



Pittsburgh Comprehensive Municipal Pension

Pittsburgh Comprehensive Municipal

Executive Summary

December 31, 2019

Total Fund Composite

Manager Status

Market Value: \$813.9 Million and 100.0% of Fund

Investment Manager	Asset Class	Status	Reason
Vanguard Ultra Short Duration	Short-Term Fixed Income	In Compliance	---
Federated Investors	Core Fixed Income	In Compliance	---
BlackRock Total Return Fund	Core Fixed Income	In Compliance	---
SSgA S&P 500 Index Fund	Large-Cap Core	In Compliance	---
Twin Capital	Large-Cap Core	In Compliance	---
Frontier Capital Management	Smid-Cap Core	In Compliance	---
Guyasuta Investment Advisors	Small-Cap Core	In Compliance	---
CIM Investment Management	Small-Cap Core	In Compliance	---
MFS International Equity Fund	Non-U.S. Large-Cap Core	In Compliance	---
Columbus Macro	Global Core Equity	In Compliance	---
SSgA Active Emerging Markets Fund	Emerging Markets	In Compliance	---
ABS Emerging Markets	Emerging Markets	In Compliance	---
ABS Offshore SPC Global	Hedged Equity Hedge FoF	In Compliance	---
Entrust Three Rivers Partners	Multi-Strat. Hedge Fund	In Compliance	---
Parametric Defensive Equity	Defensive Equity	In Compliance	---
Rreef America II	Core Real Estate	In Compliance	---
Barings Core Property Fund	Core Real Estate	In Compliance	---
Birchmere Ventures III, LP	Venture Private Equity	In Compliance	---
Draper Triangle Ventures II, LP	Venture Private Equity	In Compliance	---
Draper Triangle Ventures III, LP	Venture Private Equity	In Compliance	---
Hirtle Callaghan Private Equity Fund V, LP	Global Divers. Private Equity FoF	In Compliance	---
Crescent Mezzanine Partners VIB, LP	Mezz. Private Equity	In Compliance	---
Crescent Mezzanine Partners VIB, LP	Mezz. Private Equity	In Compliance	---
Siguler Guff Small Buyout Opportunities Fund IV, LP	LBO Private Equity FoF	In Compliance	---
Dedicated Funding for CMPTF	Fixed Income Annuity	In Compliance	---

Investment Manager Evaluation Terminology

The following terminology has been developed by Marquette Associates to facilitate efficient communication among the Investment Manager, Investment Consultant, and the Plan Sponsor. Each term signifies a particular status with the Fund and any conditions that may require improvement. In each case, communication is made only after consultation with the Trustees and/or the Investment Committee of the Plan.

In Compliance – The investment manager states it is acting in accordance with the Investment Policy Guidelines.

Total Fund Composite

Market Value: \$813.9 Million and 100.0% of Fund

Ending December 31, 2019

	Asset Class	Market Value	3 Mo Net Cash Flows	% of Portfolio	Policy %	Policy Difference
Total Fund Composite		\$813,861,762	-\$8,334,124	100.0%	100.0%	\$0
Dedicated Funding for CMPTF	Fixed Income Annuity	\$291,800,947	-\$6,688,000	35.9%	40.0%	-\$33,743,758
Total Invested Portfolio		\$522,060,815	-\$1,646,124	64.1%	60.0%	\$33,743,758
Fixed Income Composite		\$97,080,299	-\$37,443	11.9%	13.0%	-\$8,721,730
Vanguard Ultra Short Duration	Short-Term Fixed Income	\$15,238,655	\$0	1.9%		
Federated Investors	Core Fixed Income	\$60,018,781	-\$37,443	7.4%		
BlackRock Total Return Fund	Core Fixed Income	\$21,822,863	\$0	2.7%		
U.S. Equity Composite		\$203,574,498	-\$114,756	25.0%	22.0%	\$24,524,910
SSgA S&P 500 Index Fund	Large-Cap Core	\$133,536,080	-\$12,942	16.4%		
Frontier Capital Management	Smid-Cap Core	\$35,798,752	-\$64,759	4.4%		
Guyasuta Investment Advisors	Small-Cap Core	\$34,239,666	-\$37,055	4.2%		
Non-U.S. Equity Composite		\$96,323,377	-\$16,362	11.8%	12.0%	-\$1,340,034
MFS International Equity Fund	Non-U.S. Large-Cap Core	\$76,682,731	\$0	9.4%		
SSgA Active Emerging Markets Fund	Emerging Markets	\$9,139,049	-\$16,362	1.1%		
ABS Emerging Markets	Emerging Markets	\$10,501,597	\$0	1.3%		
Emerging Manager Composite		\$8,395,891	-\$11,500	1.0%	--	\$8,395,891
Twin Capital	Large-Cap Core	\$3,113,933	-\$2,642	0.4%		
CIM Investment Management	Small-Cap Core	\$2,753,755	-\$4,587	0.3%		
Columbus Macro	Global Core Equity	\$2,528,203	-\$4,271	0.3%		
Hedge Fund Composite		\$50,893,972	\$0	6.3%	5.0%	\$10,200,884
ABS Offshore SPC Global	Hedged Equity Hedge FoF	\$14,983,973	\$0	1.8%		
Entrust Three Rivers Partners	Multi-Strat. Hedge Fund	\$23,452,619	\$0	2.9%		
Parametric Defensive Equity	Defensive Equity	\$12,457,379	\$0	1.5%		
Real Estate Composite		\$46,531,060	-\$246,452	5.7%	5.0%	\$5,837,972
Rreef America II	Core Real Estate	\$23,388,000	-\$246,452	2.9%	2.5%	\$3,041,456
Barings Core Property Fund	Core Real Estate	\$23,143,060	\$0	2.8%	2.5%	\$2,796,516
Private Equity Composite		\$10,892,195	\$687,630	1.3%	3.0%	-\$13,523,658
Cash Composite		\$8,369,523	-\$1,907,241	1.0%	0.0%	\$8,369,523

- Private Equity Composite may not include current performance, due to reporting cycle limitations.

Total Invested Portfolio

Market Value: \$522.1 Million and 64.1% of Fund

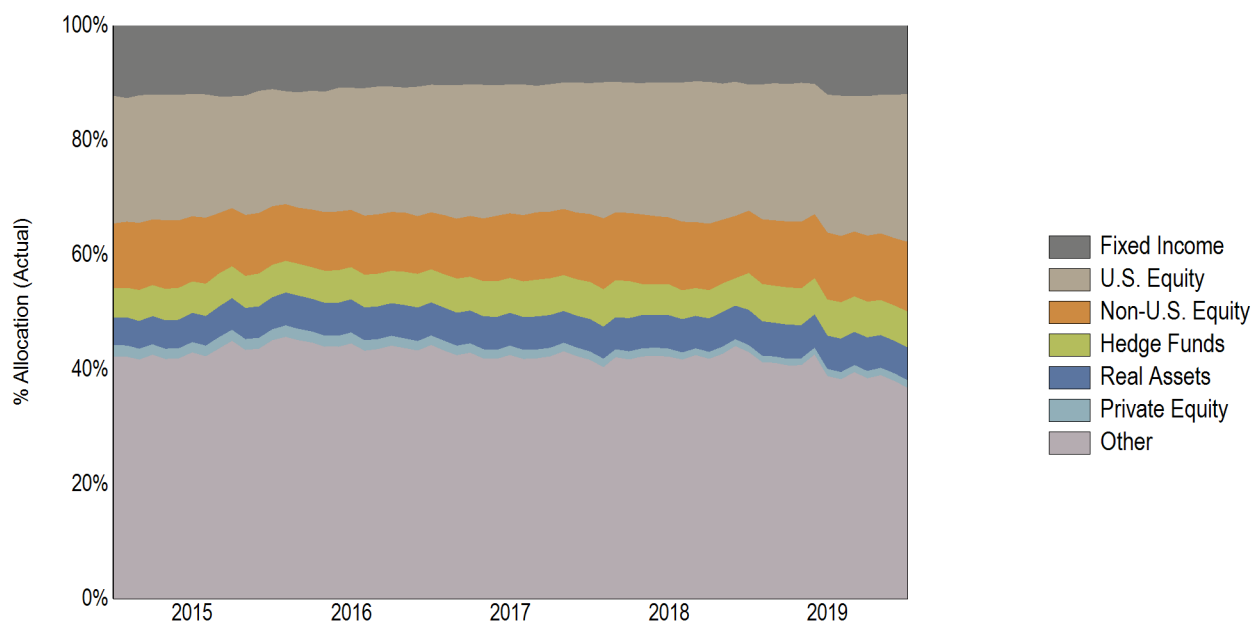
Ending December 31, 2019

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U.S. Equity Composite		\$203,574,498	-\$114,756	39.0%
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MFS International Equity Fund	Non-U.S. Large-Cap Core	\$76,682,731	\$0	14.7%
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ABS Emerging Markets	Emerging Markets	\$10,501,597	\$0	2.0%
Emerging Manager Composite		\$8,395,891	-\$11,500	1.6%
Twin Capital	Large-Cap Core	\$3,113,933	-\$2,642	0.6%
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Cash Composite		\$8,369,523	-\$1,907,241	1.6%

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Market Value: \$813.9 Million and 100.0% of Fund

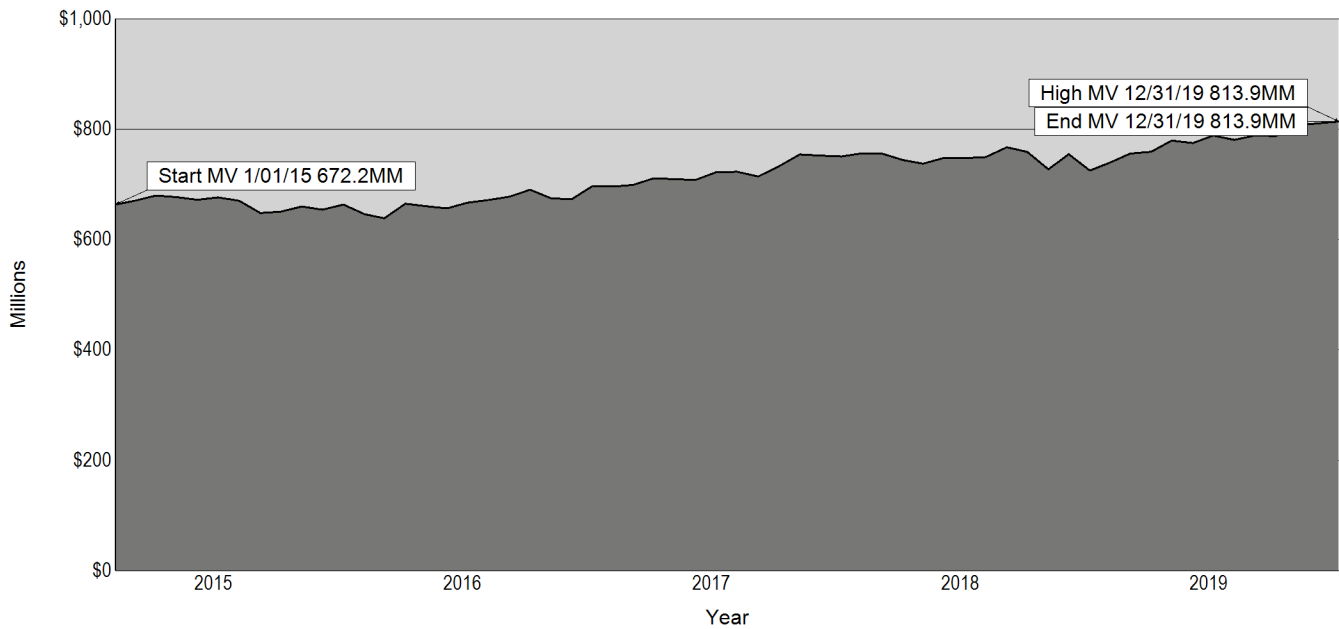
Historic Asset Allocation



Asset Allocation vs. Target
As Of December 31, 2019

	Current	Policy	Difference*	Difference**
Fixed Income	\$97,080,299	\$105,802,029	-\$8,721,730	-1.1%
U.S. Equity	\$209,442,186	\$179,049,588	\$30,392,599	3.7%
Non-U.S. Equity	\$98,851,580	\$97,663,411	\$1,188,169	0.1%
Hedge Funds	\$50,893,972	\$40,693,088	\$10,200,884	1.3%
Real Assets	\$46,531,060	\$40,693,088	\$5,837,972	0.7%
Private Equity	\$10,892,195	\$24,415,853	-\$13,523,658	-1.7%
Other	\$300,170,470	\$325,544,705	-\$25,374,235	-3.1%
Total	\$813,861,762	\$813,861,762		

Market Value: \$813.9 Million and 100.0% of Fund



Summary of Cash Flows

	Fourth Quarter	Year-To-Date	One Year	Three Years	Five Years
Beginning Market Value	\$494,128,209.44	\$427,989,017.18	\$427,989,017.18	\$403,523,054.83	\$393,465,790.22
Net Cash Flow	-\$1,403,422.30	\$8,461,659.14	\$8,461,659.14	-\$4,047,748.86	-\$26,619,096.89
Net Investment Change	\$29,336,027.68	\$85,610,138.50	\$85,610,138.50	\$122,585,508.85	\$155,214,121.49
Ending Market Value	\$522,060,814.82	\$522,060,814.82	\$522,060,814.82	\$522,060,814.82	\$522,060,814.82

Total Fund Composite

Annualized Performance (Net of Fees)

Market Value: \$813.9 Million and 100.0% of Fund

Ending December 31, 2019

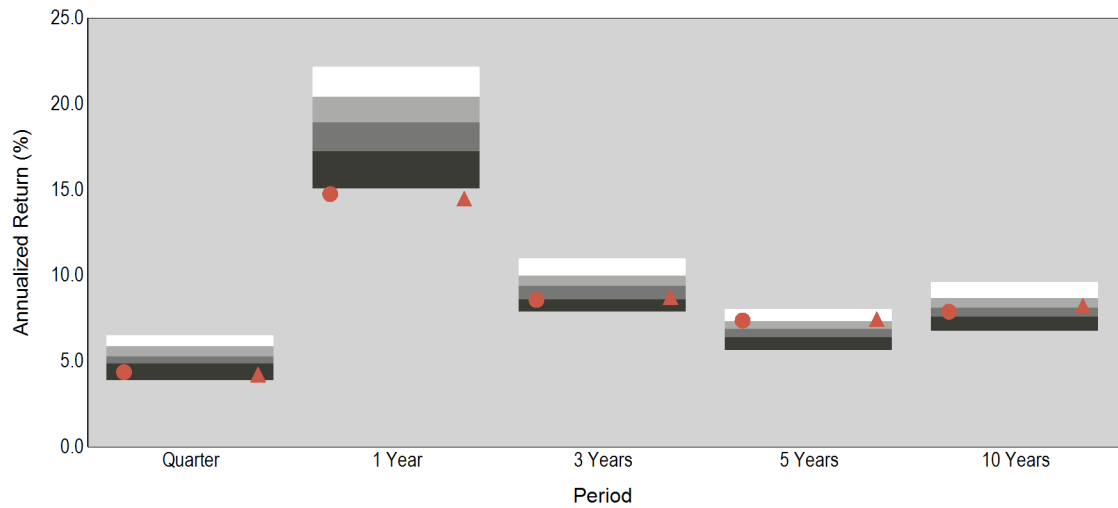
	1 Mo	3 Mo	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund Composite	1.3%	4.4%	14.8%	7.1%	8.6%	8.5%	7.4%	8.5%	7.9%
<i>Total Fund Composite Benchmark</i>	1.6%	4.2%	14.5%	7.0%	8.7%	8.5%	7.5%	8.3%	8.2%
<i>InvMetrics Public DB Net Rank</i>	97	91	97	31	76	68	20	33	60
Total Invested Portfolio	2.3%	5.8%	19.5%	6.5%	9.2%	9.0%	7.2%	8.5%	7.6%
<i>Total Invested Portfolio Benchmark</i>	2.1%	5.5%	19.2%	6.8%	9.8%	9.2%	7.4%	8.7%	8.5%
<i>InvMetrics Public DB Net Rank</i>	13	27	43	52	57	36	35	32	75
Fixed Income Composite	0.2%	0.6%	9.6%	4.2%	4.2%	4.3%	3.4%	3.3%	4.4%
<i>BBgBarc US Aggregate TR</i>	-0.1%	0.2%	8.7%	4.3%	4.0%	3.7%	3.0%	2.7%	3.7%
<i>InvMetrics Public DB US Fix Inc Net Rank</i>	21	14	9	29	21	17	18	13	21
U.S. Equity Composite	3.2%	9.4%	31.1%	10.3%	13.3%	14.1%	10.6%	14.0%	12.4%
<i>Dow Jones U.S. Total Stock Market</i>	2.9%	9.0%	30.9%	11.3%	14.5%	14.0%	11.2%	14.3%	13.4%
<i>InvMetrics Public DB US Eq Net Rank</i>	1	8	11	55	63	12	46	29	63
Non-U.S. Equity Composite	3.8%	8.9%	25.5%	5.4%	12.6%	9.8%	7.4%	6.4%	--
<i>MSCI ACWI ex USA</i>	4.3%	8.9%	21.5%	2.1%	9.9%	8.5%	5.5%	5.4%	5.0%
<i>InvMetrics Public DB ex-US Eq Net Rank</i>	90	92	5	2	4	7	5	32	--
Emerging Manager Composite	3.3%	9.0%	25.9%	6.5%	9.9%	--	--	--	--
<i>Emerging Manager Benchmark</i>	3.1%	9.3%	28.0%	8.3%	11.7%	--	--	--	--
Hedge Fund Composite	1.8%	3.8%	9.2%	3.0%	4.9%	3.9%	3.1%	--	--
<i>HFRI Fund of Funds Composite Index</i>	1.7%	3.0%	8.3%	2.0%	3.9%	3.0%	2.4%	3.4%	2.8%
<i>HFRX Equity Hedge Index</i>	1.2%	2.6%	10.7%	0.1%	3.3%	2.5%	1.5%	2.8%	1.2%
<i>InvMetrics Public DB Hedge Funds Net Rank</i>	5	15	24	35	36	31	37	--	--
Real Estate Composite	1.4%	1.4%	6.1%	6.5%	6.5%	7.0%	8.4%	--	--
<i>NFI</i>	0.4%	1.3%	4.4%	5.9%	6.1%	6.6%	8.0%	9.2%	10.4%
<i>InvMetrics Public DB Real Estate Priv Net Rank</i>	23	38	29	62	63	71	64	--	--

Total Fund Composite

Annualized Performance (Net of Fees)

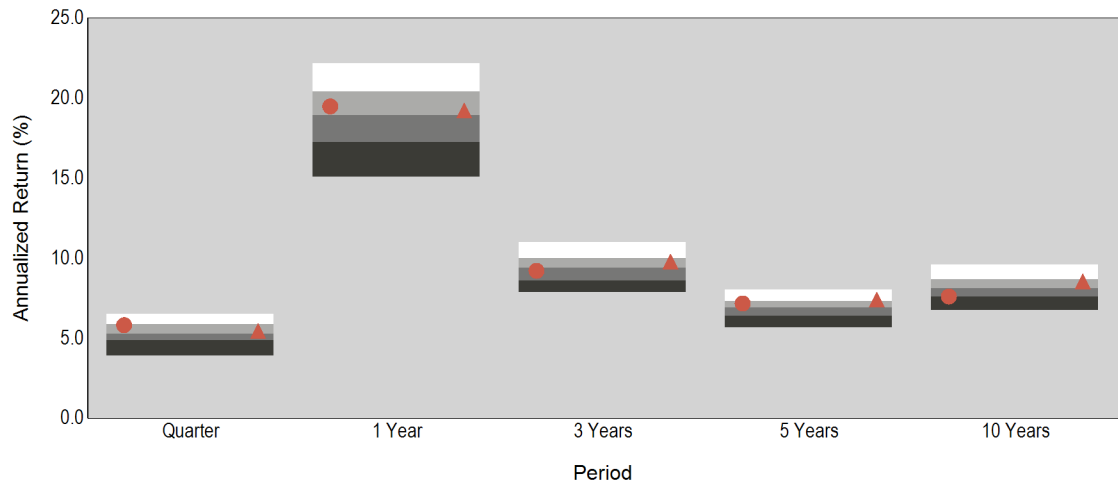
Market Value: \$813.9 Million and 100.0% of Fund

Total Fund DB Return Comparison



	Return				
	Quarter	1 Year	3 Years	5 Years	10 Years
5th Percentile	6.5	22.2	11.0	8.0	9.6
25th Percentile	5.9	20.4	10.0	7.3	8.7
Median	5.3	18.9	9.4	6.9	8.1
75th Percentile	4.9	17.2	8.6	6.4	7.6
95th Percentile	3.9	15.1	7.9	5.7	6.8
# of Portfolios	222	219	214	202	155
● Total Fund Composite	4.4	14.8	8.6	7.4	7.9
▲ Total Fund Composite Benchmark	4.2	14.5	8.7	7.5	8.2

Invested Portfolio DB Return Comparison



	Return				
	Quarter	1 Year	3 Years	5 Years	10 Years
5th Percentile	6.5	22.2	11.0	8.0	9.6
25th Percentile	5.9	20.4	10.0	7.3	8.7
Median	5.3	18.9	9.4	6.9	8.1
75th Percentile	4.9	17.2	8.6	6.4	7.6
95th Percentile	3.9	15.1	7.9	5.7	6.8
# of Portfolios	222	219	214	202	155
● Total Invested Portfolio	5.8	19.5	9.2	7.2	7.6
▲ Total Invested Portfolio Benchmark	5.5	19.2	9.8	7.4	8.5

Total Fund Composite

Calendar Performance (Net of Fees)

Market Value: \$813.9 Million and 100.0% of Fund

Calendar Year

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total Fund Composite	14.8%	-0.1%	11.7%	8.1%	3.2%	9.2%	13.6%	12.3%	1.8%	5.6%	23.4%
<i>Total Fund Composite Benchmark</i>	14.5%	0.1%	12.2%	7.7%	3.5%	7.2%	14.1%	10.5%	1.3%	12.6%	23.0%
<i>InvMetrics Public DB Net Rank</i>	97	2	95	26	1	1	66	41	22	98	19
Total Invested Portfolio	19.5%	-5.0%	14.7%	8.5%	0.0%	6.6%	17.6%	14.1%	-2.5%	5.6%	23.3%
<i>Total Invested Portfolio Benchmark</i>	19.2%	-4.4%	16.0%	7.4%	0.6%	6.8%	17.6%	12.2%	0.3%	12.4%	22.9%
<i>InvMetrics Public DB Net Rank</i>	43	69	49	16	34	22	22	7	92	98	20
Fixed Income Composite	9.6%	-0.9%	4.3%	4.5%	0.0%	6.1%	-0.4%	8.4%	5.4%	7.8%	13.8%
<i>BBgBarc US Aggregate TR</i>	8.7%	0.0%	3.5%	2.6%	0.6%	6.0%	-2.0%	4.2%	7.8%	6.5%	5.9%
<i>InvMetrics Public DB US Fix Inc Net Rank</i>	9	91	39	47	56	15	32	35	87	41	42
U.S. Equity Composite	31.1%	-7.2%	19.5%	16.6%	-2.3%	12.5%	34.2%	17.8%	0.6%	8.6%	25.8%
<i>Dow Jones U.S. Total Stock Market</i>	30.9%	-5.3%	21.2%	12.6%	0.4%	12.5%	33.5%	16.4%	1.1%	17.5%	28.6%
<i>InvMetrics Public DB US Eq Net Rank</i>	11	73	70	2	84	14	50	4	48	99	86
Non-U.S. Equity Composite	25.5%	-11.4%	28.5%	1.9%	-1.7%	-4.2%	12.9%	21.3%	--	--	--
<i>MSCI ACWI ex USA</i>	21.5%	-14.2%	27.2%	4.5%	-5.7%	-3.9%	15.3%	16.8%	-13.7%	11.2%	41.4%
<i>InvMetrics Public DB ex-US Eq Net Rank</i>	5	6	48	83	23	62	82	8	--	--	--
Emerging Manager Composite	25.9%	-9.8%	16.9%	--	--	--	--	--	--	--	--
<i>Emerging Manager Benchmark</i>	28.0%	-8.4%	18.9%	--	--	--	--	--	--	--	--
Hedge Fund Composite	9.2%	-2.9%	9.0%	0.7%	0.0%	4.9%	--	--	--	--	--
<i>HFRI Fund of Funds Composite Index</i>	8.3%	-4.0%	7.8%	0.5%	-0.3%	3.4%	9.0%	4.8%	-5.7%	5.7%	11.5%
<i>HFRX Equity Hedge Index</i>	10.7%	-9.4%	10.0%	0.1%	-2.3%	1.4%	11.1%	4.8%	-19.1%	8.9%	13.1%
<i>InvMetrics Public DB Hedge Funds Net Rank</i>	24	68	23	74	45	35	--	--	--	--	--
Real Estate Composite	6.1%	6.9%	6.5%	8.4%	14.4%	11.0%	--	--	--	--	--
<i>NFI</i>	4.4%	7.4%	6.7%	7.8%	13.9%	11.5%	12.9%	9.8%	15.0%	15.3%	-30.4%
<i>InvMetrics Public DB Real Estate Priv Net Rank</i>	29	80	63	43	7	67	--	--	--	--	--

Investment Manager

Annualized Performance (Net of Fees)

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Ending December 31, 2019

	1 Mo	3 Mo	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund Composite	1.3%	4.4%	14.8%	7.1%	8.6%	8.5%	7.4%	8.5%	7.9%
<i>Total Fund Composite Benchmark</i>	1.6%	4.2%	14.5%	7.0%	8.7%	8.5%	7.5%	8.3%	8.2%
<i>InvMetrics Public DB Net Rank</i>	97	91	97	31	76	68	20	33	60
Dedicated Funding for CMPTF	-0.4%	1.9%	7.6%	7.6%	7.5%	7.6%	7.5%	8.4%	--
<i>Annual Return</i>	0.6%	1.8%	7.5%	7.5%	7.5%	7.5%	7.5%	7.6%	--
Total Invested Portfolio	2.3%	5.8%	19.5%	6.5%	9.2%	9.0%	7.2%	8.5%	7.6%
<i>Total Invested Portfolio Benchmark</i>	2.1%	5.5%	19.2%	6.8%	9.8%	9.2%	7.4%	8.7%	8.5%
<i>InvMetrics Public DB Net Rank</i>	13	27	43	52	57	36	35	32	75
Fixed Income Composite	0.2%	0.6%	9.6%	4.2%	4.2%	4.3%	3.4%	3.3%	4.4%
<i>BBgBarc US Aggregate TR</i>	-0.1%	0.2%	8.7%	4.3%	4.0%	3.7%	3.0%	2.7%	3.7%
<i>InvMetrics Public DB US Fix Inc Net Rank</i>	21	14	9	29	21	17	18	13	21
<i>Vanguard Ultra Short Duration</i>	0.2%	0.6%	--	--	--	--	--	--	--
<i>BofA Merrill Lynch 1 Year Treasury</i>	0.2%	0.6%	3.0%	2.4%	1.8%	1.6%	1.3%	1.0%	0.8%
<i>Ultrashort Bond MStar MF Rank</i>	18	22	--	--	--	--	--	--	--
<i>Federated Investors</i>	0.2%	0.5%	10.1%	4.4%	4.4%	4.5%	3.6%	3.1%	4.4%
<i>BBgBarc US Aggregate TR</i>	-0.1%	0.2%	8.7%	4.3%	4.0%	3.7%	3.0%	2.7%	3.7%
<i>eV US Core Fixed Inc Net Rank</i>	4	8	11	33	25	10	19	25	27
<i>BlackRock Total Return Fund</i>	0.3%	0.6%	9.9%	4.4%	4.4%	4.2%	3.4%	3.6%	5.0%
<i>BBgBarc US Aggregate TR</i>	-0.1%	0.2%	8.7%	4.3%	4.0%	3.7%	3.0%	2.7%	3.7%
<i>eV US Core Fixed Inc Net Rank</i>	3	7	13	39	29	27	28	9	8
U.S. Equity Composite	3.2%	9.4%	31.1%	10.3%	13.3%	14.1%	10.6%	14.0%	12.4%
<i>Dow Jones U.S. Total Stock Market</i>	2.9%	9.0%	30.9%	11.3%	14.5%	14.0%	11.2%	14.3%	13.4%
<i>InvMetrics Public DB US Eq Net Rank</i>	1	8	11	55	63	12	46	29	63
<i>SSgA S&P 500 Index Fund</i>	3.0%	9.1%	31.4%	12.1%	15.2%	14.4%	11.7%	--	--
<i>S&P 500</i>	3.0%	9.1%	31.5%	12.1%	15.3%	14.4%	11.7%	14.7%	13.6%
<i>eV US Large Cap Core Equity Net Rank</i>	30	29	27	24	25	20	17	--	--
<i>Frontier Capital Management</i>	2.9%	9.8%	28.8%	5.6%	9.7%	12.2%	8.2%	12.7%	12.6%
<i>Russell 2500</i>	2.1%	8.5%	27.8%	7.2%	10.3%	12.1%	8.9%	12.3%	12.6%
<i>eV US Small-Mid Cap Core Equity Net Rank</i>	19	19	49	72	60	45	68	35	51
<i>Guyasuta Investment Advisors</i>	4.1%	10.2%	32.3%	8.9%	10.0%	14.5%	9.2%	12.6%	13.6%
<i>Russell 2000</i>	2.9%	9.9%	25.5%	5.7%	8.6%	11.6%	8.2%	11.6%	11.8%
<i>eV US Small Cap Core Equity Net Rank</i>	8	21	6	23	30	8	38	33	17

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$813.9 Million and 100.0% of Fund

Ending December 31, 2019

	1 Mo	3 Mo	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Non-U.S. Equity Composite	3.8%	8.9%	25.5%	5.4%	12.6%	9.8%	7.4%	6.4%	--
MSCI ACWI ex USA	4.3%	8.9%	21.5%	2.1%	9.9%	8.5%	5.5%	5.4%	5.0%
InvMetrics Public DB ex-US Eq Net Rank	90	92	5	2	4	7	5	32	--
MFS International Equity Fund	3.3%	9.0%	28.4%	7.1%	13.7%	10.2%	8.1%	7.6%	--
MSCI EAFE	3.2%	8.2%	22.0%	2.6%	9.6%	7.4%	5.7%	6.3%	5.5%
Foreign Large Blend MStar MF Rank	68	40	3	1	1	3	3	6	--
SSgA Active Emerging Markets Fund	7.4%	9.9%	12.0%	-2.2%	8.7%	9.5%	4.4%	1.8%	--
MSCI Emerging Markets	7.5%	11.8%	18.4%	0.6%	11.6%	11.5%	5.6%	3.3%	3.7%
eV Emg Mkts Equity Net Rank	33	74	91	82	81	69	77	92	--
ABS Emerging Markets	4.6%	7.5%	18.1%	1.2%	9.0%	8.0%	5.6%	--	--
HFR1 Emerging Markets (Total) Index	3.5%	5.0%	11.6%	-0.3%	5.9%	6.2%	4.2%	3.4%	2.9%
MSCI Emerging Markets	7.5%	11.8%	18.4%	0.6%	11.6%	11.5%	5.6%	3.3%	3.7%
Emerging Manager Composite	3.3%	9.0%	25.9%	6.5%	9.9%	--	--	--	--
Emerging Manager Benchmark	3.1%	9.3%	28.0%	8.3%	11.7%	--	--	--	--
Twin Capital	2.8%	9.4%	30.0%	10.3%	13.7%	--	--	--	--
S&P 500	3.0%	9.1%	31.5%	12.1%	15.3%	14.4%	11.7%	14.7%	13.6%
Russell 1000	2.9%	9.0%	31.4%	11.9%	15.0%	14.3%	11.5%	14.6%	13.5%
eV US Large Cap Core Equity Net Rank	42	25	36	48	49	--	--	--	--
CIM Investment Management	2.3%	8.8%	28.0%	4.9%	6.9%	--	--	--	--
Russell 2000	2.9%	9.9%	25.5%	5.7%	8.6%	11.6%	8.2%	11.6%	11.8%
eV US Small Cap Core Equity Net Rank	45	42	19	49	66	--	--	--	--
Columbus Macro	4.9%	8.9%	19.0%	4.0%	--	--	--	--	--
MSCI ACWI	3.5%	9.0%	26.6%	7.1%	12.4%	11.3%	8.4%	9.7%	8.8%
eV Global All Cap Core Eq Net Rank	3	37	89	86	--	--	--	--	--
Hedge Fund Composite	1.8%	3.8%	9.2%	3.0%	4.9%	3.9%	3.1%	--	--
HFR1 Fund of Funds Composite Index	1.7%	3.0%	8.3%	2.0%	3.9%	3.0%	2.4%	3.4%	2.8%
HFRX Equity Hedge Index	1.2%	2.6%	10.7%	0.1%	3.3%	2.5%	1.5%	2.8%	1.2%
InvMetrics Public DB Hedge Funds Net Rank	5	15	24	35	36	31	37	--	--
ABS Offshore SPC Global	2.3%	5.6%	15.2%	3.8%	6.6%	3.8%	3.8%	--	--
HFRX Equity Hedge Index	1.2%	2.6%	10.7%	0.1%	3.3%	2.5%	1.5%	2.8%	1.2%
Entrust Three Rivers Partners	1.7%	2.1%	2.5%	--	--	--	--	--	--
HFR1 Fund of Funds Composite Index	1.7%	3.0%	8.3%	2.0%	3.9%	3.0%	2.4%	3.4%	2.8%
Parametric Defensive Equity	1.5%	4.7%	16.3%	6.3%	--	--	--	--	--
50% S&P 500/50% 91 Day T-Bill	1.6%	4.7%	16.1%	7.2%	8.5%	7.9%	6.4%	7.7%	7.1%

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$813.9 Million and 100.0% of Fund

Ending December 31, 2019

	1 Mo	3 Mo	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Real Estate Composite	1.4%	1.4%	6.1%	6.5%	6.5%	7.0%	8.4%	--	--
<i>NFI</i>	0.4%	1.3%	4.4%	5.9%	6.1%	6.6%	8.0%	9.2%	10.4%
<i>InvMetrics Public DB Real Estate Priv Net Rank</i>	23	38	29	62	63	71	64	--	--
Rreef America II	1.4%	1.4%	6.3%	6.8%	6.7%	7.1%	8.7%	--	--
<i>NFI</i>	0.4%	1.3%	4.4%	5.9%	6.1%	6.6%	8.0%	9.2%	10.4%
Barings Core Property Fund	1.3%	1.3%	6.0%	6.2%	6.3%	6.9%	8.1%	--	--
<i>NFI</i>	0.4%	1.3%	4.4%	5.9%	6.1%	6.6%	8.0%	9.2%	10.4%

Investment Manager

Calendar Performance (Net of Fees)

Market Value: \$813.9 Million and 100.0% of Fund

	Calendar Year										
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total Fund Composite	14.8%	-0.1%	11.7%	8.1%	3.2%	9.2%	13.6%	12.3%	1.8%	5.6%	23.4%
<i>Total Fund Composite Benchmark</i>	14.5%	0.1%	12.2%	7.7%	3.5%	7.2%	14.1%	10.5%	1.3%	12.6%	23.0%
<i>InvMetrics Public DB Net Rank</i>	97	2	95	26	1	1	66	41	22	98	19
Dedicated Funding for CMPTF	7.6%	7.5%	7.5%	7.6%	7.5%	13.2%	8.1%	9.8%	7.2%	--	--
<i>Annual Return</i>	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	8.0%	8.0%	8.0%	--	--
Total Invested Portfolio	19.5%	-5.0%	14.7%	8.5%	0.0%	6.6%	17.6%	14.1%	-2.5%	5.6%	23.3%
<i>Total Invested Portfolio Benchmark</i>	19.2%	-4.4%	16.0%	7.4%	0.6%	6.8%	17.6%	12.2%	0.3%	12.4%	22.9%
<i>InvMetrics Public DB Net Rank</i>	43	69	49	16	34	22	22	7	92	98	20
Fixed Income Composite	9.6%	-0.9%	4.3%	4.5%	0.0%	6.1%	-0.4%	8.4%	5.4%	7.8%	13.8%
<i>BBgBarc US Aggregate TR</i>	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	6.5%	5.9%
<i>InvMetrics Public DB US Fix Inc Net Rank</i>	9	91	39	47	56	15	32	35	87	41	42
<i>Vanguard Ultra Short Duration</i>	--	--	--	--	--	--	--	--	--	--	--
<i>BofA Merrill Lynch 1 Year Treasury</i>	3.0%	1.9%	0.6%	0.8%	0.3%	0.2%	0.3%	0.2%	0.5%	0.7%	0.8%
<i>Ultrashort Bond MStar MF Rank</i>	--	--	--	--	--	--	--	--	--	--	--
Federated Investors	10.1%	-0.9%	4.3%	4.8%	-0.2%	5.0%	-0.8%	7.1%	6.5%	8.2%	11.2%
<i>BBgBarc US Aggregate TR</i>	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	6.5%	5.9%
<i>eV US Core Fixed Inc Net Rank</i>	11	88	18	7	89	80	19	23	81	12	33
BlackRock Total Return Fund	9.9%	-0.8%	4.3%	3.5%	0.4%	8.2%	-0.1%	10.3%	4.7%	10.1%	16.3%
<i>BBgBarc US Aggregate TR</i>	8.7%	0.0%	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	6.5%	5.9%
<i>eV US Core Fixed Inc Net Rank</i>	13	85	19	33	64	4	8	2	96	2	14
U.S. Equity Composite	31.1%	-7.2%	19.5%	16.6%	-2.3%	12.5%	34.2%	17.8%	0.6%	8.6%	25.8%
<i>Dow Jones U.S. Total Stock Market</i>	30.9%	-5.3%	21.2%	12.6%	0.4%	12.5%	33.5%	16.4%	1.1%	17.5%	28.6%
<i>InvMetrics Public DB US Eq Net Rank</i>	11	73	70	2	84	14	50	4	48	99	86
SSgA S&P 500 Index Fund	31.4%	-4.4%	21.8%	12.0%	1.4%	13.8%	--	--	--	--	--
<i>S&P 500</i>	31.5%	-4.4%	21.8%	12.0%	1.4%	13.7%	32.4%	16.0%	2.1%	15.1%	26.5%
<i>eV US Large Cap Core Equity Net Rank</i>	27	32	46	20	36	33	--	--	--	--	--
Frontier Capital Management	28.8%	-13.5%	18.6%	20.1%	-6.5%	12.1%	39.0%	18.0%	-6.5%	28.9%	46.5%
<i>Russell 2500</i>	27.8%	-10.0%	16.8%	17.6%	-2.9%	7.1%	36.8%	17.9%	-2.5%	26.7%	34.4%
<i>eV US Small-Mid Cap Core Equity Net Rank</i>	49	80	35	5	88	1	26	29	86	25	5
Guyasuta Investment Advisors	32.3%	-10.4%	12.2%	29.4%	-9.9%	8.4%	36.2%	25.7%	4.1%	19.3%	40.8%
<i>Russell 2000</i>	25.5%	-11.0%	14.6%	21.3%	-4.4%	4.9%	38.8%	16.3%	-4.2%	26.9%	27.2%
<i>eV US Small Cap Core Equity Net Rank</i>	6	46	71	3	88	15	73	1	17	97	9

Investment Manager

Calendar Performance (Net of Fees)

Market Value: \$813.9 Million and 100.0% of Fund

	Calendar Year										
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Non-U.S. Equity Composite	25.5%	-11.4%	28.5%	1.9%	-1.7%	-4.2%	12.9%	21.3%	--	--	--
MSCI ACWI ex USA	21.5%	-14.2%	27.2%	4.5%	-5.7%	-3.9%	15.3%	16.8%	-13.7%	11.2%	41.4%
InvMetrics Public DB ex-US Eq Net Rank	5	6	48	83	23	62	82	8	--	--	--
MFS International Equity Fund	28.4%	-10.7%	28.0%	0.3%	0.0%	-4.2%	18.6%	22.5%	--	--	--
MSCI EAFE	22.0%	-13.8%	25.0%	1.0%	-0.8%	-4.9%	22.8%	17.3%	-12.1%	7.8%	31.8%
Foreign Large Blend MStar MF Rank	3	9	24	64	37	36	64	12	--	--	--
SSgA Active Emerging Markets Fund	12.0%	-14.6%	34.3%	11.7%	-13.7%	-3.3%	-5.6%	17.2%	--	--	--
MSCI Emerging Markets	18.4%	-14.6%	37.3%	11.2%	-14.9%	-2.2%	-2.6%	18.2%	-18.4%	18.9%	78.5%
eV Emg Mkts Equity Net Rank	91	30	69	32	59	74	91	69	--	--	--
ABS Emerging Markets	18.1%	-13.3%	26.7%	4.9%	-3.4%	--	--	--	--	--	--
HFRI Emerging Markets (Total) Index	11.6%	-10.9%	19.4%	7.0%	-3.3%	-2.6%	5.5%	10.4%	-14.0%	11.4%	40.3%
MSCI Emerging Markets	18.4%	-14.6%	37.3%	11.2%	-14.9%	-2.2%	-2.6%	18.2%	-18.4%	18.9%	78.5%
Emerging Manager Composite	25.9%	-9.8%	16.9%	--	--	--	--	--	--	--	--
Emerging Manager Benchmark	28.0%	-8.4%	18.9%	--	--	--	--	--	--	--	--
Twin Capital	30.0%	-6.5%	20.7%	--	--	--	--	--	--	--	--
S&P 500	31.5%	-4.4%	21.8%	12.0%	1.4%	13.7%	32.4%	16.0%	2.1%	15.1%	26.5%
Russell 1000	31.4%	-4.8%	21.7%	12.1%	0.9%	13.2%	33.1%	16.4%	1.5%	16.1%	28.4%
eV US Large Cap Core Equity Net Rank	36	58	59	--	--	--	--	--	--	--	--
CIM Investment Management	28.0%	-14.0%	11.1%	--	--	--	--	--	--	--	--
Russell 2000	25.5%	-11.0%	14.6%	21.3%	-4.4%	4.9%	38.8%	16.3%	-4.2%	26.9%	27.2%
eV US Small Cap Core Equity Net Rank	19	71	79	--	--	--	--	--	--	--	--
Columbus Macro	19.0%	-9.1%	--	--	--	--	--	--	--	--	--
MSCI ACWI	26.6%	-9.4%	24.0%	7.9%	-2.4%	4.2%	22.8%	16.1%	-7.3%	12.7%	34.6%
eV Global All Cap Core Eq Net Rank	89	44	--	--	--	--	--	--	--	--	--

Investment Manager

Calendar Performance (Net of Fees)

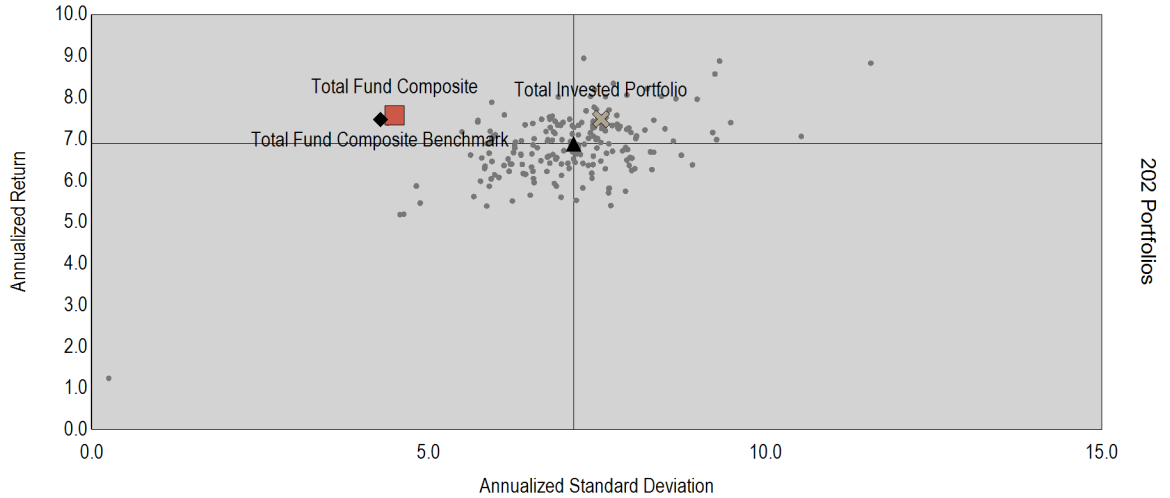
Market Value: \$813.9 Million and 100.0% of Fund

	Calendar Year										
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Hedge Fund Composite	9.2%	-2.9%	9.0%	0.7%	0.0%	4.9%	--	--	--	--	--
<i>HFRI Fund of Funds Composite Index</i>	8.3%	-4.0%	7.8%	0.5%	-0.3%	3.4%	9.0%	4.8%	-5.7%	5.7%	11.5%
<i>HFRX Equity Hedge Index</i>	10.7%	-9.4%	10.0%	0.1%	-2.3%	1.4%	11.1%	4.8%	-19.1%	8.9%	13.1%
<i>InvMetrics Public DB Hedge Funds Net Rank</i>	24	68	23	74	45	35	--	--	--	--	--
ABS Offshore SPC Global	15.2%	-6.4%	12.3%	-4.3%	4.0%	4.8%	--	--	--	--	--
<i>HFRX Equity Hedge Index</i>	10.7%	-9.4%	10.0%	0.1%	-2.3%	1.4%	11.1%	4.8%	-19.1%	8.9%	13.1%
Entrust Three Rivers Partners	2.5%	--	--	--	--	--	--	--	--	--	--
<i>HFRI Fund of Funds Composite Index</i>	8.3%	-4.0%	7.8%	0.5%	-0.3%	3.4%	9.0%	4.8%	-5.7%	5.7%	11.5%
Parametric Defensive Equity	16.3%	-2.9%	--	--	--	--	--	--	--	--	--
<i>50% S&P 500/50% 91 Day T-Bill</i>	16.1%	-1.0%	10.9%	6.1%	0.9%	6.7%	15.3%	7.9%	1.4%	7.8%	13.3%
Real Estate Composite	6.1%	6.9%	6.5%	8.4%	14.4%	11.0%	--	--	--	--	--
<i>NFI</i>	4.4%	7.4%	6.7%	7.8%	13.9%	11.5%	12.9%	9.8%	15.0%	15.3%	-30.4%
<i>InvMetrics Public DB Real Estate Priv Net Rank</i>	29	80	63	43	7	67	--	--	--	--	--
Rreef America II	6.3%	7.4%	6.4%	8.1%	15.6%	12.0%	--	--	--	--	--
<i>NFI</i>	4.4%	7.4%	6.7%	7.8%	13.9%	11.5%	12.9%	9.8%	15.0%	15.3%	-30.4%
Barings Core Property Fund	6.0%	6.3%	6.6%	8.6%	13.0%	--	--	--	--	--	--
<i>NFI</i>	4.4%	7.4%	6.7%	7.8%	13.9%	11.5%	12.9%	9.8%	15.0%	15.3%	-30.4%

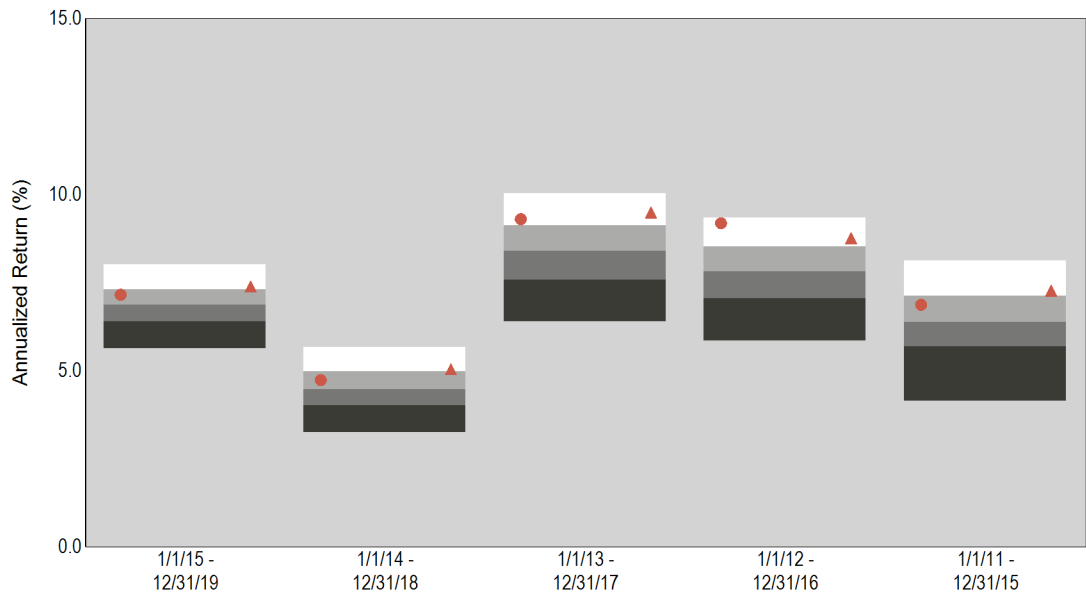
Invested Portfolio vs. Peer Universe

Market Value: \$522.1 Million and 64.1% of Fund

**Annualized Return vs. Annualized Standard Deviation
5 Years Ending December 31, 2019**



Rolling 5 Year Returns: Invested Portfolio



	Return (Rank)				
	1/1/15 - 12/31/19	1/1/14 - 12/31/18	1/1/13 - 12/31/17	1/1/12 - 12/31/16	1/1/11 - 12/31/15
5th Percentile	8.0	5.7	10.1	9.4	8.1
25th Percentile	7.3	5.0	9.1	8.5	7.1
Median	6.9	4.5	8.4	7.8	6.4
75th Percentile	6.4	4.0	7.6	7.1	5.7
95th Percentile	5.7	3.3	6.4	5.9	4.2
# of Portfolios	202	445	237	232	210
● Total Invested Portfolio	7.2 (35)	4.7 (37)	9.3 (18)	9.2 (9)	6.9 (34)
▲ Total Invested Portfolio Benchmark	7.4 (18)	5.1 (23)	9.5 (12)	8.8 (18)	7.3 (21)

Private Equity Composite

Private Market Investments Overview

Investment Name	Vintage Yr	Commitments		Contributions & Distributions		Valuations		Performance			
		Commit (\$)	Unfunded Commit (\$)	Cumulative Contribution (\$)	Cumulative Distribution (\$)	Valuation (\$)	Total Value (\$)	DPI	TVP I	RV PI	IRR (%)
Birchmere Ventures III, L.P.	2005	1,000,000	-47,694	1,047,694	893,418	69,464	962,882	0.85	0.92	0.07	-2.32
Draper Triangle Ventures II, L.P.	2004	1,000,000	-112,121	1,112,121	1,272,598	35,846	1,308,444	1.14	1.18	0.03	2.64
Draper Triangle Ventures III, L.P.	2013	2,000,000	77,381	1,994,935	72,316	1,497,132	1,569,448	0.04	0.79	0.75	-7.75
Hirtle Callaghan Private Equity Fund V, L.P.	2005	3,000,000	518,640	2,481,360	2,625,556	29,589	2,655,145	1.06	1.07	0.01	1.05
Crescent Mezzanine Partners VIB, L.P.	2013	10,000,000	757,498	10,777,452	9,934,807	3,573,195	13,508,002	0.92	1.25	0.33	8.38
Crescent Mezzanine Partners VIIB, L.P.	2016	10,000,000	4,884,110	6,461,439	1,927,272	5,004,469	6,931,741	0.30	1.07	0.77	5.95
Siguler Guff Small Buyout Opportunities Fund IV, L.P.	2019	15,000,000	14,317,500	682,500	0	682,500	682,500	0.00	1.00	1.00	
Total		42,000,000	20,395,314	24,557,501	16,725,967	10,892,195	27,618,162	0.68	1.12	0.44	3.93

Private Markets Cash Flow Analysis As of December 31, 2019

