

PA Public School Employees' Retirement System | Third Quarter 2019

---

## Quarterly Investment Review

Visit the Retirement and Investments Thought Leadership Site (<https://retirement-investment-insights.aon.com>); sharing our best thinking.

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												Inception Date
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	
<b>PSERS Total Fund</b>	2.01	5.19	10.60	2.01	10.60	7.47	8.10	6.42	8.32	6.97	6.35	9.65	07/01/1982
Blended Policy (Total Plan)	2.46	5.81	12.10	2.46	12.10	8.98	7.97	6.48	7.81	6.58	5.64	N/A	
Value Added	-0.45	-0.62	-1.50	-0.45	-1.50	-1.51	0.13	-0.06	0.51	0.39	0.71	N/A	
<b>Total Public Markets Composite</b>	1.63	4.76	11.64	1.63	11.64	6.57	6.66	5.15	7.00	6.08	N/A	6.57	06/01/2002
Blended Policy (Public Market) (Hedged)	2.32	5.69	13.95	2.32	13.95	8.86	6.52	4.91	5.97	5.31	4.70	5.47	
Value Added	-0.69	-0.93	-2.31	-0.69	-2.31	-2.29	0.14	0.24	1.03	0.77	N/A	1.10	
Blended Policy (Public Market) (Unhedged)	1.74	5.06	13.36	1.74	13.36	7.69	6.02	4.44	5.65	5.10	4.55	5.29	
Value Added	-0.11	-0.30	-1.72	-0.11	-1.72	-1.12	0.64	0.71	1.35	0.98	N/A	1.28	
<b>Total Public Markets Composite ex HY &amp; Absolute Return</b>	2.22	6.37	16.26	2.22	16.26	8.47	N/A	N/A	N/A	N/A	N/A	5.01	01/01/2018
Blended Policy (Public Market x HY & Abs Return) (Hedged)	2.90	7.14	17.98	2.90	17.98	10.65	7.26	5.66	N/A	N/A	N/A	5.77	
Value Added	-0.68	-0.77	-1.72	-0.68	-1.72	-2.18	N/A	N/A	N/A	N/A	N/A	-0.76	
<b>Total Public Global Equity Composite (hedged)</b>	0.34	3.81	15.52	0.34	15.52	2.61	10.19	7.97	9.98	8.13	6.77	6.84	07/01/1998
Blended Policy (Public Equity) (Hedged)	0.28	3.26	15.52	0.28	15.52	1.63	9.93	7.33	9.18	7.67	5.74	5.98	
Value Added	0.06	0.55	0.00	0.06	0.00	0.98	0.26	0.64	0.80	0.46	1.03	0.86	
Blended Policy (Public Equity) (Unhedged)	-0.10	3.35	16.15	-0.10	16.15	0.80	9.69	6.94	8.71	7.36	5.51	5.76	
Value Added	0.44	0.46	-0.63	0.44	-0.63	1.81	0.50	1.03	1.27	0.77	1.26	1.08	
<b>Public Equity ex Rebalancing/Liquidation Accounts</b>	0.34	3.81	17.07	0.34	17.07	2.13	10.35	8.92	10.42	8.42	6.99	7.04	07/01/1998
Blended Policy (Public Equity) (Hedged)	0.28	3.26	15.52	0.28	15.52	1.63	9.93	7.33	9.18	7.67	5.74	5.98	
Value Added	0.06	0.55	1.55	0.06	1.55	0.50	0.42	1.59	1.24	0.75	1.25	1.06	
<b>Total US Equity Composite</b>	1.56	5.79	20.41	1.56	20.41	2.52	12.48	10.57	13.43	8.95	N/A	6.73	01/01/2000
Blended Policy (Tot US Eq)	1.23	5.32	20.23	1.23	20.23	3.01	12.86	10.50	13.02	9.14	N/A	5.95	
Value Added	0.33	0.47	0.18	0.33	0.18	-0.49	-0.38	0.07	0.41	-0.19	N/A	0.78	
<b>PSERS-S&amp;P 500 Index Composite</b>	2.06	6.83	21.83	2.06	21.83	5.26	13.39	11.08	13.55	9.31	6.60	6.91	07/01/1998
S&P 500 Index	1.70	6.08	20.55	1.70	20.55	4.25	13.39	10.84	13.24	9.01	6.33	6.65	
Value Added	0.36	0.75	1.28	0.36	1.28	1.01	0.00	0.24	0.31	0.30	0.27	0.26	
<b>Total US Small Cap Composite</b>	-0.12	2.37	15.77	-0.12	15.77	-5.81	9.58	9.07	12.20	9.34	N/A	9.44	12/01/2001
MSCI USA Small Cap Index	-1.17	1.07	17.22	-1.17	17.22	-4.79	9.80	8.88	12.59	9.20	N/A	9.39	
Value Added	1.05	1.30	-1.45	1.05	-1.45	-1.02	-0.22	0.19	-0.39	0.14	N/A	0.05	
<b>PSERS Small Cap Index Composite</b>	-0.12	2.37	15.77	-0.12	15.77	-5.81	9.58	9.78	13.36	10.24	N/A	10.21	12/01/2001
<b>PSERS-S&amp;P 400 Index Composite</b>	-0.08	2.99	17.91	-0.08	17.91	-2.40	9.54	9.09	12.88	10.26	10.33	10.09	07/01/1998
S&P MidCap 400	-0.09	2.96	17.87	-0.09	17.87	-2.49	9.38	8.88	12.56	9.82	9.99	9.74	
Value Added	0.01	0.03	0.04	0.01	0.04	0.09	0.16	0.21	0.32	0.44	0.34	0.35	
<b>PSERS-S&amp;P 600 Index Composite</b>	-0.16	1.71	13.52	-0.16	13.52	-9.26	9.58	10.41	13.82	10.31	10.62	9.60	07/01/1998
S&P SmallCap 600	-0.20	1.66	13.46	-0.20	13.46	-9.34	9.33	9.89	13.02	9.52	10.01	9.02	
Value Added	0.04	0.05	0.06	0.04	0.06	0.08	0.25	0.52	0.80	0.79	0.61	0.58	
<b>Total Non-U.S. Equity Composite (hedged)</b>	-0.16	3.02	15.77	-0.16	15.77	1.87	9.10	6.72	7.63	8.32	N/A	5.66	01/01/2000
Blended Policy (Total Non-US Eq) (Hedged)	-0.17	2.29	13.35	-0.17	13.35	0.95	8.09	5.34	6.36	7.20	N/A	4.66	
Value Added	0.01	0.73	2.42	0.01	2.42	0.92	1.01	1.38	1.27	1.12	N/A	1.00	
<b>Total Non-U.S. Equity Composite (unhedged)</b>	-1.60	1.67	13.71	-1.60	13.71	-0.71	7.20	4.42	5.96	7.20	N/A	4.83	01/01/2000
Blended Policy (Total Non-US Eq) (Unhedged)	-1.84	0.74	11.09	-1.84	11.09	-1.87	6.09	2.98	4.63	6.03	N/A	3.80	
Value Added	0.24	0.93	2.62	0.24	2.62	1.16	1.11	1.44	1.33	1.17	N/A	1.03	
<b>Emerging Markets Equity Composite</b>	-3.19	-1.02	6.56	-3.19	6.56	0.62	2.56	0.87	3.26	7.20	7.09	7.29	07/01/1998
Blended Policy (EM)	-4.28	-3.87	5.43	-4.28	5.43	-2.41	5.70	2.17	3.29	7.85	7.39	7.95	
Value Added	1.09	2.85	1.13	1.09	1.13	3.03	-3.14	-1.30	-0.03	-0.65	-0.30	-0.66	
MSCI Emerging Markets IMI (Net)	-4.28	-3.87	5.43	-4.28	5.43	-2.41	5.41	2.03	3.36	7.89	7.13	7.09	
Value Added	1.09	2.85	1.13	1.09	1.13	3.03	-2.85	-1.16	-0.10	-0.69	-0.04	0.20	
<b>Wasatch EM Small Cap</b>	-1.59	2.75	14.90	-1.59	14.90	7.68	4.91	1.96	8.06	N/A	N/A	6.93	07/01/2008
Blended Policy (Wasatch EM)	-4.85	-4.74	3.21	-4.85	3.21	-3.72	2.39	-0.03	3.44	8.28	7.41	3.27	

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	Inception Date
Value Added	3.26	7.49	11.69	3.26	11.69	11.40	2.52	1.99	4.62	N/A	N/A	3.66	
Steadview Capital Partners LP	-7.91	-9.94	-9.37	-7.91	-9.37	N/A	N/A	N/A	N/A	N/A	N/A	-8.16	12/01/2018
Nifty 50 Index	-2.67	-1.29	5.72	-2.67	5.72	5.35	11.14	8.82	9.94	14.98	12.75	5.65	
Value Added	-5.24	-8.65	-15.09	-5.24	-15.09	N/A	N/A	N/A	N/A	N/A	N/A	-13.81	
Cederberg China Equity Fund	-1.95	0.72	N/A	-1.95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.72	04/01/2019
MSCI Golden Dragon Index (Net)	-4.11	-6.05	8.40	-4.11	8.40	-2.75	7.56	6.28	6.11	8.27	N/A	-6.05	
Value Added	2.16	6.77	N/A	2.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.77	
Total Non-U.S. Equity x Emerging Markets Composite (hedged)	0.21	3.47	16.65	0.21	16.65	2.16	9.50	7.18	N/A	N/A	N/A	7.43	04/01/2014
Blended Policy (Non-US Equity x EM) (Hedged)	0.05	2.62	13.77	0.05	13.77	1.13	8.20	5.71	6.54	7.32	N/A	6.05	
Value Added	0.16	0.85	2.88	0.16	2.88	1.03	1.30	1.47	N/A	N/A	N/A	1.38	
Insight Everest - Int'l Eq (notional)	3.26	2.85	3.73	3.26	3.73	5.22	3.40	3.81	2.37	N/A	N/A	1.75	07/01/2006
Currency Hedge Benchmark - Int'l Eq	3.31	2.95	3.84	3.31	3.84	5.35	3.50	3.91	2.33	N/A	N/A	1.84	
Value Added	-0.05	-0.10	-0.11	-0.05	-0.11	-0.13	-0.10	-0.10	0.04	N/A	N/A	-0.09	
Total Non-U.S. Equity x Emerging Markets Composite (unhedged)	-1.41	1.97	14.36	-1.41	14.36	-0.65	7.46	4.64	6.35	6.93	5.66	6.02	07/01/1997
Blended Policy (Non-US Equity x EM) (Unhedged)	-1.72	0.98	11.39	-1.72	11.39	-1.84	6.10	3.05	4.66	6.06	N/A	N/A	
Value Added	0.31	0.99	2.97	0.31	2.97	1.19	1.36	1.59	1.69	0.87	N/A	N/A	
Non-US Large Equity Composite	-1.09	2.37	14.70	-1.09	14.70	0.79	7.87	4.57	5.91	6.70	5.53	5.79	07/01/1998
Blended Policy (MSCI World AC Word ex USA net)	-1.80	1.13	11.56	-1.80	11.56	-1.23	6.33	2.90	4.46	5.77	4.43	4.69	
Value Added	0.71	1.24	3.14	0.71	3.14	2.02	1.54	1.67	1.45	0.93	1.10	1.10	
PSERS ACWI x US Index Fund	-1.17	1.46	12.87	-1.17	12.87	-0.37	7.24	3.67	5.17	6.33	4.61	4.92	07/01/1998
MSCI ACWI/EAFE Index Blend	-1.80	1.13	11.56	-1.80	11.56	-1.23	6.33	2.90	4.46	5.66	3.99	4.32	
Value Added	0.63	0.33	1.31	0.63	1.31	0.86	0.91	0.77	0.71	0.67	0.62	0.60	
BlackRock EMEA	-3.91	-4.32	4.57	-3.91	4.57	-3.80	6.90	N/A	N/A	N/A	N/A	4.33	07/01/2015
MSCI Emerging Markets Index (Net)	-4.25	-3.66	5.90	-4.25	5.90	-2.02	5.97	2.33	3.37	7.82	7.30	3.16	
Value Added	0.34	-0.66	-1.33	0.34	-1.33	-1.78	0.93	N/A	N/A	N/A	N/A	1.17	
Active Non-US Large Cap Composite	-1.00	3.29	16.49	-1.00	16.49	1.98	8.56	5.68	7.27	7.42	6.09	6.32	07/01/1998
MSCI AC World ex USA Index (Net)	-1.80	1.13	11.56	-1.80	11.56	-1.23	6.33	2.90	4.46	5.66	4.27	4.63	
Value Added	0.80	2.16	4.93	0.80	4.93	3.21	2.23	2.78	2.81	1.76	1.82	1.69	
Baillie Gifford	-1.84	3.69	17.99	-1.84	17.99	1.40	8.63	6.77	7.66	9.10	N/A	9.07	07/01/2002
MSCI AC World ex USA Index (Net)	-1.80	1.13	11.56	-1.80	11.56	-1.23	6.33	2.90	4.46	5.66	4.27	6.37	
Value Added	-0.04	2.56	6.43	-0.04	6.43	2.63	2.30	3.87	3.20	3.44	N/A	2.70	
Marathon Asset Mgmt	-1.07	2.93	13.29	-1.07	13.29	0.05	6.91	4.55	7.24	8.17	8.15	8.53	07/01/1998
Blended Benchmark (MSCI ACWI ex USA net)	-1.80	1.13	11.56	-1.80	11.56	-1.23	6.33	2.90	4.46	5.75	4.41	4.76	
Value Added	0.73	1.80	1.73	0.73	1.73	1.28	0.58	1.65	2.78	2.42	3.74	3.77	
The Children's Investment Fund, LP	2.35	8.56	30.71	2.35	30.71	18.33	N/A	N/A	N/A	N/A	N/A	20.10	05/01/2018
MSCI World Index (Net)	0.53	4.56	17.60	0.53	17.60	1.83	10.21	7.18	9.01	7.14	4.89	5.25	
Value Added	1.82	4.00	13.11	1.82	13.11	16.50	N/A	N/A	N/A	N/A	N/A	14.85	
BlackRock Global Composite	-4.21	-4.55	4.46	-4.21	4.46	-3.82	5.64	2.42	6.43	6.57	N/A	6.57	10/01/2004
Blended Benchmark (BlackRock Global Composite)	-4.25	-3.66	5.90	-4.25	5.90	-2.02	5.48	2.41	4.20	5.49	4.14	5.49	
Value Added	0.04	-0.89	-1.44	0.04	-1.44	-1.80	0.16	0.01	2.23	1.08	N/A	1.08	
Effissimo Capital Partners Feeder Fund 2 LP	-2.67	-2.89	5.11	-2.67	5.11	N/A	N/A	N/A	N/A	N/A	N/A	-10.77	12/01/2018
MSCI Japan in LC (Net)	3.45	1.72	9.46	3.45	9.46	-9.32	8.55	5.30	7.51	4.27	1.76	-1.30	
Value Added	-6.12	-4.61	-4.35	-6.12	-4.35	N/A	N/A	N/A	N/A	N/A	N/A	-9.47	
Non-US Small Cap Equity Composite	-3.35	-0.44	12.44	-3.35	12.44	-9.01	5.15	5.60	9.34	N/A	N/A	7.86	07/01/2005
MSCI AC World ex USA Small Cap (Net)	-1.19	0.01	10.28	-1.19	10.28	-5.63	4.64	3.98	6.13	7.29	6.43	6.28	
Value Added	-2.16	-0.45	2.16	-2.16	2.16	-3.38	0.51	1.62	3.21	N/A	N/A	1.58	
Acadian Asset Mgmt	-3.49	-2.49	7.81	-3.49	7.81	-9.33	6.45	5.34	8.81	N/A	N/A	9.07	07/01/2005
Blended Benchmark (MSCI AC World ex USA Small Cap net)	-1.19	0.01	10.28	-1.19	10.28	-5.63	4.64	3.98	6.13	N/A	N/A	5.86	

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	Inception Date
Value Added	-2.30	-2.50	-2.47	-2.30	-2.47	-3.70	1.81	1.36	2.68	N/A	N/A	3.21	
Wasatch Int'l Small Cap	-3.01	1.93	16.29	-3.01	16.29	-8.01	5.55	6.96	10.87	N/A	N/A	8.58	10/01/2005
Blended Benchmark (MSCI AC World ex USA Small Cap net)	-1.19	0.01	10.28	-1.19	10.28	-5.63	4.64	3.98	6.13	N/A	N/A	5.36	
Value Added	-1.82	1.92	6.01	-1.82	6.01	-2.38	0.91	2.98	4.74	N/A	N/A	3.22	
Oberweis Asset Mgmt	-4.20	-0.80	14.95	-4.20	14.95	-10.32	4.68	6.17	13.20	N/A	N/A	7.20	07/01/2008
MSCI AC World ex USA Small Cap (Net)	-1.19	0.01	10.28	-1.19	10.28	-5.63	4.64	3.98	6.13	7.29	6.43	4.43	
Value Added	-3.01	-0.81	4.67	-3.01	4.67	-4.69	0.04	2.19	7.07	N/A	N/A	2.77	
QS Investors	-2.22	-1.41	8.52	-2.22	8.52	-8.43	3.68	4.00	8.14	N/A	N/A	5.05	07/01/2008
MSCI AC World ex USA Small Cap (Net)	-1.19	0.01	10.28	-1.19	10.28	-5.63	4.64	3.98	6.13	7.29	6.43	4.43	
Value Added	-1.03	-1.42	-1.76	-1.03	-1.76	-2.80	-0.96	0.02	2.01	N/A	N/A	0.62	
Total Fixed Income Exposure	3.43	7.12	11.14	3.43	11.14	12.06	6.41	6.59	7.63	6.89	7.11	6.88	07/01/1998
Blended Policy (Total FI)	3.64	7.17	12.38	3.64	12.38	12.27	4.73	4.75	5.31	5.58	6.02	5.88	
Value Added	-0.21	-0.05	-1.24	-0.21	-1.24	-0.21	1.68	1.84	2.32	1.31	1.09	1.00	
Global Fixed Income Composite	1.69	5.23	9.21	1.69	9.21	9.55	4.37	3.60	N/A	N/A	N/A	3.50	07/01/2012
Blended Policy (Global FI)	1.80	5.19	8.35	1.80	8.35	10.23	3.13	2.71	3.51	N/A	N/A	2.45	
Value Added	-0.11	0.04	0.86	-0.11	0.86	-0.68	1.24	0.89	N/A	N/A	N/A	1.05	
Total US Fixed Income Composite	3.56	7.24	11.26	3.56	11.26	12.16	6.50	7.15	8.22	7.23	N/A	7.23	10/01/2004
Blended Policy (Total US FI)	3.74	7.25	12.52	3.74	12.52	12.34	4.77	5.05	5.80	5.91	6.31	5.91	
Value Added	-0.18	-0.01	-1.26	-0.18	-1.26	-0.18	1.73	2.10	2.42	1.32	N/A	1.32	
Total US Fixed Income ex TIPS Composite	2.96	6.15	9.55	2.96	9.55	9.99	6.99	7.10	8.32	7.12	7.38	7.11	07/01/1998
Investment Grade Composite	5.46	10.65	14.48	5.46	14.48	16.72	3.60	5.45	N/A	N/A	N/A	5.45	10/01/2014
Blended Policy (Investment Grade)	5.70	10.84	15.27	5.70	15.27	18.94	4.64	5.07	5.03	N/A	N/A	5.07	
Value Added	-0.24	-0.19	-0.79	-0.24	-0.79	-2.22	-1.04	0.38	N/A	N/A	N/A	0.38	
US Core Plus Fixed Income Composite	2.13	5.64	9.52	2.13	9.52	9.86	4.07	4.32	5.41	5.12	N/A	5.12	10/01/2004
Blended Policy (Barclays Aggregate Index)	2.27	5.42	8.52	2.27	8.52	10.30	2.92	3.38	3.77	4.23	5.09	4.23	
Value Added	-0.14	0.22	1.00	-0.14	1.00	-0.44	1.15	0.94	1.64	0.89	N/A	0.89	
Pugh Capital Management	2.34	5.55	8.69	2.34	8.69	10.30	2.93	3.39	4.04	N/A	N/A	4.97	07/01/2006
Bimbg. Barc. U.S. Aggregate	2.27	5.42	8.52	2.27	8.52	10.30	2.92	3.38	3.75	4.21	5.02	4.57	
Value Added	0.07	0.13	0.17	0.07	0.17	0.00	0.01	0.01	0.29	N/A	N/A	0.40	
PSERS Active Core Plus Fixed Income	1.88	5.11	7.83	1.88	7.83	10.22	3.49	4.05	4.78	5.29	6.08	5.91	07/01/1998
Bimbg. Barc. U.S. Aggregate	2.27	5.42	8.52	2.27	8.52	10.30	2.92	3.38	3.75	4.21	5.02	4.90	
Value Added	-0.39	-0.31	-0.69	-0.39	-0.69	-0.08	0.57	0.67	1.03	1.08	1.06	1.01	
BlackRock Global Alpha	2.68	6.88	12.55	2.68	12.55	10.25	4.82	4.82	7.03	N/A	N/A	6.92	07/01/2007
Blended Policy (Barclays Aggregate Index)	2.27	5.42	8.52	2.27	8.52	10.30	2.92	3.38	3.77	4.23	5.09	4.36	
Value Added	0.41	1.46	4.03	0.41	4.03	-0.05	1.90	1.44	3.26	N/A	N/A	2.56	
SEI Investment Management	0.22	1.37	4.72	0.22	4.72	2.57	5.51	4.22	N/A	N/A	N/A	4.03	03/01/2014
ICE BofAML 1-3 Year U.S. Corporate	1.00	2.62	4.51	1.00	4.51	5.35	2.60	2.28	2.71	3.27	4.02	2.15	
Value Added	-0.78	-1.25	0.21	-0.78	0.21	-2.78	2.91	1.94	N/A	N/A	N/A	1.88	
Non-U.S. Developed Markets Fixed Income Composite	0.59	2.02	2.21	0.59	2.21	1.80	1.58	0.85	2.34	3.66	4.42	4.43	07/01/1998
Blended Policy (Barclays GlobalAgg GDP Weighted Dev xUS hedged)	3.02	6.09	9.42	3.02	9.42	11.41	4.29	2.26	2.60	3.77	N/A	N/A	
Value Added	-2.43	-4.07	-7.21	-2.43	-7.21	-9.61	-2.71	-1.41	-0.26	-0.11	N/A	N/A	
Alliance Bernstein Global Fixed	0.59	2.02	2.21	0.59	2.21	1.80	1.58	0.73	N/A	N/A	N/A	1.24	01/01/2012
Spliced Barclays GlobalAgg GDPWeighted Dev xUS	3.02	6.09	9.42	3.02	9.42	11.41	4.29	2.26	2.27	N/A	N/A	2.13	
Value Added	-2.43	-4.07	-7.21	-2.43	-7.21	-9.61	-2.71	-1.53	N/A	N/A	N/A	-0.89	
U.S. Treasuries Total (levered)	7.93	14.47	18.26	7.93	18.26	21.13	-40.84	-10.91	N/A	N/A	N/A	-20.27	07/01/2012
U.S. Treasuries Total (unlevered)	7.93	14.47	18.17	7.93	18.17	21.74	1.85	5.05	N/A	N/A	N/A	3.14	07/01/2012
Bimbg. Barc. U.S. Treasury: Long	7.92	14.43	19.77	7.92	19.77	24.79	4.07	6.77	6.87	6.79	7.41	4.62	
Value Added	0.01	0.04	-1.60	0.01	-1.60	-3.05	-2.22	-1.72	N/A	N/A	N/A	-1.48	

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												Inception Date
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	
PSERS Funded U.S. Long Treasuries	7.93	14.47	19.67	7.93	19.67	N/A	N/A	N/A	N/A	N/A	N/A	26.18	12/01/2018
Bmbg. Barc. U.S. Treasury: Long	7.92	14.43	19.77	7.92	19.77	24.79	4.07	6.77	6.87	6.79	7.41	26.32	
Value Added	0.01	0.04	-0.10	0.01	-0.10	N/A	N/A	N/A	N/A	N/A	N/A	-0.14	
Credit-Related	-0.03	1.20	4.24	-0.03	4.24	2.98	7.67	6.14	N/A	N/A	N/A	6.14	10/01/2014
Blended Policy (Credit-Related)	1.20	3.90	11.05	1.20	11.05	6.68	5.80	4.61	N/A	N/A	N/A	4.61	
Value Added	-1.23	-2.70	-6.81	-1.23	-6.81	-3.70	1.87	1.53	N/A	N/A	N/A	1.53	
Emerging Markets Fixed Income Composite	-1.30	2.54	7.25	-1.30	7.25	7.52	6.71	3.36	N/A	N/A	N/A	4.30	04/01/2010
Blended Policy (EM FI)	-0.12	4.13	7.44	-0.12	7.44	9.69	3.09	1.15	3.29	6.54	N/A	2.58	
Value Added	-1.18	-1.59	-0.19	-1.18	-0.19	-2.17	3.62	2.21	N/A	N/A	N/A	1.72	
Franklin Templeton Emerging Fixed Income	-1.30	2.54	7.25	-1.30	7.25	7.52	6.71	4.45	6.69	N/A	N/A	7.29	10/01/2008
Blended Benchmark (Franklin)	0.72	4.77	10.04	0.72	10.04	10.75	3.90	1.63	3.92	5.26	5.94	4.29	
Value Added	-2.02	-2.23	-2.79	-2.02	-2.79	-3.23	2.81	2.82	2.77	N/A	N/A	3.00	
Private Credit Composite (hedged)	0.06	1.10	4.03	0.06	4.03	2.67	7.74	6.17	8.78	7.55	7.78	7.78	10/01/1999
Blended Policy (Barclays Corporate HY)	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.35	7.42	7.42	
Value Added	-1.27	-2.77	-7.38	-1.27	-7.38	-3.69	1.67	0.80	0.84	0.20	0.36	0.36	
Private Credit Composite x Co-Invest (hedged)	0.13	1.04	4.06	0.13	4.06	2.66	7.79	N/A	N/A	N/A	N/A	7.79	10/01/2016
Blended Policy (Barclays Corporate HY)	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.35	7.42	6.07	
Value Added	-1.20	-2.83	-7.35	-1.20	-7.35	-3.70	1.72	N/A	N/A	N/A	N/A	1.72	
Insight Oxygen - Private Credit (notional)	5.23	4.56	7.24	5.23	7.24	9.86	3.48	N/A	N/A	N/A	N/A	2.52	07/01/2015
Currency Hedge Benchmark - Private Credit	5.06	4.33	6.96	5.06	6.96	9.47	3.09	4.24	2.99	N/A	N/A	2.15	
Value Added	0.17	0.23	0.28	0.17	0.28	0.39	0.39	N/A	N/A	N/A	N/A	0.37	
Private Credit Composite (Unhedged)	-0.32	0.76	3.47	-0.32	3.47	1.90	7.39	6.60	9.00	7.69	7.89	7.89	10/01/1999
Blended Policy (Barclays Corporate HY)	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.35	7.42	7.42	
Value Added	-1.65	-3.11	-7.94	-1.65	-7.94	-4.46	1.32	1.23	1.06	0.34	0.47	0.47	
Private Credit Composite x Co-Invest (unhedged)	-0.27	0.69	3.49	-0.27	3.49	1.88	7.45	N/A	N/A	N/A	N/A	7.45	10/01/2016
Blended Policy (Private Credit)	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.35	7.42	6.07	
Value Added	-1.60	-3.18	-7.92	-1.60	-7.92	-4.48	1.38	N/A	N/A	N/A	N/A	1.38	
Internally Managed Private Credit Co-Investment Program	-2.68	5.28	1.60	-2.68	1.60	3.20	-2.88	-15.21	N/A	N/A	N/A	-10.34	08/01/2013
Bmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.58	
Value Added	-4.01	1.41	-9.81	-4.01	-9.81	-3.16	-8.95	-20.58	N/A	N/A	N/A	-15.92	
Mezzanine Private Credit Composite	-4.90	-4.30	-2.54	-4.90	-2.54	-2.13	5.06	N/A	N/A	N/A	N/A	0.91	06/01/2015
Bmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.49	
Value Added	-6.23	-8.17	-13.95	-6.23	-13.95	-8.49	-1.01	N/A	N/A	N/A	N/A	-4.58	
Bain Capital Middle Market Credit 2010, L.P.	2.75	14.94	16.17	2.75	16.17	18.42	5.97	3.33	N/A	N/A	N/A	6.77	06/01/2010
Bmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	7.47	
Value Added	1.42	11.07	4.76	1.42	4.76	12.06	-0.10	-2.04	N/A	N/A	N/A	-0.70	
Bain Capital Middle Market Credit 2014, L.P.	1.04	2.14	3.33	1.04	3.33	4.64	8.20	6.14	N/A	N/A	N/A	6.15	11/01/2013
Bmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.32	
Value Added	-0.29	-1.73	-8.08	-0.29	-8.08	-1.72	2.13	0.77	N/A	N/A	N/A	0.83	
Carlyle Energy Mezz. Opp. Fund	-28.82	-30.86	-32.79	-28.82	-32.79	-39.24	-18.00	-22.40	N/A	N/A	N/A	-11.74	10/01/2012
Bmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.88	
Value Added	-30.15	-34.73	-44.20	-30.15	-44.20	-45.60	-24.07	-27.77	N/A	N/A	N/A	-17.62	
Carlyle Energy Mezz. Opp. Fund II	-0.92	-1.10	-0.26	-0.92	-0.26	-1.72	-0.54	N/A	N/A	N/A	N/A	-5.27	11/01/2015
Bmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	7.12	
Value Added	-2.25	-4.97	-11.67	-2.25	-11.67	-8.08	-6.61	N/A	N/A	N/A	N/A	-12.39	
ICG Europe Fund V	-5.69	-8.30	-1.50	-5.69	-1.50	6.26	12.24	9.35	N/A	N/A	N/A	9.12	01/01/2013
Bmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.60	
Value Added	-7.02	-12.17	-12.91	-7.02	-12.91	-0.10	6.17	3.98	N/A	N/A	N/A	3.52	

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												Inception Date
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	
ICG Europe Fund VI	-4.03	-2.16	-0.52	-4.03	-0.52	1.57	19.60	N/A	N/A	N/A	N/A	39.02	02/01/2016
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	9.53	
Value Added	-5.36	-6.03	-11.93	-5.36	-11.93	-4.79	13.53	N/A	N/A	N/A	N/A	29.49	
ICG Europe Fund VII	3.46	7.22	18.90	3.46	18.90	20.08	N/A	N/A	N/A	N/A	N/A	14.89	08/01/2018
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	6.60	
Value Added	2.13	3.35	7.49	2.13	7.49	13.72	N/A	N/A	N/A	N/A	N/A	8.29	
Opportunistic Private Credit Composite	-0.30	-0.44	3.24	-0.30	3.24	-1.54	7.45	N/A	N/A	N/A	N/A	7.07	06/01/2015
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.49	
Value Added	-1.63	-4.31	-8.17	-1.63	-8.17	-7.90	1.38	N/A	N/A	N/A	N/A	1.58	
Apollo European Principal Fund II	-3.66	-6.16	-7.72	-3.66	-7.72	-7.27	1.25	4.61	N/A	N/A	N/A	4.51	10/01/2012
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.88	
Value Added	-4.99	-10.03	-19.13	-4.99	-19.13	-13.63	-4.82	-0.76	N/A	N/A	N/A	-1.37	
Apollo European Principal Fund III	6.40	5.66	16.52	6.40	16.52	18.48	N/A	N/A	N/A	N/A	N/A	-5.90	01/01/2018
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.10	
Value Added	5.07	1.79	5.11	5.07	5.11	12.12	N/A	N/A	N/A	N/A	N/A	-11.00	
Avenue Energy Opportunities Fund	-4.97	-11.12	-8.18	-4.97	-8.18	-13.59	2.70	N/A	N/A	N/A	N/A	0.45	02/01/2015
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.85	
Value Added	-6.30	-14.99	-19.59	-6.30	-19.59	-19.95	-3.37	N/A	N/A	N/A	N/A	-5.40	
Avenue Energy Opportunities Fund II	7.35	2.17	5.20	7.35	5.20	-5.83	N/A	N/A	N/A	N/A	N/A	2.89	09/01/2017
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	4.95	
Value Added	6.02	-1.70	-6.21	6.02	-6.21	-12.19	N/A	N/A	N/A	N/A	N/A	-2.06	
Avenue Europe SS III	-1.20	2.18	3.41	-1.20	3.41	1.08	10.84	N/A	N/A	N/A	N/A	6.39	01/01/2016
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	8.83	
Value Added	-2.53	-1.69	-8.00	-2.53	-8.00	-5.28	4.77	N/A	N/A	N/A	N/A	-2.44	
Bain Capital Credit Opp. Fund IV	0.19	1.65	12.19	0.19	12.19	-5.55	15.78	7.80	7.78	N/A	N/A	9.40	10/01/2008
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	9.18	
Value Added	-1.14	-2.22	0.78	-1.14	0.78	-11.91	9.71	2.43	-0.16	N/A	N/A	0.22	
Bain Capital Distressed and Special Situations 2013	-3.97	-6.84	-3.18	-3.97	-3.18	-8.25	5.70	3.57	N/A	N/A	N/A	5.39	10/01/2012
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.88	
Value Added	-5.30	-10.71	-14.59	-5.30	-14.59	-14.61	-0.37	-1.80	N/A	N/A	N/A	-0.49	
Bain Capital Distressed and Special Situations 2016 (A), L.P.	0.73	1.65	3.00	0.73	3.00	2.87	9.85	N/A	N/A	N/A	N/A	13.62	11/01/2015
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	7.12	
Value Added	-0.60	-2.22	-8.41	-0.60	-8.41	-3.49	3.78	N/A	N/A	N/A	N/A	6.50	
Brigade Distressed Value	-4.59	-2.77	2.37	-4.59	2.37	-7.39	6.51	4.78	N/A	N/A	N/A	6.47	10/01/2011
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	7.48	
Value Added	-5.92	-6.64	-9.04	-5.92	-9.04	-13.75	0.44	-0.59	N/A	N/A	N/A	-1.01	
Brigade Structured Credit Offshore Fund	0.93	2.52	10.48	0.93	10.48	2.38	8.76	N/A	N/A	N/A	N/A	7.84	11/01/2014
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.21	
Value Added	-0.40	-1.35	-0.93	-0.40	-0.93	-3.98	2.69	N/A	N/A	N/A	N/A	2.63	
Clearlake Opportunities Partners II, LP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	09/01/2019
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	0.36	
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.36	
TOP NPL (A)	1.37	0.98	-2.05	1.37	-2.05	-0.44	-0.85	6.44	N/A	N/A	N/A	9.31	04/01/2012
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	6.36	
Value Added	0.04	-2.89	-13.46	0.04	-13.46	-6.80	-6.92	1.07	N/A	N/A	N/A	2.95	
TPG Opportunities Partners II, LP	0.99	0.98	0.19	0.99	0.19	1.92	8.28	10.99	N/A	N/A	N/A	11.73	04/01/2012
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	6.36	
Value Added	-0.34	-2.89	-11.22	-0.34	-11.22	-4.44	2.21	5.62	N/A	N/A	N/A	5.37	

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	Inception Date
TPG Opportunities Partners III, LP	-1.07	-1.20	2.63	-1.07	2.63	-1.80	9.04	8.49	N/A	N/A	N/A	5.44	02/01/2014
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.23	
Value Added	-2.40	-5.07	-8.78	-2.40	-8.78	-8.16	2.97	3.12	N/A	N/A	N/A	0.21	
TPG TAO	2.12	4.08	7.40	2.12	7.40	7.72	9.03	N/A	N/A	N/A	N/A	9.52	01/01/2015
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.89	
Value Added	0.79	0.21	-4.01	0.79	-4.01	1.36	2.96	N/A	N/A	N/A	N/A	3.63	
TSSP Opportunities Partners IV, LP	2.70	4.35	N/A	2.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.51	02/01/2019
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	6.59	
Value Added	1.37	0.48	N/A	1.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.92	
Real Asset High Yield Composite	1.97	4.38	7.13	1.97	7.13	8.17	7.43	N/A	N/A	N/A	N/A	6.55	06/01/2015
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.49	
Value Added	0.64	0.51	-4.28	0.64	-4.28	1.81	1.36	N/A	N/A	N/A	N/A	1.06	
Galton Onshore Mortgage Recovery Fund III, LP	0.23	0.68	5.87	0.23	5.87	10.96	9.56	5.15	N/A	N/A	N/A	4.09	11/01/2013
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.32	
Value Added	-1.10	-3.19	-5.54	-1.10	-5.54	4.60	3.49	-0.22	N/A	N/A	N/A	-1.23	
Galton Onshore Mortgage Recovery Fund IV, L.P.	-2.11	-7.37	-5.04	-2.11	-5.04	-10.63	N/A	N/A	N/A	N/A	N/A	-11.21	11/01/2017
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	4.67	
Value Added	-3.44	-11.24	-16.45	-3.44	-16.45	-16.99	N/A	N/A	N/A	N/A	N/A	-15.88	
Latitude Management Real Estate Capital IV	1.62	2.98	4.78	1.62	4.78	6.36	N/A	N/A	N/A	N/A	N/A	3.95	05/01/2017
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.14	
Value Added	0.29	-0.89	-6.63	0.29	-6.63	0.00	N/A	N/A	N/A	N/A	N/A	-1.19	
Mariner/Galton RMBS	2.83	7.09	10.40	2.83	10.40	12.44	6.90	6.54	N/A	N/A	N/A	8.16	05/01/2010
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	6.98	
Value Added	1.50	3.22	-1.01	1.50	-1.01	6.08	0.83	1.17	N/A	N/A	N/A	1.18	
Mariner International Infrastructure	2.89	5.67	7.36	2.89	7.36	9.36	8.60	7.70	N/A	N/A	N/A	5.27	12/01/2013
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.30	
Value Added	1.56	1.80	-4.05	1.56	-4.05	3.00	2.53	2.33	N/A	N/A	N/A	-0.03	
PIMCO BRAVO Fund III Onshore Feeder, L.P.	2.90	6.82	9.42	2.90	9.42	8.88	N/A	N/A	N/A	N/A	N/A	16.72	12/01/2017
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.03	
Value Added	1.57	2.95	-1.99	1.57	-1.99	2.52	N/A	N/A	N/A	N/A	N/A	11.69	
PIMCO Commercial Real Estate Debt Fund, L.P.	2.51	5.71	N/A	2.51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.95	02/01/2019
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	6.59	
Value Added	1.18	1.84	N/A	1.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.64	
TCI Real Estate Partners Fund III, L.P.	3.22	8.02	9.98	3.22	9.98	N/A	N/A	N/A	N/A	N/A	N/A	9.98	01/01/2019
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	11.41	
Value Added	1.89	4.15	-1.43	1.89	-1.43	N/A	N/A	N/A	N/A	N/A	N/A	-1.43	
The Varde Scratch and Dent Fund, LP	0.85	2.04	5.33	0.85	5.33	6.34	6.70	N/A	N/A	N/A	N/A	7.70	12/01/2014
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.46	
Value Added	-0.48	-1.83	-6.08	-0.48	-6.08	-0.02	0.63	N/A	N/A	N/A	N/A	2.24	
The Varde Scratch and Dent Fund Feed I-A	2.19	4.34	6.44	2.19	6.44	8.77	8.17	N/A	N/A	N/A	N/A	N/A	08/01/2016
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	6.66	
Value Added	0.86	0.47	-4.97	0.86	-4.97	2.41	2.10	N/A	N/A	N/A	N/A	N/A	
Senior Loans Private Credit Composite	0.25	2.17	4.20	0.25	4.20	4.45	7.76	N/A	N/A	N/A	N/A	7.45	06/01/2015
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.49	
Value Added	-1.08	-1.70	-7.21	-1.08	-7.21	-1.91	1.69	N/A	N/A	N/A	N/A	1.96	
Bain Capital Credit Managed Account (PSERS), L.P.	-1.59	-0.69	3.26	-1.59	3.26	-1.14	6.12	4.96	6.83	N/A	N/A	7.39	07/01/2009
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	9.15	
Value Added	-2.92	-4.56	-8.15	-2.92	-8.15	-7.50	0.05	-0.41	-1.11	N/A	N/A	-1.76	



As of September 30, 2019

## Trailing Period Performance

	Performance (%)												Inception Date
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	
Cerberus Levered Loan Fund I	1.24	2.44	4.47	1.24	4.47	5.86	6.53	4.86	N/A	N/A	N/A	6.00	01/01/2012
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	6.87	
Value Added	-0.09	-1.43	-6.94	-0.09	-6.94	-0.50	0.46	-0.51	N/A	N/A	N/A	-0.87	
Cerberus Levered Loan Fund II	-1.42	-0.82	0.06	-1.42	0.06	0.33	1.88	3.84	N/A	N/A	N/A	6.15	01/01/2013
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.60	
Value Added	-2.75	-4.69	-11.35	-2.75	-11.35	-6.03	-4.19	-1.53	N/A	N/A	N/A	0.55	
Cerberus PSERS Levered Loan Opportunities Fund	2.80	5.68	8.45	2.80	8.45	12.16	14.66	N/A	N/A	N/A	N/A	22.92	10/01/2015
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	7.70	
Value Added	1.47	1.81	-2.96	1.47	-2.96	5.80	8.59	N/A	N/A	N/A	N/A	15.22	
Hayfin SOF II USD LP	0.17	2.68	4.21	0.17	4.21	5.69	6.28	N/A	N/A	N/A	N/A	N/A	09/01/2016
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	6.13	
Value Added	-1.16	-1.19	-7.20	-1.16	-7.20	-0.67	0.21	N/A	N/A	N/A	N/A	N/A	
Hayfin SOF II USD Co-Invest	-3.85	-2.76	-0.90	-3.85	-0.90	0.20	4.45	N/A	N/A	N/A	N/A	N/A	08/01/2016
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	6.66	
Value Added	-5.18	-6.63	-12.31	-5.18	-12.31	-6.16	-1.62	N/A	N/A	N/A	N/A	N/A	
Hayfin Special Opportunities Credit LP	-14.17	-12.18	-16.15	-14.17	-16.15	-4.56	6.87	4.68	N/A	N/A	N/A	5.09	03/01/2013
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.45	
Value Added	-15.50	-16.05	-27.56	-15.50	-27.56	-10.92	0.80	-0.69	N/A	N/A	N/A	-0.36	
LBC Credit Partners III	-0.47	-1.69	-3.50	-0.47	-3.50	-7.51	0.43	6.14	N/A	N/A	N/A	8.57	04/01/2013
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.36	
Value Added	-1.80	-5.56	-14.91	-1.80	-14.91	-13.87	-5.64	0.77	N/A	N/A	N/A	3.21	
LBC-P Credit Fund LP	0.52	3.24	3.34	0.52	3.34	5.93	13.16	N/A	N/A	N/A	N/A	13.16	10/01/2016
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	6.07	
Value Added	-0.81	-0.63	-8.07	-0.81	-8.07	-0.43	7.09	N/A	N/A	N/A	N/A	7.09	
Oaktree Loan Fund 2X, LP	0.33	0.62	0.89	0.33	0.89	3.07	2.73	-4.59	2.11	N/A	N/A	2.77	01/01/2008
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	7.59	
Value Added	-1.00	-3.25	-10.52	-1.00	-10.52	-3.29	-3.34	-9.96	-5.83	N/A	N/A	-4.82	
Park Square Credit Opportunities	3.55	6.76	12.46	3.55	12.46	9.59	6.35	N/A	N/A	N/A	N/A	10.11	11/01/2015
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	7.12	
Value Added	2.22	2.89	1.05	2.22	1.05	3.23	0.28	N/A	N/A	N/A	N/A	2.99	
Summit Partners Credit Fund II LP	1.32	3.53	3.88	1.32	3.88	5.97	8.72	N/A	N/A	N/A	N/A	6.64	11/01/2014
Blmbg. Barc. U.S. Corp: High Yield	1.33	3.87	11.41	1.33	11.41	6.36	6.07	5.37	7.94	7.34	7.09	5.21	
Value Added	-0.01	-0.34	-7.53	-0.01	-7.53	-0.39	2.65	N/A	N/A	N/A	N/A	1.43	
Inflation Protected (levered)	5.07	10.08	15.68	5.07	15.68	17.75	6.05	7.51	N/A	N/A	N/A	7.51	10/01/2014
Blended Policy (Net Levered TIPS)	7.42	13.01	21.14	7.42	21.14	21.63	6.10	7.55	8.00	N/A	N/A	7.55	
Value Added	-2.35	-2.93	-5.46	-2.35	-5.46	-3.88	-0.05	-0.04	N/A	N/A	N/A	-0.04	
Inflation Protected (unlevered)	2.74	5.36	8.23	2.74	8.23	9.20	3.23	4.90	N/A	N/A	N/A	4.90	10/01/2014
Blended Policy (Inflation Protected)	3.99	7.01	11.21	3.99	11.21	11.82	4.05	4.48	4.48	4.59	5.99	4.48	
Value Added	-1.25	-1.65	-2.98	-1.25	-2.98	-2.62	-0.82	0.42	N/A	N/A	N/A	0.42	
TIPS Composite (levered)	5.07	10.08	15.68	5.07	15.68	17.75	6.05	7.51	8.53	7.88	N/A	7.67	04/01/2004
Blended Policy (Net Levered TIPS)	7.42	13.01	21.14	7.42	21.14	21.63	6.10	7.55	8.00	N/A	N/A	N/A	
Value Added	-2.35	-2.93	-5.46	-2.35	-5.46	-3.88	-0.05	-0.04	0.53	N/A	N/A	N/A	
TIPS Composite (unlevered)	2.74	5.36	8.23	2.74	8.23	9.20	3.23	4.90	7.47	7.23	N/A	7.04	04/01/2004
Blended Policy (Inflation Protected)	3.99	7.01	11.21	3.99	11.21	11.82	4.05	4.48	4.48	4.59	5.99	4.48	
Value Added	-1.25	-1.65	-2.98	-1.25	-2.98	-2.62	-0.82	0.42	2.99	2.64	N/A	2.56	
Bridgewater TIPS (levered)	6.77	11.57	17.37	6.77	17.37	22.20	8.02	9.89	11.63	10.65	N/A	10.66	07/01/2004
BGI Custom IL Bond Index (levered)	6.80	11.55	19.56	6.80	19.56	20.62	6.16	9.10	N/A	N/A	N/A	N/A	
Value Added	-0.03	0.02	-2.19	-0.03	-2.19	1.58	1.86	0.79	N/A	N/A	N/A	N/A	



As of September 30, 2019

## Trailing Period Performance

	Performance (%)												
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	Inception Date
Bridgewater TIPS (unlevered)	4.00	6.72	9.75	4.00	9.75	12.11	4.49	N/A	N/A	N/A	N/A	4.13	02/01/2015
BGI Custom IL Bond Index (unlevered)	4.00	6.68	10.87	4.00	10.87	11.34	3.63	N/A	N/A	N/A	N/A	N/A	N/A
Value Added	0.00	0.04	-1.12	0.00	-1.12	0.77	0.86	N/A	N/A	N/A	N/A	N/A	N/A
PSERS Total TIPS (levered)	2.25	7.57	13.24	2.25	13.24	12.40	4.29	3.94	5.42	5.50	N/A	5.38	04/01/2004
PSERS Total TIPS (unlevered)	1.18	3.67	6.51	1.18	6.51	6.03	2.14	2.64	3.85	4.28	N/A	4.20	04/01/2004
Blmbg. Barc. Global Inflation-Linked: U.S. TIPS	1.35	4.25	7.58	1.35	7.58	7.13	2.21	2.45	3.46	3.91	5.47	3.82	
Value Added	-0.17	-0.58	-1.07	-0.17	-1.07	-1.10	-0.07	0.19	0.39	0.37	N/A	0.38	
PSERS TIPS	1.59	4.39	7.50	1.59	7.50	7.37	2.69	2.96	4.92	5.17	N/A	5.06	04/01/2004
PSERS TIPS (unlevered)	1.59	4.39	7.50	1.59	7.50	7.37	2.69	2.96	4.02	4.38	N/A	4.30	04/01/2004
Blmbg. Barc. Global Inflation-Linked: U.S. TIPS	1.35	4.25	7.58	1.35	7.58	7.13	2.21	2.45	3.46	3.91	5.47	3.82	
Value Added	0.24	0.14	-0.08	0.24	-0.08	0.24	0.48	0.51	0.56	0.47	N/A	0.48	
PIMCO Multi-Sector Strategy	3.02	6.87	10.38	3.02	10.38	13.45	4.56	4.23	N/A	N/A	N/A	4.17	07/01/2012
Blended Policy (PIMCO Multi-Sector)	3.88	7.96	11.67	3.88	11.67	15.19	4.44	4.37	4.82	4.92	5.56	4.32	
Value Added	-0.86	-1.09	-1.29	-0.86	-1.29	-1.74	0.12	-0.14	N/A	N/A	N/A	-0.15	
Real Assets (levered/hedged)	1.29	3.81	12.82	1.29	12.82	6.71	6.58	5.06	N/A	N/A	N/A	5.06	10/01/2014
Total Real Asset Exposure (unlevered/hedged)	0.92	2.86	9.97	0.92	9.97	5.40	5.17	3.61	N/A	N/A	N/A	3.61	10/01/2014
Blended Policy (Real Assets) (Hedged)	0.63	2.22	9.43	0.63	9.43	5.29	5.16	3.37	N/A	N/A	N/A	3.37	
Value Added	0.29	0.64	0.54	0.29	0.54	0.11	0.01	0.24	N/A	N/A	N/A	0.24	
Real Assets (levered/unhedged)	1.12	3.64	12.60	1.12	12.60	6.37	6.39	4.98	N/A	N/A	N/A	4.98	10/01/2014
Total Real Asset Exposure (unlevered/hedged)	0.78	2.74	9.81	0.78	9.81	5.15	5.03	3.55	N/A	N/A	N/A	3.55	10/01/2014
Blended Policy (Real Assets) (Unhedged)	0.41	2.02	9.18	0.41	9.18	4.93	4.96	3.28	N/A	N/A	N/A	3.28	
Value Added	0.37	0.72	0.63	0.37	0.63	0.22	0.07	0.27	N/A	N/A	N/A	0.27	
Real Assets x Private (levered/hedged)	-0.71	1.96	18.83	-0.71	18.83	3.83	2.96	-2.55	N/A	N/A	N/A	-2.55	10/01/2014
Real Assets x Private (unlevered/hedged)	-0.54	1.15	12.01	-0.54	12.01	2.66	1.94	-4.51	N/A	N/A	N/A	-4.51	10/01/2014
Blended Policy (Real Assets x Private) (Hedged)	0.21	1.88	12.17	0.21	12.17	3.97	2.22	-3.59	2.90	4.29	N/A	-3.59	
Value Added	-0.75	-0.73	-0.16	-0.75	-0.16	-1.31	-0.28	-0.92	N/A	N/A	N/A	-0.92	
Real Assets x Private (levered/unhedged)	-1.06	1.63	18.37	-1.06	18.37	3.18	2.59	-2.68	N/A	N/A	N/A	-2.68	10/01/2014
Real Assets x Private (unlevered/unhedged)	-0.76	0.96	11.76	-0.76	11.76	2.27	1.72	-4.59	N/A	N/A	N/A	-4.59	10/01/2014
Blended Policy (Real Assets x Private) (Unhedged)	-0.12	1.58	11.77	-0.12	11.77	3.42	1.93	-3.72	2.83	4.25	N/A	-3.72	
Value Added	-0.64	-0.62	-0.01	-0.64	-0.01	-1.15	-0.21	-0.87	N/A	N/A	N/A	-0.87	
Total Infrastructure Composite (levered/hedged)	-1.99	-1.14	19.65	-1.99	19.65	0.39	8.89	N/A	N/A	N/A	N/A	10.64	11/01/2015
Total Infrastructure Composite (unlevered/hedged)	-1.83	-1.09	16.23	-1.83	16.23	0.02	5.06	N/A	N/A	N/A	N/A	6.28	11/01/2015
Blended Policy (Infrastructure x Private Hedged)	-1.45	-0.54	16.66	-1.45	16.66	1.66	5.58	6.39	N/A	N/A	N/A	6.46	
Value Added	-0.38	-0.55	-0.43	-0.38	-0.43	-1.64	-0.52	N/A	N/A	N/A	N/A	-0.18	
Insight Nevada - Infra (notional)	3.49	3.12	3.46	3.49	3.46	5.79	2.97	N/A	N/A	N/A	N/A	1.17	12/01/2015
Currency Hedge Benchmark - Infra	3.57	3.24	3.64	3.57	3.64	5.99	3.11	N/A	N/A	N/A	N/A	1.31	
Value Added	-0.08	-0.12	-0.18	-0.08	-0.18	-0.20	-0.14	N/A	N/A	N/A	N/A	-0.14	
Total Infrastructure Composite (levered/unhedged)	-2.39	-1.51	19.14	-2.39	19.14	-0.39	7.48	N/A	N/A	N/A	N/A	10.60	11/01/2015
Total Infrastructure Composite (unlevered/unhedged)	-2.17	-1.40	15.81	-2.17	15.81	-0.64	4.40	N/A	N/A	N/A	N/A	5.80	11/01/2015
Blended Policy (Infrastructure x Private Unhedged)	-1.97	-1.03	15.99	-1.97	15.99	0.70	4.75	4.90	N/A	N/A	N/A	6.10	
Value Added	-0.20	-0.37	-0.18	-0.20	-0.18	-1.34	-0.35	N/A	N/A	N/A	N/A	-0.30	
Private Infrastructure Composite	2.81	4.50	14.38	2.81	14.38	18.80	N/A	N/A	N/A	N/A	N/A	13.44	05/01/2017
PSERS Infrastructure Private	3.15	5.40	11.10	3.15	11.10	15.38	N/A	N/A	N/A	N/A	N/A	12.08	05/01/2017
Internally Managed Private Infrastructure	0.00	-2.02	30.36	0.00	30.36	N/A	N/A	N/A	N/A	N/A	N/A	35.44	11/01/2018
Publicly-Traded Infrastructure Composite (levered)	3.96	11.40	43.88	3.96	43.88	33.20	17.50	N/A	N/A	N/A	N/A	18.41	11/01/2015

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	Inception Date
Publicly-Traded Infrastructure Composite (unlevered)	1.98	5.92	20.58	1.98	20.58	16.22	8.94	N/A	N/A	N/A	N/A	9.30	11/01/2015
FTSE Developed Core Infrast 50/50 Index (Net)	2.13	6.32	21.26	2.13	21.26	17.10	9.53	7.74	N/A	N/A	N/A	9.78	
Value Added	-0.15	-0.40	-0.68	-0.15	-0.68	-0.88	-0.59	N/A	N/A	N/A	N/A	-0.48	
PSERS Infrastructure Index (levered)	3.96	11.40	43.88	3.96	43.88	33.20	17.50	N/A	N/A	N/A	N/A	18.41	11/01/2015
PSERS Infrastructure Index (unlevered)	1.98	5.92	20.58	1.98	20.58	16.22	8.94	N/A	N/A	N/A	N/A	9.30	11/01/2015
FTSE Developed Core Infrast 50/50 Index (Net)	2.13	6.32	21.26	2.13	21.26	17.10	9.53	7.74	N/A	N/A	N/A	9.78	
Value Added	-0.15	-0.40	-0.68	-0.15	-0.68	-0.88	-0.59	N/A	N/A	N/A	N/A	-0.48	
MLP Composite	-4.83	-5.55	13.48	-4.83	13.48	-8.22	-1.21	-6.28	10.46	N/A	N/A	11.43	10/01/2008
S&P MLP Index	-4.04	-4.60	13.28	-4.04	13.28	-6.88	-0.80	-8.02	7.08	7.23	N/A	8.32	
Value Added	-0.79	-0.95	0.20	-0.79	0.20	-1.34	-0.41	1.74	3.38	N/A	N/A	3.11	
PSERS MLP	-4.83	-5.54	13.55	-4.83	13.55	-8.66	-0.92	N/A	N/A	N/A	N/A	-2.98	08/01/2015
MLP Internal Blended Benchmark	-4.83	-5.55	13.47	-4.83	13.47	-8.05	-0.92	-8.09	7.04	7.21	N/A	-3.86	
Value Added	0.00	0.01	0.08	0.00	0.08	-0.61	0.00	N/A	N/A	N/A	N/A	0.88	
External MLP Composite	-4.83	-5.55	13.47	-4.83	13.47	-8.05	N/A	N/A	N/A	N/A	N/A	-1.44	06/01/2017
S&P MLP Index	-4.04	-4.60	13.28	-4.04	13.28	-6.88	-0.80	-8.02	7.08	7.23	N/A	-1.26	
Value Added	-0.79	-0.95	0.19	-0.79	0.19	-1.17	N/A	N/A	N/A	N/A	N/A	-0.18	
Atlantic Trust	-5.55	-6.76	11.32	-5.55	11.32	-8.54	-1.34	-5.91	N/A	N/A	N/A	3.71	09/01/2012
S&P MLP Index	-4.04	-4.60	13.28	-4.04	13.28	-6.88	-0.80	-8.02	7.08	7.23	N/A	0.41	
Value Added	-1.51	-2.16	-1.96	-1.51	-1.96	-1.66	-0.54	2.11	N/A	N/A	N/A	3.30	
Harvest MLP	-5.39	-5.72	13.90	-5.39	13.90	-9.72	-1.71	-6.04	10.39	N/A	N/A	11.37	10/01/2008
S&P MLP Index	-4.04	-4.60	13.28	-4.04	13.28	-6.88	-0.80	-8.02	7.08	7.23	N/A	8.32	
Value Added	-1.35	-1.12	0.62	-1.35	0.62	-2.84	-0.91	1.98	3.31	N/A	N/A	3.05	
Salient	-3.74	-4.48	14.67	-3.74	14.67	-5.71	-0.76	-7.10	N/A	N/A	N/A	3.77	08/01/2012
S&P MLP Index	-4.04	-4.60	13.28	-4.04	13.28	-6.88	-0.80	-8.02	7.08	7.23	N/A	0.64	
Value Added	0.30	0.12	1.39	0.30	1.39	1.17	0.04	0.92	N/A	N/A	N/A	3.13	
Total Commodities Composite (levered)	-0.26	5.88	12.80	-0.26	12.80	5.27	0.71	-3.30	-1.90	N/A	N/A	-1.87	11/01/2006
Total Commodities Composite (unlevered)	-0.07	2.77	6.22	-0.07	6.22	3.52	0.90	-2.10	-0.64	N/A	N/A	-0.89	11/01/2006
Blended Policy (Commodities)	0.37	2.96	7.36	0.37	7.36	3.80	0.38	-3.28	-2.21	N/A	N/A	-3.21	
Value Added	-0.44	-0.19	-1.14	-0.44	-1.14	-0.28	0.52	1.18	1.57	N/A	N/A	2.32	
Private Commodities Composite	-4.13	0.90	-1.89	-4.13	-1.89	N/A	N/A	N/A	N/A	N/A	N/A	-2.80	11/01/2018
PSERS Private Commodities	-4.13	0.90	-1.89	-4.13	-1.89	N/A	N/A	N/A	N/A	N/A	N/A	-2.80	11/01/2018
Commodities Composite ex Private (levered)	-0.03	6.17	13.37	-0.03	13.37	6.59	1.13	-3.06	-1.78	N/A	N/A	-1.77	11/01/2006
Commodities Composite ex Private (unlevered)	0.03	2.81	6.37	0.03	6.37	3.66	0.94	-2.07	-0.63	N/A	N/A	-0.88	11/01/2006
Blended Policy (Commodities)	0.37	2.96	7.36	0.37	7.36	3.80	0.38	-3.28	-2.21	N/A	N/A	-3.21	
Value Added	-0.34	-0.15	-0.99	-0.34	-0.99	-0.14	0.56	1.21	1.58	N/A	N/A	2.33	
PSERS Commodity Beta (levered)	-4.12	-7.53	-2.78	-4.12	-2.78	-22.66	-7.21	-10.92	N/A	N/A	N/A	-12.29	05/01/2014
PSERS Commodity Beta (unlevered)	-2.05	-3.79	1.23	-2.05	1.23	-6.58	-1.52	-6.33	N/A	N/A	N/A	-8.12	05/01/2014
Bloomberg Commodity Index Total Return	-1.84	-3.00	3.13	-1.84	3.13	-6.57	-1.50	-7.18	-4.32	-3.13	0.86	-9.18	
Value Added	-0.21	-0.79	-1.90	-0.21	-1.90	-0.01	-0.02	0.85	N/A	N/A	N/A	1.06	
Gresham	-2.09	-3.85	3.75	-2.09	3.75	-9.45	0.61	-6.32	-2.04	N/A	N/A	-4.06	10/01/2007
Bloomberg Commodity Index Total Return	-1.84	-3.00	3.13	-1.84	3.13	-6.57	-1.50	-7.18	-4.32	-3.13	0.86	-6.05	
Value Added	-0.25	-0.85	0.62	-0.25	0.62	-2.88	2.11	0.86	2.28	N/A	N/A	1.99	
Wellington Management Company	-4.87	-3.99	4.69	-4.87	4.69	-8.64	-0.15	-4.90	-1.22	N/A	N/A	-1.28	01/01/2007
Blended Benchmark (Wellington)	-5.01	-5.51	3.86	-5.01	3.86	-10.28	1.64	-4.22	-0.28	N/A	N/A	-0.25	
Value Added	0.14	1.52	0.83	0.14	0.83	1.64	-1.79	-0.68	-0.94	N/A	N/A	-1.03	
PSERS Gold Fund (unlevered)	3.37	12.14	12.62	3.37	12.62	20.11	1.57	2.35	N/A	N/A	N/A	-1.65	06/01/2012
Bloomberg Gold Subindex Total Return	3.82	13.18	14.21	3.82	14.21	22.47	3.01	3.26	3.19	7.88	7.68	-1.44	

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	Inception Date
Value Added	-0.45	-1.04	-1.59	-0.45	-1.59	-2.36	-1.44	-0.91	N/A	N/A	N/A	-0.21	
PTRES Composite (levered/hedged)	8.34	8.63	32.39	8.34	32.39	22.72	10.36	10.28	10.90	8.96	11.42	9.82	07/01/1998
PTRES Composite (unlevered/hedged)	4.99	5.18	19.82	4.99	19.82	14.08	6.50	7.01	9.25	7.87	10.58	9.04	07/01/1998
Blended Policy (PTRES) (Hedged)	5.91	5.68	21.60	5.91	21.60	15.18	7.21	7.30	8.78	7.22	9.95	8.46	
Value Added	-0.92	-0.50	-1.78	-0.92	-1.78	-1.10	-0.71	-0.29	0.47	0.65	0.63	0.58	
Insight Sierra - REIT (notional)	2.74	2.38	3.19	2.74	3.19	4.12	3.10	N/A	N/A	N/A	N/A	1.09	12/01/2015
Currency Hedge Benchmark - REIT	2.79	2.45	3.29	2.79	3.29	4.27	3.22	N/A	N/A	N/A	N/A	1.22	
Value Added	-0.05	-0.07	-0.10	-0.05	-0.10	-0.15	-0.12	N/A	N/A	N/A	N/A	-0.13	
PTRES Composite (levered/unhedged)	7.12	7.57	30.53	7.12	30.53	20.47	8.82	9.78	10.65	8.80	11.29	9.70	07/01/1998
PTRES Composite (unlevered/unhedged)	4.22	4.52	18.73	4.22	18.73	12.71	5.50	6.69	9.08	7.76	10.50	8.97	07/01/1998
Blended Policy (PTRES) (Unhedged)	4.63	4.56	19.82	4.63	19.82	13.00	5.61	6.65	8.46	7.01	9.78	8.30	
Value Added	-0.41	-0.04	-1.09	-0.41	-1.09	-0.29	-0.11	0.04	0.62	0.75	0.72	0.67	
PSERS REIT Index (levered)	9.09	8.52	40.68	9.09	40.68	24.63	10.18	N/A	N/A	N/A	N/A	12.17	11/01/2015
PSERS REIT Index (unlevered)	4.49	4.19	19.19	4.49	19.19	12.16	5.16	N/A	N/A	N/A	N/A	6.16	11/01/2015
FTSE EPRA/NAREIT Developed Index (Net)	4.63	4.56	19.82	4.63	19.82	13.00	5.61	6.81	8.63	N/A	N/A	6.51	
Value Added	-0.14	-0.37	-0.63	-0.14	-0.63	-0.84	-0.45	N/A	N/A	N/A	N/A	-0.35	
Security Capital Preferred Growth	4.71	6.50	18.91	4.71	18.91	15.32	5.68	8.28	11.04	N/A	N/A	8.08	07/01/2008
Wilshire US Real Estate Securities Index	7.85	9.60	27.15	7.85	27.15	18.27	7.47	10.49	13.19	9.01	11.36	8.68	
Value Added	-3.14	-3.10	-8.24	-3.14	-8.24	-2.95	-1.79	-2.21	-2.15	N/A	N/A	-0.60	
Risk Parity Composite (vol adjusted)	2.35	7.11	17.27	2.35	17.27	10.34	6.90	5.18	N/A	N/A	N/A	4.59	10/01/2012
Blended Policy (Risk Parity)	3.41	9.11	20.30	3.41	20.30	13.07	6.99	6.38	8.91	8.31	9.36	5.29	
Value Added	-1.06	-2.00	-3.03	-1.06	-3.03	-2.73	-0.09	-1.20	N/A	N/A	N/A	-0.70	
BlackRock Market Advantage II (vol adjusted)	2.11	8.40	23.66	2.11	23.66	15.54	10.48	N/A	N/A	N/A	N/A	7.41	04/01/2015
Bridgewater All Weather @15% (vol adjusted)	1.75	6.34	16.37	1.75	16.37	10.02	6.81	5.00	N/A	N/A	N/A	4.44	10/01/2012
Bridgewater Optimal (vol adjusted)	-0.29	2.11	6.42	-0.29	6.42	2.54	3.75	N/A	N/A	N/A	N/A	2.45	11/01/2015
DE Shaw Orienteer HV (vol adjusted)	4.64	12.01	30.56	4.64	30.56	17.71	9.44	N/A	N/A	N/A	N/A	11.04	02/01/2016
PSERS Risk Parity Composite (vol adjusted to 12%)	2.60	6.97	15.88	2.60	15.88	9.81	6.51	5.97	N/A	N/A	N/A	4.66	02/01/2013
Total Absolute Return Composite	0.61	1.62	1.73	0.61	1.73	2.09	4.75	3.42	5.55	N/A	N/A	4.97	10/01/2005
Blended Policy (Absolute Return)	1.42	2.94	4.52	1.42	4.52	6.12	5.46	4.86	6.16	6.77	7.08	6.68	
Value Added	-0.81	-1.32	-2.79	-0.81	-2.79	-4.03	-0.71	-1.44	-0.61	N/A	N/A	-1.71	
Aeolus Property Catastrophe Keystone PF Fund, LP	4.71	5.07	3.99	4.71	3.99	-6.55	-6.38	1.29	N/A	N/A	N/A	7.26	06/01/2012
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	0.83	
Value Added	4.16	3.91	2.20	4.16	2.20	-8.94	-8.08	0.16	N/A	N/A	N/A	6.43	
AKAZ Offshore Fund Ltd	-4.53	-5.87	-9.48	-4.53	-9.48	N/A	N/A	N/A	N/A	N/A	N/A	-9.48	01/01/2019
ICE Libor (3 month)	0.55	1.18	1.86	0.55	1.86	2.53	1.90	1.31	0.82	1.74	2.10	1.86	
Value Added	-5.08	-7.05	-11.34	-5.08	-11.34	N/A	N/A	N/A	N/A	N/A	N/A	-11.34	
Bridgewater Pure Alpha Fund II, Ltd.	0.80	1.98	-3.98	0.80	-3.98	9.37	9.46	5.07	12.01	N/A	N/A	11.08	01/01/2006
ICE Libor (3 month)	0.55	1.18	1.86	0.55	1.86	2.53	1.90	1.31	0.82	1.74	2.10	1.60	
Value Added	0.25	0.80	-5.84	0.25	-5.84	6.84	7.56	3.76	11.19	N/A	N/A	9.48	
Brigade Leveraged Capital Structures Offshore Fund, Ltd.	-0.66	1.25	6.77	-0.66	6.77	-1.23	5.99	4.36	5.21	N/A	N/A	5.49	10/01/2007
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	0.91	
Value Added	-1.21	0.09	4.98	-1.21	4.98	-3.62	4.29	3.23	4.53	N/A	N/A	4.58	
Capula Global Relative Value Fund Limited	0.78	2.53	4.96	0.78	4.96	5.89	5.96	6.88	N/A	N/A	N/A	6.44	04/01/2011
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	0.75	
Value Added	0.23	1.37	3.17	0.23	3.17	3.50	4.26	5.75	N/A	N/A	N/A	5.69	
Capula Tail Risk Fund Limited	0.52	-0.28	-3.98	0.52	-3.98	-0.95	-3.57	-1.68	N/A	N/A	N/A	-1.89	07/01/2011
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	0.77	

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	Inception Date
Value Added	-0.03	-1.44	-5.77	-0.03	-5.77	-3.34	-5.27	-2.81	N/A	N/A	N/A	-2.66	
Carlyle Aviation/SASOF III LP	12.02	25.97	27.30	12.02	27.30	41.29	30.69	N/A	N/A	N/A	N/A	8.14	02/01/2015
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	1.20	
Value Added	11.47	24.81	25.51	11.47	25.51	38.90	28.99	N/A	N/A	N/A	N/A	6.94	
Carlyle Aviation/SASOF IV LP	5.91	6.98	9.70	5.91	9.70	16.31	N/A	N/A	N/A	N/A	N/A	15.67	04/01/2018
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	2.28	
Value Added	5.36	5.82	7.91	5.36	7.91	13.92	N/A	N/A	N/A	N/A	N/A	13.39	
Caspian Keystone Focused Fund, Ltd.	6.35	5.39	24.55	6.35	24.55	24.55	11.16	N/A	N/A	N/A	N/A	12.40	06/01/2016
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	1.58	
Value Added	5.80	4.23	22.76	5.80	22.76	22.16	9.46	N/A	N/A	N/A	N/A	10.82	
Caspian Select Credit International, Ltd.	-0.36	1.40	3.07	-0.36	3.07	0.80	5.02	1.37	N/A	N/A	N/A	3.19	04/01/2011
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	0.75	
Value Added	-0.91	0.24	1.28	-0.91	1.28	-1.59	3.32	0.24	N/A	N/A	N/A	2.44	
Garda Fixed Income Relative Value Opportunity Fund Ltd.	2.17	4.80	7.84	2.17	7.84	6.92	5.87	5.05	N/A	N/A	N/A	5.60	01/01/2012
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	0.80	
Value Added	1.62	3.64	6.05	1.62	6.05	4.53	4.17	3.92	N/A	N/A	N/A	4.80	
HS Group Sponsor Fund II, Ltd.	-1.79	-1.54	3.51	-1.79	3.51	-2.09	N/A	N/A	N/A	N/A	N/A	-4.94	06/01/2018
ICE Libor (3 month)	0.55	1.18	1.86	0.55	1.86	2.53	1.90	1.31	0.82	1.74	2.10	2.49	
Value Added	-2.34	-2.72	1.65	-2.34	1.65	-4.62	N/A	N/A	N/A	N/A	N/A	-7.43	
Independence Reinsurance Partners Composite	3.40	5.05	6.87	3.40	6.87	-1.21	-3.19	N/A	N/A	N/A	N/A	-0.74	02/01/2016
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	1.47	
Value Added	2.85	3.89	5.08	2.85	5.08	-3.60	-4.89	N/A	N/A	N/A	N/A	-2.21	
DaVinci Reinsurance Ltd.	2.22	7.34	13.87	2.22	13.87	8.15	-1.06	N/A	N/A	N/A	N/A	1.52	02/01/2016
RenaissanceRe Medici Fund Ltd.	3.15	2.70	3.78	3.15	3.78	2.63	3.21	N/A	N/A	N/A	N/A	4.07	02/01/2016
Upsilon Diversified Fund Ltd.	4.27	5.95	6.60	4.27	6.60	-8.38	N/A	N/A	N/A	N/A	N/A	-27.01	01/01/2017
Nephila/Nimbus Weather Fund	1.19	1.62	-3.02	1.19	-3.02	-3.22	N/A	N/A	N/A	N/A	N/A	0.41	01/01/2018
3-Month TBills+ 5.00%	1.80	3.68	5.58	1.80	5.58	7.48	6.60	6.00	5.54	6.39	6.82	7.19	
Value Added	-0.61	-2.06	-8.60	-0.61	-8.60	-10.70	N/A	N/A	N/A	N/A	N/A	-6.78	
Nephila/Palmetto Fund Ltd.	2.05	3.53	3.95	2.05	3.95	-2.13	-2.35	0.56	N/A	N/A	N/A	3.38	07/01/2011
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	0.77	
Value Added	1.50	2.37	2.16	1.50	2.16	-4.52	-4.05	-0.57	N/A	N/A	N/A	2.61	
Oceanwood Investments SPC Co-Invest	-2.68	5.68	22.54	-2.68	22.54	18.39	N/A	N/A	N/A	N/A	N/A	18.39	10/01/2018
3-Month Libor+ 6.50%	2.15	4.42	6.78	2.15	6.78	9.20	8.52	7.90	7.37	8.36	8.73	9.20	
Value Added	-4.83	1.26	15.76	-4.83	15.76	9.19	N/A	N/A	N/A	N/A	N/A	9.19	
Oceanwood Opportunities Fund	0.32	0.43	3.62	0.32	3.62	-0.88	7.40	4.40	N/A	N/A	N/A	4.06	09/01/2014
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	1.12	
Value Added	-0.23	-0.73	1.83	-0.23	1.83	-3.27	5.70	3.27	N/A	N/A	N/A	2.94	
OWS Credit Opportunity Offshore Fund III, Ltd.	1.44	3.34	5.78	1.44	5.78	5.21	10.90	N/A	N/A	N/A	N/A	10.20	12/01/2015
ICE Libor (3 month)	0.55	1.18	1.86	0.55	1.86	2.53	1.90	1.31	0.82	1.74	2.10	1.63	
Value Added	0.89	2.16	3.92	0.89	3.92	2.68	9.00	3.92	N/A	N/A	N/A	8.57	
Perry Partners LP	1.38	9.51	26.70	1.38	26.70	20.11	3.31	-1.98	N/A	N/A	N/A	-1.73	12/01/2013
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	0.99	
Value Added	0.83	8.35	24.91	0.83	24.91	17.72	1.61	-3.11	N/A	N/A	N/A	-2.72	
PIMCO PARS/GCOF/MAV/PCAF Composite	-2.40	-2.67	-1.11	-2.40	-1.11	0.77	1.71	2.49	4.49	N/A	N/A	5.56	03/01/2008
ICE Libor (1 month)	0.55	1.16	1.79	0.55	1.79	2.39	1.70	1.13	0.68	1.59	1.97	0.79	
Value Added	-2.95	-3.83	-2.90	-2.95	-2.90	-1.62	0.01	1.36	3.81	N/A	N/A	4.77	
PIMCO Absolute Return Strategy V Offshore Fund, Ltd.	5.06	5.44	6.36	5.06	6.36	4.49	2.03	3.84	N/A	N/A	N/A	4.96	10/01/2012

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	Inception Date
PIMCO Global Credit Opportunity Offshore Fund, Ltd.	-10.09	-8.87	-12.37	-10.09	-12.37	-5.86	1.31	3.50	N/A	N/A	N/A	5.45	10/01/2012
PIMCO Commodity Alpha Fund	-1.34	-3.59	3.86	-1.34	3.86	1.51	9.31	N/A	N/A	N/A	N/A	10.86	03/01/2015
<b>Two Sigma Risk Premia Enhanced Fund, LP</b>	1.07	-0.68	-0.99	1.07	-0.99	0.53	N/A	N/A	N/A	N/A	N/A	N/A	04/01/2017
ICE Libor (3 month)	0.55	1.18	1.86	0.55	1.86	2.53	1.90	1.31	0.82	1.74	2.10	2.08	
Value Added	0.52	-1.86	-2.85	0.52	-2.85	-2.00	N/A	N/A	N/A	N/A	N/A	N/A	
<b>Venor Capital Offshore, Ltd.</b>	0.70	4.06	7.41	0.70	7.41	-2.32	4.95	N/A	N/A	N/A	N/A	4.97	09/01/2016
FTSE 1 Month T-Bill	0.53	1.15	1.76	0.53	1.76	2.33	1.48	0.92	0.48	1.25	1.63	1.45	
Value Added	0.17	2.91	5.65	0.17	5.65	-4.65	3.47	N/A	N/A	N/A	N/A	3.52	
<b>Unallocated Cash &amp; Cash Equivalents</b>	0.53	1.13	1.80	0.53	1.80	2.91	1.82	1.23	1.41	0.75	0.30	0.61	07/01/1998
ICE BofAML 3 Month U.S. T-Bill	0.56	1.20	1.81	0.56	1.81	2.38	1.54	0.98	0.54	1.39	1.82	2.00	
Value Added	-0.03	-0.07	-0.01	-0.03	-0.01	0.53	0.28	0.25	0.87	-0.64	-1.52	-1.39	
<b>PSERS Cash Management</b>	0.57	1.18	1.86	0.57	1.86	2.43	1.64	1.04	0.77	0.27	-0.04	2.42	07/01/1985
RE Conversions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	09/01/2015
PSERS Derivatives Collateral	0.39	1.00	1.61	0.39	1.61	3.35	N/A	N/A	N/A	N/A	N/A	1.87	01/01/2018
<b>PSERS Ultra Short Duration</b>	0.57	1.22	1.91	0.57	1.91	2.50	1.74	1.17	0.71	N/A	N/A	0.76	01/01/2009
ICE BofAML US Treasury Bills 0-3M	0.53	1.15	1.76	0.53	1.76	2.33	1.49	0.94	0.50	1.32	1.73	0.48	
Value Added	0.04	0.07	0.15	0.04	0.15	0.17	0.25	0.23	0.21	N/A	N/A	0.28	
<b>LIBOR Composite</b>	0.81	1.65	2.77	0.81	2.77	3.17	2.27	1.85	1.45	N/A	N/A	2.03	01/01/2007
ICE Libor (3 month)	0.55	1.18	1.86	0.55	1.86	2.53	1.90	1.31	0.82	1.74	2.10	1.33	
Value Added	0.26	0.47	0.91	0.26	0.91	0.64	0.37	0.54	0.63	N/A	N/A	0.70	
<b>PSERS LIBOR Plus</b>	0.71	1.51	2.55	0.71	2.55	2.94	2.21	1.65	1.24	N/A	N/A	1.88	01/01/2007
PSERS LIBOR Plus Hybrid	0.60	1.23	1.90	0.60	1.90	2.58	1.91	1.32	0.82	1.75	2.10	1.33	
Value Added	0.11	0.28	0.65	0.11	0.65	0.36	0.30	0.33	0.42	N/A	N/A	0.55	
<b>Capula LIBOR Tail Risk</b>	0.52	-0.28	-3.97	0.52	-3.97	-0.95	-3.57	N/A	N/A	N/A	N/A	-2.94	10/01/2015
ICE Libor (3 month)	0.55	1.18	1.86	0.55	1.86	2.53	1.90	1.31	0.82	1.74	2.10	1.58	
Value Added	-0.03	-1.46	-5.83	-0.03	-5.83	-3.48	-5.47	N/A	N/A	N/A	N/A	-4.52	
<b>Radcliffe Ultra Short Duration</b>	1.00	2.07	3.84	1.00	3.84	4.19	3.24	3.23	N/A	N/A	N/A	2.96	06/01/2012
ICE Libor (3 month)	0.55	1.18	1.86	0.55	1.86	2.53	1.90	1.31	0.82	1.74	2.10	0.99	
Value Added	0.45	0.89	1.98	0.45	1.98	1.66	1.34	1.92	N/A	N/A	N/A	1.97	
<b>Penn Mutual Asset Management</b>	0.88	1.98	4.09	0.88	4.09	3.39	N/A	N/A	N/A	N/A	N/A	3.03	06/01/2017
ICE Libor (3 month)	0.55	1.18	1.86	0.55	1.86	2.53	1.90	1.31	0.82	1.74	2.10	2.14	
Value Added	0.33	0.80	2.23	0.33	2.23	0.86	N/A	N/A	N/A	N/A	N/A	0.89	
<b>PSERS Healthcare &amp; HOP</b>													
<b>PSERS Healthcare - Premium Assist</b>	0.62	1.31	2.06	0.62	2.06	2.68	1.86	1.34	1.04	2.11	2.59	2.83	01/01/1998
ICE BofAML 3 Month U.S. T-Bill	0.56	1.20	1.81	0.56	1.81	2.38	1.54	0.98	0.54	1.39	1.82	2.07	
Value Added	0.06	0.11	0.25	0.06	0.25	0.30	0.32	0.36	0.50	0.72	0.77	0.76	
<b>PSERS Healthcare - HOP</b>	0.57	1.22	1.91	0.57	1.91	2.51	1.75	1.19	0.74	1.70	N/A	1.69	02/01/2002
ICE BofAML 3 Month U.S. T-Bill	0.56	1.20	1.81	0.56	1.81	2.38	1.54	0.98	0.54	1.39	1.82	1.38	
Value Added	0.01	0.02	0.10	0.01	0.10	0.13	0.21	0.21	0.20	0.31	N/A	0.31	
<b>Defined Contribution</b>													
<b>PSERS Defined Contribution</b>	0.57	1.22	1.91	0.57	1.91	2.51	N/A	N/A	N/A	N/A	N/A	2.21	01/01/2018
<b>E/M Total Program Composite</b>	1.91	4.14	6.54	1.91	6.54	7.00	4.06	3.87	5.85	4.93	N/A	3.43	01/01/2000
<b>E/M US Core Plus FI Composite</b>	2.34	5.55	8.69	2.34	8.69	10.30	2.93	3.31	2.33	N/A	N/A	1.96	11/01/2004

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	Inception Date
Pugh Capital Management	2.34	5.55	8.69	2.34	8.69	10.30	2.93	3.39	4.04	N/A	N/A	4.97	07/01/2006
Bimbg. Barc. U.S. Aggregate	2.27	5.42	8.52	2.27	8.52	10.30	2.92	3.38	3.75	4.21	5.02	4.57	
Value Added	0.07	0.13	0.17	0.07	0.17	0.00	0.01	0.01	0.29	N/A	N/A	0.40	
<b>E/M Short Duration Cash</b>	<b>1.84</b>	<b>3.91</b>	<b>6.19</b>	<b>1.84</b>	<b>6.19</b>	<b>6.47</b>	<b>4.35</b>	<b>4.22</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>4.22</b>	<b>10/01/2014</b>
Radcliffe Ultra Short Duration	1.00	2.07	3.84	1.00	3.84	4.19	3.24	3.23	N/A	N/A	N/A	2.96	06/01/2012
ICE Libor (3 month)	0.55	1.18	1.86	0.55	1.86	2.53	1.90	1.31	0.82	1.74	2.10	0.99	
Value Added	0.45	0.89	1.98	0.45	1.98	1.66	1.34	1.92	N/A	N/A	N/A	1.97	
Radcliffe Specialty Finance Debt	2.48	5.35	8.04	2.48	8.04	8.27	5.23	4.94	N/A	N/A	N/A	4.94	10/01/2014
3-Month Libor + 0.60%	0.70	1.49	2.31	0.70	2.31	3.15	2.51	1.92	1.42	2.36	2.71	1.92	
Value Added	1.78	3.86	5.73	1.78	5.73	5.12	2.72	3.02	N/A	N/A	N/A	3.02	

As of September 30, 2019

## Trailing Period Performance

	Performance (%)												
	1 Quarter	2 Quarters Ending Sep-2019	3 Quarters Ending Sep-2019	FYTD	YTD	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception	Inception Date
<b>Total Private Market Composites (hedged)</b>	3.20	6.55	7.41	3.20	7.41	10.32	12.72	9.99	11.38	10.60	9.54	10.16	10/01/1992
Blended Policy (Private Market)	2.90	6.18	6.34	2.90	6.34	9.20	12.33	10.54	12.11	9.69	8.11	N/A	
Value Added	0.30	0.37	1.07	0.30	1.07	1.12	0.39	-0.55	-0.73	0.91	1.43	N/A	
<b>Total Private Market Composites (unhedged)</b>	3.24	6.58	7.40	3.24	7.40	10.30	12.70	9.98	11.37	10.60	9.54	10.15	10/01/1992
Blended Policy (Private Market)	2.90	6.18	6.34	2.90	6.34	9.20	12.33	10.54	12.11	9.69	8.11	N/A	
Value Added	0.34	0.40	1.06	0.34	1.06	1.10	0.37	-0.56	-0.74	0.91	1.43	N/A	
<b>Total Alternative Investments (hedged)</b>	3.18	7.14	7.13	3.18	7.13	9.93	13.95	9.45	11.81	12.25	10.35	10.38	07/01/1998
Burgiss All Private Markets ex Real Estate (1Q Lag)	3.70	8.09	7.20	3.70	7.20	10.71	14.14	10.90	13.31	9.58	6.79	6.55	
Value Added	-0.52	-0.95	-0.07	-0.52	-0.07	-0.78	-0.19	-1.45	-1.50	2.67	3.56	3.83	
<b>Total Alternative Investments (unhedged)</b>	3.24	7.19	7.12	3.24	7.12	9.89	13.92	9.42	11.80	12.24	10.34	10.38	07/01/1998
Burgiss All Private Markets ex Real Estate (1Q Lag)	3.70	8.09	7.20	3.70	7.20	10.71	14.14	10.90	13.31	9.58	6.79	6.55	
Value Added	-0.46	-0.90	-0.08	-0.46	-0.08	-0.82	-0.22	-1.48	-1.51	2.66	3.55	3.83	
Buyout/Venture Cap-Growth Equity/Spec Situations/Co-Invest	3.26	7.26	7.10	3.26	7.10	9.94	13.96	9.45	N/A	N/A	N/A	10.81	04/01/2012
Insight Wilson - PE (notional) (1Q Lag)	0.08	1.37	3.98	0.08	3.98	5.35	1.85	N/A	N/A	N/A	N/A	2.41	10/01/2015
Currency Hedge Benchmark - PE (1Q Lag)	0.10	1.42	4.00	0.10	4.00	5.40	1.91	N/A	N/A	N/A	N/A	2.48	
Value Added	-0.02	-0.05	-0.02	-0.02	-0.02	-0.05	-0.06	N/A	N/A	N/A	N/A	-0.07	
Private Equity Co-Investment Composite	1.71	6.77	8.66	1.71	8.66	9.73	16.05	19.68	N/A	N/A	N/A	26.74	04/01/2012
PA Penn Investment Fund - Buyout Composite	-0.33	10.55	0.25	-0.33	0.25	1.67	20.49	N/A	N/A	N/A	N/A	17.33	12/01/2015
PA Penn Investment Fund - Buyout Internal	4.37	4.74	6.81	4.37	6.81	-3.32	-14.82	N/A	N/A	N/A	N/A	-9.95	12/01/2015
PA Penn Investment Fund - Buyout External	-0.50	10.77	0.01	-0.50	0.01	1.86	24.06	N/A	N/A	N/A	N/A	19.38	12/01/2015
Internally Managed Buyout Composite	1.94	6.38	9.70	1.94	9.70	10.72	15.53	19.50	N/A	N/A	N/A	26.61	04/01/2012
Buyout/Venture Cap-Growth Equity/Special Situations	3.43	7.31	6.96	3.43	6.96	9.94	13.82	9.09	11.62	12.15	10.52	10.30	07/01/1998
Special Situations Composite	0.87	3.41	0.43	0.87	0.43	4.57	7.63	4.52	9.39	8.29	N/A	7.43	04/01/2001
Buyout/Venture Capital-Growth Equity Composite	3.91	8.07	8.24	3.91	8.24	11.02	14.98	9.95	11.88	12.87	10.56	10.34	07/01/1998
Buyout	3.68	7.92	7.70	3.68	7.70	9.83	14.72	9.61	11.99	13.17	N/A	11.12	04/01/2001
Buyout x Tobacco Composite	3.68	7.92	7.70	3.68	7.70	9.83	14.72	9.71	12.04	13.20	N/A	11.14	04/01/2001
Venture Capital	5.09	8.86	11.04	5.09	11.04	17.15	16.20	12.31	10.63	10.15	N/A	5.26	04/01/2001
<b>Total Real Estate (levered/hedged)</b>	3.84	6.01	9.60	3.84	9.60	11.83	10.79	10.69	10.22	7.53	8.52	8.31	04/01/1981
<b>Total Real Estate (unlevered/hedged)</b>	3.62	5.70	9.13	3.62	9.13	11.26	10.28	10.30	10.02	7.41	8.42	8.26	04/01/1981
Blended Policy (Total Real Estate) (Hedged)	2.15	3.29	6.53	2.15	6.53	7.65	9.15	9.65	9.63	8.95	9.06	8.56	
Value Added	1.47	2.41	2.60	1.47	2.60	3.61	1.13	0.65	0.39	-1.54	-0.64	-0.30	
<b>Total Real Estate (levered/unhedged)</b>	3.74	5.92	9.46	3.74	9.46	11.65	10.66	10.65	10.20	7.52	8.51	8.30	04/01/1981
<b>Total Real Estate (unlevered/unhedged)</b>	3.62	5.70	9.13	3.62	9.13	11.26	10.28	10.30	10.02	7.41	8.42	8.26	04/01/1981
Blended Policy (Total Real Estate) (Unhedged)	1.96	3.12	6.31	1.96	6.31	7.38	8.96	9.57	9.58	8.92	9.04	8.55	
Value Added	1.66	2.58	2.82	1.66	2.82	3.88	1.32	0.73	0.44	-1.51	-0.62	-0.29	
<b>Private Real Estate Composite</b>	3.42	5.78	7.78	3.42	7.78	10.87	10.80	10.64	9.87	7.95	8.51	9.42	07/01/1996
Blended Policy (Private Real Estate)	1.48	2.85	4.72	1.48	4.72	6.56	9.48	9.75	9.67	8.98	9.08	9.67	
Value Added	1.94	2.93	3.06	1.94	3.06	4.31	1.32	0.89	0.20	-1.03	-0.57	-0.25	
Private Real Estate x Coinvestment	3.41	5.75	7.66	3.41	7.66	10.75	10.68	10.53	9.80	7.26	8.08	8.99	07/01/1996
Private Real Estate Coinvestment	3.81	6.88	12.64	3.81	12.64	15.97	15.92	16.81	N/A	N/A	N/A	21.67	07/01/2013



As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>PSERS Total Fund</b>	0.56	12.19	10.83	-1.43	8.73	8.63	11.35	4.31	14.22	12.06
Blended Policy (Total Plan)	0.23	11.94	10.35	-1.53	8.71	7.70	10.19	3.70	11.98	14.34
Value Added	0.33	0.25	0.48	0.10	0.02	0.93	1.16	0.61	2.24	-2.28
<b>Total Public Markets Composite</b>	-3.01	11.41	11.18	-4.21	6.54	6.64	10.98	1.01	15.33	28.30
Blended Policy (Public Market) (Hedged)	-3.75	11.27	11.05	-5.66	5.19	4.76	9.81	-0.36	11.76	24.17
Value Added	0.74	0.14	0.13	1.45	1.35	1.88	1.17	1.37	3.57	4.13
Blended Policy (Public Market) (Unhedged)	-4.85	13.08	9.70	-6.28	4.16	4.69	9.81	-0.36	11.76	24.17
Value Added	1.84	-1.67	1.48	2.07	2.38	1.95	1.17	1.37	3.57	4.13
<b>Total Public Markets Composite ex HY &amp; Absolute Return</b>	-6.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blended Policy (Public Market x HY & Abs Return) (Hedged)	-6.50	13.88	13.10	-7.77	9.53	4.56	13.40	N/A	N/A	N/A
Value Added	0.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Total Public Global Equity Composite (hedged)</b>	-8.20	22.26	9.23	0.92	8.15	24.43	17.07	-6.96	16.95	41.00
Blended Policy (Public Equity) (Hedged)	-9.06	22.74	8.89	-0.51	7.93	24.18	16.73	-7.83	14.34	37.59
Value Added	0.86	-0.48	0.34	1.43	0.22	0.25	0.34	0.87	2.61	3.41
Blended Policy (Public Equity) (Unhedged)	-9.81	24.32	8.72	-1.88	4.14	23.89	16.73	-7.83	14.34	37.59
Value Added	1.61	-2.06	0.51	2.80	4.01	0.54	0.34	0.87	2.61	3.41
<b>Public Equity ex Rebalancing/Liquidation Accounts</b>	-9.34	22.75	9.09	5.10	8.10	23.97	17.07	-6.96	16.95	41.00
Blended Policy (Public Equity) (Hedged)	-9.06	22.74	8.89	-0.51	7.93	24.18	16.73	-7.83	14.34	37.59
Value Added	-0.28	0.01	0.20	5.61	0.17	-0.21	0.34	0.87	2.61	3.41
<b>Total US Equity Composite</b>	-6.08	19.21	16.49	0.40	11.71	34.04	15.65	1.65	18.37	33.94
Blended Policy (Tot US Eq)	-5.20	21.28	12.66	0.64	12.51	33.39	16.42	0.80	16.52	28.22
Value Added	-0.88	-2.07	3.83	-0.24	-0.80	0.65	-0.77	0.85	1.85	5.72
<b>PSERS-S&amp;P 500 Index Composite</b>	-4.94	20.69	13.90	1.43	13.66	32.85	16.09	2.03	16.03	28.52
S&P 500 Index	-4.38	21.83	11.96	1.38	13.69	32.39	16.00	2.11	15.06	26.46
Value Added	-0.56	-1.14	1.94	0.05	-0.03	0.46	0.09	-0.08	0.97	2.06
<b>Radcliffe Specialty Finance Debt</b>	1.83	5.47	5.97	3.22	N/A	N/A	N/A	N/A	N/A	N/A
3-Month Libor + 0.60%	2.95	1.88	1.35	0.92	0.84	0.87	1.03	0.94	0.95	1.29
Value Added	-1.12	3.59	4.62	2.30	N/A	N/A	N/A	N/A	N/A	N/A
<b>PSERS-S&amp;P 400 Index Composite</b>	-10.98	16.49	21.34	-2.20	9.87	33.45	18.78	-1.60	27.42	41.12
S&P MidCap 400	-11.08	16.24	20.74	-2.18	9.77	33.50	17.88	-1.73	26.64	37.38
Value Added	0.10	0.25	0.60	-0.02	0.10	-0.05	0.90	0.13	0.78	3.74
<b>PSERS-S&amp;P 600 Index Composite</b>	-8.27	13.53	28.05	-1.47	6.23	43.13	17.70	1.64	27.47	29.62
S&P SmallCap 600	-8.48	13.23	26.56	-1.97	5.76	41.31	16.33	1.02	26.31	25.57
Value Added	0.21	0.30	1.49	0.50	0.47	1.82	1.37	0.62	1.16	4.05
<b>Total Non-U.S. Equity Composite (hedged)</b>	-11.76	24.79	5.15	2.68	5.09	15.95	18.39	-13.34	16.00	45.88
Blended Policy (Total Non-US Eq) (Hedged)	-11.96	23.62	6.43	-0.50	3.97	16.36	17.03	-14.30	12.73	45.38
Value Added	0.20	1.17	-1.28	3.18	1.12	-0.41	1.36	0.96	3.27	0.50
<b>Total Non-U.S. Equity Composite (unhedged)</b>	-14.54	30.36	2.96	-1.98	-3.27	15.95	18.39	-13.34	16.00	45.88
Blended Policy (Total Non-US Eq) (Unhedged)	-14.73	28.22	4.67	-5.11	-3.99	15.82	17.03	-14.30	12.73	45.38

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Value Added	0.19	2.14	-1.71	3.13	0.72	0.13	1.36	0.96	3.27	0.50
<b>Total Non-U.S. Equity x Emerging Markets Composite (hedged)</b>	<b>-11.71</b>	<b>24.31</b>	<b>5.60</b>	<b>3.70</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Blended Policy (Non-US Equity x EM) (Hedged)	-11.87	23.03	6.25	0.66	4.75	16.36	17.03	-14.30	12.73	45.38
Value Added	0.16	1.28	-0.65	3.04	N/A	N/A	N/A	N/A	N/A	N/A
<b>Insight Everest - Int'l Eq (notional)</b>	<b>5.95</b>	<b>-6.57</b>	<b>4.02</b>	<b>7.13</b>	<b>10.98</b>	<b>-0.37</b>	<b>-1.46</b>	<b>0.00</b>	<b>1.39</b>	<b>1.84</b>
Currency Hedge Benchmark - Int'l Eq	5.98	-6.46	4.18	7.24	11.05	-1.39	0.00	0.00	0.00	3.39
Value Added	-0.03	-0.11	-0.16	-0.11	-0.07	1.02	-1.46	0.00	1.39	-1.55
<b>Total Non-U.S. Equity x Emerging Markets Composite (unhedged)</b>	<b>-14.61</b>	<b>30.12</b>	<b>3.29</b>	<b>-1.46</b>	<b>-3.43</b>	<b>19.23</b>	<b>18.82</b>	<b>-12.39</b>	<b>14.77</b>	<b>42.06</b>
Blended Policy (Non-US Equity x EM) (Unhedged)	-14.76	27.81	4.41	-4.60	-3.89	15.82	17.03	-14.30	12.73	45.38
Value Added	0.15	2.31	-1.12	3.14	0.46	3.41	1.79	1.91	2.04	-3.32
<b>Non-US Large/Mid Cap Equity Composite</b>	<b>-13.84</b>	<b>29.19</b>	<b>3.99</b>	<b>-2.76</b>	<b>-3.41</b>	<b>17.33</b>	<b>17.78</b>	<b>-11.96</b>	<b>12.69</b>	<b>40.38</b>
Blended Policy (MSCI World AC Word ex USA net)	-14.20	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15	41.45
Value Added	0.36	2.00	-0.51	2.90	0.46	2.04	0.95	1.75	1.54	-1.07
<b>PSERS ACWI x US Index Fund</b>	<b>-13.83</b>	<b>28.03</b>	<b>5.35</b>	<b>-5.24</b>	<b>-3.41</b>	<b>16.07</b>	<b>17.57</b>	<b>-13.06</b>	<b>11.85</b>	<b>42.86</b>
MSCI ACWI/EAFE Index Blend	-14.20	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15	41.45
Value Added	0.37	0.84	0.85	0.42	0.46	0.78	0.74	0.65	0.70	1.41
<b>BlackRock EMAA</b>	<b>-13.60</b>	<b>40.71</b>	<b>13.37</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
MSCI Emerging Markets Index (Net)	-14.58	37.28	11.19	-14.92	-2.19	-2.60	18.23	-18.42	18.88	78.51
Value Added	0.98	3.43	2.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Active Non-US Large/Mid Cap Composite</b>	<b>-13.85</b>	<b>30.80</b>	<b>2.28</b>	<b>0.72</b>	<b>-3.88</b>	<b>19.34</b>	<b>18.60</b>	<b>-8.26</b>	<b>15.23</b>	<b>37.57</b>
MSCI AC World ex USA Index (Net)	-14.20	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15	41.45
Value Added	0.35	3.61	-2.22	6.38	-0.01	4.05	1.77	5.45	4.08	-3.88
<b>Baillie Gifford</b>	<b>-16.41</b>	<b>35.09</b>	<b>5.65</b>	<b>-1.91</b>	<b>-2.19</b>	<b>17.46</b>	<b>21.25</b>	<b>-11.41</b>	<b>15.75</b>	<b>49.51</b>
MSCI AC World ex USA Index (Net)	-14.20	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15	41.45
Value Added	-2.21	7.90	1.15	3.75	1.68	2.17	4.42	2.30	4.60	8.06
<b>BlackRock Global Composite</b>	<b>-12.49</b>	<b>31.84</b>	<b>-1.59</b>	<b>-0.93</b>	<b>-3.52</b>	<b>13.89</b>	<b>18.71</b>	<b>-4.14</b>	<b>21.12</b>	<b>35.38</b>
Blended Benchmark (BlackRock Global Composite)	-11.77	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15	41.45
Value Added	-0.72	4.65	-6.09	4.73	0.35	-1.40	1.88	9.57	9.97	-6.07
<b>Effissimo Capital Partners Feeder Fund 2 LP</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
MSCI Japan in LC (Net)	-15.15	19.75	-0.74	9.93	9.48	54.58	21.57	-18.73	0.57	9.12
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Marathon Asset Mgmt</b>	<b>-13.16</b>	<b>26.05</b>	<b>1.25</b>	<b>3.53</b>	<b>-5.35</b>	<b>25.79</b>	<b>18.82</b>	<b>-9.23</b>	<b>17.59</b>	<b>35.96</b>
Blended Benchmark (MSCI ACWI ex USA net)	-14.20	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15	41.45
Value Added	1.04	-1.14	-3.25	9.19	-1.48	10.50	1.99	4.48	6.44	-5.49
<b>The Children's Investment Fund, LP</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
MSCI World Index (Net)	-8.71	22.40	7.51	-0.87	4.94	26.68	15.83	-5.54	11.76	29.99
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-US Small Cap Equity Composite</b>	<b>-19.07</b>	<b>36.26</b>	<b>-0.91</b>	<b>9.41</b>	<b>-3.47</b>	<b>30.37</b>	<b>25.17</b>	<b>-15.55</b>	<b>29.62</b>	<b>52.97</b>
MSCI AC World ex USA Small Cap (Net)	-18.20	31.65	3.91	2.60	-4.03	19.73	18.52	-18.50	25.21	62.91

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Value Added	-0.87	4.61	-4.82	6.81	0.56	10.64	6.65	2.95	4.41	-9.94
Acadian Asset Mgmt	-18.36	37.99	8.76	3.08	-0.19	24.86	25.11	-16.94	26.02	59.84
Blended Benchmark (MSCI AC World ex USA Small Cap net)	-18.20	31.65	3.91	2.60	-4.03	19.73	18.52	-18.50	25.21	62.91
Value Added	-0.16	6.34	4.85	0.48	3.84	5.13	6.59	1.56	0.81	-3.07
Oberweis Asset Mgmt	-23.62	41.55	-4.84	16.17	-2.82	59.12	31.95	-14.60	31.03	62.42
MSCI AC World ex USA Small Cap (Net)	-18.20	31.65	3.91	2.60	-4.03	19.73	18.52	-18.50	25.21	62.91
Value Added	-5.42	9.90	-8.75	13.57	1.21	39.39	13.43	3.90	5.82	-0.49
QS Investors	-20.01	31.70	3.28	4.60	-0.18	26.34	21.71	-12.22	26.52	41.36
MSCI AC World ex USA Small Cap (Net)	-18.20	31.65	3.91	2.60	-4.03	19.73	18.52	-18.50	25.21	62.91
Value Added	-1.81	0.05	-0.63	2.00	3.85	6.61	3.19	6.28	1.31	-21.55
Wasatch Int'l Small Cap	-14.32	33.33	-7.75	14.73	-7.31	28.25	33.41	-13.75	34.70	69.89
Blended Benchmark (MSCI AC World ex USA Small Cap net)	-18.20	31.65	3.91	2.60	-4.03	19.73	18.52	-18.50	25.21	62.91
Value Added	3.88	1.68	-11.66	12.13	-3.28	8.52	14.89	4.75	9.49	6.98
Emerging Markets Equity Composite	-15.70	35.73	-3.95	-8.21	1.48	-0.24	21.03	-17.81	17.04	71.83
Blended Policy (EM)	-15.05	37.58	11.19	-14.92	-2.19	-2.60	18.23	-18.42	18.87	78.48
Value Added	-0.65	-1.85	-15.14	6.71	3.67	2.36	2.80	0.61	-1.83	-6.65
MSCI Emerging Markets IMI (Net)	-15.05	36.83	9.90	-13.86	-1.79	-2.20	18.69	-19.49	19.90	82.36
Value Added	-0.65	-1.10	-13.85	5.65	3.27	1.96	2.34	1.68	-2.86	-10.53
Cederberg China Equity Fund	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI Golden Dragon Index (Net)	-14.80	43.79	5.40	-7.43	7.72	6.89	22.19	-18.67	13.24	66.66
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Steadview Capital Partners LP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nifty 50 Index	4.72	30.27	4.48	-2.76	33.48	8.47	29.92	-23.62	19.54	77.97
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wasatch EM Small Cap	-16.33	35.73	-3.95	-10.36	2.13	1.87	28.06	-12.98	42.87	119.09
Blended Policy (Wasatch EM)	-17.34	33.33	4.03	-9.81	1.49	1.01	22.60	-26.96	27.47	114.32
Value Added	1.01	2.40	-7.98	-0.55	0.64	0.86	5.46	13.98	15.40	4.77
Total Fixed Income Exposure	2.09	7.96	10.94	-0.70	10.29	-2.52	11.76	9.54	14.11	22.14
Blended Policy (Total FI)	-0.43	5.10	9.49	-2.62	5.19	-4.69	9.86	7.27	10.27	24.60
Value Added	2.52	2.86	1.45	1.92	5.10	2.17	1.90	2.27	3.84	-2.46
Global Fixed Income Composite	-1.25	7.11	4.64	-0.92	3.69	-1.89	N/A	N/A	N/A	N/A
Blended Policy (Global FI)	-0.23	5.01	4.55	-3.35	2.65	-2.76	7.49	5.36	8.07	9.49
Value Added	-1.02	2.10	0.09	2.43	1.04	0.87	N/A	N/A	N/A	N/A
Total US Fixed Income Composite	2.24	7.93	11.28	0.35	12.94	-2.44	11.42	10.83	14.58	22.49
Blended Policy (Total US FI)	-0.35	4.87	9.61	-1.72	5.60	-2.92	9.48	8.46	10.45	27.91
Value Added	2.59	3.06	1.67	2.07	7.34	0.48	1.94	2.37	4.13	-5.42
Total US Fixed Income ex TIPS Composite	2.98	10.04	8.22	1.27	13.46	3.53	13.15	4.98	13.50	24.35
Investment Grade Composite	-3.54	9.46	2.62	-0.22	N/A	N/A	N/A	N/A	N/A	N/A
Blended Policy (Investment Grade)	0.40	5.11	2.23	-0.58	11.06	-5.59	4.39	14.57	7.30	-0.22

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Value Added	-3.94	4.35	0.39	0.36	N/A	N/A	N/A	N/A	N/A	N/A
<b>US Core Plus Fixed Income Composite</b>	-1.47	6.25	3.95	1.70	7.12	-0.86	8.06	9.31	10.25	14.84
Blended Policy (Barclays Aggregate Index)	0.01	3.54	2.65	0.55	5.97	-2.02	4.21	7.06	7.16	8.60
Value Added	-1.48	2.71	1.30	1.15	1.15	1.16	3.85	2.25	3.09	6.24
<b>Pugh Capital Management</b>	-0.40	3.98	2.63	0.56	6.22	-1.89	5.52	8.02	7.24	8.65
Blmbg. Barc. U.S. Aggregate	0.01	3.54	2.65	0.55	5.97	-2.02	4.21	7.84	6.54	5.93
Value Added	-0.41	0.44	-0.02	0.01	0.25	0.13	1.31	0.18	0.70	2.72
<b>PSERS Active Core Plus Fixed Income</b>	1.36	4.26	3.50	1.59	7.27	-2.01	5.78	9.34	8.54	15.38
Blmbg. Barc. U.S. Aggregate	0.01	3.54	2.65	0.55	5.97	-2.02	4.21	7.84	6.54	5.93
Value Added	1.35	0.72	0.85	1.04	1.30	0.01	1.57	1.50	2.00	9.45
<b>BlackRock Global Alpha</b>	-5.50	8.99	4.31	2.25	7.79	1.52	12.05	11.18	13.67	19.95
Blended Policy (Barclays Aggregate Index)	0.01	3.54	2.65	0.55	5.97	-2.02	4.21	7.06	7.16	8.60
Value Added	-5.51	5.45	1.66	1.70	1.82	3.54	7.84	4.12	6.51	11.35
<b>SEI Investment Management</b>	0.85	7.83	7.34	0.04	N/A	N/A	N/A	N/A	N/A	N/A
ICE BofAML 1-3 Year U.S. Corporate	1.62	1.91	2.39	1.01	1.19	1.78	4.49	1.76	4.86	14.69
Value Added	-0.77	5.92	4.95	-0.97	N/A	N/A	N/A	N/A	N/A	N/A
<b>Non-U.S. Developed Markets Fixed Income Composite</b>	0.42	3.43	6.23	-5.57	-1.09	-2.49	7.16	3.79	8.63	19.43
Blended Policy (Barclays GlobalAgg GDP Weighted Dev xUS hedged)	2.88	2.79	4.90	-5.56	-2.28	-1.49	6.70	4.48	5.84	8.04
Value Added	-2.46	0.64	1.33	-0.01	1.19	-1.00	0.46	-0.69	2.79	11.39
<b>Alliance Bernstein Global Fixed</b>	0.42	3.43	6.23	-5.71	-1.80	-1.82	7.30	N/A	N/A	N/A
Spliced Barclays GlobalAgg GDPWeighted Dev xUS	2.88	2.79	4.90	-5.56	-2.28	-1.49	6.70	3.95	3.47	9.49
Value Added	-2.46	0.64	1.33	-0.15	0.48	-0.33	0.60	N/A	N/A	N/A
<b>U.S. Treasuries Total (unlevered)</b>	-4.72	7.12	-0.04	-1.84	19.66	-12.10	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Treasury: Long	-1.84	8.53	1.33	-1.21	25.07	-12.66	3.56	29.93	9.38	-12.92
Value Added	-2.88	-1.41	-1.37	-0.63	-5.41	0.56	N/A	N/A	N/A	N/A
<b>PSERS Funded U.S. Long Treasuries</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Treasury: Long	-1.84	8.53	1.33	-1.21	25.07	-12.66	3.56	29.93	9.38	-12.92
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Credit-Related</b>	5.38	10.49	11.05	0.70	N/A	N/A	N/A	N/A	N/A	N/A
Blended Policy (Credit-Related)	-2.29	8.30	15.99	-6.30	N/A	N/A	N/A	N/A	N/A	N/A
Value Added	7.67	2.19	-4.94	7.00	N/A	N/A	N/A	N/A	N/A	N/A
<b>Emerging Markets Fixed Income Composite</b>	-0.96	15.68	9.28	-6.50	-3.52	-4.08	16.81	0.82	N/A	N/A
Blended Policy (EM FI)	-4.77	14.94	6.85	-11.72	-3.14	-5.39	16.00	-1.49	15.68	21.98
Value Added	3.81	0.74	2.43	5.22	-0.38	1.31	0.81	2.31	N/A	N/A
<b>Franklin Templeton Emerging Fixed Income</b>	-0.96	15.68	9.04	-1.75	-1.66	0.87	18.99	1.96	14.19	56.43
Blended Benchmark (Franklin)	-4.80	14.94	6.85	-11.72	-3.14	-5.39	19.47	4.47	10.95	8.00
Value Added	3.84	0.74	2.19	9.97	1.48	6.26	-0.48	-2.51	3.24	48.43
<b>Private Credit Composite (hedged)</b>	5.85	10.10	11.12	-0.56	8.54	10.17	17.31	1.64	15.95	34.90
Blended Policy (Private Credit)	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	57.95

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Value Added	7.93	2.60	-6.01	3.91	6.09	2.73	1.50	-3.34	0.83	-23.05
Private Credit Composite x Co-Invest (hedged)	5.85	10.22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blended Policy (Private Credit)	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	57.95
Value Added	7.93	2.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Insight Oxygen - Private Credit (notional)	7.96	-10.54	4.29	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Currency Hedge Benchmark - Private Credit	7.45	-10.74	4.01	10.55	13.41	-4.63	-2.06	1.12	4.49	-4.83
Value Added	0.51	0.20	0.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Private Credit Composite (Unhedged)	5.17	11.14	10.72	2.07	8.53	10.14	17.31	1.64	15.95	34.90
Blended Policy (Private Credit)	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	57.95
Value Added	7.25	3.64	-6.41	6.54	6.08	2.70	1.50	-3.34	0.83	-23.05
Internally Managed Private Credit Co-Investment Program	4.93	-13.32	-32.79	-33.14	15.79	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	7.01	-20.82	-49.92	-28.67	13.34	N/A	N/A	N/A	N/A	N/A
Mezzanine Private Credit Composite	3.76	14.73	-7.51	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	5.84	7.23	-24.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bain Capital Middle Market Credit 2010, L.P.	-4.09	7.34	-6.05	4.81	6.37	11.04	19.37	8.64	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	-2.01	-0.16	-23.18	9.28	3.92	3.60	3.56	3.66	N/A	N/A
Bain Capital Middle Market Credit 2014, L.P.	9.22	10.41	5.91	0.81	7.00	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	11.30	2.91	-11.22	5.28	4.55	N/A	N/A	N/A	N/A	N/A
Carlyle Energy Mezz. Opp. Fund	-10.83	-11.38	-41.34	-9.01	19.08	20.66	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	-8.75	-18.88	-58.47	-4.54	16.63	13.22	N/A	N/A	N/A	N/A
Carlyle Energy Mezz. Opp. Fund II	4.15	-1.36	-10.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	6.23	-8.86	-28.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICG Europe Fund V	14.74	27.83	6.38	-2.00	4.03	15.07	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	16.82	20.33	-10.75	2.47	1.58	7.63	N/A	N/A	N/A	N/A
ICG Europe Fund VI	4.03	63.62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	6.11	56.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICG Europe Fund VII	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Opportunistic Private Credit Composite	4.58	9.77	18.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Value Added	6.66	2.27	0.88	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Apollo European Principal Fund II	-1.81	12.25	14.56	6.31	8.80	-0.83	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	0.27	4.75	-2.57	10.78	6.35	-8.27	N/A	N/A	N/A	N/A
Apollo European Principal Fund III	-22.85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	-20.77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Avenue Energy Opportunities Fund	0.51	4.50	41.63	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	2.59	-3.00	24.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Avenue Energy Opportunities Fund II	-1.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	1.08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Avenue Europe SS III	4.11	10.73	5.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	6.19	3.23	-11.32	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bain Capital Credit Opp. Fund IV	12.06	25.20	2.05	-7.15	1.69	9.20	6.47	0.81	13.76	39.72
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	14.14	17.70	-15.08	-2.68	-0.76	1.76	-9.34	-4.17	-1.36	-18.49
Bain Capital Distressed and Special Situations 2013	5.36	12.90	7.00	-3.02	10.46	10.06	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	7.44	5.40	-10.13	1.45	8.01	2.62	N/A	N/A	N/A	N/A
Bain Capital Distressed and Special Situations 2016 (A), L.P.	10.30	12.41	29.32	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	12.38	4.91	12.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brigade Distressed Value	1.18	11.34	34.96	-17.17	3.66	11.12	10.71	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	3.26	3.84	17.83	-12.70	1.21	3.68	-5.10	N/A	N/A	N/A
Brigade Structured Credit Offshore Fund	1.14	8.52	26.20	-5.62	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	3.22	1.02	9.07	-1.15	N/A	N/A	N/A	N/A	N/A	N/A
TOP NPL (A)	-1.84	2.02	-3.30	27.19	30.38	12.18	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	0.24	-5.48	-20.43	31.66	27.93	4.74	N/A	N/A	N/A	N/A
TPG Opportunities Partners II, LP	20.72	4.07	6.52	21.82	25.75	13.76	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	22.80	-3.43	-10.61	26.29	23.30	6.32	N/A	N/A	N/A	N/A
TPG Opportunities Partners III, LP	9.58	13.79	17.10	3.39	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Value Added	11.66	6.29	-0.03	7.86	N/A	N/A	N/A	N/A	N/A	N/A
TPG TAO	11.01	6.56	10.10	10.13	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	13.09	-0.94	-7.03	14.60	N/A	N/A	N/A	N/A	N/A	N/A
TSSP Opportunities Partners IV, LP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Real Asset Private Credit Composite	5.04	9.91	4.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	7.12	2.41	-12.14	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Galton Onshore Mortgage Recovery Fund III, LP	7.56	15.62	1.83	-1.33	-4.44	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	9.64	8.12	-15.30	3.14	-6.89	N/A	N/A	N/A	N/A	N/A
Galton Onshore Mortgage Recovery Fund IV, L.P.	-12.51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	-10.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Latitude Management Real Estate Capital IV	6.22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	8.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mariner/Galton RMBS	3.03	7.78	3.87	4.38	8.61	8.55	21.64	1.67	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	5.11	0.28	-13.26	8.85	6.16	1.11	5.83	-3.31	N/A	N/A
Mariner International Infrastructure	9.47	8.44	8.67	5.82	-5.53	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	11.55	0.94	-8.46	10.29	-7.98	N/A	N/A	N/A	N/A	N/A
PIMCO BRAVO Fund III Onshore Feeder, L.P.	10.96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	13.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PIMCO Commercial Real Estate Debt Fund, L.P.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TCI Real Estate Partners Fund III, L.P.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
The Varde Scratch and Dent Fund, LP	5.60	8.25	6.67	7.48	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	7.68	0.75	-10.46	11.95	N/A	N/A	N/A	N/A	N/A	N/A
The Varde Scratch and Dent Fund Feed I-A	8.45	6.39	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21



As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Value Added	10.53	-1.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Senior Loans Private Credit Composite	5.95	11.83	12.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	8.03	4.33	-4.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bain Capital Credit Managed Account (PSERS), L.P.	0.33	11.22	17.80	-5.03	4.28	7.66	10.67	2.10	14.16	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	2.41	3.72	0.67	-0.56	1.83	0.22	-5.14	-2.88	-0.96	N/A
Cerberus Levered Loan Fund I	6.21	6.89	6.04	-1.29	3.38	9.09	12.20	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	8.29	-0.61	-11.09	3.18	0.93	1.65	-3.61	N/A	N/A	N/A
Cerberus Levered Loan Fund II	3.29	1.52	3.25	8.03	13.92	12.21	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	5.37	-5.98	-13.88	12.50	11.47	4.77	N/A	N/A	N/A	N/A
Cerberus PSERS Levered Loan Opportunities Fund	11.52	18.25	36.14	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	13.60	10.75	19.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hayfin SOF II USD LP	6.35	20.95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	8.43	13.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hayfin SOF II USD Co-Invest	5.11	6.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	7.19	-0.78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hayfin Special Opportunities Credit LP	21.50	25.60	5.14	-2.76	-6.95	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	23.58	18.10	-11.99	1.71	-9.40	N/A	N/A	N/A	N/A	N/A
LBC Credit Partners III	0.60	2.33	13.28	14.46	11.66	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	2.68	-5.17	-3.85	18.93	9.21	N/A	N/A	N/A	N/A	N/A
LBC-P Credit Fund LP	9.89	25.65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	11.97	18.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oaktree Loan Fund 2X, LP	4.23	0.04	5.35	-23.74	-0.78	6.26	12.69	7.08	12.94	39.95
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	6.31	-7.46	-11.78	-19.27	-3.23	-1.18	-3.12	2.10	-2.18	-18.26
Park Square Credit Opportunities	0.90	4.29	20.66	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21
Value Added	2.98	-3.21	3.53	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Summit Partners Credit Fund II LP	6.93	12.18	13.37	-0.21	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corp: High Yield	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98	15.12	58.21

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Value Added	9.01	4.68	-3.76	4.26	N/A	N/A	N/A	N/A	N/A	N/A
Inflation Protected (levered)	1.05	4.18	17.80	-2.00	N/A	N/A	N/A	N/A	N/A	N/A
Blended Policy (Net Levered TIPS)	-2.17	5.40	20.11	-3.97	6.76	-17.07	13.75	28.18	12.34	22.50
Value Added	3.22	-1.22	-2.31	1.97	N/A	N/A	N/A	N/A	N/A	N/A
Inflation Protected (unlevered)	0.50	2.11	9.25	2.47	12.49	-10.76	9.15	23.56	18.13	18.74
Blended Policy (Inflation Protected)	0.10	3.32	10.22	-1.76	3.64	-8.61	6.98	13.56	6.31	11.41
Value Added	0.40	-1.21	-0.97	4.23	8.85	-2.15	2.17	10.00	11.82	7.33
TIPS Composite (levered)	1.05	4.18	17.80	-2.00	12.06	-11.23	8.59	23.01	17.55	18.42
Blended Policy (Net Levered TIPS)	-2.17	5.40	20.11	-3.97	6.76	-17.07	13.75	28.18	12.34	22.50
Value Added	3.22	-1.22	-2.31	1.97	5.30	5.84	-5.16	-5.17	5.21	-4.08
TIPS Composite (unlevered)	0.50	2.11	9.25	2.47	12.49	-10.76	9.15	23.56	18.13	18.74
Blended Policy (Inflation Protected)	0.10	3.32	10.22	-1.76	3.64	-8.61	6.98	13.56	6.31	11.41
Value Added	0.40	-1.21	-0.97	4.23	8.85	-2.15	2.17	10.00	11.82	7.33
Bridgewater TIPS (levered)	4.94	2.96	23.93	-2.06	18.34	-11.80	10.04	29.14	27.46	20.64
BGI Custom IL Bond Index (levered)	1.41	2.94	23.14	-3.03	16.76	-12.92	N/A	N/A	N/A	N/A
Value Added	3.53	0.02	0.79	0.97	1.58	1.12	N/A	N/A	N/A	N/A
Bridgewater TIPS (unlevered)	2.52	1.55	11.69	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BGI Custom IL Bond Index (unlevered)	0.69	1.67	11.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Value Added	1.83	-0.12	0.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PSERS Total TIPS (levered)	-2.29	4.35	5.98	-1.46	5.03	-7.97	7.10	18.25	11.31	17.12
PSERS Total TIPS (unlevered)	-1.43	3.03	6.20	-1.46	5.03	-7.97	7.03	13.96	7.12	12.95
Blmbg. Barc. Global Inflation-Linked: U.S. TIPS	-1.26	3.01	4.68	-1.44	3.64	-8.61	6.98	13.56	6.31	11.41
Value Added	-0.17	0.02	1.52	-0.02	1.39	0.64	0.05	0.40	0.81	1.54
PSERS TIPS	-0.75	3.94	5.23	-1.46	5.03	-7.97	7.10	18.25	11.31	17.12
PSERS TIPS (unlevered)	-0.75	3.94	5.23	-1.46	5.03	-7.97	7.03	13.96	7.12	12.95
Blmbg. Barc. Global Inflation-Linked: U.S. TIPS	-1.26	3.01	4.68	-1.44	3.64	-8.61	6.98	13.56	6.31	11.41
Value Added	0.51	0.93	0.55	-0.02	1.39	0.64	0.05	0.40	0.81	1.54
PIMCO Multi-Sector Strategy	1.86	4.78	7.11	-3.32	5.22	-1.24	N/A	N/A	N/A	N/A
Blended Policy (PIMCO Multi-Sector)	2.07	3.95	6.36	-2.70	6.32	-0.73	7.46	7.84	6.54	5.93
Value Added	-0.21	0.83	0.75	-0.62	-1.10	-0.51	N/A	N/A	N/A	N/A
Real Assets (levered/hedged)	-2.27	9.44	17.88	-8.32	N/A	N/A	N/A	N/A	N/A	N/A
Total Real Asset Exposure (unlevered/hedged)	-1.62	7.25	14.01	-8.04	N/A	N/A	N/A	N/A	N/A	N/A
Blended Policy (Real Assets) (Hedged)	-0.75	6.98	11.28	-6.64	N/A	N/A	N/A	N/A	N/A	N/A
Value Added	-0.87	0.27	2.73	-1.40	N/A	N/A	N/A	N/A	N/A	N/A
Real Assets (levered/unhedged)	-2.67	9.98	17.58	-8.32	N/A	N/A	N/A	N/A	N/A	N/A
Total Real Asset Exposure (unlevered/hedged)	-1.93	7.66	13.79	-8.04	N/A	N/A	N/A	N/A	N/A	N/A
Blended Policy (Real Assets) (Unhedged)	-1.16	7.50	11.02	-6.68	N/A	N/A	N/A	N/A	N/A	N/A
Value Added	-0.77	0.16	2.77	-1.36	N/A	N/A	N/A	N/A	N/A	N/A

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Real Assets x Private (levered/hedged)	-12.59	6.54	27.77	-30.79	N/A	N/A	N/A	N/A	N/A	N/A
Real Assets x Private (unlevered/hedged)	-8.33	4.06	17.17	-29.41	N/A	N/A	N/A	N/A	N/A	N/A
Blended Policy (Real Assets x Private) (Hedged)	-7.44	4.12	14.10	-24.87	-4.38	0.33	2.89	2.25	26.86	42.26
Value Added	-0.89	-0.06	3.07	-4.54	N/A	N/A	N/A	N/A	N/A	N/A
Real Assets x Private (levered/unhedged)	-13.25	7.58	27.12	-30.79	N/A	N/A	N/A	N/A	N/A	N/A
Real Assets x Private (unlevered/unhedged)	-8.78	4.72	16.81	-29.41	N/A	N/A	N/A	N/A	N/A	N/A
Blended Policy (Real Assets x Private) (Unhedged)	-8.00	4.91	13.64	-24.92	-4.38	0.33	2.89	2.25	26.86	42.26
Value Added	-0.78	-0.19	3.17	-4.49	N/A	N/A	N/A	N/A	N/A	N/A
Total Infrastructure Composite (levered/hedged)	-10.40	23.11	24.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Infrastructure Composite (unlevered/hedged)	-8.88	10.63	11.66	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blended Policy (Infrastructure x Private Hedged)	-8.03	10.85	11.81	-3.56	21.17	18.21	10.80	7.40	8.22	N/A
Value Added	-0.85	-0.22	-0.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Insight Nevada - Infra (notional)	7.21	-7.14	1.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Currency Hedge Benchmark - Infra	7.30	-7.04	1.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Value Added	-0.09	-0.10	-0.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Infrastructure Composite (levered/unhedged)	-11.23	27.85	21.40	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Infrastructure Composite (unlevered/unhedged)	-9.61	13.07	10.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blended Policy (Infrastructure x Private Unhedged)	-9.06	13.36	10.63	-7.56	16.02	15.48	11.49	8.00	10.34	N/A
Value Added	-0.55	-0.29	-0.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Private Infrastructure Composite	14.67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PSERS Infrastructure Private	14.66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Private Infrastructure Coinvestment	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Publicly-Traded Infrastructure Composite (levered)	-10.66	37.41	21.40	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Publicly-Traded Infrastructure Composite (unlevered)	-5.33	17.79	10.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FTSE Developed Core Infracore 50/50 Index (Net)	-4.63	18.18	10.63	-7.56	16.02	15.48	11.49	8.00	10.34	N/A
Value Added	-0.70	-0.39	-0.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PSERS Infrastructure Index (levered)	-10.66	37.41	21.40	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PSERS Infrastructure Index (unlevered)	-5.33	17.79	10.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FTSE Developed Core Infracore 50/50 Index (Net)	-4.63	18.18	10.63	-7.56	16.02	15.48	11.49	8.00	10.34	N/A
Value Added	-0.70	-0.39	-0.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MLP Composite	-12.47	-5.68	24.62	-32.63	16.30	37.44	12.77	18.88	39.82	72.22
S&P MLP Index	-11.67	-5.58	21.95	-35.07	7.66	29.75	4.95	14.47	35.17	78.79
Value Added	-0.80	-0.10	2.67	2.44	8.64	7.69	7.82	4.41	4.65	-6.57
PSERS MLP	-12.73	-4.92	22.29	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MLP Internal Blended Benchmark	-12.37	-5.32	21.95	-35.07	7.66	29.75	4.95	14.47	35.17	78.79
Value Added	-0.36	0.40	0.34	N/A	N/A	N/A	N/A	N/A	N/A	N/A
External MLP Composite	-12.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P MLP Index	-11.67	-5.58	21.95	-35.07	7.66	29.75	4.95	14.47	35.17	78.79

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Value Added	-0.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Atlantic Trust	-9.96	-7.28	28.14	-33.34	15.38	38.77	N/A	N/A	N/A	N/A
S&P MLP Index	-11.67	-5.58	21.95	-35.07	7.66	29.75	4.95	14.47	35.17	78.79
Value Added	1.71	-1.70	6.19	1.73	7.72	9.02	N/A	N/A	N/A	N/A
Harvest MLP	-13.34	-5.34	19.96	-30.25	17.87	35.60	12.80	18.88	39.82	72.22
S&P MLP Index	-11.67	-5.58	21.95	-35.07	7.66	29.75	4.95	14.47	35.17	78.79
Value Added	-1.67	0.24	-1.99	4.82	10.21	5.85	7.85	4.41	4.65	-6.57
Salient	-13.40	-5.19	29.46	-36.06	15.15	38.62	N/A	N/A	N/A	N/A
S&P MLP Index	-11.67	-5.58	21.95	-35.07	7.66	29.75	4.95	14.47	35.17	78.79
Value Added	-1.73	0.39	7.51	-0.99	7.49	8.87	N/A	N/A	N/A	N/A
Commodities Composite ex Private (levered)	-16.96	17.10	35.48	-33.05	-18.05	-14.29	2.41	-10.00	18.13	33.40
Commodities Composite ex Private (unlevered)	-7.43	7.48	14.75	-18.59	-10.18	-11.16	2.41	-10.00	18.13	33.40
Blended Policy (Commodities)	-7.97	5.83	10.81	-19.85	-12.05	-10.34	-1.05	-13.32	16.82	18.90
Value Added	0.54	1.65	3.94	1.26	1.87	-0.82	3.46	3.32	1.31	14.50
PSERS Commodity Beta (levered)	-28.86	7.55	45.52	-41.67	N/A	N/A	N/A	N/A	N/A	N/A
PSERS Commodity Beta (unlevered)	-10.90	2.99	14.25	-23.49	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg Commodity Index Total Return	-11.25	1.70	11.77	-24.66	-17.01	-9.52	-1.06	-13.32	16.83	18.91
Value Added	0.35	1.29	2.48	1.17	N/A	N/A	N/A	N/A	N/A	N/A
Gresham	-11.23	6.13	12.90	-24.91	-16.31	-7.06	0.66	-6.15	20.92	25.47
Bloomberg Commodity Index Total Return	-11.25	1.70	11.77	-24.66	-17.01	-9.52	-1.06	-13.32	16.83	18.91
Value Added	0.02	4.43	1.13	-0.25	0.70	2.46	1.72	7.17	4.09	6.56
Wellington Management Company	-13.10	6.28	25.32	-24.58	-15.09	-5.05	2.92	-11.05	19.62	50.65
Blended Benchmark (Wellington)	-11.28	8.43	23.33	-24.75	-14.23	-2.79	4.39	-7.71	19.25	33.80
Value Added	-1.82	-2.15	1.99	0.17	-0.86	-2.26	-1.47	-3.34	0.37	16.85
PSERS Gold Fund (unlevered)	-4.57	11.82	7.38	-10.78	0.40	-28.17	N/A	N/A	N/A	N/A
Bloomberg Gold Subindex Total Return	-2.81	12.79	7.73	-10.88	-1.75	-28.66	6.08	9.63	28.72	22.86
Value Added	-1.76	-0.97	-0.35	0.10	2.15	0.49	N/A	N/A	N/A	N/A
PTRES Composite (levered/hedged)	-4.92	10.55	11.66	-2.15	20.09	4.10	13.75	4.71	16.82	45.64
PTRES Composite (unlevered/hedged)	-3.00	6.31	7.91	-1.89	20.09	4.10	13.75	4.71	16.82	45.64
Blended Policy (PTRES) (Hedged)	-3.36	7.64	5.36	-0.32	14.73	2.24	29.85	-8.13	20.03	39.30
Value Added	0.36	-1.33	2.55	-1.57	5.36	1.86	-16.10	12.84	-3.21	6.34
Insight Sierra - REIT (notional)	5.00	-5.51	2.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Currency Hedge Benchmark - REIT	5.11	-5.40	2.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Value Added	-0.11	-0.11	-0.14	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PTRES Composite (levered/unhedged)	-7.05	14.20	9.65	-2.16	20.09	4.10	13.75	4.71	16.82	45.64
PTRES Composite (unlevered/unhedged)	-4.49	8.49	6.75	-1.89	20.09	4.10	13.75	4.71	16.82	45.64
Blended Policy (PTRES) (Unhedged)	-5.63	10.36	4.06	-0.72	14.73	2.24	29.85	-8.13	20.03	39.30
Value Added	1.14	-1.87	2.69	-1.17	5.36	1.86	-16.10	12.84	-3.21	6.34
PSERS REIT Index (levered)	-12.11	21.70	7.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
PSERS REIT Index (unlevered)	-6.29	10.19	4.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FTSE EPRA/NAREIT Developed Index (Net)	-5.63	10.36	4.06	-0.79	15.02	3.67	27.73	-6.46	19.63	37.13
Value Added	-0.66	-0.17	0.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Security Capital Preferred Growth	-0.45	2.25	12.23	2.15	20.09	4.10	13.75	4.71	24.71	64.34
Wilshire US Real Estate Securities Index	-4.80	4.84	7.62	4.81	31.53	2.15	17.55	8.56	29.12	29.20
Value Added	4.35	-2.59	4.61	-2.66	-11.44	1.95	-3.80	-3.85	-4.41	35.14
<b>Risk Parity Composite (vol adjusted)</b>	<b>-6.80</b>	<b>12.94</b>	<b>11.14</b>	<b>-6.54</b>	<b>10.17</b>	<b>-4.74</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Blended Policy (Risk Parity)	-7.79	14.91	12.20	-5.66	10.41	-5.28	14.00	16.70	20.34	22.70
Value Added	0.99	-1.97	-1.06	-0.88	-0.24	0.54	N/A	N/A	N/A	N/A
PSERS Risk Parity Composite (vol adjusted to 12%)	-6.79	13.75	14.17	-6.14	10.21	N/A	N/A	N/A	N/A	N/A
Bridgewater All Weather @15% (vol adjusted)	-6.28	14.19	11.60	-8.35	9.49	-4.57	N/A	N/A	N/A	N/A
DE Shaw Orienteer HV (vol adjusted)	-9.41	13.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BlackRock Market Advantage II (vol adjusted)	-5.42	16.06	11.69	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bridgewater Optimal (vol adjusted)	-5.48	3.00	7.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Total Absolute Return Composite</b>	<b>3.81</b>	<b>4.14</b>	<b>3.98</b>	<b>3.70</b>	<b>3.06</b>	<b>4.77</b>	<b>3.54</b>	<b>7.72</b>	<b>17.25</b>	<b>15.25</b>
Blended Policy (Absolute Return)	5.92	4.82	4.27	3.83	5.61	7.50	7.50	7.75	8.00	8.00
Value Added	-2.11	-0.68	-0.29	-0.13	-2.55	-2.73	-3.96	-0.03	9.25	7.25
Aeolus Property Catastrophe Keystone PF Fund, LP	-5.61	-17.60	10.24	14.72	19.41	22.65	N/A	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	-7.65	-18.72	9.75	14.52	19.25	22.46	N/A	N/A	N/A	N/A
AKAZ Offshore Fund Ltd	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICE Libor (3 month)	2.34	1.27	0.74	0.32	0.23	0.27	0.42	0.34	0.34	0.69
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bridgewater Pure Alpha Fund II, Ltd.	17.42	1.78	2.94	7.58	5.93	6.99	1.56	32.86	56.55	2.44
ICE Libor (3 month)	2.34	1.27	0.74	0.32	0.23	0.27	0.42	0.34	0.34	0.69
Value Added	15.08	0.51	2.20	7.26	5.70	6.72	1.14	32.52	56.21	1.75
Brigade Leveraged Capital Structures Offshore Fund, Ltd.	1.54	7.10	22.88	-11.10	0.51	6.12	7.05	2.90	7.84	39.90
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	-0.50	5.98	22.39	-11.30	0.35	5.93	6.81	2.67	7.57	39.57
Capula Global Relative Value Fund Limited	5.14	4.30	9.01	8.09	8.62	8.18	0.83	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	3.10	3.18	8.52	7.89	8.46	7.99	0.59	N/A	N/A	N/A
Capula Tail Risk Fund Limited	0.80	-7.90	-0.57	3.32	-1.04	-3.41	-14.28	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	-1.24	-9.02	-1.06	3.12	-1.20	-3.60	-14.52	N/A	N/A	N/A
Carlyle Aviation/SASOF III LP	31.66	10.10	15.42	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	29.62	8.98	14.93	N/A	N/A	N/A	N/A	N/A	N/A	N/A

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Carlyle Aviation/SASOF IV LP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Caspian Select Credit International, Ltd.	0.97	6.71	8.92	-10.40	3.11	9.82	11.83	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	-1.07	5.59	8.43	-10.60	2.95	9.63	11.59	N/A	N/A	N/A
Caspian Keystone Focused Fund, Ltd.	-0.66	9.93	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	-2.70	8.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Garda Fixed Income Relative Value Opportunity Fund Ltd.	1.48	7.09	6.83	2.18	6.39	5.06	6.70	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	-0.56	5.97	6.34	1.98	6.23	4.87	6.46	N/A	N/A	N/A
HS Group Sponsor Fund II, Ltd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICE Libor (3 month)	2.34	1.27	0.74	0.32	0.23	0.27	0.42	0.34	0.34	0.69
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Independence Reinsurance Partners Composite	-0.36	-15.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	-2.40	-16.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DaVinci Reinsurance Ltd.	1.97	-17.45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
RenaissanceRe Medici Fund Ltd.	4.06	1.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Upsilon Diversified Fund Ltd.	-5.34	-58.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nephila/Nimbus Weather Fund	3.85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-Month TBills+ 5.00%	6.96	5.88	5.28	5.03	5.02	5.06	5.09	5.06	5.11	5.17
Value Added	-3.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nephila/Palmetto Fund Ltd.	-4.70	-5.84	2.83	5.37	6.92	6.96	10.04	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	-6.74	-6.96	2.34	5.17	6.76	6.77	9.80	N/A	N/A	N/A
Oceanwood Investments SPC Co-Invest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-Month Libor+ 6.50%	8.99	7.85	7.29	6.84	6.75	6.79	6.95	6.86	6.87	7.23
Value Added	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oceanwood Opportunities Fund	-2.51	17.40	-5.12	9.10	N/A	N/A	N/A	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	-4.55	16.28	-5.61	8.90	N/A	N/A	N/A	N/A	N/A	N/A
OWS Credit Opportunity Offshore Fund III, Ltd.	8.88	15.28	10.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICE Libor (3 month)	2.34	1.27	0.74	0.32	0.23	0.27	0.42	0.34	0.34	0.69
Value Added	6.54	14.01	9.29	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Perry Partners LP	-22.48	0.98	8.03	-13.32	-4.25	N/A	N/A	N/A	N/A	N/A
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33

As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Value Added	-24.52	-0.14	7.54	-13.52	-4.41	N/A	N/A	N/A	N/A	N/A
<b>PIMCO PARS/GCOF/MAV/PCAF Composite</b>	2.19	2.68	0.54	7.08	4.70	2.16	14.21	5.85	2.03	60.77
ICE Libor (1 month)	2.04	1.12	0.49	0.20	0.16	0.19	0.24	0.23	0.27	0.33
Value Added	0.15	1.56	0.05	6.88	4.54	1.97	13.97	5.62	1.76	60.44
PIMCO Absolute Return Strategy V Offshore Fund, Ltd.	-3.04	5.77	-0.14	8.20	14.38	0.90	N/A	N/A	N/A	N/A
PIMCO Global Credit Opportunity Offshore Fund, Ltd.	11.38	0.42	10.19	10.03	7.34	11.11	N/A	N/A	N/A	N/A
PIMCO Commodity Alpha Fund	6.34	12.44	20.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Two Sigma Risk Premia Enhanced Fund, LP</b>	7.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICE Libor (3 month)	2.34	1.27	0.74	0.32	0.23	0.27	0.42	0.34	0.34	0.69
Value Added	4.96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Venor Capital Offshore, Ltd.</b>	-1.19	3.60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FTSE 1 Month T-Bill	1.82	0.80	0.21	0.02	0.02	0.01	0.04	0.04	0.10	0.10
Value Added	-3.01	2.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Cash &amp; Cash Equivalents</b>	2.55	1.03	0.40	0.33	0.29	0.28	3.84	3.06	0.47	0.06
ICE BofAML 3 Month U.S. T-Bill	1.87	0.86	0.33	0.05	0.04	0.07	0.11	0.10	0.13	0.21
Value Added	0.68	0.17	0.07	0.28	0.25	0.21	3.73	2.96	0.34	-0.15
PSERS Cash Management	2.06	0.93	0.40	-0.05	0.30	0.29	0.55	0.77	0.46	0.25
RE Conversions	N/A	N/A	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PSERS Derivatives Collateral	1.66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>PSERS Ultra Short Duration</b>	2.08	1.09	0.56	0.20	0.19	0.24	0.29	0.22	0.31	1.14
ICE BofAML US Treasury Bills 0-3M	1.83	0.82	0.25	0.02	0.03	0.05	0.08	0.07	0.13	0.14
Value Added	0.25	0.27	0.31	0.18	0.16	0.19	0.21	0.15	0.18	1.00
<b>LIBOR Composite</b>	2.16	1.48	1.90	0.76	0.76	1.39	1.35	0.62	0.97	3.35
<b>PSERS LIBOR Plus</b>	2.17	1.58	1.43	0.46	0.59	0.86	0.76	0.63	1.04	3.42
PSERS LIBOR Plus Hybrid	2.34	1.27	0.74	0.32	0.23	0.27	0.42	0.34	0.34	0.69
Value Added	-0.17	0.31	0.69	0.14	0.36	0.59	0.34	0.29	0.70	2.73
<b>Capula LIBOR Tail Risk</b>	0.79	-7.88	-0.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICE Libor (3 month)	2.34	1.27	0.74	0.32	0.23	0.27	0.42	0.34	0.34	0.69
Value Added	-1.55	-9.15	-1.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Radcliffe Ultra Short Duration</b>	2.61	2.66	4.26	2.19	1.38	3.25	N/A	N/A	N/A	N/A
ICE Libor (3 month)	2.34	1.27	0.74	0.32	0.23	0.27	0.42	0.34	0.34	0.69
Value Added	0.27	1.39	3.52	1.87	1.15	2.98	N/A	N/A	N/A	N/A
<b>Penn Mutual Asset Management</b>	1.47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ICE Libor (3 month)	2.34	1.27	0.74	0.32	0.23	0.27	0.42	0.34	0.34	0.69
Value Added	-0.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>PSERS Healthcare &amp; HOP</b>										



As of September 30, 2019

## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
PSERS Healthcare - Premium Assist	2.21	1.12	0.97	0.31	0.19	0.50	0.79	0.83	1.28	2.67
ICE BofAML 3 Month U.S. T-Bill	1.87	0.86	0.33	0.05	0.04	0.07	0.11	0.10	0.13	0.21
Value Added	0.34	0.26	0.64	0.26	0.15	0.43	0.68	0.73	1.15	2.46
PSERS Healthcare - HOP	2.13	1.08	0.53	0.24	0.20	0.24	0.29	0.24	0.47	0.95
ICE BofAML 3 Month U.S. T-Bill	1.87	0.86	0.33	0.05	0.04	0.07	0.11	0.10	0.13	0.21
Value Added	0.26	0.22	0.20	0.19	0.16	0.17	0.18	0.14	0.34	0.74
<b>Defined Contribution</b>										
PSERS Defined Contribution	1.96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
E/M Total Program Composite	1.81	4.20	4.09	2.07	-0.74	19.28	8.37	-5.72	16.52	29.46
E/M US Core Plus FI Composite	-0.40	3.98	2.63	0.38	5.92	-1.85	5.72	7.63	1.26	-17.81
Pugh Capital Management	-0.40	3.98	2.63	0.56	6.22	-1.89	5.52	8.02	7.24	8.65
Blmbg. Barc. U.S. Aggregate	0.01	3.54	2.65	0.55	5.97	-2.02	4.21	7.84	6.54	5.93
Value Added	-0.41	0.44	-0.02	0.01	0.25	0.13	1.31	0.18	0.70	2.72
E/M Short Duration Cash	2.17	4.22	5.20	2.74	N/A	N/A	N/A	N/A	N/A	N/A
Radcliffe Ultra Short Duration	2.61	2.66	4.26	2.19	1.38	3.25	N/A	N/A	N/A	N/A
ICE Libor (3 month)	2.34	1.27	0.74	0.32	0.23	0.27	0.42	0.34	0.34	0.69
Value Added	0.27	1.39	3.52	1.87	1.15	2.98	N/A	N/A	N/A	N/A
Radcliffe Specialty Finance Debt	1.83	5.47	5.97	3.22	N/A	N/A	N/A	N/A	N/A	N/A
3-Month Libor + 0.60%	2.95	1.88	1.35	0.92	0.84	0.87	1.03	0.94	0.95	1.29
Value Added	-1.12	3.59	4.62	2.30	N/A	N/A	N/A	N/A	N/A	N/A

As of September 30, 2019

## Calendar Year Performance

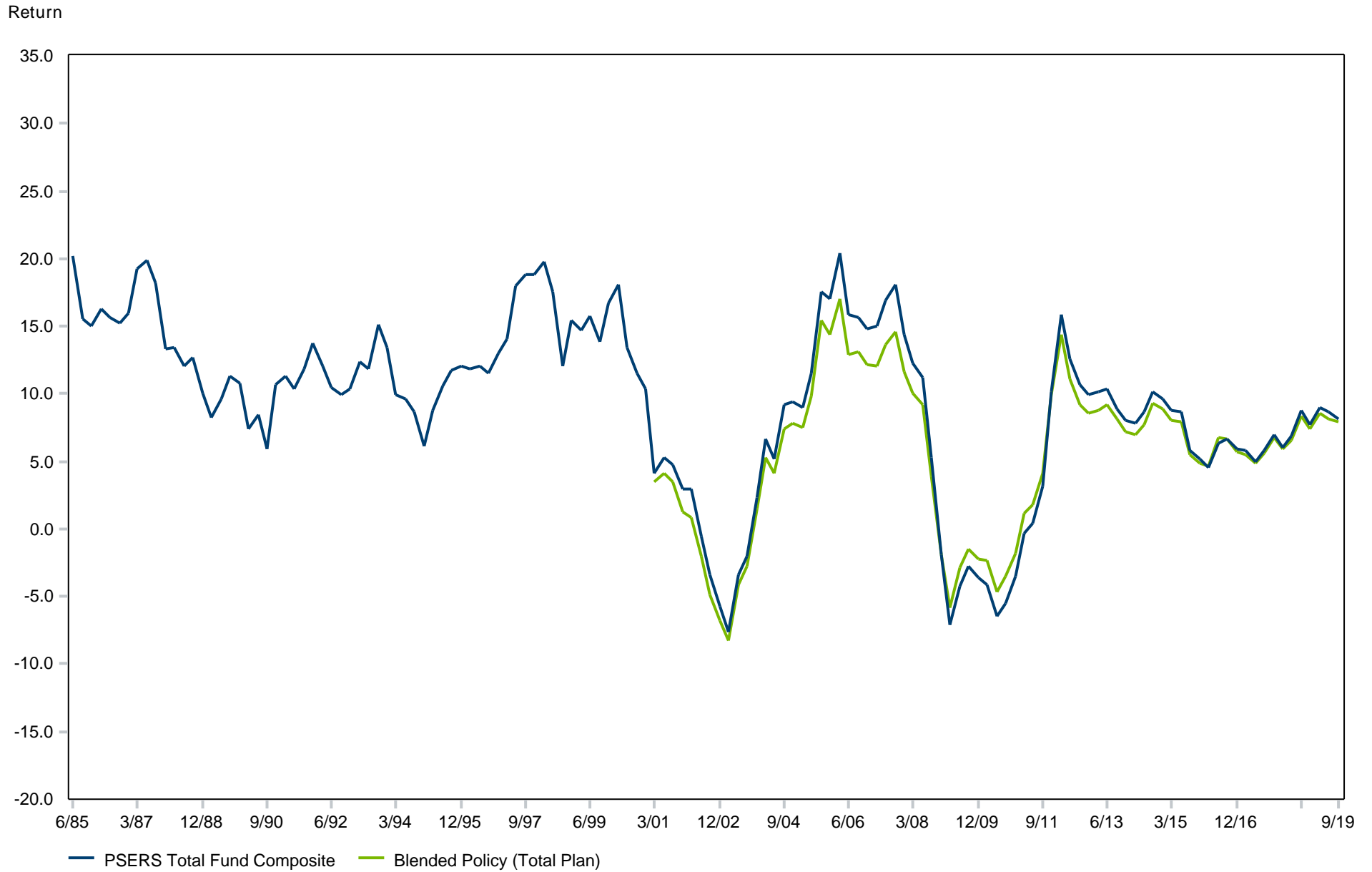
	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>Total Private Market Composites (hedged)</b>	12.75	14.64	9.85	5.39	12.85	12.52	12.00	11.14	11.59	-23.40
Blended Policy (Private Market)	13.57	13.99	8.42	8.92	15.51	13.30	10.94	13.81	12.80	-13.64
Value Added	-0.82	0.65	1.43	-3.53	-2.66	-0.78	1.06	-2.67	-1.21	-9.76
<b>Total Private Market Composites (unhedged)</b>	12.74	14.60	9.82	5.39	12.85	12.52	12.00	11.14	11.59	-23.40
Blended Policy (Private Market)	13.57	13.99	8.42	8.92	15.51	13.30	10.94	13.81	12.80	-13.64
Value Added	-0.83	0.61	1.40	-3.53	-2.66	-0.78	1.06	-2.67	-1.21	-9.76
<b>Total Private Equity (hedged)</b>	14.47	16.09	9.63	2.39	10.03	12.73	13.27	9.96	15.58	-9.62
Burgiss All Private Markets ex Real Estate (1Q Lag)	15.75	15.59	8.72	7.34	15.79	15.05	12.02	12.77	16.00	-9.84
Value Added	-1.28	0.50	0.91	-4.95	-5.76	-2.32	1.25	-2.81	-0.42	0.22
<b>Total Private Equity (unhedged)</b>	14.45	16.03	9.59	2.39	10.03	12.73	13.27	9.96	15.58	-9.62
Burgiss All Private Markets ex Real Estate (1Q Lag)	15.75	15.59	8.72	7.34	15.79	15.05	12.02	12.77	16.00	-9.84
Value Added	-1.30	0.44	0.87	-4.95	-5.76	-2.32	1.25	-2.81	-0.42	0.22
Buyout/Venture Cap-Growth Equity/Spec Situations/Co-Invest	14.52	16.11	9.59	2.39	10.03	12.72	N/A	N/A	N/A	N/A
Insight Wilson - PE (notional) (1Q Lag)	4.51	-2.90	3.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Currency Hedge Benchmark - PE (1Q Lag)	4.48	-2.78	3.51	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Value Added	0.03	-0.12	-0.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Buyout Co-Investment Composite	8.34	23.34	27.85	26.47	37.82	39.75	N/A	N/A	N/A	N/A
PA Penn Investment Fund - Buyout Composite	14.75	43.44	12.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PA Penn Investment Fund - Buyout Internal	-42.14	0.00	8.27	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PA Penn Investment Fund - Buyout External	19.33	49.01	11.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Internally Managed Buyout Composite	7.52	21.35	28.67	26.48	37.82	39.75	N/A	N/A	N/A	N/A
Buyout/Venture Cap-Growth Equity/Special Situations	14.98	15.59	8.81	1.76	9.71	12.55	13.23	10.29	15.57	-9.63
Special Situations Composite	11.46	8.28	1.58	0.50	12.79	12.21	13.49	2.43	19.36	3.32
Buyout/Venture Capital-Growth Equity Composite	15.61	16.92	10.08	1.97	9.30	12.53	13.20	12.00	14.24	-13.60
Buyout	14.36	18.02	10.41	1.29	8.82	13.12	12.89	13.13	15.04	-14.11
Buyout x Tobacco Composite	14.36	18.02	10.41	1.75	8.82	13.12	12.89	13.13	15.04	-14.11
Venture Capital	22.15	11.23	8.19	6.92	13.50	7.10	15.97	2.26	7.84	-9.66
<b>Total Real Estate (levered/hedged)</b>	8.81	12.28	10.20	9.17	17.23	11.70	9.16	13.21	3.52	-35.90
<b>Total Real Estate (unlevered/hedged)</b>	8.53	11.59	9.83	9.01	17.23	11.70	9.16	13.21	3.52	-35.90
Blended Policy (Total Real Estate) (Hedged)	8.59	10.95	7.45	11.13	14.95	10.56	9.06	15.56	5.63	-22.11
Value Added	-0.06	0.64	2.38	-2.12	2.28	1.14	0.10	-2.35	-2.11	-13.79
<b>Total Real Estate (levered/unhedged)</b>	8.60	12.60	10.01	9.17	17.23	11.70	9.16	13.21	3.52	-35.90
<b>Total Real Estate (unlevered/unhedged)</b>	8.53	11.59	9.83	9.01	17.23	11.70	9.16	13.21	3.52	-35.90
Blended Policy (Total Real Estate) (Unhedged)	8.21	11.41	7.23	11.09	14.95	10.56	9.06	15.56	5.63	-22.11
Value Added	0.32	0.18	2.60	-2.08	2.28	1.14	0.10	-2.35	-2.11	-13.79
<b>Private Real Estate Composite</b>	9.98	12.53	10.10	9.54	17.15	11.92	9.79	13.48	1.04	-44.59
Blended Policy (Private Real Estate)	10.21	11.62	7.84	10.81	15.00	10.53	9.04	15.58	5.60	-22.11
Value Added	-0.23	0.91	2.26	-1.27	2.15	1.39	0.75	-2.10	-4.56	-22.48

As of September 30, 2019

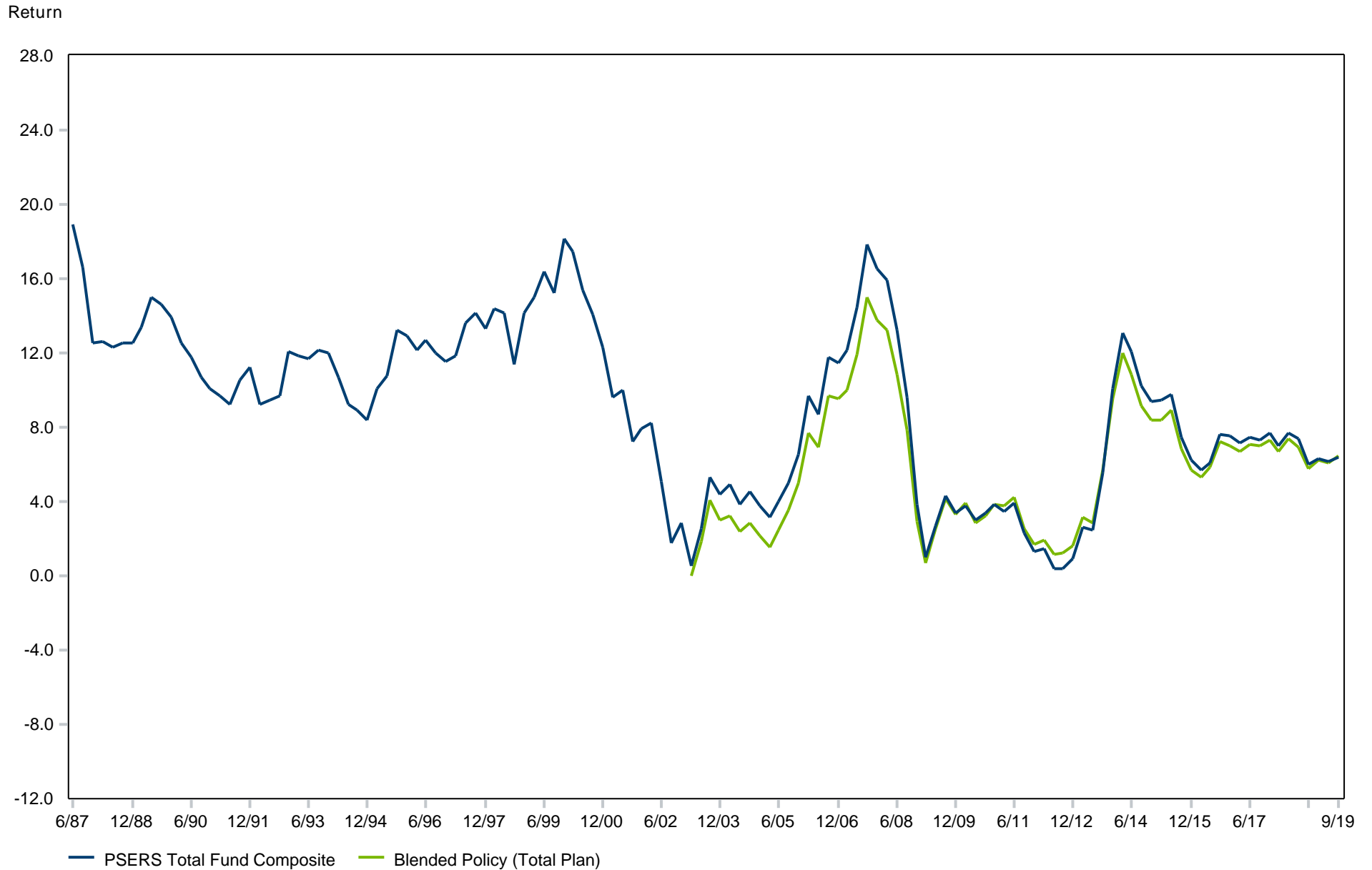
## Calendar Year Performance

	Performance (%)									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Private Real Estate x Coinvestment	9.79	12.51	9.97	9.46	17.07	11.85	9.79	13.48	1.04	-44.61
Private Real Estate Coinvestment	18.06	13.70	18.13	18.51	28.93	N/A	N/A	N/A	N/A	N/A

3-Year Rolling Returns



5-Year Rolling Returns



## Asset Allocation

	Total Fund	
	(\$)	%
<b>PSERS Total Fund Composite</b>	<b>58,272,593</b>	<b>100.0</b>
Total Public Markets Composite (hedged)	44,129,772	75.7
Total Private Market Composites (hedged)	14,142,820	24.3
<b>Total Public Global Equity Composite (hedged)</b>	<b>9,169,668</b>	<b>15.7</b>
Equity Rebalance Account	-	0.0
PSERS Non-US Equity Rebalance Account	-	0.0
PSERS Equity Liquidation	722	0.0
<b>Total US Equity Composite</b>	<b>2,687,008</b>	<b>4.6</b>
PSERS-S&P 500 Index Composite	2,078,972	3.6
Radcliffe Specialty Finance Debt	380,498	0.7
PSERS-S&P 400 Index Composite	317,017	0.5
PSERS-S&P 600 Index Composite	291,020	0.5
<b>Total Non-U.S. Equity Composite (hedged)</b>	<b>6,481,938</b>	<b>11.1</b>
<b>Total Non-U.S. Equity x Emerging Markets Composite (hedged)</b>	<b>5,802,530</b>	<b>10.0</b>
Insight Everest - Int'l Eq	23,135	0.0
Non-US Large/Mid Cap Equity Composite	4,970,386	8.5
PSERS ACWI x US Index Fund	2,468,518	4.2
BlackRock EMAA	446,064	0.8
<b>Active Non-US Large/Mid Cap Composite</b>	<b>2,501,868</b>	<b>4.3</b>
Baillie Gifford	860,289	1.5
BlackRock Global Composite	147,646	0.3
Effissimo Capital Partners Feeder Fund 2 LP	192,747	0.3
Marathon Asset Mgmt	810,546	1.4
The Children's Investment Fund, LP	490,640	0.8
<b>Non-US Small Cap Equity Composite</b>	<b>809,009</b>	<b>1.4</b>
Acadian Asset Mgmt	242,269	0.4
Fidelity Institutional Int'l Small Cap	109	0.0
Oberweis Asset Mgmt	191,349	0.3
QS Investors	88,761	0.2
Wasatch Int'l Small Cap	286,520	0.5
<b>Emerging Markets Equity Composite</b>	<b>679,408</b>	<b>1.2</b>
Cederberg China Equity Fund	200,659	0.3

Alternative investment and real estate investments are valued on a quarter lag.

## Asset Allocation

	Total Fund	
	(\$)	%
Steadview Capital Partners LP	152,133	0.3
Wasatch EM Small Cap	326,616	0.6
<b>Total Private Equity (hedged)</b>	<b>8,653,227</b>	<b>14.8</b>
Buyout	5,579,016	9.6
Insight Wilson - PE (lagged)	-3,342	0.0
Managed Stock Distribution	7,444	0.0
PA Penn Investment Fund - Buyout Composite	78,045	0.1
PA Penn Investment Fund - Buyout Internal	2,844	0.0
PA Penn Investment Fund - Buyout External	75,201	0.1
Special Situations Composite	1,180,664	2.0
Venture Capital	1,077,321	1.8
Internally Managed Buyout Composite	734,079	1.3
<b>Total Fixed Income Exposure</b>	<b>16,556,263</b>	<b>28.4</b>
Investment Grade Composite	6,302,596	10.8
US Core Plus Fixed Income Composite	2,526,179	4.3
BlackRock Global Alpha	1,034,925	1.8
PSERS Active Core Plus Fixed Income	1,369,991	2.4
Pugh Capital Management	2	0.0
SEI Investment Management	121,262	0.2
Non-U.S. Developed Markets Fixed Income Composite	7,141	0.0
Alliance Bernstein Global Fixed	7,141	0.0
U.S. Treasuries Total Composite	3,769,276	6.5
PSERS Funded U.S. Long Treasuries	3,769,276	6.5
<b>Credit-Related</b>	<b>5,626,510</b>	<b>9.7</b>
Emerging Markets Fixed Income Composite	378,580	0.6
Franklin Templeton Emerging Fixed Income	378,580	0.6
Private Credit Composite (hedged)	5,247,930	9.0
Insight Oxygen - Private Credit	6,778	0.0
Internally Managed Private Credit Co-Investment Program	124,572	0.2
Apollo European Principal Fund II	50,994	0.1
Apollo European Principal Fund III	101,188	0.2

Alternative investment and real estate investments are valued on a quarter lag.



## Asset Allocation

	Total Fund	
	(\$)	%
Avenue Energy Opportunities Fund	204,513	0.4
Avenue Energy Opportunities Fund II	102,166	0.2
Avenue Europe SS III	238,720	0.4
Bain Capital Credit Managed Account (PSERS), L.P.	392,563	0.7
Bain Capital Credit Opp. Fund IV	27,149	0.0
Bain Capital Distressed and Special Situations 2013	179,076	0.3
Bain Capital Distressed and Special Situations 2016 (A), L.P.	275,723	0.5
Bain Capital Middle Market Credit 2010, L.P.	27,818	0.0
Bain Capital Middle Market Credit 2014, L.P.	90,493	0.2
Brigade Distressed Value	165,111	0.3
Brigade Structured Credit Offshore Fund	289,918	0.5
Carlyle Energy Mezz. Opp. Fund	51,095	0.1
Carlyle Energy Mezz. Opp. Fund II	117,273	0.2
Cerberus Levered Loan Fund I	4,725	0.0
Cerberus Levered Loan Fund II	75,221	0.1
Cerberus PSERS Levered Loan Opportunities Fund	281,269	0.5
Clearlake Opportunities Partners II, LP	8,130	0.0
Galton Onshore Mortgage Recovery Fund III, LP	32,591	0.1
Galton Onshore Mortgage Recovery Fund IV, L.P.	102,077	0.2
Hayfin SOF II USD LP	124,350	0.2
Hayfin SOF II USD Co-Invest	31,212	0.1
Hayfin Special Opportunities Credit LP	30,414	0.1
ICG Europe Fund V	41,472	0.1
ICG Europe Fund VI	149,291	0.3
ICG Europe Fund VII	52,687	0.1
Latitude Management Real Estate Capital IV	44,694	0.1
LBC Credit Partners III	53,204	0.1
LBC-P Credit Fund LP	239,858	0.4
Mariner/Galton RMBS	213,591	0.4
Mariner International Infrastructure	80,357	0.1
Oaktree Loan Fund 2X, LP	11,792	0.0
Park Square Credit Opportunities	193,861	0.3
PIMCO BRAVO Fund III Onshore Feeder, L.P.	208,129	0.4

Alternative investment and real estate investments are valued on a quarter lag.

## Asset Allocation

	Total Fund	
	(\$)	%
PIMCO Commercial Real Estate Debt Fund, L.P.	20,956	0.0
Summit Partners Credit Fund II LP	165,681	0.3
TCI Real Estate Partners Fund III, L.P.	53,713	0.1
The Varde Scratch and Dent Fund, LP	44,103	0.1
The Varde Scratch and Dent Fund Feed I-A	51,429	0.1
TOP NPL (A)	8,275	0.0
TPG Opportunities Partners II, LP	12,281	0.0
TPG Opportunities Partners III, LP	78,114	0.1
TPG TAO	363,810	0.6
TSSP Opportunities Partners IV, LP	25,495	0.0
<b>Inflation Protected</b>	<b>4,247,975</b>	<b>7.3</b>
<b>TIPS Composite (levered)</b>	<b>4,247,975</b>	<b>7.3</b>
Bridgewater TIPS (levered)	2,486,926	4.3
PSERS Total TIPS (levered)	1,761,048	3.0
PIMCO Multi-Sector Strategy	267,289	0.5
PSERS Fixed Liquidation	2,292	0.0
<b>Real Assets (levered/hedged)</b>	<b>10,610,166</b>	<b>18.2</b>
<b>Total Infrastructure Composite (levered/hedged)</b>	<b>3,192,570</b>	<b>5.5</b>
Insight Nevada - Infra	3,645	0.0
Private Infrastructure Composite	358,747	0.6
PSERS Infrastructure Private	320,568	0.6
Private Infrastructure Coinvestment	38,179	0.1
Publicly-Traded Infrastructure Composite (levered)	609,765	1.0
PSERS Infrastructure Index (levered)	609,765	1.0
MLP Composite	2,110,812	3.6
PSERS MLP	352,252	0.6
External MLP Composite	1,758,560	3.0
Atlantic Trust	550,708	0.9
Harvest MLP Alpha	624,710	1.1
Salient	583,142	1.0

Alternative investment and real estate investments are valued on a quarter lag.

## Asset Allocation

	Total Fund	
	(\$)	%
<b>Total Commodities Composite (levered)</b>	<b>2,034,703</b>	<b>3.5</b>
PSERS Private Commodities	109,668	0.2
Commodities Composite ex Private (levered)	1,815,434	3.1
Gresham	321,390	0.6
PSERS Commodity Beta (levered)	784,051	1.3
Wellington Management Company	423,454	0.7
Gold Composite	286,539	0.5
PSERS Gold Fund (levered)	286,539	0.5
<b>Total Real Estate (levered/hedged)</b>	<b>5,602,095</b>	<b>9.6</b>
PTRES Composite (levered/hedged)	471,316	0.8
Insight Sierra - REIT	1,666	0.0
PSERS REIT Index (levered)	259,965	0.4
Security Capital Preferred Growth	209,685	0.4
Private Real Estate	5,021,178	8.6
Private Real Estate x Coinvestment	4,910,607	8.4
Private Real Estate Coinvestment	110,571	0.2
<b>Risk Parity Composite</b>	<b>4,391,655</b>	<b>7.5</b>
BlackRock Market Advantage II	494,328	0.8
Bridgewater All Weather @15%	678,500	1.2
Bridgewater Optimal	551,697	0.9
DE Shaw Orienteer HV	459,799	0.8
PSERS Risk Parity Composite	2,207,331	3.8
PSERS Risk Parity	1,900,297	3.3
PSERS Risk Parity LIBOR	307,034	0.5
<b>Total Absolute Return Composite</b>	<b>5,990,720</b>	<b>10.3</b>
Aeolus Property Catastrophe Keystone PF Fund, LP	386,943	0.7
AKAZ Offshore Fund Ltd	181,038	0.3
Bridgewater Pure Alpha Fund II, Ltd.	1,015,303	1.7
Brigade Leveraged Capital Structures Offshore Fund, Ltd.	326,408	0.6
Capula Global Relative Value Fund Limited	471,775	0.8
Capula Tail Risk Fund Limited	308,950	0.5

Alternative investment and real estate investments are valued on a quarter lag.

## Asset Allocation

	Total Fund	
	(\$)	%
Carlyle Aviation/SASOF II LP	2,671	0.0
Carlyle Aviation/SASOF III LP	34,114	0.1
Carlyle Aviation/SASOF IV LP	65,792	0.1
Caspian Keystone Focused Fund, Ltd.	10,331	0.0
Caspian Select Credit International, Ltd.	260,992	0.4
Garda Fixed Income Relative Value Opportunity Fund Ltd.	446,245	0.8
HS Group Sponsor Fund II, Ltd.	38,609	0.1
<b>Independence Reinsurance Partners Composite</b>	<b>218,952</b>	<b>0.4</b>
Independence Reinsurance Partners Cash	942	0.0
DaVinci Reinsurance Ltd.	57,854	0.1
Renaissance Medici Fund Ltd.	63,675	0.1
Upsilon Diversified Fund	96,481	0.2
Nephila/Nimbus Weather Fund	149,068	0.3
Nephila/Palmetto Fund Ltd.	211,222	0.4
Oceanwood Investments SPC Co-Invest	22,057	0.0
Oceanwood Opportunities Fund	244,898	0.4
OWS Credit Opportunity Offshore Fund III, Ltd.	290,233	0.5
Perry Partners LP	15,947	0.0
<b>PIMCO PARS/GCOF/MAV/PCAF Composite</b>	<b>874,877</b>	<b>1.5</b>
PIMCO PARS	282,349	0.5
PIMCO GCOF	274,455	0.5
PIMCO Commodity Alpha Fund	318,073	0.5
Two Sigma Risk Premia Enhanced Fund, LP	219,365	0.4
Venor Capital Offshore, Ltd.	174,180	0.3
<b>Cash &amp; Cash Equivalents</b>	<b>3,010,419</b>	<b>5.2</b>
PSERS Cash Management	2,379,146	4.1
PSERS Derivatives Collateral	631,273	1.1
RE Conversions	-	0.0

Alternative investment and real estate investments are valued on a quarter lag.

## Disclaimer

Past performance is not necessarily indicative of future results.

Unless otherwise noted, performance returns presented reflect the respective fund's performance as indicated. Returns may be presented on a before-fees basis (gross) or after-fees basis (net). After-fee performance is net of each respective sub-advisors' investment management fees and include the reinvestment of dividends and interest as indicated on the notes page within this report or on the asset allocation and performance summary pages. Actual returns may be reduced by AHIC's investment advisory fees or other trust payable expenses you may incur as a client. AHIC's advisory fees are described in Form ADV Part 2A. Portfolio performance, characteristics and volatility also may differ from the benchmark(s) shown.

The information contained herein is confidential and proprietary and provided for informational purposes only. It is not complete and does not contain certain material information about making investments in securities including important disclosures and risk factors. All securities transactions involve substantial risk of loss. Under no circumstances does the information in this report represent a recommendation to buy or sell stocks, limited partnership interests, or other investment instruments.

The data contained in these reports is compiled from statements provided by custodian(s), record-keeper(s), and/or other third-party data provider(s). This document is not intended to provide, and shall not be relied upon for, accounting and legal or tax advice. AHIC has not conducted additional audits and cannot warrant its accuracy or completeness. We urge you to carefully review all custodial statements and notify AHIC with any issues or questions you may have with respect to investment performance or any other matter set forth herein.

The mutual fund information found in this report is provided by Thomson Reuters Lipper and AHIC cannot warrant its accuracy or timeliness. Thomson Reuters Lipper Global Data Feed provides comprehensive coverage of mutual fund information directly to Investment Metrics, AHIC's performance reporting vendor, via the PARis performance reporting platform. Thomson Reuters Lipper is the data provider chosen by Investment Metrics, and as such, AHIC has no direct relationship with Thomson Reuters Lipper.

Refer to Hedge Fund Research, Inc. [www.hedgefundresearch.com](http://www.hedgefundresearch.com) for information on HFR indices.

FTSE International Limited ("FTSE") © FTSE 2017. "FTSE®" and "FTSE4Good®" are trademarks of the London Stock Exchange Group companies and are used by FTSE International Limited under license. The FTSE indices are calculated by FTSE International Limited in conjunction with Indonesia Stock Exchange, Bursa Malaysia Berhad, The Philippine Stock Exchange, Inc., Singapore Exchange Securities Trading Limited and the Stock Exchange of Thailand (the "Exchanges"). All intellectual property rights in the FTSE/ASEAN Index vest in FTSE and the Exchanges. Neither FTSE nor its licensors accept any liability for any errors or omissions in the FTSE indices and / or FTSE ratings or underlying data. No further distribution of FTSE Data is permitted without FTSE's express written consent.

Aon Hewitt Investment Consulting, Inc. ("AHIC") is a federally registered investment advisor with the U.S. Securities and Exchange Commission ("SEC"). AHIC is also registered with the Commodity Futures Trade Commission as a commodity pool operator and a commodity trading advisor, and is a member of the National Futures Association. The AHIC ADV Form Part 2A disclosure statement is available upon written request to:

Aon Hewitt Investment Consulting, Inc.  
200 East Randolph Street  
Suite 700  
Chicago, IL 60601  
ATTN: AHIC Compliance Officer