	-3.38	4.51	1.07	3.24	11/30/11		
Tortoise Capital	-2.59	-4.15	13.53	-2.11	-4.01	1.62	-4.71	10.07	7/31/09	145,791,992	1.18
Alerian MLP	-1.14	-2.46	13.95	0.43	-1.12	0.38	-6.62	6.78	7/31/09		
Value Added	-1.45	-1.69	-0.42	-2.55	-2.89	1.24	1.91	3.29	7/31/09		
Nuveen Real Asset	-0.17	0.15	11.08	6.85	7.59	6.76		5.20	1/31/15	213,478,086	1.73
Policy Index	-0.42	0.24	12.43	6.17	8.46	6.31		5.15	1/31/15		
Value Added	0.25	-0.09	-1.35	0.67	-0.87	0.44		0.05	1/31/15		
Amerra AGRI Fund II	0.00	0.00	0.61	0.62	-1.70	0.84	4.40	3.67	11/30/12	21,813,680	0.18
Amerra AGRI Holdings	0.00	0.71	-0.24	-2.56	-3.09	-1.91		-1.56	7/31/15	45,112,250	0.37
BTG Pactual	0.00	0.00	3.61	1.16	0.85	5.73		-7.44	11/30/14	24,020,183	0.19
Magnetar MTP EOF II	0.00	0.00	-0.93	5.28	5.00	9.45		2.56	7/31/15	31,462,154	0.26
Oberland Capital									7/31/18	152,583	0.00

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns								Market Value		
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Taurus Mine Finance	0.00	0.00	4.66	14.61	14.98	18.73		13.84	3/31/15	24,616,149	0.20
TPF II									9/30/08	777,942	0.01
Real Estate Composite	-0.04	0.46	1.89	6.48	7.42	9.28	9.04	6.08	6/30/84	623,220,843	5.05
NCREIF ODCE NOF 1 Quarter Lag	0.00	1.20	2.74	6.55	6.55	7.01	9.17		6/30/84		
Value Added	-0.04	-0.74	-0.85	-0.08	0.87	2.28	-0.14		6/30/84		
Baring	-0.57	-0.76	-2.52					-2.52	12/31/18	36,887,056	0.30
Divcowest IV	0.00	0.00	-0.30	9.96	15.35	24.09	22.67	21.22	2/28/14	4,177,025	0.03
Greenfield Acq VI	0.00	0.00	-17.08	-26.62	-24.12	-10.42	-0.93	2.10	11/30/12	2,584,014	0.02
Greenfield Acq VII	0.00	0.00	4.69	10.64	11.39	12.72		11.76	6/30/14	22,529,415	0.18
H/2 Credit Partner	0.09	-1.51	-1.79	-1.32	-1.32	5.36	4.36	5.24	6/30/11	84,194,765	0.68
Harrison Street	0.00	1.34	1.34	6.77	6.77	9.61	9.87	8.65	4/30/12	81,454,328	0.66
Lubert Adler VII	0.00	0.00	8.51	11.97	15.80	9.80		0.42	6/30/14	29,388,413	0.24
Mesa West Core Lend	0.00	1.86	1.86	7.30	9.12	8.06	7.52	6.82	4/30/13	58,668,822	0.48
Prologis Targeted US	0.00	2.90	6.41	15.63	15.63	17.68		15.74	9/30/14	82,979,244	0.67
Rubenstein PF II	0.00	0.00	2.46	11.64	15.38	11.77	15.71	13.57	6/30/13	17,021,658	0.14
Stockbridge Sm/Mkts	0.00	0.00	1.89	7.17	7.17	8.71	9.15	9.00	4/30/14	87,091,571	0.71
Walton St RE VI	0.00	0.00	-3.51	0.81	3.15	1.41	6.47	-16.63	4/30/09	13,456,094	0.11
Walton St RE VII	0.00	0.00	-1.49	-1.31	0.45	7.48	11.06	10.79	6/30/13	15,723,394	0.13
Fundamental Partners III	0.00	0.00	2.78	8.03	8.04			6.30	4/30/17	39,022,370	0.32
Lubert Adler VII B	0.00	0.00	5.58	8.22	9.91			2.49	6/30/17	20,057,733	0.16
Mesa West IV	0.00	0.00	1.42	6.54	8.18			4.79	2/28/17	11,215,503	0.09
Patron Capital	-0.57	-0.76	3.87	9.21	14.77			1.90	7/31/16	16,769,438	0.14

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Absolute Return Composite	0.02	0.51	1.50	0.47	0.66	3.71	2.27	3.78	3/31/10	220,800,213	1.79
HFRI FOF Div (1 Month Lag)	0.95	1.70	3.71	0.84	1.55	3.87	2.50	2.84	3/31/10		
Value Added	-0.92	-1.19	-2.21	-0.37	-0.88	-0.16	-0.23	0.94	3/31/10		
Blackstone Strat Opp	0.05	-1.90	-3.68	-2.14	-1.40			1.45	7/31/17	4,080,943	0.03
Credit Suisse	0.87	1.46	3.00	6.66	7.14			7.35	5/31/17	8,259,349	0.07
Gotham Neutral Strategies	0.02	-4.01	-3.79	-4.67	-3.97			-3.27	3/31/17	12,804,841	0.10
Governors Lane Onshore	2.39	2.91	4.50	0.81	2.42			0.75	3/31/17	21,825,161	0.18
Liquidalts H2O Force	-3.33	1.18	1.27	6.17	6.17			6.36	7/31/16	17,067,742	0.14
Luxor Capital	2.59	9.37	9.32	19.99	19.99	23.57	4.92	4.94	3/31/14	1,666,242	0.01
Myriad Opportunities	-0.61	0.07	-0.39	-6.39	-6.02	4.11		4.31	4/30/16	45,802,421	0.37
PAAMCO									8/31/11	164,785	0.00
Pine River									4/30/14	255,956	0.00
PRISMA Capital	0.00	0.00	1.44	1.10	0.86	3.78	2.50	3.57	8/31/11	96,840,006	0.79
SRS Partners US	3.37	6.92	6.17	5.13	3.67			12.32	7/31/17	8,513,051	0.07
Tricadia Select	-0.01	0.53	0.91	-7.80	-8.95			-14.22	8/31/17	3,519,716	0.03

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending May 31, 2019

	Net of Fee Returns									Market Value	
	Month	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	Inception Return	Inception Date	\$	Percent
Private Equity Composite	0.11	0.22	-1.77	8.08	10.90	12.01	10.89	11.05	6/30/02	1,158,324,646	9.39
KRS Short Term PE Index	0.11	0.22	-1.77	8.08	10.90	12.01	10.89	11.05	6/30/02		
Value Added	0.00	0.00	0.00	0.00	0.00	-0.00	-0.00	-0.00	6/30/02		
Russell 3000 +3% Qtr Lag	3.77	12.93	-2.45	10.17	8.23	19.90	14.14	10.96	6/30/02		
Cash Composite	0.26	0.49	1.18	2.29	2.45	1.77	1.17	3.56	12/31/87	458,766,426	3.72
91-Day Treasury Bill	0.23	0.42	1.02	2.09	2.26	1.32	0.83	3.26	12/31/87		
Value Added	0.03	0.07	0.16	0.20	0.19	0.45	0.35	0.30	12/31/87		
Other Assets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.01	3/31/99	7,300,000	0.06
Perimeter Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.01	3/31/99		