



Pension Plan

Employees' Retirement System
of Milwaukee County
Monthly Update
October 31, 2018

Total Fund Composite

Manager Status

Market Value: \$1,669.0 Million and 100.0% of Fund

Investment Manager	Asset Class	Status	Reason
Mellon Capital (Index)	Core Fixed Income	Termination	Preferable Fee Option for Same Index
Galliard	Core Fixed Income	In Compliance	---
Boston Partners	Large-Cap Value	In Compliance	---
Mellon Capital (Index)	Large-Cap Core	Termination	Preferable Fee Option for Same Index
Artisan Partners	Mid-Cap Growth	Termination	Performance
NTGI S&P 400 Mid-Cap (Index)	Mid-Cap Core	In Compliance	---
Silvercrest Asset Management	Small-Cap Value	In Compliance	---
Mesirow	Small-Cap Value	Termination	Performance & Organizational Issues
NTGI ACWI Ex-US IMI (Index)	Non-U.S. All-Cap Core	In Compliance	---
Segall Bryant & Hamill Intl Sm Cap	Non-U.S. Small-Cap Value	In Compliance	---
OFI Institutional Asset Management	Emerging Markets	Termination	Professional Turnover
QMA Emerging Markets Small Cap	Emerging Markets	In Compliance	---
ABS	Hedged Equity Hedge FoF	Alert	Performance
Parametric Defensive Equity	Long/Short Hedge Fund	In Compliance	---
American Realty Advisors	Core Real Estate	In Compliance	---
Morgan Stanley	Core Real Estate	In Compliance	---
UBS	Core Real Estate	In Compliance	---
IFM	Core Infrastructure	In Compliance	---
J.P. Morgan Infrastructure	Core Infrastructure	In Compliance	---
Adams Street	Private Equity	In Compliance	---
Siguler Guff II	U.S. Private Equity FoF	In Compliance	---
Siguler Guff III	U.S. Private Equity FoF	In Compliance	---
Mesirow VI	U.S. Private Equity FoF	In Compliance	---
Mesirow Private Equity Fund VII-A	U.S. Private Equity FoF	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.

Alert – The investment manager is notified of a problem in performance (usually related to a benchmark or volatility measure), a change in investment characteristics, an alteration in management style or key investment professionals, and/or any other irregularities.

On Notice – The investment manager is notified of continued concern with one or more Alert issues. Failure to improve upon stated issues within a specific time frame justifies termination.

Termination – The Trustees have decided to terminate the investment manager. The investment manager is notified and transition plans are in place.

Total Fund Composite

Market Value: \$1,669.0 Million and 100.0% of Fund

Ending October 31, 2018

	Asset Class	Market Value (\$)	3 Mo Net Cash Flows (\$)	% of Portfolio	Policy %	Policy Difference (\$)
Total Fund Composite		1,668,992,598	-21,251,748	100.0	100.0	0
Fixed Income Composite		287,988,892	-476	17.3	18.0	-12,429,775
Mellon Capital (Index)	Core Fixed Income	88,153,184	0	5.3		
Galliard	Core Fixed Income	199,827,196	0	12.0		
U.S. Equity Composite		394,944,205	-9,000,000	23.7	25.0	-22,303,944
Boston Partners	Large-Cap Value	112,650,827	0	6.7	7.0	-4,178,655
Mellon Capital (Index)	Large-Cap Core	91,925,659	0	5.5	6.0	-8,213,897
Artisan Partners	Mid-Cap Growth	36,437,792	-9,000,000	2.2	2.5	-5,287,023
NTGI S&P 400 Mid-Cap (Index)	Mid-Cap Core	52,607,154	0	3.2	3.5	-5,807,587
Mesirow	Small-Cap Value	51,051,279	0	3.1	3.0	981,501
Silvercrest Asset Management	Small-Cap Value	50,271,494	0	3.0	3.0	201,716
International Equity Composite		280,184,239	-113,202	16.8	20.0	-53,614,281
NTGI ACWI Ex-US IMI (Index)	Non-U.S. All-Cap Core	171,298,122	0	10.3	13.0	-45,670,916
Segall Bryant & Hamill Intl Sm Cap	Non-U.S. Small-Cap Value	61,610,412	0	3.7	4.0	-5,149,291
OFI Institutional Asset Management	Emerging Markets	34,377,540	-82,252	2.1	1.5	9,342,651
QMA Emerging Markets Small Cap	Emerging Markets	12,898,164	-30,950	0.8	1.5	-12,136,725
Hedged Equity Composite		149,545,744	0	9.0	8.5	7,681,373
ABS	Hedged Equity Hedge FoF	70,014,361	0	4.2	3.5	11,599,620
Parametric Defensive Equity	Long/Short Hedge Fund	79,531,383	0	4.8	5.0	-3,918,247
Real Estate Composite		181,554,571	-2,262,234	10.9	10.0	14,655,311
American Realty Advisors	Core Real Estate	41,937,926	-624,730	2.5		
Morgan Stanley	Core Real Estate	97,185,101	-1,200,335	5.8		
UBS	Core Real Estate	42,431,544	-437,170	2.5		
Infrastructure Composite		153,206,183	-10,721,406	9.2	8.5	11,341,812
IFM	Core Infrastructure	74,848,591	-7,975,156	4.5		
J.P. Morgan Infrastructure	Core Infrastructure	78,357,592	-2,746,250	4.7		

Total Fund Composite

Market Value: \$1,669.0 Million and 100.0% of Fund

Ending October 31, 2018

	Asset Class	Market Value (\$)	3 Mo Net Cash Flows (\$)	% of Portfolio	Policy %	Policy Difference (\$)
Private Equity Composite		177,397,357	-371,476	10.6	10.0	10,498,097
Progress	U.S. Private Equity FoF	398	0	0.0		
Brinson 1998	U.S. Private Equity FoF	7,824	0	0.0		
Brinson 1999	U.S. Private Equity FoF	38,008	0	0.0		
Brinson 2000	U.S. Private Equity FoF	94,985	-90,167	0.0		
Brinson 2001	U.S. Private Equity FoF	427,986	0	0.0		
Brinson 2002	U.S. Private Equity FoF	133,207	0	0.0		
Brinson 2003	U.S. Private Equity FoF	299,260	0	0.0		
Brinson 2004	U.S. Private Equity FoF	390,102	0	0.0		
Adams Street 2005	U.S. Private Equity FoF	2,636,496	0	0.2		
Adams Street 2009	U.S. Private Equity FoF	23,690,051	-1,219,007	1.4		
Adams Street 2012	Global Divers. Private Equity FoF	34,266,715	-1,503,506	2.1		
Adams Street Co-Investment III	Private Equity Co- Investment	29,470,543	0	1.8		
Siguler Guff II	U.S. Private Equity FoF	36,243,398	-2,999,026	2.2		
Siguler Guff III	U.S. Private Equity FoF	21,941,433	2,740,230	1.3		
Mesirov VI	U.S. Private Equity FoF	23,756,369	1,500,000	1.4		
Mesirov Private Equity Fund VII-A	U.S. Private Equity FoF	4,000,582	1,200,000	0.2		
Total Cash Equivalents		44,171,407	1,217,045	2.6	0.0	44,171,407

Total Fund Composite

Annualized Performance (Net of Fees)

Market Value: \$1,669.0 Million and 100.0% of Fund

Ending October 31, 2018

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund Composite	-4.3%	-3.6%	-0.9%	2.0%	8.6%	6.9%	6.1%	6.4%	7.8%	8.7%
<i>Total Fund Benchmark</i>	-4.1%	-3.9%	-1.6%	0.7%	7.3%	6.2%	5.4%	5.7%	7.3%	8.4%
Fixed Income Composite	-0.8%	-0.7%	-2.1%	-1.8%	-0.8%	0.8%	1.2%	1.8%	2.0%	4.8%
<i>BBgBarc US Aggregate TR</i>	-0.8%	-0.8%	-2.4%	-2.1%	-0.6%	1.0%	1.3%	1.8%	1.9%	3.9%
U.S. Equity Composite	-8.2%	-5.7%	-0.9%	2.8%	13.1%	8.9%	7.7%	8.8%	12.3%	12.6%
<i>Wilshire 5000 Total Market</i>	-7.3%	-3.9%	2.5%	6.7%	15.0%	11.4%	9.7%	11.0%	13.8%	13.3%
International Equity Composite	-8.9%	-11.2%	-13.3%	-10.8%	5.5%	4.4%	2.7%	2.5%	5.2%	6.9%
<i>MSCI ACWI ex USA</i>	-8.1%	-9.6%	-11.0%	-8.2%	6.5%	4.4%	2.0%	1.6%	4.5%	6.9%
Hedged Equity Composite	-5.0%	-4.2%	-1.5%	0.0%	6.1%	4.1%	4.2%	4.7%	6.2%	--
<i>HFRX Equity Hedge Index</i>	-3.9%	-5.7%	-4.8%	-3.0%	3.2%	1.2%	0.7%	1.2%	2.4%	1.5%
<i>Russell 3000</i>	-7.4%	-4.0%	2.4%	6.6%	15.0%	11.3%	9.5%	10.8%	13.8%	13.3%
<i>MSCI ACWI</i>	-7.5%	-6.4%	-4.0%	-0.5%	10.7%	7.7%	5.7%	6.1%	8.8%	9.7%
Real Estate Composite	-0.1%	1.8%	5.5%	7.6%	7.5%	8.0%	9.7%	10.2%	10.7%	12.5%
<i>Custom Real Estate Benchmark</i>	0.0%	1.2%	5.8%	7.1%	6.9%	7.5%	9.0%	9.5%	10.0%	12.1%
<i>NFI</i>	0.0%	1.2%	5.8%	7.1%	6.9%	7.5%	9.0%	9.5%	10.0%	5.0%
Infrastructure Composite	-0.2%	1.7%	9.9%	14.2%	13.8%	10.2%	8.0%	6.9%	7.3%	--
<i>CPI +4%</i>	0.3%	1.2%	5.8%	6.4%	6.3%	6.1%	5.6%	5.6%	5.6%	5.6%
Private Equity Composite	0.0%	0.6%	8.7%	15.0%	14.4%	11.9%	11.0%	12.1%	11.2%	9.6%
<i>Cambridge Associates All PE</i>	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$1,669.0 Million and 100.0% of Fund

Ending October 31, 2018

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund Composite	-4.3%	-3.6%	-0.9%	2.0%	8.6%	6.9%	6.1%	6.4%	7.8%	8.7%
<i>Total Fund Benchmark</i>	-4.1%	-3.9%	-1.6%	0.7%	7.3%	6.2%	5.4%	5.7%	7.3%	8.4%
Fixed Income Composite	-0.8%	-0.7%	-2.1%	-1.8%	-0.8%	0.8%	1.2%	1.8%	2.0%	4.8%
<i>BBgBarc US Aggregate TR</i>	-0.8%	-0.8%	-2.4%	-2.1%	-0.6%	1.0%	1.3%	1.8%	1.9%	3.9%
Mellon Capital (Index)	-0.8%	-0.8%	-2.4%	-2.1%	-0.6%	0.9%	1.2%	1.8%	1.8%	3.9%
<i>BBgBarc US Aggregate TR</i>	-0.8%	-0.8%	-2.4%	-2.1%	-0.6%	1.0%	1.3%	1.8%	1.9%	3.9%
Galliard	-0.8%	-0.6%	-2.0%	-1.6%	--	--	--	--	--	--
<i>BBgBarc US Aggregate TR</i>	-0.8%	-0.8%	-2.4%	-2.1%	-0.6%	1.0%	1.3%	1.8%	1.9%	3.9%
U.S. Equity Composite	-8.2%	-5.7%	-0.9%	2.8%	13.1%	8.9%	7.7%	8.8%	12.3%	12.6%
<i>Wilshire 5000 Total Market</i>	-7.3%	-3.9%	2.5%	6.7%	15.0%	11.4%	9.7%	11.0%	13.8%	13.3%
Boston Partners	-6.2%	-3.5%	-0.7%	4.2%	14.2%	9.8%	7.7%	9.3%	13.6%	12.6%
<i>Russell 1000 Value</i>	-5.2%	-3.6%	-1.5%	3.0%	10.2%	8.9%	6.7%	8.6%	12.4%	11.3%
Mellon Capital (Index)	-6.8%	-3.3%	3.0%	7.3%	15.1%	11.5%	9.9%	11.3%	14.0%	13.2%
<i>S&P 500</i>	-6.8%	-3.3%	3.0%	7.3%	15.2%	11.5%	9.9%	11.3%	14.0%	13.2%
Artisan Partners	-10.9%	-5.1%	5.2%	6.2%	13.4%	8.0%	7.0%	7.7%	11.8%	15.4%
<i>Russell MidCap Growth</i>	-9.9%	-5.1%	2.2%	6.1%	15.8%	10.4%	9.0%	10.1%	13.1%	15.1%
NTGI S&P 400 Mid-Cap (Index)	-9.6%	-7.7%	-2.7%	1.1%	--	--	--	--	--	--
<i>S&P 400 MidCap</i>	-9.5%	-7.7%	-2.8%	1.0%	11.7%	9.8%	8.2%	8.9%	12.6%	14.1%
Mesirow	-9.7%	-9.0%	-5.6%	-2.3%	11.1%	6.1%	5.4%	6.3%	10.2%	--
<i>Russell 2000 Value</i>	-9.0%	-9.1%	-2.5%	-0.6%	11.4%	10.5%	7.0%	7.2%	11.6%	10.9%
Silvercrest Asset Management	-9.9%	-9.8%	-7.3%	-5.0%	9.9%	8.8%	7.3%	7.7%	--	--
<i>Russell 2000 Value</i>	-9.0%	-9.1%	-2.5%	-0.6%	11.4%	10.5%	7.0%	7.2%	11.6%	10.9%
International Equity Composite	-8.9%	-11.2%	-13.3%	-10.8%	5.5%	4.4%	2.7%	2.5%	5.2%	6.9%
<i>MSCI ACWI ex USA</i>	-8.1%	-9.6%	-11.0%	-8.2%	6.5%	4.4%	2.0%	1.6%	4.5%	6.9%
NTGI ACWI Ex-US IMI (Index)	-8.3%	-9.9%	-11.0%	-8.3%	6.7%	4.8%	2.6%	2.1%	--	--
<i>MSCI ACWI ex USA IMI</i>	-8.4%	-9.9%	-11.4%	-8.4%	6.5%	4.5%	2.4%	1.9%	4.7%	7.4%
Segall Bryant & Hamill Intl Sm Cap	-9.3%	-11.7%	-17.2%	-14.9%	3.5%	--	--	--	--	--
<i>MSCI EAFE Small Cap</i>	-9.6%	-11.0%	-11.6%	-7.8%	8.4%	6.6%	7.0%	5.2%	8.8%	11.6%
OFI Institutional Asset Management	-9.7%	-13.1%	-13.7%	-11.5%	5.2%	6.3%	-0.2%	--	--	--
<i>MSCI Emerging Markets</i>	-8.7%	-11.6%	-15.7%	-12.5%	5.2%	6.5%	0.8%	0.8%	1.8%	7.8%
QMA Emerging Markets Small Cap	-11.7%	-19.2%	--	--	--	--	--	--	--	--
<i>MSCI Emerging Markets Small Cap</i>	-10.5%	-15.3%	-21.5%	-17.2%	0.0%	1.5%	-1.1%	-0.3%	1.8%	10.1%

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$1,669.0 Million and 100.0% of Fund

Ending October 31, 2018

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Hedged Equity Composite	-5.0%	-4.2%	-1.5%	0.0%	6.1%	4.1%	4.2%	4.7%	6.2%	--
<i>HFRX Equity Hedge Index</i>	-3.9%	-5.7%	-4.8%	-3.0%	3.2%	1.2%	0.7%	1.2%	2.4%	1.5%
<i>Russell 3000</i>	-7.4%	-4.0%	2.4%	6.6%	15.0%	11.3%	9.5%	10.8%	13.8%	13.3%
<i>MSCI ACWI</i>	-7.5%	-6.4%	-4.0%	-0.5%	10.7%	7.7%	5.7%	6.1%	8.8%	9.7%
ABS	-5.3%	-6.0%	-3.7%	-2.9%	4.7%	1.5%	2.8%	3.5%	5.2%	--
<i>HFRX Equity Hedge Index</i>	-3.9%	-5.7%	-4.8%	-3.0%	3.2%	1.2%	0.7%	1.2%	2.4%	1.5%
<i>Russell 3000</i>	-7.4%	-4.0%	2.4%	6.6%	15.0%	11.3%	9.5%	10.8%	13.8%	13.3%
<i>MSCI ACWI</i>	-7.5%	-6.4%	-4.0%	-0.5%	10.7%	7.7%	5.7%	6.1%	8.8%	9.7%
Parametric Defensive Equity	-4.8%	-2.5%	0.6%	2.7%	7.6%	6.8%	--	--	--	--
<i>HFRX Equity Hedge Index</i>	-3.9%	-5.7%	-4.8%	-3.0%	3.2%	1.2%	0.7%	1.2%	2.4%	1.5%
<i>S&P 500</i>	-6.8%	-3.3%	3.0%	7.3%	15.2%	11.5%	9.9%	11.3%	14.0%	13.2%
Real Estate Composite	-0.1%	1.8%	5.5%	7.6%	7.5%	8.0%	9.7%	10.2%	10.7%	12.5%
<i>Custom Real Estate Benchmark</i>	0.0%	1.2%	5.8%	7.1%	6.9%	7.5%	9.0%	9.5%	10.0%	12.1%
<i>NFI</i>	0.0%	1.2%	5.8%	7.1%	6.9%	7.5%	9.0%	9.5%	10.0%	5.0%
American Realty Advisors	0.0%	1.9%	5.9%	7.5%	7.0%	7.3%	8.7%	9.2%	9.7%	--
<i>NFI</i>	0.0%	1.2%	5.8%	7.1%	6.9%	7.5%	9.0%	9.5%	10.0%	5.0%
Morgan Stanley	0.0%	2.0%	5.9%	8.1%	8.6%	9.1%	10.7%	11.2%	11.9%	--
<i>NFI</i>	0.0%	1.2%	5.8%	7.1%	6.9%	7.5%	9.0%	9.5%	10.0%	5.0%
UBS	-0.2%	1.2%	4.3%	6.7%	5.5%	6.3%	7.6%	8.0%	--	--
<i>NFI</i>	0.0%	1.2%	5.8%	7.1%	6.9%	7.5%	9.0%	9.5%	10.0%	5.0%
Infrastructure Composite	-0.2%	1.7%	9.9%	14.2%	13.8%	10.2%	8.0%	6.9%	7.3%	--
<i>CPI +4%</i>	0.3%	1.2%	5.8%	6.4%	6.3%	6.1%	5.6%	5.6%	5.6%	5.6%
IFM	-0.4%	1.3%	16.3%	22.4%	19.9%	14.3%	11.7%	9.6%	9.3%	--
<i>CPI +4%</i>	0.3%	1.2%	5.8%	6.4%	6.3%	6.1%	5.6%	5.6%	5.6%	5.6%
J.P. Morgan Infrastructure	0.0%	2.0%	3.7%	6.4%	8.0%	6.2%	4.5%	4.4%	5.4%	--
<i>CPI +4%</i>	0.3%	1.2%	5.8%	6.4%	6.3%	6.1%	5.6%	5.6%	5.6%	5.6%

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$1,669.0 Million and 100.0% of Fund

Ending October 31, 2018

	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs
Private Equity Composite	0.0%	0.6%	8.7%	15.0%	14.4%	11.9%	11.0%	12.1%	11.2%	9.6%
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Progress	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.6%	2.4%	3.3%	-2.8%
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Brinson 1998	0.0%	0.0%	0.7%	1.1%	0.6%	0.8%	1.4%	1.1%	1.7%	1.4%
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Brinson 1999	0.0%	0.0%	1.6%	2.8%	0.2%	0.7%	-0.7%	-0.5%	2.2%	1.2%
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Brinson 2000	0.0%	0.0%	8.0%	12.0%	8.0%	5.8%	2.8%	2.7%	2.4%	3.6%
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Brinson 2001	0.0%	0.0%	4.2%	9.9%	4.0%	4.2%	0.8%	2.3%	4.9%	4.6%
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Brinson 2002	0.0%	0.0%	-3.5%	-5.2%	-0.1%	4.8%	1.9%	1.7%	4.3%	4.0%
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Brinson 2003	0.0%	0.0%	7.6%	9.8%	9.3%	8.8%	8.4%	9.4%	9.3%	7.1%
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Brinson 2004	0.0%	0.0%	14.3%	12.4%	13.6%	9.7%	7.5%	7.1%	8.7%	8.9%
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Adams Street 2005	0.0%	0.0%	3.8%	7.3%	8.3%	7.7%	7.2%	8.4%	9.3%	8.3%
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Adams Street 2009	0.0%	0.0%	8.2%	14.4%	14.1%	12.1%	12.7%	13.9%	12.7%	--
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Adams Street 2012	0.0%	0.0%	8.9%	13.4%	14.1%	10.7%	9.9%	11.0%	--	--
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Adams Street Co-Investment III	0.0%	0.0%	8.9%	15.0%	19.7%	16.1%	8.5%	--	--	--
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Siguler Guff II	0.0%	2.4%	8.7%	13.9%	14.6%	12.3%	11.5%	13.4%	--	--
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Siguler Guff III	0.0%	0.9%	13.1%	25.9%	13.9%	--	--	--	--	--
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Mesirow VI	0.0%	0.0%	7.8%	17.0%	15.8%	11.9%	--	--	--	--
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%
Mesirow Private Equity Fund VII-A	0.0%	0.0%	--	--	--	--	--	--	--	--
Cambridge Associates All PE	0.0%	0.0%	7.9%	11.5%	14.4%	12.6%	11.3%	12.1%	12.9%	11.5%

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$1,669.0 Million and 100.0% of Fund

Ending October 31, 2018

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total Fund Composite	16.1%	7.0%	2.3%	5.4%	15.4%	11.2%	0.3%	12.2%	18.4%	-22.5%
<i>Total Fund Benchmark</i>	14.3%	7.6%	1.1%	5.3%	15.0%	10.8%	1.0%	12.5%	20.0%	-24.8%
<i>InvestorForce Public DB Net Rank</i>	21	63	2	53	45	61	57	50	54	42
Fixed Income Composite	2.9%	2.5%	1.1%	5.6%	-1.4%	4.7%	7.3%	6.8%	15.3%	-1.5%
<i>BBgBarc US Aggregate TR</i>	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	6.5%	5.9%	5.2%
<i>InvestorForce Public DB Total Fix Inc Net Rank</i>	75	70	20	17	51	61	27	67	35	53
<i>Mellon Capital (Index)</i>	3.5%	2.5%	0.5%	6.0%	-2.2%	4.2%	7.7%	6.6%	5.6%	5.5%
<i>BBgBarc US Aggregate TR</i>	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	6.5%	5.9%	5.2%
<i>eV US Core Fixed Inc Net Rank</i>	70	76	60	33	80	88	28	73	81	29
<i>Galliard</i>	--	--	--	--	--	--	--	--	--	--
<i>BBgBarc US Aggregate TR</i>	3.5%	2.6%	0.5%	6.0%	-2.0%	4.2%	7.8%	6.5%	5.9%	5.2%
<i>eV US Core Fixed Inc Net Rank</i>	--	--	--	--	--	--	--	--	--	--
U.S. Equity Composite	18.5%	12.9%	-0.7%	9.5%	34.4%	16.2%	-1.4%	19.2%	32.0%	-36.9%
<i>Wilshire 5000 Total Market</i>	21.0%	13.4%	0.7%	12.7%	33.1%	16.1%	1.0%	17.2%	28.3%	-37.2%
<i>InvestorForce Public DB US Eq Net Rank</i>	85	45	64	73	44	40	82	31	22	41
<i>Boston Partners</i>	19.7%	14.5%	-4.1%	11.6%	36.8%	21.0%	1.1%	13.4%	26.7%	-33.3%
<i>Russell 1000 Value</i>	13.7%	17.3%	-3.8%	13.5%	32.5%	17.5%	0.4%	15.5%	19.7%	-36.8%
<i>eV US Large Cap Value Equity Net Rank</i>	25	43	61	48	27	7	40	52	39	31
<i>Mellon Capital (Index)</i>	21.8%	11.9%	1.3%	13.6%	32.4%	16.0%	2.1%	14.9%	26.5%	-37.0%
<i>S&P 500</i>	21.8%	12.0%	1.4%	13.7%	32.4%	16.0%	2.1%	15.1%	26.5%	-37.0%
<i>eV US Large Cap Core Equity Net Rank</i>	46	21	37	33	44	31	26	24	42	63
<i>Artisan Partners</i>	21.1%	-0.6%	2.5%	6.1%	38.5%	20.2%	-1.6%	32.3%	50.7%	-43.4%
<i>Russell MidCap Growth</i>	25.3%	7.3%	-0.2%	11.9%	35.7%	15.8%	-1.7%	26.4%	46.3%	-44.3%
<i>eV US Mid Cap Growth Equity Net Rank</i>	86	95	20	63	23	2	40	11	11	44
<i>NTGI S&P 400 Mid-Cap (Index)</i>	--	--	--	--	--	--	--	--	--	--
<i>S&P 400 MidCap</i>	16.2%	20.7%	-2.2%	9.8%	33.5%	17.9%	-1.7%	26.6%	37.4%	-36.2%
<i>eV US Mid Cap Core Equity Net Rank</i>	--	--	--	--	--	--	--	--	--	--
<i>Mesirow</i>	13.7%	15.0%	-0.4%	5.7%	35.3%	10.7%	-4.4%	24.3%	--	--
<i>Russell 2000 Value</i>	7.8%	31.7%	-7.5%	4.2%	34.5%	18.0%	-5.5%	24.5%	20.6%	-28.9%
<i>eV US Small Cap Value Equity Net Rank</i>	23	97	10	44	64	90	59	62	--	--
<i>Silvercrest Asset Management</i>	11.9%	29.1%	-2.4%	5.1%	--	--	--	--	--	--
<i>Russell 2000 Value</i>	7.8%	31.7%	-7.5%	4.2%	34.5%	18.0%	-5.5%	24.5%	20.6%	-28.9%
<i>eV US Small Cap Value Equity Net Rank</i>	38	27	20	50	--	--	--	--	--	--

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$1,669.0 Million and 100.0% of Fund

Ending October 31, 2018

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
International Equity Composite	29.6%	4.1%	-2.0%	-2.2%	16.0%	16.5%	-13.0%	12.5%	29.1%	-43.9%
MSCI ACWI ex USA	27.2%	4.5%	-5.7%	-3.9%	15.3%	16.8%	-13.7%	11.2%	41.4%	-45.5%
InvestorForce Public DB ex-US Eq Net Rank	30	54	27	24	58	84	39	41	84	58
NTGI ACWI Ex-US IMI (Index)	27.8%	4.7%	-4.4%	-3.7%	16.1%	--	--	--	--	--
MSCI ACWI ex USA IMI	27.8%	4.4%	-4.6%	-3.9%	15.8%	17.0%	-14.3%	12.7%	43.6%	-46.0%
eV Non-US Diversified Eq Gross Rank	56	23	89	54	86	--	--	--	--	--
Segall Bryant & Hamill Intl Sm Cap	30.7%	--	--	--	--	--	--	--	--	--
MSCI EAFE Small Cap	33.0%	2.2%	9.6%	-4.9%	29.3%	20.0%	-15.9%	22.0%	46.8%	-47.0%
eV EAFE Small Cap Value Net Rank	70	--	--	--	--	--	--	--	--	--
OFI Institutional Asset Management	35.4%	7.1%	-13.6%	-4.6%	--	--	--	--	--	--
MSCI Emerging Markets	37.3%	11.2%	-14.9%	-2.2%	-2.6%	18.2%	-18.4%	18.9%	78.5%	-53.3%
Diversified Emerging Mkts MStar MF Rank	57	56	48	76	--	--	--	--	--	--
QMA Emerging Markets Small Cap	--	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets Small Cap	33.8%	2.3%	-6.8%	1.0%	1.0%	22.2%	-27.2%	27.2%	113.8%	-58.2%
eV Emg Mkts Small Cap Equity Net Rank	--	--	--	--	--	--	--	--	--	--
Hedged Equity Composite	12.0%	1.7%	2.1%	5.2%	19.1%	6.9%	-4.3%	--	--	--
HFRX Equity Hedge Index	10.0%	0.1%	-2.3%	1.4%	11.1%	4.8%	-19.1%	8.9%	13.1%	-25.5%
Russell 3000	21.1%	12.7%	0.5%	12.6%	33.6%	16.4%	1.0%	16.9%	28.3%	-37.3%
MSCI ACWI	24.0%	7.9%	-2.4%	4.2%	22.8%	16.1%	-7.3%	12.7%	34.6%	-42.2%
InvestorForce Public DB Hedge Funds Net Rank	2	55	22	28	1	56	90	--	--	--
ABS	12.7%	-4.3%	4.0%	4.9%	20.6%	5.2%	-3.0%	--	--	--
HFRX Equity Hedge Index	10.0%	0.1%	-2.3%	1.4%	11.1%	4.8%	-19.1%	8.9%	13.1%	-25.5%
Russell 3000	21.1%	12.7%	0.5%	12.6%	33.6%	16.4%	1.0%	16.9%	28.3%	-37.3%
MSCI ACWI	24.0%	7.9%	-2.4%	4.2%	22.8%	16.1%	-7.3%	12.7%	34.6%	-42.2%
Parametric Defensive Equity	11.7%	8.2%	--	--	--	--	--	--	--	--
HFRX Equity Hedge Index	10.0%	0.1%	-2.3%	1.4%	11.1%	4.8%	-19.1%	8.9%	13.1%	-25.5%
S&P 500	21.8%	12.0%	1.4%	13.7%	32.4%	16.0%	2.1%	15.1%	26.5%	-37.0%

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$1,669.0 Million and 100.0% of Fund

Ending October 31, 2018

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Real Estate Composite	7.5%	7.8%	14.2%	13.0%	14.2%	11.0%	13.0%	14.4%	34.9%	-38.6%
Custom Real Estate Benchmark	6.7%	7.8%	13.9%	11.5%	12.9%	9.8%	15.0%	15.1%	33.7%	-45.0%
NFI	6.7%	7.8%	13.9%	11.5%	12.9%	9.8%	15.0%	15.3%	-30.4%	-10.7%
InvestorForce All DB Real Estate Priv Net Rank	28	50	36	19	22	30	60	43	2	99
American Realty Advisors	7.1%	6.1%	14.3%	10.6%	11.3%	10.2%	13.8%	--	--	--
NFI	6.7%	7.8%	13.9%	11.5%	12.9%	9.8%	15.0%	15.3%	-30.4%	-10.7%
Morgan Stanley	8.8%	9.2%	14.6%	14.2%	16.2%	11.7%	16.5%	--	--	--
NFI	6.7%	7.8%	13.9%	11.5%	12.9%	9.8%	15.0%	15.3%	-30.4%	-10.7%
UBS	5.3%	6.2%	11.7%	10.4%	9.2%	--	--	--	--	--
NFI	6.7%	7.8%	13.9%	11.5%	12.9%	9.8%	15.0%	15.3%	-30.4%	-10.7%
Infrastructure Composite	17.7%	3.5%	3.6%	-0.4%	6.6%	10.9%	7.6%	--	--	--
CPI +4%	6.2%	6.2%	4.8%	4.8%	5.6%	5.8%	7.1%	5.6%	6.8%	4.1%
IFM	21.1%	6.1%	5.4%	1.1%	6.5%	11.5%	6.7%	--	--	--
CPI +4%	6.2%	6.2%	4.8%	4.8%	5.6%	5.8%	7.1%	5.6%	6.8%	4.1%
J.P. Morgan Infrastructure	14.3%	1.1%	2.2%	-1.5%	6.9%	10.1%	6.7%	--	--	--
CPI +4%	6.2%	6.2%	4.8%	4.8%	5.6%	5.8%	7.1%	5.6%	6.8%	4.1%
Private Equity Composite	16.0%	10.8%	6.7%	11.2%	9.8%	11.6%	8.6%	18.0%	12.1%	-21.5%
Cambridge Associates All PE	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Progress	0.0%	0.0%	0.0%	13.0%	-7.0%	44.1%	-28.4%	2.7%	-22.3%	-17.6%
Cambridge Associates All PE	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Brinson 1998	1.0%	-0.8%	3.8%	0.7%	1.0%	5.2%	-12.4%	5.7%	6.1%	-4.7%
Cambridge Associates All PE	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Brinson 1999	1.1%	-2.0%	7.5%	-13.5%	14.7%	5.8%	3.3%	8.1%	5.5%	-24.0%
Cambridge Associates All PE	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Brinson 2000	8.4%	-2.9%	1.0%	-7.3%	7.1%	5.2%	8.3%	10.7%	14.8%	-20.6%
Cambridge Associates All PE	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Brinson 2001	7.5%	-5.3%	-4.4%	6.5%	16.5%	9.2%	5.6%	11.9%	13.2%	-20.4%
Cambridge Associates All PE	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Brinson 2002	3.3%	11.1%	-0.3%	-8.6%	17.2%	7.1%	8.4%	23.5%	14.5%	-32.2%
Cambridge Associates All PE	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Brinson 2003	12.2%	2.7%	5.4%	15.3%	21.3%	2.6%	-3.2%	11.0%	12.0%	-15.5%
Cambridge Associates All PE	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%

Investment Manager

Annualized Performance (Net of Fees)

Market Value: \$1,669.0 Million and 100.0% of Fund

Ending October 31, 2018

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Brinson 2004	11.4%	4.4%	-0.8%	4.3%	18.4%	7.2%	13.8%	24.5%	11.4%	-20.8%
<i>Cambridge Associates All PE</i>	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Adams Street 2005	13.2%	4.9%	5.2%	7.9%	15.8%	10.2%	8.3%	17.8%	11.5%	-20.5%
<i>Cambridge Associates All PE</i>	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Adams Street 2009	18.6%	8.2%	9.9%	16.3%	16.1%	7.0%	14.2%	29.6%	--	--
<i>Cambridge Associates All PE</i>	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Adams Street 2012	16.8%	5.9%	6.3%	11.0%	0.9%	--	--	--	--	--
<i>Cambridge Associates All PE</i>	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Adams Street Co-Investment III	15.5%	28.9%	-2.8%	--	--	--	--	--	--	--
<i>Cambridge Associates All PE</i>	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Siguler Guff II	15.5%	13.9%	6.9%	13.1%	-0.2%	--	--	--	--	--
<i>Cambridge Associates All PE</i>	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Siguler Guff III	10.9%	--	--	--	--	--	--	--	--	--
<i>Cambridge Associates All PE</i>	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Mesirow VI	19.9%	7.4%	-2.6%	--	--	--	--	--	--	--
<i>Cambridge Associates All PE</i>	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%
Mesirow Private Equity Fund VII-A	--	--	--	--	--	--	--	--	--	--
<i>Cambridge Associates All PE</i>	19.1%	9.7%	7.2%	11.2%	20.7%	12.6%	8.0%	19.6%	14.2%	-25.7%

Total Fund Composite

Fee Schedule

Market Value: \$1,669.0 Million and 100.0% of Fund

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee ¹	Industry Average ²
Core Fixed Income	Mellon Capital (Index)	0.04% on the first \$200 million 0.02% on the Balance	0.04% \$35,261	0.07%
Core Fixed Income	Galliard	0.20% on the first \$50 million 0.15% on the next \$50 million 0.10% on the Balance	0.14% \$274,827	0.23%
Large-Cap Value	Boston Partners	0.40% on the first \$15 million 0.30% on the next \$25 million 0.20% on the next \$25 million 0.15% on the next \$35 million 0.10% on the Balance	0.22% \$250,151	0.51%
Large-Cap Core	Mellon Capital (Index)	0.04% on the first \$200 million 0.02% on the Balance	0.04% \$36,770	0.05%
Mid-Cap Growth	Artisan Partners	0.80% on the first \$50 million 0.60% on the next \$50 million 0.50% on the Balance	0.80% \$291,502	0.79%
Mid-Cap Core	NTGI S&P 400 Mid-Cap (Index)	0.08% on the Balance	0.08% \$42,086	0.22%
Small-Cap Value	Silvercrest Asset Management	0.65% on the first \$50 million 0.55% on the Balance	0.65% \$326,493	0.82%
Small-Cap Value	Mesirow	0.70% on the first \$10 million 0.65% on the next \$40 million 0.60% on the next \$25 million 0.50% on the Balance	0.66% \$336,308	0.82%
Non-U.S. All-Cap Core	NTGI ACWI Ex-US IMI (Index)	0.08% on the Balance	0.08% \$137,038	0.10%
Non-U.S. Small-Cap Value	Segall Bryant & Hamill Intl Sm Cap	0.85% on the Balance	0.85% \$523,689	1.08%
Emerging Markets	OFI Institutional Asset Management	0.85% on the first \$50 million 0.80% on the next \$50 million 0.70% on the Balance	0.85% \$292,209	0.95%
Emerging Markets	QMA Emerging Markets Small Cap	0.80% on the Balance	0.80% \$103,185	1.25%
Hedged Equity Hedge FoF	ABS	0.85% on the Balance *redemptions quarterly with 45 days notice	0.85% \$595,122	1.00%
Long/Short Hedge Fund	Parametric Defensive Equity	0.325% on the first \$50 million 0.30% on the next \$50 million 0.275% on the Balance	0.32% \$251,094	1.69%

Total Fund Composite

Fee Schedule

Market Value: \$1,669.0 Million and 100.0% of Fund

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee ¹	Industry Average ²
Core Real Estate	American Realty Advisors	0.95% on the Balance	0.95% \$398,410	1.01%
Core Real Estate	Morgan Stanley	0.90% on the Balance	0.90% \$874,666	1.01%
Core Real Estate	UBS	0.955% on the first \$10 million 0.825% on the next \$15 million 0.805% on the next \$25 million 0.79% on the next \$50 million 0.67% on the next \$150 million 0.60% on the Balance	0.85% \$359,574	1.01%
Core Infrastructure	IFM	0.97% on the Balance Performance Fee: 20% of return above 8% on a rolling three year basis	0.97% \$726,031	2.00%
Core Infrastructure	J.P. Morgan Infrastructure	1.00% on the Balance Performance Fee: 15% with 7% Hurdle	1.00% \$783,576	2.00%
Private Equity	Adams Street	0.67% on the first \$50 million 0.60% on the Balance 10% carry on secondaries and co-invest (Effective Rate Over 15 Yr Term)	0.65% \$456,681	1.25%
U.S. Private Equity FoF	Siguler Guff II	0.69% on commitment	0.76% \$276,000	1.38%
U.S. Private Equity FoF	Siguler Guff III	0.89% on commitment	1.62% \$355,200	2.28%
U.S. Private Equity FoF	Mesirow VI	0.70% on commitment	0.88% \$210,000	1.58%
U.S. Private Equity FoF	Mesirow Private Equity Fund VII-A	0.70% on commitment	7.00% \$280,000	12.50%
Cash Overlay	Northern Trust - Cash Overlay	0.07% on the first \$100 million 0.06% on the next \$150 million 0.05% on the Balance	0.06% \$146,397	0.16%
Total Investment Management Fees			0.50% \$8,362,272	0.80%
Custodian	Northern Trust	\$150,000 Annual Fee (approximate)	\$150,000	N/A
Total Fund			0.51% \$8,512,272	