

August 31, 2019



**Illinois Municipal
Retirement Fund
Monthly Performance Report**

**Investment Measurement Service
Monthly Review**

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Market Environment As of August 31, 2019

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell:3000 Index	(2.04)	18.02	1.31	12.24	9.60	13.35
S&P:500	(1.58)	18.34	2.92	12.70	10.11	13.45
Russell:2000 Index	(4.94)	11.85	(12.89)	7.89	6.41	11.59
MSCI:ACWI ex US	(3.09)	8.76	(3.27)	5.87	1.37	4.71
MSCI:EM	(4.88)	3.92	(4.35)	5.76	0.38	4.08
Blmbg:Aggregate	2.59	9.10	10.17	3.09	3.35	3.91
NCREIF:Total Index	0.50	4.37	6.39	6.83	8.67	9.60
Blmbg:Commodity Price Idx	(2.48)	0.38	(8.04)	(2.38)	(9.46)	(4.78)

While the Fed controlled headlines in July, trade found its way back into the spotlight in August. The month began with President Trump tweeting his intentions to impose a 10% tariff on an additional \$300 billion on Chinese imports. In turn, China responded with retaliatory tariffs on \$75 billion of U.S. imports. These comments were later walked back; however, concerns over the escalation had already rippled through markets. Equities traded lower during the month in response to the trade tensions and the associated economic consequences. In turn, investors looked for safe haven assets, driving yields lower around the world. The closely watched spread between the 2- and 10-year U.S. Treasury rates inverted, closing the month at -1 basis point. Another surprising reversal, the S&P 500 dividend yield exceeded that of the 10-year Treasury for the first time since 2009. Globally, Boris Johnson has yet to resolve the Brexit issue, while China's economy is feeling pain from the trade war.

August added 130,000 nonfarm payrolls falling short of analysts' projections. Private payrolls in particular disappointed, adding only 96,000. Hourly earnings grew 0.4%, slightly above expectations. The participation rate also ticked 0.2 percentage points higher to 63.2%. Unemployment remained unchanged at an impressive 3.7%.

The headline Consumer Price Index (CPI) climbed 0.1% in August and 1.7% over the trailing 12 months, both in line with estimates. Core inflation rose higher than expected (+0.3%) in August, bringing year-over-year growth to 2.4%. Healthcare costs continued to increase, rising 0.7% during the month. Headline CPI remained subdued as a result of energy prices falling 1.9% in August.

The second estimate of second quarter GDP growth revised the initial estimate 0.1 percentage points lower to 2.0%. Despite the revision, the narrative remained largely the same. Consumer spending continued to bolster growth, while both nonresidential and residential investment contracted. Net exports also hindered growth with imports declining. A downturn in inventory investment had a negative impact, although this could provide tailwinds for the third quarter.

*Due to a lag in the reporting of NCREIF Property Index returns, the monthly return shown is deduced from the most recent quarterly return. This monthly return, when compounded over three months, equates to the quarterly return.

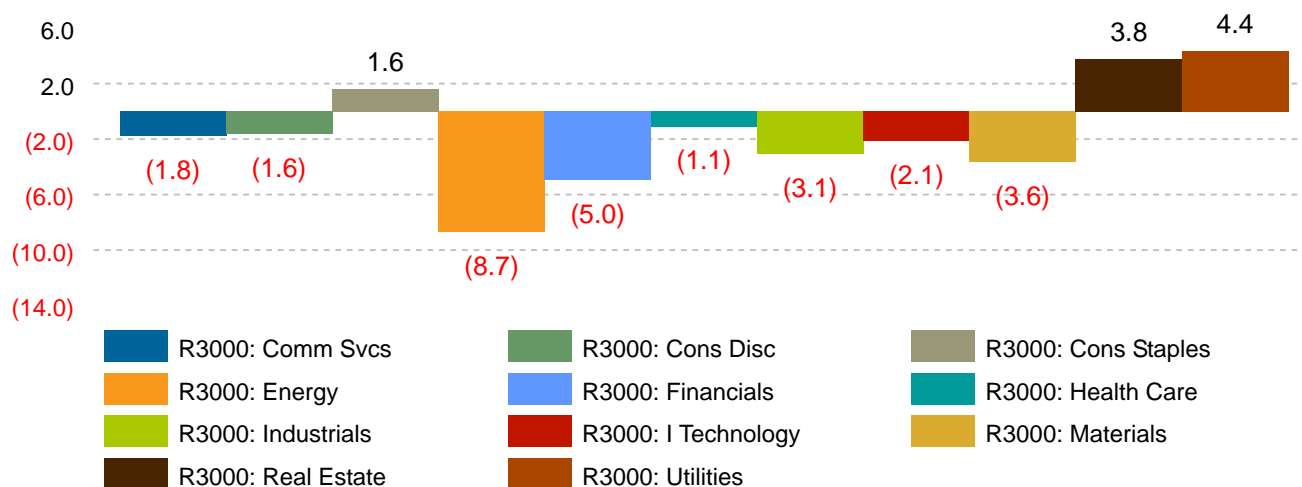
U.S. Equity Overview As of August 31, 2019

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell:3000 Index	(2.04)	18.02	1.31	12.24	9.60	13.35
S&P:500	(1.58)	18.34	2.92	12.70	10.11	13.45
Russell:1000 Index	(1.83)	18.48	2.49	12.57	9.85	13.49
Russell:1000 Growth	(0.77)	23.28	4.27	17.03	13.06	15.42
Russell:1000 Value	(2.94)	13.75	0.62	8.08	6.59	11.49
Russell:Midcap Index	(2.85)	19.57	0.54	10.05	7.94	13.48
Russell:2000 Index	(4.94)	11.85	(12.89)	7.89	6.41	11.59
Russell:2000 Growth	(4.32)	16.30	(11.02)	10.62	8.06	13.06
Russell:2000 Value	(5.58)	7.31	(14.89)	5.05	4.63	10.05

U.S. equities declined amid a significant increase in volatility. The VIX jumped from 16 at the end of July to almost 25 on August 5 and then remained elevated, averaging 19 in August vs. 13 in July. The S&P 500 Index lost 1.6% in the month, which seems surprising considering the index experienced its three worst days of the year in the period (Aug 5: -3.0%; Aug 14: -2.9%; Aug 23: -2.6%). Conversely, the index had four of its top 10 days of the year in August, underscoring the volatility throughout the month. Small caps trailed large caps (Russell 2000 Index: -4.9% vs. Russell 1000 Index: -1.8%) and value lagged growth (Russell 1000 Value Index: -2.9% vs. Russell 1000 Growth Index: -0.8%). Mid cap returns were between large and small caps (Russell Midcap Index: -2.9%).

Only three of 11 Russell 3000 Index sectors managed a positive return, all of which are more defensive or perform well when interest rates fall. The sectors that posted a positive return were Consumer Staples (+1.6%), Real Estate (+3.8%), and Utilities (+4.4%). Energy (-8.7%) was the worst performing sector as crude oil prices fell 6% in the month. Financials (-5.0%) also struggled as interest rates declined.

Russell 3000 Index Sector Returns



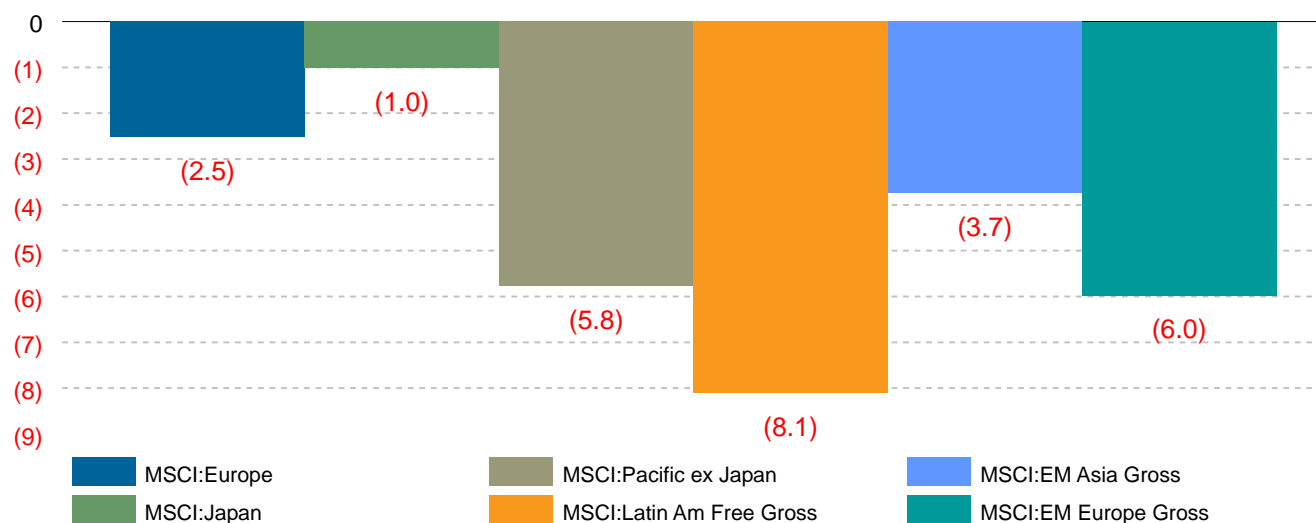
Non-U.S. Equity Overview As of August 31, 2019

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
MSCI:ACWI ex US	(3.09)	8.76	(3.27)	5.87	1.37	4.71
MSCI:EAFE	(2.59)	9.66	(3.26)	5.91	1.89	5.00
MSCI:EAFE Hedged Net	(2.21)	13.62	2.09	9.19	6.51	7.54
MSCI:EM	(4.88)	3.92	(4.35)	5.76	0.38	4.08
MSCI:ACWI ex US Small Cap	(2.88)	7.66	(9.01)	4.65	2.28	6.52

An escalation in trade tensions pushed equities around the globe into negative territory. On the first day of the month, President Trump tweeted an intention to impose tariffs on the remaining \$300 billion of Chinese imports not already exposed to tariffs. China retaliated by announcing fresh tariffs on \$75 billion of U.S. imports. Non-U.S. equities fell meaningfully as this flare-up intensified concerns about a global growth slowdown (MSCI ACWI ex-U.S.: -3.1%). Emerging markets were hit particularly hard (MSCI Emerging Markets Index: -4.9%) and lagged developed international equity (MSCI EAFE Index: -2.6%). Non-U.S. small cap held up slightly better than non-U.S. large cap stocks (MSCI ACWI ex-U.S. Small Cap: -2.9% vs. MSCI ACWI ex-U.S.: -3.1%).

None of the regions shown in the chart produced a positive return as the equity selloff was broad-based and global in nature. Latin America (MSCI Latin America Free Gross Index: -8.1%) was the worst performing region, weighed down by Brazil's 9.2% slide. Japan held up the best (MSCI Japan Index: -1.0%), buoyed by the yen's appreciation of over 2%.

MSCI Regional Returns

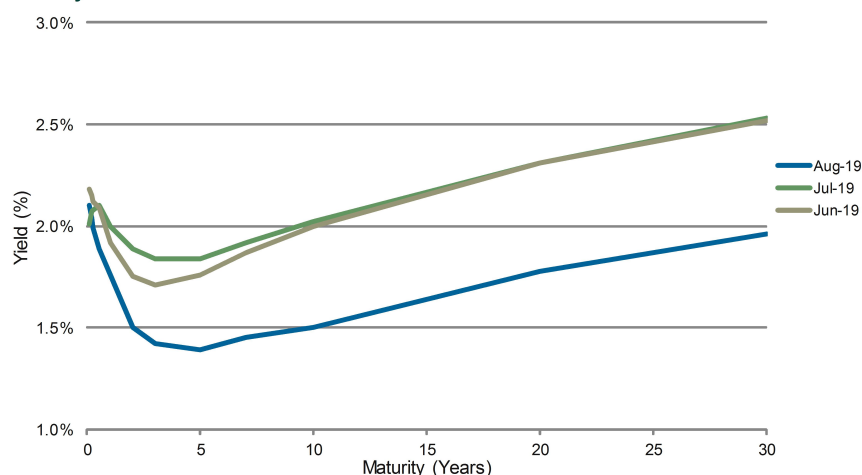


Fixed Income Overview

As of August 31, 2019

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Blmbg:Aggregate	2.59	9.10	10.17	3.09	3.35	3.91
Blmbg:Long Gov/Credit	7.87	23.29	22.32	5.79	6.68	7.90
Blmbg:US Government	3.36	8.56	10.31	2.52	2.96	3.17
Blmbg:Treasury	3.40	8.63	10.38	2.49	2.97	3.25
Blmbg:Credit	3.13	13.35	12.99	4.47	4.38	5.57
Blmbg:Mortgage Backed Sec	0.89	5.53	7.06	2.39	2.75	3.22
Blmbg:US TIPS	2.38	9.06	7.46	2.87	2.21	3.82
ML:US High Yield Cash Pay	0.41	11.17	6.62	6.18	4.85	8.40
CS:Leveraged Loan	(0.28)	5.94	3.38	4.84	3.92	5.61
3 Month T-Bill	0.21	1.63	2.36	1.50	0.95	0.52

Treasury Yield Curve



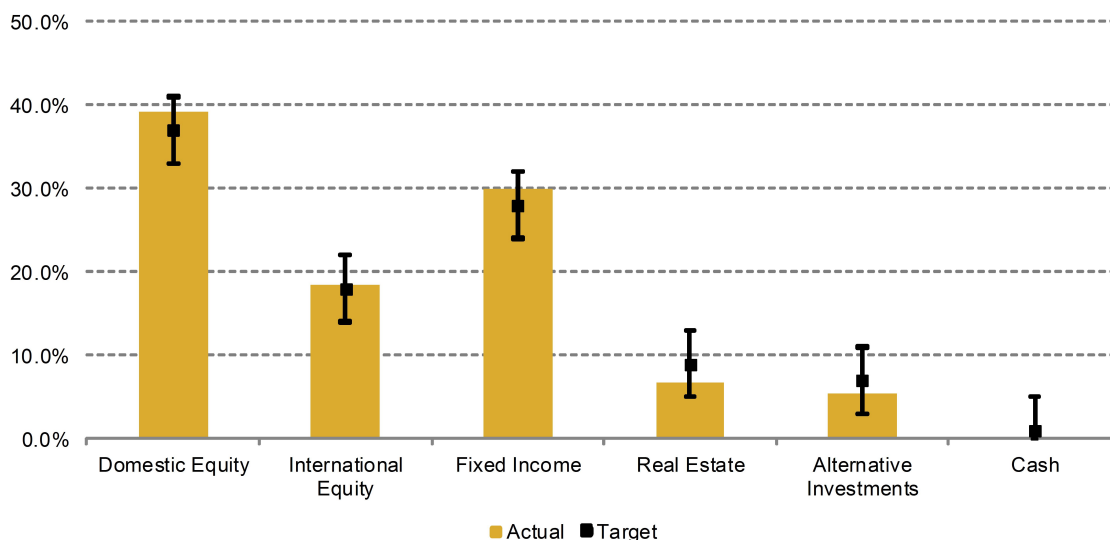
Trade tensions dominated market headlines and investors saw money flow into safe haven assets in August. Treasuries rallied during the month leading to significant events in fixed income markets. The 30-year Treasury yield fell more than 50 basis points closing the month at 1.96%, its first time below the 2.00% level. The yield curve inverted between the two- and 10-year Treasury with the spread closing the quarter at -1 basis point. Minutes from the Fed's July 31 meeting, released in August, showed mixed opinions, with members favoring a 50-point cut, 25-point cut or no cut at all. Despite this, the market continues to price in a 100% probability of a rate cut at the Fed's September meeting, and a greater than 50% probability of an additional cut in October.

The Bloomberg Aggregate Index increased 2.6% in August. The flight to quality pushed investment grade corporate spreads wider by 12 bps to close at 120 bps, and high yield corporate spreads moved 22 bps wider to close at 393 bps. The Bloomberg Credit Index returned 3.1% for the month helped by falling rates and a longer duration. The ML High Yield CP Index increased only 0.4%. Long bonds (Bloomberg Long Gov/Credit Index: +7.9%) significantly outperformed all other sectors of the fixed income market due to its increased sensitivity to interest rates. Securitized sectors performed well, but heightened refinancing led to underperformance from mortgages (Bloomberg Mortgage Backed Securities Index: +0.9%). TIPS (Bloomberg U.S. Tips Index: +2.4%) underperformed nominal bonds (Bloomberg Treasury Index: +3.4%). All fixed income sectors have provided positive returns year-to-date.

Total Fund

The market value of the Total Fund was \$42.14 billion at the end of August, a decrease of \$631.6 million from the prior month. The Fund returned -0.76% during the month, trailing the -0.51% return of its benchmark. Domestic Equity (-2.96%) underperformed its benchmark (-2.04%). International Equity (-2.59%) led its benchmark for the month. The Fixed Income composite returned 2.18%, trailing its benchmark return of 2.59%. Real Estate returned 1.55% in August, outperforming its benchmark return of 0.26%. Over the last three months, Alternatives (+3.13%) led the benchmark return of 2.18%.

As of August month end, all asset classes are within their target ranges. Current policy states that when actual allocations of the asset classes differ by more than four percentage points from their policy target, a recommendation for rebalancing will be made to the Board of Trustees.



U.S. Equity

The U.S. Equity composite returned -2.96% during August, trailing the Russell 3000 Index by 92 basis points. For the month, large caps outperformed small caps.

Large Cap: IMRF's Large Cap managers returned -2.62% in August, trailing the -1.83% return of the Russell 1000 Index. In aggregate, growth managers returned -1.56%, while the Russell 1000 Growth Index returned -0.77%. Value managers returned -3.91% collectively, underperforming the -2.94% return of the Russell 1000 Value Index.

Small Cap: The Small Cap composite (-5.70%) trailed the Russell 2000 Index by 76 basis points in August. The growth managers collectively returned -3.36%, relative to the -4.32% return of the Russell 2000 Growth Index. The value managers returned -6.78% during the month, trailing the Russell 2000 Value Index by 120 basis points. The Micro Cap composite returned -6.01% in August.

Public Real Assets: The Public Real Assets portfolio managed by Brookfield and Cohen & Steers returned 1.82% in August, outperforming the custom benchmark by 94 basis points.

International Equity

The International Equity composite returned -2.59% in August, outperforming its MSCI ACWI ex-U.S. benchmark (-3.09%).

International Large Cap: International Large Cap managers collectively returned -2.61% in August, leading the MSCI ACWI ex-U.S. Index by 48 basis points. International Large Cap Growth managers (-2.39%) trailed the MSCI ACWI ex-U.S. Growth Index by 59 basis points. International Large Cap Value managers returned -3.54% for the month, leading the MSCI ACWI ex-U.S. Value Index (-4.45%).

International Small Cap and Emerging Markets: The International Small Cap managers returned -2.75% in August, 13 basis points ahead of the MSCI ACWI Small Cap ex-U.S. Index return of -2.88%. The Emerging Markets portfolio, managed by Genesis, returned -2.42% during the month, leading the MSCI Emerging Markets Index by 243 basis points.

Fixed Income

The Fixed Income composite returned 2.18% in August relative to the 2.59% return of the Bloomberg Aggregate Index.

Active Core: In aggregate, the Domestic Active Core managers returned 2.69% in August, 10 basis points ahead of the Bloomberg Aggregate Index.

Core Plus: Domestic Fixed Core Plus managers ended the month with a return of 2.25%, trailing the Bloomberg Aggregate Index by 34 basis points.

Bank Loans: The Bank Loans portfolio, managed by Barings, returned -0.30% for the month, trailing the custom benchmark by 14 basis points.

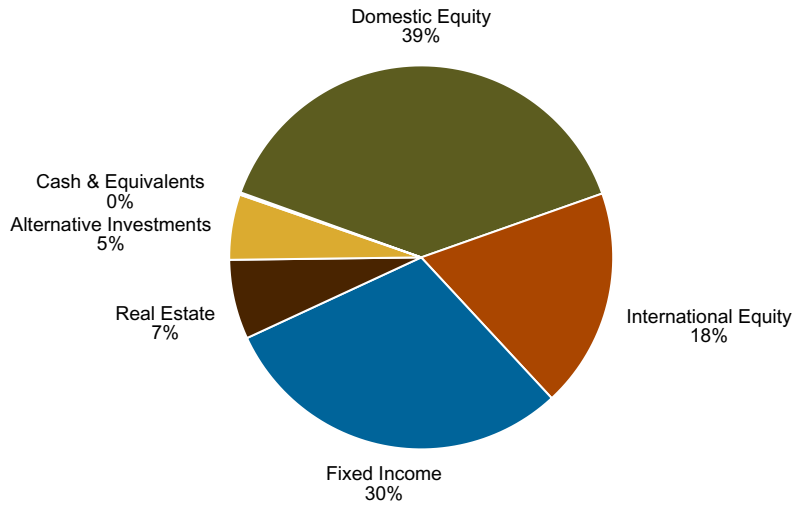
Emerging Markets: The Emerging Markets Debt component, managed by Standish, returned -1.84% in August, 82 basis points behind the custom benchmark.

High Yield: The High Yield allocation, managed by MacKay Shields, returned 0.73% in August, leading the benchmark return of 0.41%.

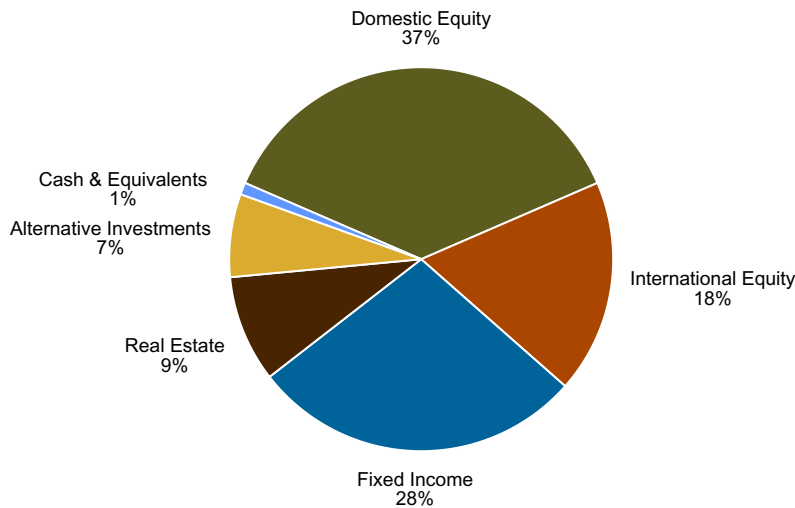
Actual vs Target Asset Allocation

The first chart below shows the Fund's asset allocation as of August 31, 2019. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$000s Actual	Percent Actual	Percent Target	Percent Difference	\$000s Difference
Domestic Equity	16,496,521	39.2%	37.0%	2.2%	906,018
International Equity	7,786,543	18.5%	18.0%	0.5%	201,974
Fixed Income	12,646,591	30.0%	28.0%	2.0%	848,372
Real Estate	2,835,007	6.7%	9.0%	(2.3%)	(957,278)
Alternative Investments	2,296,520	5.5%	7.0%	(1.5%)	(653,035)
Cash & Equivalents	75,314	0.2%	1.0%	(0.8%)	(346,051)
Total	42,136,496	100.0%	100.0%		

* Current Month Target = 37.0% Russell 3000 Index, 28.0% Blmbg Aggregate, 18.0% MSCI ACWI ex US, 9.0% NCREIF NFI-ODCE Val Wt Nt, 7.0% 9% Annually and 1.0% 3-month Treasury Bill.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of August 31, 2019, with the distribution as of July 31, 2019.

Asset Distribution Across Investment Managers

	August 31, 2019		July 31, 2019	
	Market Value	Percent	Market Value	Percent
Domestic Equity*	\$16,496,521,264	39.15%	\$17,058,142,028	39.89%
Large Cap Growth				
NTGI S&P 500 Growth Idx	2,340,827,638	5.56%	2,357,855,481	5.51%
Sands	1,965,492,753	4.66%	2,025,307,308	4.74%
Piedmont Russell 1000 G	1,043,181,767	2.48%	1,051,230,548	2.46%
Large Cap Value				
Dodge & Cox	1,286,575,857	3.05%	1,351,875,564	3.16%
BMO	1,122,137,816	2.66%	1,219,344,231	2.85%
LSV	1,447,330,866	3.43%	1,523,068,746	3.56%
NTGI S&P 500 Value Idx	1,646,453,110	3.91%	1,689,970,835	3.95%
Large Cap Core				
NTGI MarketCap Index	2,607,512,394	6.19%	2,661,143,062	6.22%
Small Cap Growth				
Frontier	549,039,047	1.30%	563,632,257	1.32%
FIAM	164,903,942	0.39%	175,171,639	0.41%
Small Cap Value				
Channing	216,961,318	0.51%	231,058,208	0.54%
Dimensional Small Cap Value	520,202,030	1.23%	563,689,307	1.32%
Inv. Counselors of Maryland	641,223,727	1.52%	683,950,750	1.60%
Micro Cap				
Dimensional Micro Cap	403,525,411	0.96%	429,340,880	1.00%
Public Real Assets				
Brookfield	169,777,387	0.40%	168,277,953	0.39%
Cohen & Steers	371,376,202	0.88%	363,225,261	0.85%
International Equity	\$7,786,543,204	18.48%	\$7,993,025,992	18.69%
International Large Cap Growth				
EARNEST Partners	611,169,736	1.45%	632,273,331	1.48%
William Blair	747,678,080	1.77%	759,489,215	1.78%
International Large Cap Value				
Brandes	566,342,883	1.34%	586,432,784	1.37%
Mondrian	510,144,763	1.21%	530,492,948	1.24%
Lazard	112,798,487	0.27%	116,073,974	0.27%
International Large Cap Core				
Arrowstreet	669,151,222	1.59%	694,564,037	1.62%
Brown	349,451,244	0.83%	353,558,865	0.83%
GlobeFlex	568,712,123	1.35%	585,885,885	1.37%
NTGI MSCI EAFE Index	1,807,173,348	4.29%	1,841,918,172	4.31%
Progress Intl Equity	305,050,973	0.72%	314,203,353	0.73%
International All Cap Developed				
Ativo International	136,032,829	0.32%	138,918,632	0.32%
International Small Cap				
Franklin Templeton	184,090,622	0.44%	189,925,604	0.44%
William Blair	269,379,825	0.64%	276,392,166	0.65%
Emerging Markets				
Genesis	949,367,068	2.25%	972,897,026	2.27%

* includes asset in equity transition account.

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of August 31, 2019, with the distribution as of July 31, 2019.

Asset Distribution Across Investment Managers

	August 31, 2019		July 31, 2019	
	Market Value	Percent	Market Value	Percent
Total Fixed Income	\$12,646,590,973	30.01%	\$12,479,425,067	29.18%
Domestic Fixed Core				
Brandes Core	370,125,139	0.88%	363,969,483	0.85%
EARNEST Partners	1,019,952,654	2.42%	1,070,283,056	2.50%
Piedmont Investment	1,080,142,241	2.56%	1,057,503,454	2.47%
Garcia Hamilton	1,068,712,872	2.54%	1,042,206,701	2.44%
Domestic Fixed Passive Core				
NTGI Blmbg Agg. Index	1,816,154,842	4.31%	1,770,616,306	4.14%
BlackRock US Debt	1,740,425,761	4.13%	1,696,336,457	3.97%
Domestic Fixed Core Plus				
LM Capital	922,258,731	2.19%	906,647,642	2.12%
Progress Fixed Income	976,905,081	2.32%	953,730,993	2.23%
Taplin, Canida, & Habacht	951,500,355	2.26%	935,038,077	2.19%
Western	1,133,422,144	2.69%	1,111,406,037	2.60%
Bank Loans				
Barings Global Loan Fund	569,147,196	1.35%	570,841,784	1.33%
Emerging Markets Debt				
Standish	215,262,940	0.51%	219,300,446	0.51%
High Yield				
MacKay Shields	782,254,776	1.86%	781,217,965	1.83%
FIAM High Yield	326,237	0.00%	326,661	0.00%

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of August 31, 2019, with the distribution as of July 31, 2019.

Asset Distribution Across Investment Managers

	August 31, 2019		July 31, 2019	
	Market Value	Percent	Market Value	Percent
Real Estate	\$2,835,006,582	6.73%	\$2,783,769,196	6.51%
Real Estate Core				
TA Buckhead Ind. Prop.	589,267,622	1.40%	569,464,015	1.33%
Barings Core Property Fund	1,070	0.00%	1,070	0.00%
Barings European Core Property	121,290,647	0.29%	122,690,393	0.29%
Blackstone Property Partners Europe	124,934,737	0.30%	124,360,523	0.29%
INVESCO Core RE	209,185,978	0.50%	209,185,978	0.49%
INVESCO Euro real estate	55,281,218	0.13%	55,380,316	0.13%
AEW Core Property Trust	237,519,444	0.56%	239,528,000	0.56%
CBRE US Core Property Trust	197,435,087	0.47%	197,435,087	0.46%
Real Estate Non-Core				
Artemis MWBE Spruce	183,911,829	0.44%	177,092,578	0.41%
Franklin Templeton EMREFF	14,295,903	0.03%	16,006,799	0.04%
Security Capital	56,699,440	0.13%	56,699,440	0.13%
Dune II	24,452,942	0.06%	26,059,989	0.06%
Non-Core Real Estate Funds*	882,807,661	2.10%	852,771,088	1.99%
Non-Core Intl Real Estate Funds**	135,832,821	0.32%	135,051,526	0.32%
Rockwood Fund VIII	188,953	0.00%	229,684	0.00%
Almanac ARS V	1,901,229	0.00%	1,812,710	0.00%
TA Fund IX	1	0.00%	1	0.00%
Alternative Investments	\$2,296,519,967	5.45%	\$2,215,006,059	5.18%
Absolute Return				
Aurora	621,416	0.00%	615,215	0.00%
Private Equity				
Abbott	338,971,133	0.80%	333,207,870	0.78%
Muller & Monroe MPEFF	5,077,803	0.01%	5,077,803	0.01%
Pantheon	262,724,753	0.62%	263,822,354	0.62%
Private Equity Fund - Domestic	1,079,529,411	2.56%	1,010,401,773	2.36%
Private Equity Fund - International	291,039,483	0.69%	287,188,845	0.67%
Agriculture				
Premiere Partners IV	204,395,599	0.49%	202,082,549	0.47%
Timberland				
Forest Investment Assoc.	73,816,408	0.18%	73,816,408	0.17%
Unlisted Infrastructure				
Unlisted Infrastructure Funds	40,343,961	0.10%	38,793,242	0.09%
Cash & Equivalents	\$75,314,062	0.18%	\$238,753,484	0.56%
Total Fund	\$42,136,496,053	100.0%	\$42,768,121,825	100.0%

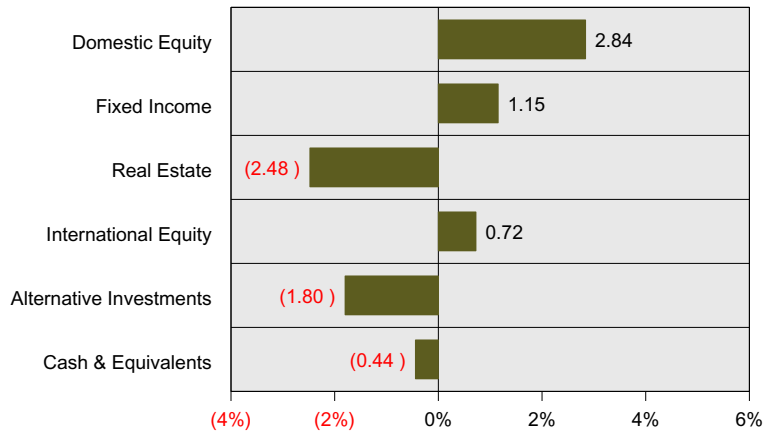
* Non-Core Real Estate Funds funded since September 2011.

** Non-Core International Real Estate Funds funded since August 2014.

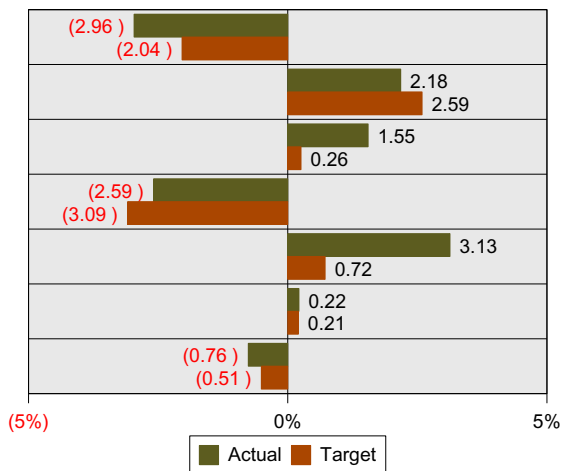
Monthly Total Fund Relative Attribution - August 31, 2019

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

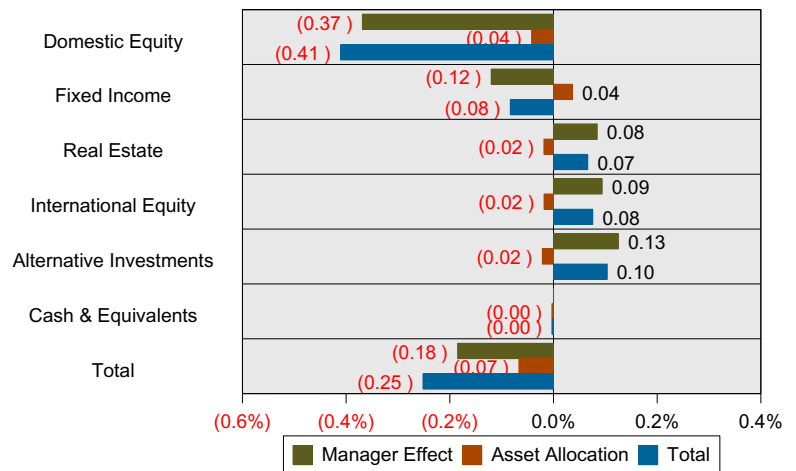
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Month ended August 31, 2019

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	40%	37%	(2.96%)	(2.04%)	(0.37%)	(0.04%)	(0.41%)
Fixed Income	29%	28%	2.18%	2.59%	(0.12%)	0.04%	(0.08%)
Real Estate	7%	9%	1.55%	0.26%	0.08%	(0.02%)	0.07%
International Equity	19%	18%	(2.59%)	(3.09%)	0.09%	(0.02%)	0.08%
Alternative Investments	5%	7%	3.13%	0.72%	0.13%	(0.02%)	0.10%
Cash & Equivalents	1%	1%	0.22%	0.21%	0.00%	(0.00%)	(0.00%)
Total			(0.76%)	(0.51%)	(0.18%)	(0.07%)	(0.25%)

* Current Month Target = 37.0% Russell 3000 Index, 28.0% Blmbg Aggregate, 18.0% MSCI ACWI ex US, 9.0% NCREIF NFI-ODCE Val Wt Nt, 7.0% 9% Annually and 1.0% 3-month Treasury Bill.

Asset Class Returns

The table below details the rates of return for the fund's asset class composites over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Domestic Equity	(2.96%)	4.89%	16.23%	(2.05%)
Blended Benchmark**	(2.04%)	6.40%	18.02%	1.31%
Domestic Equity - Net	(3.00%)	4.84%	16.07%	(2.23%)
International Equity	(2.59%)	2.08%	10.29%	(2.94%)
MSCI ACWI x US (Net)	(3.09%)	1.50%	8.76%	(3.27%)
International Equity - Net	(2.64%)	2.00%	10.06%	(3.23%)
Fixed Income	2.18%	3.88%	9.30%	9.75%
Blmbg Aggregate Index	2.59%	4.11%	9.10%	10.17%
Fixed Income - Net	2.16%	3.85%	9.21%	9.62%
Real Estate	1.55%	2.13%	6.95%	9.58%
Blended Benchmark***	0.26%	0.77%	2.50%	4.70%
Real Estate - Net	1.55%	2.12%	6.92%	9.55%
Alternative Investments	3.13%	3.13%	6.91%	14.82%
Alternatives Custom Benchmark****	0.72%	2.18%	5.91%	9.00%
Alternative Investments - Net	3.13%	3.13%	6.86%	14.72%
Private Equity	3.57%	3.57%	8.32%	17.68%
Alternatives Custom Benchmark****	0.72%	2.18%	5.91%	9.00%
Agriculture	0.03%	(0.13%)	(2.36%)	0.99%
Blended Benchmark***	0.26%	0.77%	2.50%	4.70%
Timberland	(0.25%)	0.74%	0.45%	(1.92%)
Blended Benchmark***	0.26%	0.77%	2.50%	4.70%
Unlisted Infrastructure	4.00%	3.50%	6.81%	8.00%
Alternatives Custom Benchmark****	0.72%	2.18%	5.91%	9.00%
Total Fund	(0.76%)	3.78%	11.97%	2.25%
Total Fund - Net	(0.79%)	3.74%	11.83%	2.09%
Total Fund Benchmark	(0.51%)	4.07%	11.58%	4.16%

* Current Month Target = 37.0% Russell 3000 Index, 28.0% Blmbg Aggregate, 18.0% MSCI ACWI ex US, 9.0% NCREIF NFI-ODCE Val Wt Nt, 7.0% 9% Annually and 1.0% 3-month Treasury Bill.

** The Blended Benchmark is currently Russell 3000 Index. Returns prior to January 1, 2015, reflect those of the Dow Jones U.S. Total Stock Market Index.

*** The Blended Benchmark is currently ODCE Value Weighted Index. Returns between January 1, 2007 and December 31, 2012 reflect NPI+1%. Returns prior to January 1, 2007, reflect those of the Consumer Price Index +5%.

Given that ODCE returns are updated quarterly, an approximation of the Index is used in the monthly reports.

**** The Alternatives Custom Benchmark is based on an annualized rate of return of 9.0%. Prior to July 1, 2010 the Benchmark was based on an annual return of 12.0%. Prior to 2004, the Benchmark was based on an annual return of 13.0%. Prior to 2003, it was based on an annual return of 15.0%.

Asset Class Returns

The table below details the rates of return for the fund's asset class composites over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last 36 Months	Last 60 Months	Last 84 Months	Last 120 Months	Since Inception
Domestic Equity	11.54%	8.68%	12.72%	13.07%	11.46% ^(1/82)
Blended Benchmark**	12.24%	9.58%	13.10%	13.37%	11.32% ^(1/82)
Domestic Equity - Net	11.32%	8.44%	12.46%	12.81%	8.25% ^(1/05)
International Equity	6.58%	2.64%	6.77%	6.32%	7.57% ^(9/86)
MSCI ACWI x US (Net)	5.87%	1.37%	5.18%	4.71%	-
International Equity - Net	6.24%	2.30%	6.43%	5.99%	5.18% ^(1/05)
Fixed Income	3.82%	3.81%	3.64%	5.12%	8.27% ^(1/82)
Blmbg Aggregate Index	3.09%	3.35%	2.82%	3.91%	7.75% ^(1/82)
Fixed Income - Net	3.68%	3.66%	3.49%	4.97%	4.91% ^(1/05)
Real Estate - Net	9.42%	10.14%	10.57%	9.24%	7.51% ^(1/05)
Blended Benchmark***	6.36%	8.45%	9.44%	9.97%	7.49% ^(1/05)
Alternative Investments	13.58%	10.39%	10.57%	9.74%	10.90% ^(2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.25%	12.69% ^(2/86)
Alternative Investments - Net	13.42%	10.12%	10.29%	9.45%	8.79% ^(1/05)
Private Equity	17.04%	12.92%	12.93%	12.85%	13.11% ^(2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.25%	12.69% ^(2/86)
Agriculture	(2.53%)	5.66%	9.88%	8.40%	7.25% ^(10/97)
Blended Benchmark***	6.36%	8.45%	9.44%	9.97%	7.41% ^(10/97)
Timberland	1.12%	0.83%	3.02%	2.71%	7.41% ^(10/92)
Blended Benchmark***	6.36%	8.45%	9.44%	9.97%	7.45% ^(10/92)
Unlisted Infrastructure	-	-	-	-	10.71% ^(4/18)
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.25%	9.00% ^(4/18)
Total Fund	8.34%	6.20%	8.72%	9.07%	9.79% ^(1/82)
Total Fund - Net	8.13%	5.98%	8.49%	8.84%	7.03% ^(1/05)
Total Fund Benchmark	7.79%	6.34%	8.24%	8.64%	6.90% ^(1/05)

* Current Month Target = 37.0% Russell 3000 Index, 28.0% Blmbg Aggregate, 18.0% MSCI ACWI ex US, 9.0% NCREIF NFI-ODCE Val Wt Nt, 7.0% 9% Annually and 1.0% 3-month Treasury Bill.

** The Blended Benchmark is currently Russell 3000 Index. Returns prior to January 1, 2015, reflect those of the Dow Jones U.S. Total Stock Market Index.

*** The Blended Benchmark is currently ODCE Value Weighted Index. Returns between January 1, 2007 and December 31, 2012 reflect NPI+1%. Returns prior to January 1, 2007, reflect those of the Consumer Price Index +5%.

Given that ODCE returns are updated quarterly, an approximation of the Index is used in the monthly reports.

**** The Alternatives Custom Benchmark is based on an annualized rate of return of 9.0%. Prior to July 1, 2010 the Benchmark was based on an annual return of 12.0%. Prior to 2004, the Benchmark was based on an annual return of 13.0%. Prior to 2003, it was based on an annual return of 15.0%.

Large Cap Equity Returns

The table below details the rates of return for the fund's large cap growth and large cap value managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Large Cap Equity	(2.62%)	5.31%	16.81%	(0.08%)
Russell 1000 Index	(1.83%)	6.69%	18.48%	2.49%
Large Cap Growth	(1.56%)	6.00%	22.76%	3.38%
NTGI S&P 500 Growth Idx	(0.72%)	6.64%	20.71%	3.74%
S&P/Citi 500 Growth Index	(0.71%)	6.63%	20.71%	3.70%
NTGI S&P 500 Growth Idx - Net	(0.72%)	6.63%	20.71%	3.73%
Piedmont Russell 1000 G	(0.77%)	8.42%	23.25%	4.29%
Russell 1000 Growth Index	(0.77%)	8.44%	23.28%	4.27%
Piedmont Russell 1000 G - Net	(0.77%)	8.42%	23.23%	4.27%
Sands	(2.95%)	4.02%	25.04%	3.18%
LCG Blended Benchmark*	(0.77%)	8.44%	23.28%	4.27%
Russell 1000 Growth Index	(0.77%)	8.44%	23.28%	4.27%
Sands - Net	(3.01%)	3.97%	24.84%	2.95%
Large Cap Value	(3.91%)	4.14%	11.18%	(3.66%)
Dodge & Cox	(4.71%)	2.60%	9.65%	(4.87%)
LCV Blended Benchmark**	(2.94%)	4.89%	13.75%	0.62%
Russell 1000 Value Index	(2.94%)	4.89%	13.75%	0.62%
Dodge & Cox - Net	(4.76%)	2.55%	9.48%	(5.07%)
BMO	(3.86%)	2.05%	9.10%	(6.47%)
LCV Blended Benchmark**	(2.94%)	4.89%	13.75%	0.62%
Russell 1000 Value Index	(2.94%)	4.89%	13.75%	0.62%
BMO - Net	(3.92%)	1.99%	8.92%	(6.67%)
LSV	(4.75%)	4.02%	9.45%	(6.30%)
LCV Blended Benchmark**	(2.94%)	4.89%	13.75%	0.62%
Russell 1000 Value Index	(2.94%)	4.89%	13.75%	0.62%
LSV - Net	(4.75%)	3.96%	9.26%	(6.52%)
NTGI S&P 500 Value Idx	(2.58%)	7.14%	15.72%	2.14%
S&P/Citi 500 Value Index	(2.59%)	7.14%	15.68%	2.14%
NTGI S&P 500 Value Idx - Net	(2.58%)	7.14%	15.71%	2.14%
Large Cap Passive Core	(2.02%)	6.40%	18.07%	1.30%
NTGI MarketCap Idx	(2.02%)	6.40%	18.07%	1.30%
DJ U.S. Total Stock Market Index	(2.02%)	6.39%	18.02%	1.23%
NTGI MarketCap Idx - Net	(2.02%)	6.40%	18.06%	1.29%

* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Growth Index.

** The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

Large Cap Equity Returns

The table below details the rates of return for the fund's large cap growth and large cap value managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Large Cap Equity	12.42%	9.31%	13.37%	11.14% ^(1/82)
Russell 1000 Index	12.57%	9.85%	13.49%	11.53% ^(1/82)
Large Cap Growth	17.32%	12.26%	15.13%	11.92% ^(1/82)
NTGI S&P 500 Growth Idx	15.74%	12.50%	15.17%	7.92% ^(8/01)
S&P/Citi 500 Growth Index	15.77%	12.51%	15.16%	7.89% ^(8/01)
NTGI S&P 500 Growth Idx - Net	15.74%	12.49%	15.16%	9.81% ^(1/05)
Piedmont Russell 1000 G	-	-	-	3.68% ^(10/18)
Russell 1000 Growth Index	17.03%	13.06%	15.42%	3.69% ^(10/18)
Piedmont Russell 1000 G - Net	-	-	-	3.67% ^(10/18)
Sands	19.78%	12.30%	18.13%	12.26% ^(11/03)
LCG Blended Benchmark*	17.03%	13.06%	15.42%	9.90% ^(11/03)
Russell 1000 Growth Index	17.03%	13.06%	15.42%	9.95% ^(11/03)
Sands - Net	19.52%	12.04%	17.86%	11.23% ^(1/05)
Large Cap Value	9.03%	6.85%	11.95%	10.14% ^(10/82)
Dodge & Cox	10.67%	7.46%	12.51%	9.14% ^(9/03)
LCV Blended Benchmark**	8.08%	6.59%	11.49%	8.11% ^(9/03)
Russell 1000 Value Index	8.08%	6.59%	11.49%	8.27% ^(9/03)
Dodge & Cox - Net	10.44%	7.24%	12.27%	7.48% ^(1/05)
BMO	8.05%	6.26%	11.69%	7.70% ^(2/01)
LCV Blended Benchmark**	8.08%	6.59%	11.49%	5.57% ^(2/01)
Russell 1000 Value Index	8.08%	6.59%	11.49%	6.56% ^(2/01)
BMO - Net	7.81%	6.03%	11.44%	7.67% ^(1/05)
LSV	8.26%	6.32%	12.09%	10.43% ^(2/03)
LCV Blended Benchmark**	8.08%	6.59%	11.49%	9.03% ^(2/03)
Russell 1000 Value Index	8.08%	6.59%	11.49%	9.04% ^(2/03)
LSV - Net	8.01%	6.07%	11.81%	7.77% ^(1/05)
NTGI S&P 500 Value Idx	9.22%	7.38%	11.56%	5.76% ^(8/99)
S&P/Citi 500 Value Index	9.13%	7.30%	11.50%	5.73% ^(8/99)
NTGI S&P 500 Value Idx - Net	9.21%	7.37%	11.56%	6.93% ^(1/05)
Large Cap Passive Core	12.28%	9.63%	13.42%	11.07% ^(1/85)
NTGI MarketCap Idx	12.28%	9.63%	13.44%	10.84% ^(2/85)
DJ U.S. Total Stock Market Index	12.21%	9.55%	13.35%	10.79% ^(2/85)
NTGI MarketCap Idx - Net	12.27%	9.62%	13.43%	8.52% ^(1/05)

* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Growth Index.

** The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

Small Cap Equity Returns

The table below details the rates of return for the fund's small cap growth, small cap value, and micro cap managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Small Cap Equity	(5.70%)	2.30%	11.84%	(12.62%)
Russell 2000 Index	(4.94%)	2.37%	11.85%	(12.89%)
Small Cap Growth	(3.36%)	4.72%	19.52%	(5.25%)
Frontier	(2.59%)	5.55%	19.27%	(6.14%)
Russell 2000 Growth Index	(4.32%)	4.06%	16.30%	(11.02%)
Frontier - Net	(2.59%)	5.42%	18.49%	(6.89%)
FIAM	(5.86%)	2.31%	18.99%	(5.44%)
Russell 2000 Growth Index	(4.32%)	4.06%	16.30%	(11.02%)
FIAM - Net	(6.07%)	1.91%	18.53%	(5.80%)
Small Cap Value	(6.78%)	1.27%	8.57%	(16.08%)
Channing	(6.10%)	2.50%	12.75%	(13.46%)
Russell 2000 Value Index	(5.58%)	0.59%	7.31%	(14.89%)
Channing - Net	(6.22%)	2.38%	12.34%	(13.90%)
DFA Small Cap Value	(7.71%)	(0.12%)	2.88%	(20.23%)
Russell 2000 Value Index	(5.58%)	0.59%	7.31%	(14.89%)
DFA Small Cap Value - Net	(7.83%)	(0.25%)	2.51%	(20.63%)
Inv. Counselors of Maryland	(6.25%)	2.01%	12.21%	(13.30%)
Russell 2000 Value Index	(5.58%)	0.59%	7.31%	(14.89%)
Inv. Couns. of Maryland - Net	(6.46%)	1.78%	11.74%	(13.75%)
Micro Cap	(6.01%)	1.58%	7.03%	(16.77%)
DFA Micro Cap	(6.01%)	1.58%	7.03%	(16.60%)
Russell 2000 Value Index	(5.58%)	0.59%	7.31%	(14.89%)
Russell 2000 Index	(4.94%)	2.37%	11.85%	(12.89%)
DFA Micro Cap - Net	(6.13%)	1.45%	6.65%	(17.02%)
Public Real Assets	1.82%	6.74%	22.40%	16.18%
Public Real Assets Benchmark (1)	0.88%	4.61%	19.13%	13.81%
Brookfield Public Global Inf	0.89%	6.27%	22.60%	12.15%
Dow Jones Global Infra Comp Idx	0.92%	4.47%	21.01%	10.56%
Brookfield Public Global Inf - Net	0.76%	6.14%	22.14%	11.57%
Cohen & Steers Public Global Inf	2.24%	6.96%	22.31%	18.11%
FTSE GI Core Infr 50/50 N	0.87%	4.66%	18.50%	14.87%
Cohen & St Public Global Inf - Net	2.14%	6.85%	21.93%	17.61%

(1) 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index

Small Cap Equity Returns

The table below details the rates of return for the fund's small cap growth, small cap value, and micro cap managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Small Cap Equity	7.50%	5.99%	12.06%	11.81% ^(7/88)
Russell 2000 Index	7.89%	6.41%	11.59%	9.19% ^(7/88)
Small Cap Growth	10.76%	8.60%	13.24%	12.78% ^(7/88)
Frontier	15.54%	9.67%	13.56%	13.08% ^(8/88)
Russell 2000 Growth Index	10.62%	8.06%	13.06%	8.09% ^(8/88)
Frontier - Net	14.84%	9.01%	12.83%	9.61% ^(1/05)
FIAM	8.60%	8.79%	13.57%	13.26% ^(8/88)
Russell 2000 Growth Index	10.62%	8.06%	13.06%	8.09% ^(8/88)
FIAM - Net	8.13%	8.22%	12.98%	10.29% ^(1/05)
Small Cap Value	5.90%	5.11%	11.37%	11.38% ^(9/89)
Channing	5.31%	5.09%	-	9.30% ^(7/11)
Russell 2000 Value Index	5.05%	4.63%	10.05%	7.84% ^(7/11)
Channing - Net	4.78%	4.60%	-	8.71% ^(7/11)
DFA Small Cap Value	3.39%	2.98%	11.21%	11.29% ^(2/96)
Russell 2000 Value Index	5.05%	4.63%	10.05%	9.08% ^(2/96)
DFA Small Cap Value - Net	2.85%	2.48%	10.67%	6.67% ^(1/05)
Inv. Counselors of Maryland	8.41%	7.80%	12.14%	11.07% ^(5/99)
Russell 2000 Value Index	5.05%	4.63%	10.05%	8.54% ^(5/99)
Inv. Couns. of Maryland - Net	7.85%	7.25%	11.61%	8.07% ^(1/05)
Micro Cap	5.02%	3.15%	11.38%	11.18% ^(7/84)
DFA Micro Cap	7.24%	6.49%	12.53%	10.80% ^(8/87)
Russell 2000 Value Index	5.05%	4.63%	10.05%	9.50% ^(8/87)
Russell 2000 Index	7.89%	6.41%	11.59%	8.60% ^(8/87)
DFA Micro Cap - Net	6.71%	5.96%	11.98%	7.25% ^(1/05)
Public Real Assets	-	-	-	9.37% ^(8/17)
Public Real Assets Benchmark (1)	-	-	-	6.73% ^(8/17)
Brookfield Public Global Inf	-	-	-	6.28% ^(8/17)
Dow Jones Global Infra Comp Idx	6.91%	2.90%	11.35%	4.82% ^(8/17)
Brookfield Public Global Inf - Net	-	-	-	5.75% ^(8/17)
Cohen & Steers Public Global Inf	-	-	-	10.87% ^(8/17)
FTSE GI Core Infr 50/50 N	9.63%	6.25%	-	7.34% ^(8/17)
Cohen & St Public Global Inf - Net	-	-	-	10.43% ^(8/17)

(1) 1/3 Dow Jones Brookfield Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index

International Equity Returns

The table below details the rates of return for the fund's international large cap growth and international large cap value managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Intl Large Cap Equity	(2.61%)	1.62%	9.25%	(3.95%)
MSCI ACWI ex-US Index	(3.09%)	1.50%	8.76%	(3.27%)
Intl Large Cap Growth	(2.39%)	3.09%	13.51%	(3.86%)
EARNEST Partners	(3.39%)	1.09%	8.73%	(5.84%)
MSCI ACWI ex-US Index	(3.09%)	1.50%	8.76%	(3.27%)
MSCI ACWI ex-US Growth	(1.80%)	4.56%	15.20%	0.39%
EARNEST Partners - Net	(3.39%)	1.09%	8.68%	(5.94%)
William Blair	(1.56%)	4.79%	17.75%	(2.04%)
MSCI ACWI ex-US Index	(3.09%)	1.50%	8.76%	(3.27%)
MSCI ACWI ex-US Growth	(1.80%)	4.56%	15.20%	0.39%
William Blair - Net	(1.64%)	4.70%	17.44%	(2.39%)
Intl Large Cap Value	(3.54%)	(0.25%)	3.87%	(5.09%)
Brandes	(3.43%)	(0.56%)	1.17%	(8.47%)
MSCI ACWI ex-US Index	(3.09%)	1.50%	8.76%	(3.27%)
MSCI ACWI ex-US Value	(4.45%)	(1.49%)	3.22%	(6.03%)
Brandes - Net	(3.43%)	(0.62%)	1.01%	(8.67%)
Mondrian	(3.84%)	(0.38%)	5.37%	(2.35%)
MSCI ACWI ex-US Index	(3.09%)	1.50%	8.76%	(3.27%)
MSCI ACWI ex-US Value	(4.45%)	(1.49%)	3.22%	(6.03%)
Mondrian - Net	(3.94%)	(0.48%)	5.00%	(2.81%)
Lazard	(2.82%)	1.98%	11.59%	0.80%
MSCI ACWI ex-US Index	(3.09%)	1.50%	8.76%	(3.27%)
MSCI ACWI ex-US Value	(4.45%)	(1.49%)	3.22%	(6.03%)
Lazard - Net	(2.88%)	1.91%	11.39%	0.55%

International Equity Returns

The table below details the rates of return for the fund's international large cap growth and international large cap value managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Intl Large Cap Equity	6.34%	2.53%	6.28%	7.56% ^(9/86)
MSCI ACWI ex-US Index	5.87%	1.37%	4.71%	-
Intl Large Cap Growth	7.22%	2.64%	6.95%	8.05% ^(9/02)
EARNEST Partners	6.32%	1.16%	6.31%	8.52% ^(10/04)
MSCI ACWI ex-US Index	5.87%	1.37%	4.71%	5.51% ^(10/04)
MSCI ACWI ex-US Growth	7.89%	4.07%	6.62%	6.70% ^(10/04)
EARNEST Partners - Net	6.14%	0.98%	5.96%	7.25% ^(1/05)
William Blair	8.03%	3.99%	8.33%	9.39% ^(10/02)
MSCI ACWI ex-US Index	5.87%	1.37%	4.71%	7.70% ^(10/02)
MSCI ACWI ex-US Growth	7.89%	4.07%	6.62%	8.31% ^(10/02)
William Blair - Net	7.65%	3.61%	7.93%	6.09% ^(1/05)
Intl Large Cap Value	4.22%	1.16%	4.26%	8.32% ^(10/95)
Brandes	3.78%	0.81%	4.37%	8.43% ^(1/96)
MSCI ACWI ex-US Index	5.87%	1.37%	4.71%	4.91% ^(1/96)
MSCI ACWI ex-US Value	4.77%	(0.43%)	3.71%	-
Brandes - Net	3.52%	0.58%	4.13%	3.68% ^(1/05)
Mondrian	4.36%	1.41%	-	4.54% ^(4/12)
MSCI ACWI ex-US Index	5.87%	1.37%	4.71%	4.25% ^(4/12)
MSCI ACWI ex-US Value	4.77%	(0.43%)	3.71%	3.38% ^(4/12)
Mondrian - Net	3.85%	0.91%	-	4.02% ^(4/12)
Lazard	6.20%	2.46%	-	5.87% ^(4/12)
MSCI ACWI ex-US Index	5.87%	1.37%	4.71%	4.25% ^(4/12)
MSCI ACWI ex-US Value	4.77%	(0.43%)	3.71%	3.38% ^(4/12)
Lazard - Net	5.94%	2.05%	-	5.33% ^(4/12)

International Equity Returns

The table below details the rates of return for the fund's international large cap core, international small cap, and emerging markets managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Intl Large Cap Active Core	(2.87%)	1.63%	9.45%	(4.49%)
Arrowstreet	(3.66%)	1.39%	8.71%	(3.09%)
MSCI ACWI ex-US Index	(3.09%)	1.50%	8.76%	(3.27%)
Arrowstreet - Net	(3.77%)	1.27%	8.33%	(3.54%)
Brown	(1.16%)	2.83%	14.10%	(2.87%)
MSCI ACWI ex-US Index	(3.09%)	1.50%	8.76%	(3.27%)
Brown - Net	(1.22%)	2.77%	13.89%	(3.11%)
GlobeFlex	(2.93%)	1.04%	6.74%	(8.01%)
MSCI ACWI ex-US Index	(3.09%)	1.50%	8.76%	(3.27%)
GlobeFlex - Net	(3.04%)	0.94%	6.41%	(8.40%)
Progress Intl Equity Custom Benchmark	(2.91%) (3.09%)	1.91% 1.50%	11.21% 8.76%	(2.51%) (3.27%)
MSCI ACWI ex-US Index	(3.09%)	1.50%	8.76%	(3.27%)
Progress Intl Equity - Net	(3.03%)	1.78%	10.80%	(3.00%)
Intl Large Cap Pass. Core	(1.89%)	1.78%	9.86%	(2.72%)
NTGI MSCI EAFE Idx	(1.89%)	1.78%	9.86%	(2.72%)
MSCI EAFE Index	(2.59%)	1.88%	9.66%	(3.26%)
NTGI EAFE Idx - Net	(1.89%)	1.78%	9.86%	(2.73%)
Intl All Cap Developed	(2.08%)	3.34%	5.29%	-
Ativo International	(2.08%)	3.34%	-	-
MSCI EAFE + Canada	(2.46%)	2.09%	10.47%	(2.90%)
Ativo International - Net	(2.20%)	3.22%	-	-
International Small Cap	(2.75%)	2.50%	13.84%	(6.52%)
Franklin Templeton	(3.07%)	2.27%	10.51%	(6.24%)
ACWI Small Cap ex US	(2.88%)	0.73%	7.66%	(9.01%)
Franklin Templeton - Net	(3.25%)	2.09%	9.91%	(6.94%)
William Blair	(2.54%)	2.65%	16.44%	(6.65%)
ACWI Small Cap ex US	(2.88%)	0.73%	7.66%	(9.01%)
Intl SC Blended Benchmark	(2.88%)	0.73%	7.66%	(9.01%)
William Blair - Net	(2.72%)	2.46%	15.79%	(7.38%)
Emerging Markets	(2.42%)	4.76%	16.38%	7.85%
Genesis	(2.42%)	4.76%	16.38%	7.85%
MSCI Emerging Markets Index	(4.85%)	0.02%	4.21%	(3.98%)
Genesis - Net	(2.42%)	4.65%	16.04%	7.31%

Brown and GlobeFlex moved to International Large Cap Active Core April 1, 2011.

Progress Custom Benchmark is a comprised of each manager's weighted benchmark until 201712.

after 201712 the benchmark is MSCI ACWI ex US - Net.

Intl SC Blended Benchmark consists of the S&P Developed Ex-U.S. Small Cap Index through May 31, 2011 and the MSCI ACWI Ex-U.S. Small Cap Index thereafter.

International Equity Returns

The table below details the rates of return for the fund's international large cap core, international small cap, and emerging markets managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Intl Large Cap Active Core	7.28%	3.78%	7.71%	4.38% (2/08)
Arrowstreet	8.04%	4.29%	7.87%	4.55% (3/08)
MSCI ACWI ex-US Index	5.87%	1.37%	4.71%	1.64% (3/08)
Arrowstreet - Net	7.54%	3.81%	7.36%	4.06% (3/08)
Brown	7.26%	4.37%	8.15%	7.73% (10/04)
MSCI ACWI ex-US Index	5.87%	1.37%	4.71%	5.51% (10/04)
Brown - Net	6.43%	3.43%	7.38%	6.22% (1/05)
GlobeFlex	5.85%	2.86%	7.30%	4.35% (3/06)
MSCI ACWI ex-US Index	5.87%	1.37%	4.71%	3.31% (3/06)
GlobeFlex - Net	5.45%	2.45%	6.88%	3.91% (3/06)
Progress Intl Equity	8.36%	3.75%	-	3.82% (7/14)
Custom Benchmark	6.63%	2.31%	-	2.28% (7/14)
MSCI ACWI ex-US Index	5.87%	1.37%	4.71%	1.24% (7/14)
Progress Intl Equity - Net	7.83%	3.26%	-	3.34% (7/14)
Intl Large Cap Pass. Core	6.29%	2.26%	5.40%	3.20% (1/00)
NTGI MSCI EAFE Idx	6.29%	2.26%	5.40%	3.55% (2/00)
MSCI EAFE Index	5.91%	1.89%	5.00%	3.17% (2/00)
NTGI EAFE Idx - Net	6.29%	2.25%	5.40%	4.57% (1/05)
Intl All Cap Developed	-	-	-	5.43% (2/19)
Ativo International	-	-	-	5.43% (2/19)
MSCI EAFE + Canada	5.93%	1.64%	4.91%	3.11% (2/19)
Ativo International - Net	-	-	-	5.21% (2/19)
International Small Cap	5.52%	3.49%	7.34%	4.34% (12/05)
Franklin Templeton	6.51%	3.35%	-	5.54% (8/11)
ACWI Small Cap ex US	4.65%	2.28%	6.52%	3.79% (8/11)
Franklin Templeton - Net	5.74%	2.60%	-	4.77% (8/11)
William Blair	4.74%	3.64%	-	8.34% (9/10)
ACWI Small Cap ex US	4.65%	2.28%	6.52%	6.13% (9/10)
Intl SC Blended Benchmark	4.65%	2.28%	6.26%	6.50% (9/10)
William Blair - Net	3.95%	2.85%	-	7.51% (9/10)
Emerging Markets	8.97%	2.76%	7.35%	8.93% (2/92)
Genesis	8.97%	2.76%	7.35%	10.94% (5/04)
MSCI Emerging Markets Index	6.16%	0.76%	4.43%	8.32% (5/04)
Genesis - Net	8.35%	2.16%	6.73%	8.96% (1/05)

Brown and GlobeFlex moved to International Large Cap Active Core April 1, 2011.

Progress Custom Benchmark is a comprised of each manager's weighted benchmark until 201712. after 201712 the benchmark is MSCI ACWI ex US - Net.

Intl SC Blended Benchmark consists of the S&P Developed Ex-U.S. Small Cap Index through May 31, 2011 and the MSCI ACWI Ex-U.S. Small Cap Index thereafter.

Fixed Income Returns

The table below details the rates of return for the fund's domestic fixed core managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Dom. Fixed Active Core	2.69%	3.97%	8.96%	9.92%
Brandes Core*	2.47%	3.59%	8.32%	8.77%
Blmbg Aggregate Index	2.59%	4.11%	9.10%	10.17%
Brandes Core - Net	2.47%	3.59%	8.32%	8.77%
EARNEST Partners	2.75%	4.10%	9.29%	10.70%
Blmbg Aggregate Index	2.59%	4.11%	9.10%	10.17%
EARNEST Partners - Net	2.72%	4.06%	9.19%	10.57%
Piedmont	2.65%	4.12%	9.34%	10.17%
Blmbg Aggregate Index	2.59%	4.11%	9.10%	10.17%
Piedmont - Net	2.61%	4.09%	9.24%	10.03%
Garcia Hamilton	2.81%	3.91%	8.53%	9.26%
Blmbg Aggregate Index	2.59%	4.11%	9.10%	10.17%
Garcia Hamilton	2.81%	3.89%	8.47%	9.14%
Dom. Fixed Passive Core	2.59%	4.14%	9.19%	10.26%
BlackRock US Debt	2.60%	4.13%	9.18%	10.27%
Blmbg Aggregate Index	2.59%	4.11%	9.10%	10.17%
BlackRock US Debt - Net	2.60%	4.13%	9.17%	10.26%
NTGI Blmbg Agg. Index	2.57%	4.15%	9.19%	10.26%
Blmbg Aggregate Index	2.59%	4.11%	9.10%	10.17%
NTGI Blmbg Agg. Index - Net	2.57%	4.15%	9.19%	10.25%

* Brandes changed to a Core mandate from Core Plus on 01/01/2018. Performance shown is Brandes full SI history.

Fixed Income Returns

The table below details the rates of return for the fund's domestic fixed core managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Dom. Fixed Active Core	3.48%	3.72%	4.66%	4.71% ^(4/01)
Brandes Core *	2.83%	-	-	3.28% ^(3/16)
Blmbg Aggregate Index	3.09%	3.35%	3.91%	3.71% ^(3/16)
Brandes Core - Net	2.83%	-	-	3.28% ^(3/16)
EARNEST Partners	3.61%	3.89%	4.70%	4.78% ^(5/05)
Blmbg Aggregate Index	3.09%	3.35%	3.91%	4.31% ^(5/05)
EARNEST Partners - Net	3.47%	3.72%	4.51%	4.58% ^(5/05)
Piedmont	3.46%	3.58%	4.62%	4.53% ^(6/05)
Blmbg Aggregate Index	3.09%	3.35%	3.91%	4.26% ^(6/05)
Piedmont - Net	3.31%	3.43%	4.45%	4.34% ^(6/05)
Garcia Hamilton	3.45%	-	-	3.90% ^(6/15)
Blmbg Aggregate Index	3.09%	3.35%	3.91%	3.44% ^(6/15)
Garcia Hamilton	3.36%	-	-	3.81% ^(6/15)
Dom. Fixed Passive Core	3.14%	3.42%	3.99%	6.01% ^(1/90)
BlackRock US Debt	3.19%	3.46%	-	3.75% ^(10/13)
Blmbg Aggregate Index	3.09%	3.35%	3.91%	3.62% ^(10/13)
BlackRock US Debt - Net	3.18%	3.46%	-	3.74% ^(10/13)
NTGI Blmbg Agg. Index	3.10%	3.39%	3.98%	6.06% ^(2/90)
Blmbg Aggregate Index	3.09%	3.35%	3.91%	6.05% ^(2/90)
NTGI Blmbg Agg. Index - Net	3.10%	3.38%	3.97%	4.25% ^(1/05)

* Brandes changed to a Core mandate from Core Plus on 01/01/2018. Performance shown is Brandes full SI history.

Fixed Income Returns

The table below details the rates of return for the fund's domestic fixed core plus and high yield managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Domestic Fixed Core Plus	2.25%	4.19%	9.86%	10.39%
LM Capital	2.23%	4.02%	9.79%	9.85%
Blmbg Aggregate Index	2.59%	4.11%	9.10%	10.17%
LM Capital - Net	2.23%	3.98%	9.67%	9.68%
Progress Fixed Income	2.43%	4.14%	9.62%	10.09%
Blmbg Aggregate Index	2.59%	4.11%	9.10%	10.17%
Progress Fixed Inc. - Net	2.35%	4.05%	9.35%	9.73%
BMO-TCH	2.07%	3.87%	9.30%	9.43%
Blmbg Aggregate Index	2.59%	4.11%	9.10%	10.17%
BMO-TCH. - Net	2.03%	3.84%	9.19%	9.29%
Western	2.25%	4.65%	10.61%	11.91%
Blmbg Aggregate Index	2.59%	4.11%	9.10%	10.17%
Western - Net	2.25%	4.65%	10.57%	11.83%
Bank Loans	(0.30%)	0.81%	5.66%	3.18%
Barings Global Loan Fund	(0.30%)	0.81%	5.66%	3.18%
Custom Benchmark	(0.16%)	0.91%	5.95%	3.87%
Barings Global Loan Fund - Net	(0.30%)	0.75%	5.42%	2.82%
Emerging Markets	(1.84%)	3.99%	9.60%	12.59%
Standish	(1.84%)	3.99%	9.60%	12.59%
Custom Benchmark	(1.02%)	3.97%	9.17%	12.22%
Standish - Net	(1.92%)	3.90%	9.32%	12.21%
High Yield	0.73%	2.96%	11.23%	7.63%
MacKay Shields	0.73%	2.96%	11.23%	7.64%
ML High Yield Cash Pay Index	0.41%	3.40%	11.17%	6.62%
MacKay Shields - Net	0.73%	2.88%	11.06%	7.38%

Taplin, Canida, & Habacht moved to Core Plus October 1, 2010.

Barings Custom Benchmark is comprised of the Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each sector.

Standish Custom Benchmark is 50% JPM GBI-EM Index, 25% JPM EMBI Global Index and 25% JPM Corporate EMBI Diversified Index.

Fixed Income Returns

The table below details the rates of return for the fund's domestic fixed core plus and high yield managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended August 31, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Domestic Fixed Core Plus	3.79%	3.89%	5.21%	8.12% ^(1/82)
LM Capital	3.33%	3.64%	4.74%	5.00% ^(5/05)
Blmbg Aggregate Index	3.09%	3.35%	3.91%	4.31% ^(5/05)
LM Capital - Net	3.17%	3.47%	4.57%	4.83% ^(5/05)
Progress Fixed Income	3.83%	3.81%	4.77%	5.10% ^(1/06)
Blmbg Aggregate Index	3.09%	3.35%	3.91%	4.41% ^(1/06)
Progress Fixed Inc. - Net	3.49%	3.47%	4.42%	4.75% ^(1/06)
BMO-TCH	4.11%	4.00%	5.33%	5.15% ^(5/05)
Blmbg Aggregate Index	3.09%	3.35%	3.91%	4.31% ^(5/05)
BMO-TCH - Net	3.98%	3.86%	5.19%	5.02% ^(5/05)
Western	4.33%	4.45%	5.96%	5.60% ^(11/01)
Blmbg Aggregate Index	3.09%	3.35%	3.91%	4.43% ^(11/01)
Western - Net	4.21%	4.32%	5.82%	5.09% ^(1/05)
Bank Loans	5.25%	4.50%	-	4.50% ^(8/14)
Barings Global Loan Fund	5.25%	4.50%	-	4.50% ^(8/14)
Custom Benchmark	5.03%	4.15%	-	4.13% ^(8/14)
Barings Global Loan Fund - Net	4.74%	3.96%	-	3.96% ^(8/14)
Emerging Markets	4.51%	1.50%	-	2.81% ^(8/14)
Standish	4.51%	1.50%	-	2.81% ^(8/14)
Custom Benchmark	4.12%	2.14%	4.83%	2.24% ^(8/14)
Standish - Net	4.14%	1.15%	-	2.46% ^(8/14)
High Yield	6.68%	5.77%	8.85%	9.55% ^(4/86)
MacKay Shields	6.82%	5.95%	8.63%	8.85% ^(11/00)
ML High Yield Cash Pay Index	6.18%	4.85%	8.40%	7.58% ^(11/00)
MacKay Shields - Net	6.48%	5.58%	8.25%	6.94% ^(1/05)

Taplin, Canida, & Habacht moved to Core Plus October 1, 2010.

Barings Custom Benchmark is comprised of the Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each sector.

Standish Custom Benchmark is 50% JPM GBI-EM Index, 25% JPM EMBI Global Index and 25% JPM Corporate EMBI Diversified Index.

Five Best Performing Portfolio's vs. Benchmarks

Manager	Year-to-Date Outperformance	Since Inception Outperformance	
	(in % points)	(in % points)	
Genesis	12.17	2.62	04/30/2004
William Blair	8.99	1.68	09/30/2002
William Blair Int'l SC	8.78	2.21	08/31/2010
Channing	5.45	1.46	06/30/2011
Brown	5.34	2.22	09/30/2004

Five Worst Performing Portfolio's vs. Benchmarks

Manager	Year-to-Date Underperformance	Since Inception Underperformance	
	(in % points)	(in % points)	
Brandes	-7.59	3.52	12/31/1995
BMO	-4.66	2.13	01/31/2001
DFA SCV	-4.43	2.21	01/31/1996
LSV	-4.31	1.39	01/31/2003
Dodge & Cox	-4.11	1.03	08/31/2003

Five Highest Returning Portfolios

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
Sands	25.04	12.26	10/31/2003
NTGI S&P500 Gr	20.71	7.92	07/31/2001
Frontier	19.27	13.08	07/31/1988
Pyramis SCG	18.99	13.26	07/31/1988
NTGI US MarketCap	18.07	10.84	01/31/1985

Five Lowest Returning Portfolios

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
Brandes	1.17	8.43	12/31/1995
DFA SCV	2.88	11.29	01/31/1996
Mondrian	5.26	4.52	03/31/2012
GlobeFlex	6.74	4.33	02/28/2006
DFA Micro Cap	7.03	10.80	07/31/1987

Returns are shown gross of investment management fees.

Excludes Real Estate and Alternative Investments portfolios.