

September 30, 2019



**Illinois Municipal
Retirement Fund
Monthly Performance Report**

**Investment Measurement Service
Monthly Review**

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Market Environment

As of September 30, 2019

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell:3000 Index	1.76	20.09	2.92	12.83	10.44	13.08
S&P:500	1.87	20.55	4.25	13.39	10.84	13.24
Russell:2000 Index	2.08	14.18	(8.89)	8.23	8.19	11.19
MSCI:ACWI ex US	2.57	11.56	(1.23)	6.33	2.90	4.46
MSCI:EM	1.91	5.90	(2.01)	5.98	2.33	3.37
Blmbg:Aggregate	(0.53)	8.52	10.30	2.92	3.38	3.75
NCREIF:Total Index	0.50	4.89	6.33	6.80	8.59	9.78
Blmbg:Commodity Price Idx	1.01	1.39	(8.71)	(3.05)	(8.11)	(4.84)

September hosted a bevy of geopolitical headlines that combined to produce generally positive results for equity markets. September began on an optimistic note with encouraging signs that the U.S. and China were on the brink of a trade agreement. In the U.K., the probability of a no-deal Brexit abated as Parliament passed a bill aimed at impeding such an outcome and the U.K. Supreme Court determined that Boris Johnson's suspension of Parliament was unlawful. In the first half of the month, global equities performed well on the back of generally positive news, but quickly lost steam in the second half as the political landscape soured. In the U.S., House Speaker Nancy Pelosi announced a formal impeachment inquiry into President Donald Trump. In Hong Kong, anti-government protests persisted and grew increasingly contentious, despite China withdrawing the extradition bill that initially sparked the conflict. To further add to the quagmire, two Saudi oil facilities were attacked on September 14th, which briefly sent oil prices soaring. Overall, equity markets ended the month in positive territory, while fixed income experienced its worst month of 2019 with the Bloomberg Aggregate Index falling 53 basis points.

The employment situation remained relatively solid in September. The unemployment rate fell 0.2 percentage points to end the month at 3.5%. Wage pressure waned slightly with 2.9% year-over-year growth, despite the lower unemployment rate. September witnessed the addition of 136,000 jobs, which fell slightly short of consensus estimates. Manufacturing remained an area of weakness, as the sector shed 2,000 jobs. With September's figure now in the books, the manufacturing sector added a meagre 4,000 jobs in total during the third quarter.

The headline Consumer Price Index (CPI) remained unchanged from August, recording year-over-year growth of 1.7% through September. The core CPI climbed 0.1% during the month and 2.4% over the trailing year. Energy prices were the driving force behind the discrepancy, with prices falling 1.4% in September and 4.8% over the trailing year. Automotive prices also fell, as did the costs of apparel and communications. Housing prices and medical costs continued to climb.

The third estimate of second quarter GDP left the prior figure of 2.0% annualized growth unchanged. Consumer spending remained an area of strength, with personal expenditures up an annualized 4.6%. Government spending was also supportive of growth, while residential and nonresidential investment contracted. Net exports continued to detract from GDP growth.

*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.

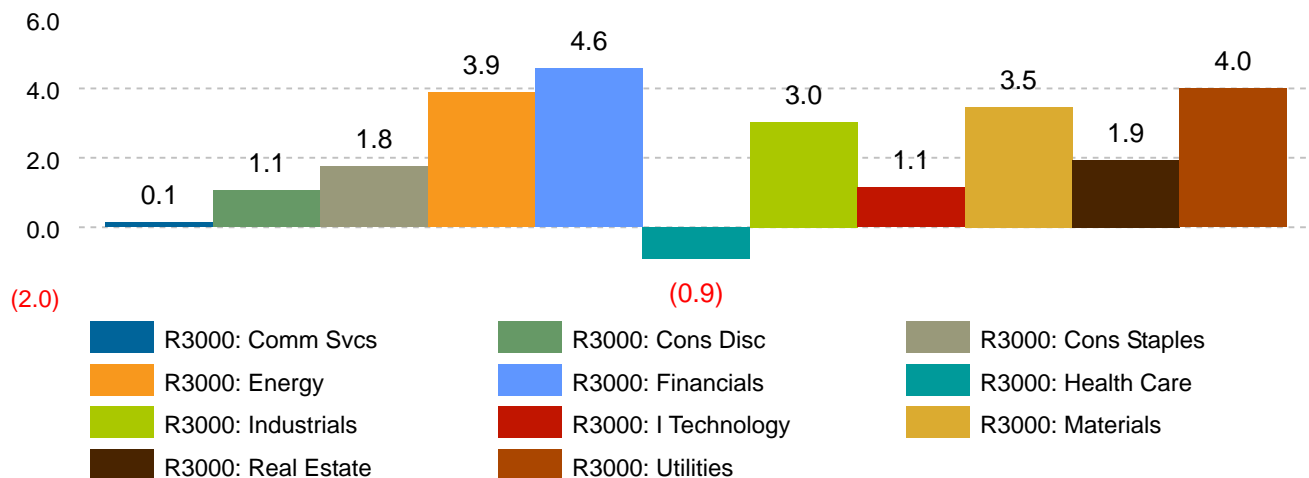
U.S. Equity Overview
As of September 30, 2019

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell:3000 Index	1.76	20.09	2.92	12.83	10.44	13.08
S&P:500	1.87	20.55	4.25	13.39	10.84	13.24
Russell:1000 Index	1.73	20.53	3.87	13.19	10.62	13.23
Russell:1000 Growth	0.01	23.30	3.71	16.89	13.39	14.94
Russell:1000 Value	3.57	17.81	4.00	9.43	7.79	11.46
Russell:Midcap Index	1.97	21.93	3.19	10.69	9.10	13.07
Russell:2000 Index	2.08	14.18	(8.89)	8.23	8.19	11.19
Russell:2000 Growth	(0.82)	15.34	(9.63)	9.79	9.08	12.25
Russell:2000 Value	5.13	12.82	(8.24)	6.54	7.17	10.06

U.S. equities rebounded after the decline in August, gaining 1.9% in September (S&P 500). Much of the gains came early in the month when the U.S. and China set a meeting date for trade negotiations, lifting investor sentiment. A notable development in the month was the performance of value stocks relative to growth stocks. Value stocks rotated into favor with unexpected speed and magnitude (Russell 1000 Value Index: +3.6% vs. Russell 1000 Growth Index: +0.0%). It is unclear if this trend will continue and the reasoning proposed by analysts varied. Some suggested the spread between growth and value got too wide and caused a short-term reversion. Others posited that a rise in interest rates, and expectations for that trend to continue, would further support value stocks. Small caps outperformed large caps (Russell 2000 Index: +2.1% vs. Russell 1000 Index: +1.7%) and mid cap returns were between large and small caps (Russell Midcap Index: +2.0%).

Financials (+4.6%) was the best performing sector, aided by rising interest rates in the month. Utilities (+4.0%) and Energy (+3.9%) benefited from the rotation into value stocks. Conversely, the rotation out of growth and momentum stocks detracted from returns in the Health Care (-0.9%) and Communication Services (+0.1%) sectors.

Russell 3000 Index Sector Returns



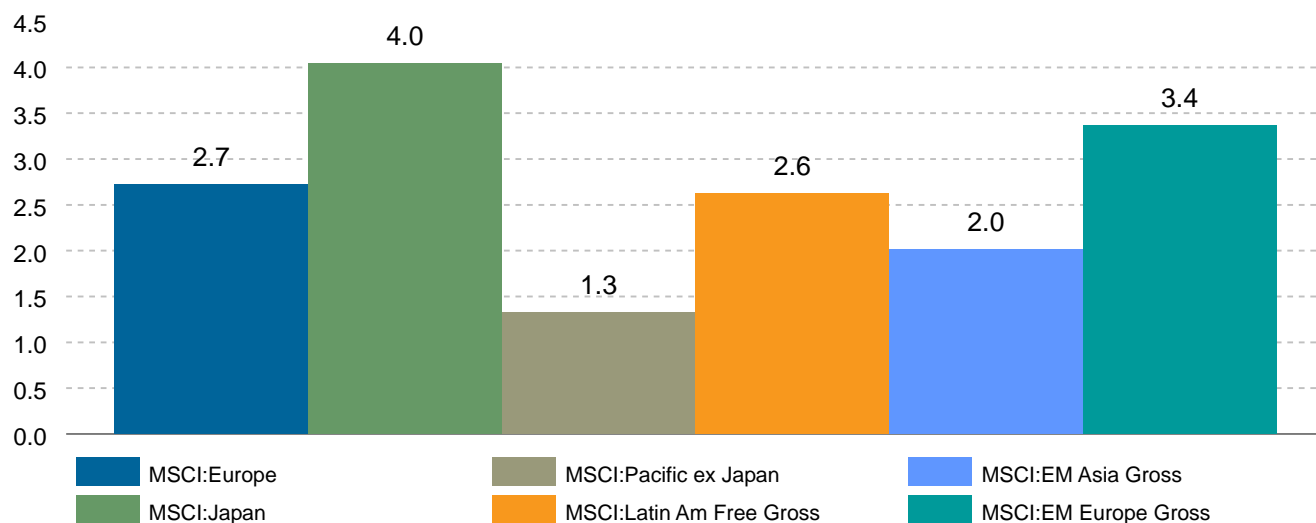
Non-U.S. Equity Overview As of September 30, 2019

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
MSCI:ACWI ex US	2.57	11.56	(1.23)	6.33	2.90	4.46
MSCI:EAFE	2.87	12.80	(1.34)	6.48	3.27	4.90
MSCI:EAFE Hedged Net	3.70	17.82	4.20	10.36	7.26	7.70
MSCI:EM	1.91	5.90	(2.01)	5.98	2.33	3.37
MSCI:ACWI ex US Small Cap	2.43	10.28	(5.63)	4.64	3.98	6.13

Non-U.S. equities rose in September (MSCI ACWI ex-U.S.: +2.6%). Key factors driving markets higher were the agreement between the U.S. and China to meet on trade and monetary policy stimulus in Europe. The ECB lowered rates by a tenth of a percentage point to -0.5% and will restart quantitative easing in November, buying 20 billion euros worth of bonds each month. Gains in the U.S. dollar relative to most other currencies weighed on returns, although unhedged returns were still strong (MSCI EAFE Index: +2.9% vs. MSCI EAFE Hedged Net Index: +3.7%). Emerging markets lagged developed international equity (MSCI Emerging Markets Index: +1.9% vs. MSCI EAFE Index: +2.9%). Non-U.S. small cap stocks were only slightly behind non-U.S. large cap stocks (MSCI ACWI ex-U.S. Small Cap: +2.4% vs. MSCI ACWI ex-U.S.: +2.6%).

All of the regions shown in the chart produced a positive return in September. Japan was the best performing region, gaining 4.0%. Rising global bond yields lifted shares of Japanese bank stocks while a depreciating yen improved prospects for the country's exporters. Pacific ex-Japan (MSCI Pacific ex-Japan Index: +1.3%) was the worst performer as unrest in Hong Kong weakened the region.

MSCI Regional Returns

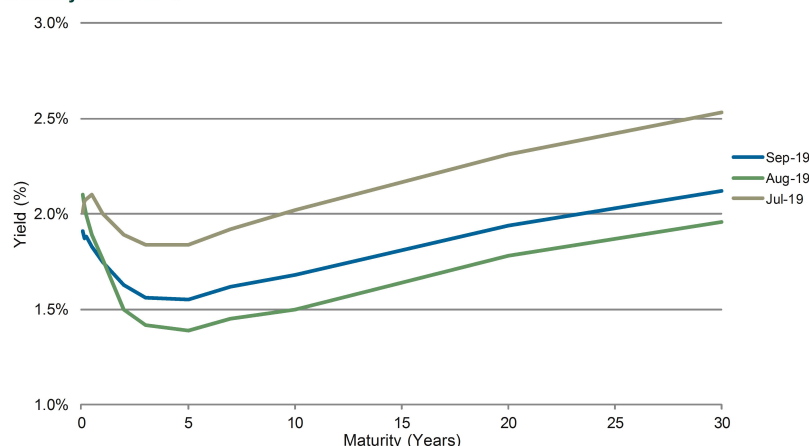


Fixed Income Overview

As of September 30, 2019

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Blmbg:Aggregate	(0.53)	8.52	10.30	2.92	3.38	3.75
Blmbg:Long Gov/Credit	(1.91)	20.93	21.88	5.56	6.81	7.42
Blmbg:Government	(0.83)	7.66	10.40	2.27	2.90	3.00
Blmbg:Treasury	(0.85)	7.71	10.48	2.24	2.91	3.08
Blmbg:Credit	(0.65)	12.61	12.63	4.33	4.54	5.32
Blmbg:MBS	0.07	5.60	7.80	2.32	2.80	3.14
Blmbg:TIPS	(1.36)	7.58	7.13	2.21	2.45	3.46
ML:HY Corp Cash Pay	0.31	11.51	6.34	6.06	5.36	7.82
CS:Leveraged Loan	0.42	6.39	3.11	4.68	4.11	5.32
3 Month T-Bill	0.17	1.81	2.39	1.54	0.98	0.54

Treasury Yield Curve



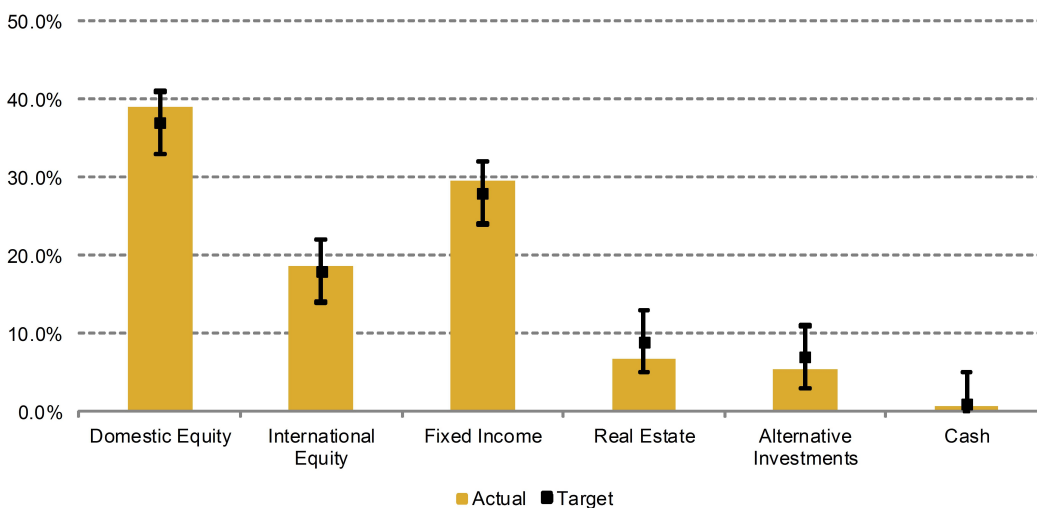
Money flowed into risk assets as trade tensions eased in the first half of the month. As geopolitical uncertainty grew, this appetite waned in the latter part of September. The Fed was active in both the interest rate and repo markets during the month. Despite a divided group, the Fed cut rates by 25 bps for the second time this year to a target range of 1.75% to 2.00%. The repo market saw a significant increase in volatility, with rates reaching as high as 10%, causing the Fed to temporarily inject funds in order to level out the market. The spike in rates was largely idiosyncratic in part due to a significant amount of Treasury debt settling, coinciding with federal tax payments coming due. U.S. Treasury rates generally climbed for the first part of the month, seeing the 10-year reach 1.90%, before retreating to close the month at 1.68%, up 18 bps. The 2-year increased 13 bps to 1.63% in September and the 2-10 year spread closed at five bps. The 30-year increased 16 bps to 2.12% and all maturities of one year or less fell, headlined by the one-month rate falling 19 bps to close at 1.91%.

The Bloomberg Aggregate Index returned -0.5% in September, a month that saw rates increase across the longer end of the curve. Positive market sentiment pushed investment grade corporate spreads tighter by 5 bps to close at 115 bps, and high yield corporate spreads tightened 20 bps during the month to close at 373 bps. The Bloomberg Credit Index fell 0.7% for the month and the ML High Yield CP Index increased 0.3%. Long bonds (Bloomberg Long Gov/Credit Index: -1.9%) struggled in the rising rate environment and underperformed all other sectors. The Bloomberg Long Gov/Credit Index is still up over 20% year-to-date (+20.9%). Mortgages managed a small positive return (Bloomberg Mortgage Backed Securities Index: +0.1%) and TIPS (Bloomberg U.S. TIPS Index: -1.4%) underperformed nominal bonds (Bloomberg U.S. Treasury Index: -0.9%).

Total Fund

The market value of the Total Fund was \$42.67 billion at the end of September, an increase of \$527.9 million from the prior month. The Fund returned 1.09% during the month, leading the 1.04% return of its benchmark. Domestic Equity (+1.93%) outperformed its benchmark (+1.76%). International Equity (+2.53%) trailed its benchmark for the month. The Fixed Income composite returned -0.37%, leading its benchmark return of -0.53%. Real Estate returned -0.20% in September, underperforming its benchmark return of 0.26%. Over the last three months, Alternatives (+2.94%) led the benchmark return of 2.18%.

As of September 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 1.93% during September, leading the Russell 3000 Index by 17 basis points. For the month, small caps outperformed large caps.

Large Cap: IMRF's Large Cap managers returned 1.59% in September, trailing the 1.73% return of the Russell 1000 Index. In aggregate, growth managers returned -1.09%, while the Russell 1000 Growth Index returned 0.01%. Value managers returned 4.10% collectively, outperforming the 3.57% return of the Russell 1000 Value Index.

Small Cap: The Small Cap composite (+3.95%) led the Russell 2000 Index by 187 basis points in September. The growth managers collectively returned 0.42%, relative to the -0.82% return of the Russell 2000 Growth Index. The value managers returned 5.78% during the month, leading the Russell 2000 Value Index by 65 basis points. The Micro Cap composite returned 3.97% in September.

Public Real Assets: The Public Real Assets portfolio managed by Brookfield and Cohen & Steers returned 0.94% in September, underperforming the custom benchmark by 69 basis points.

International Equity

The International Equity composite returned 2.53% in September, underperforming its MSCI ACWI ex-U.S. benchmark (+2.57%).

International Large Cap: International Large Cap managers collectively returned 2.87% in September, leading the MSCI ACWI ex-U.S. Index by 30 basis points. International Large Cap Growth managers (+1.68%) led the MSCI ACWI ex-U.S. Growth Index by 46 basis points. International Large Cap Value managers returned 4.54% for the month, leading the MSCI ACWI ex-U.S. Value Index (+4.18%).

International Small Cap and Emerging Markets: The International Small Cap managers returned 1.95% in September, 48 basis points behind the MSCI ACWI Small Cap ex-U.S. Index return of 2.43%. The Emerging Markets portfolio, managed by Genesis, returned 0.75% during the month, trailing the MSCI Emerging Markets Index by 119 basis points.

Fixed Income

The Fixed Income composite returned -0.37% in September relative to the -0.53% return of the Bloomberg Aggregate Index.

Active Core: In aggregate, the Domestic Active Core managers returned -0.62% in September, nine basis points behind the Bloomberg Aggregate Index.

Core Plus: Domestic Fixed Core Plus managers ended the month with a return of -0.40%, leading the Bloomberg Aggregate Index by 13 basis points.

Bank Loans: The Bank Loans portfolio, managed by Barings, returned 0.60% for the month, leading the custom benchmark by 10 basis points.

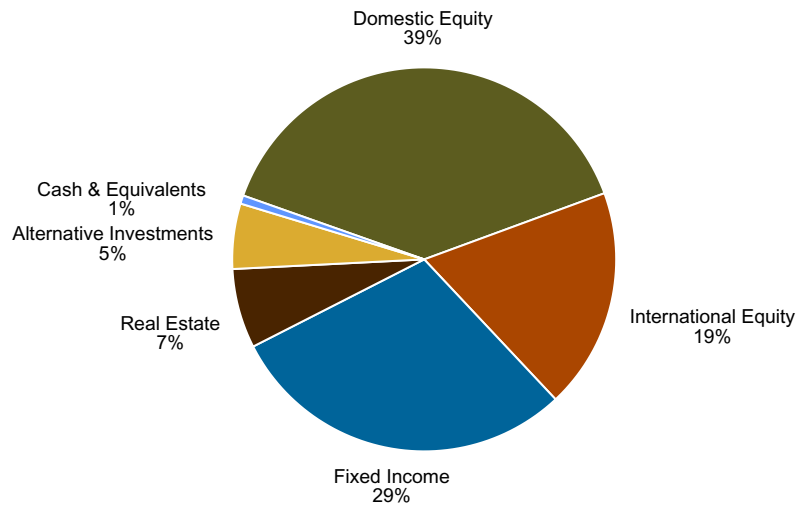
Emerging Markets: The Emerging Markets Debt component, managed by Standish, returned 0.51% in September, two basis points ahead of the custom benchmark.

High Yield: The High Yield allocation, managed by MacKay Shields, returned 0.68% in September, leading the benchmark return of 0.31%.

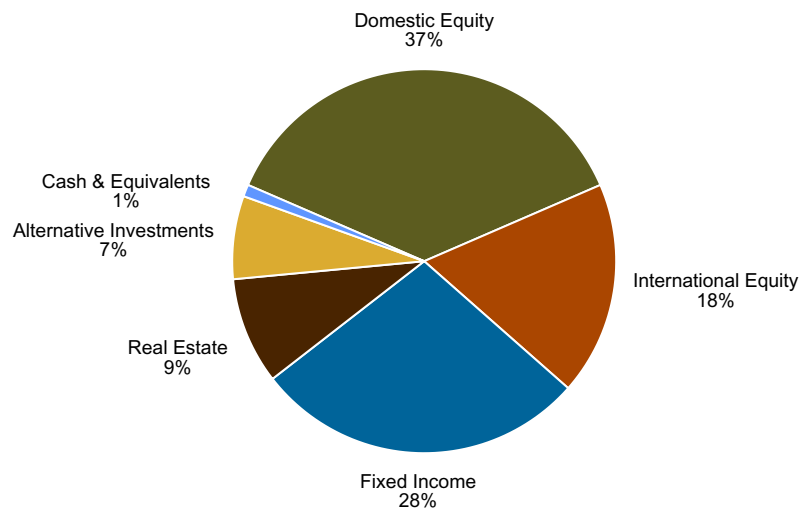
Actual vs Target Asset Allocation

The first chart below shows the Fund's asset allocation as of September 30, 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	\$Millions Actual	Percent Actual	Percent Target	Percent Difference	\$Millions Difference
Domestic Equity	16,654	39.0%	37.0%	2.0%	867
International Equity	7,934	18.6%	18.0%	0.6%	254
Fixed Income	12,580	29.5%	28.0%	1.5%	633
Real Estate	2,878	6.7%	9.0%	(2.3%)	(962)
Alternative Investments	2,334	5.5%	7.0%	(1.5%)	(653)
Cash & Equivalents	287	0.7%	1.0%	(0.3%)	(140)
Total	42,668	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 September 30, 2019, with the distribution as of August 31, 2019.

Asset Distribution Across Investment Managers

	September 30, 2019		August 31, 2019	
	Market Value	Percent	Market Value	Percent
Domestic Equity*	\$16,654,413,807	39.03%	\$16,496,694,570	39.15%
Large Cap Growth				
NTGI S&P 500 Growth Idx	2,347,912,126	5.50%	2,340,827,638	5.55%
Sands	1,899,806,221	4.45%	1,965,492,763	4.66%
Piedmont Russell 1000 G	1,043,300,770	2.45%	1,043,181,767	2.48%
Large Cap Value				
Dodge & Cox	1,325,514,624	3.11%	1,286,749,109	3.05%
BMO	1,158,391,241	2.71%	1,122,137,820	2.66%
LSV	1,525,607,690	3.58%	1,447,330,861	3.43%
NTGI S&P 500 Value Idx	1,557,660,103	3.65%	1,646,453,110	3.91%
Large Cap Core				
NTGI MarketCap Index	2,455,205,435	5.75%	2,607,512,394	6.19%
Quantitative Factor Strategies				
Quantitative U.S. Equity - SB	200,205,770	0.47%	-	-
Small Cap Growth				
Frontier	549,779,684	1.29%	549,039,046	1.30%
FIAM	167,190,429	0.39%	164,903,989	0.39%
Small Cap Value				
Channing	224,415,465	0.53%	216,961,319	0.51%
Dimensional Small Cap Value	552,839,990	1.30%	520,202,030	1.23%
Inv. Counselors of Maryland	680,774,567	1.60%	641,223,725	1.52%
Micro Cap				
Dimensional Micro Cap	419,553,571	0.98%	403,525,411	0.96%
Public Real Assets				
Brookfield	171,137,397	0.40%	169,777,387	0.40%
Cohen & Steers	375,118,722	0.88%	371,376,202	0.88%
International Equity	\$7,933,893,344	18.59%	\$7,786,544,172	18.48%
International Large Cap Growth				
EARNEST Partners	627,517,107	1.47%	611,169,736	1.45%
William Blair	754,094,122	1.77%	747,678,080	1.77%
International Large Cap Value				
Brandes	597,158,672	1.40%	566,342,883	1.34%
Mondrian	530,808,199	1.24%	510,144,763	1.21%
Lazard	115,339,075	0.27%	112,798,487	0.27%
International Large Cap Core				
Arrowstreet	690,820,493	1.62%	669,151,222	1.59%
Brown	351,962,518	0.82%	349,451,244	0.83%
GlobeFlex	533,378,387	1.25%	568,712,123	1.35%
NTGI MSCI EAFE Index	1,860,725,488	4.36%	1,807,173,348	4.29%
Progress Intl Equity	315,295,304	0.74%	305,050,973	0.72%
International All Cap Developed				
Ativo International	137,997,260	0.32%	136,032,829	0.32%
International Small Cap				
Franklin Templeton	188,344,495	0.44%	184,090,622	0.44%
William Blair	273,978,093	0.64%	269,379,825	0.64%
Emerging Markets	956,474,132	2.24%	949,368,037	2.25%

* 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 September 30, 2019, with the distribution as of August 31, 2019.

Asset Distribution Across Investment Managers

	September 30, 2019		August 31, 2019	
	Market Value	Percent	Market Value	Percent
Total Fixed Income	\$12,579,939,986	29.48%	\$12,646,590,973	30.01%
Domestic Fixed Core				
Brandes Core	366,947,213	0.86%	370,125,139	0.88%
EARNEST Partners	1,008,533,131	2.36%	1,019,952,654	2.42%
Piedmont Investment	1,070,579,524	2.51%	1,080,142,241	2.56%
Garcia Hamilton	1,062,415,563	2.49%	1,068,712,872	2.54%
Domestic Fixed Passive Core				
NTGI Blmbg Agg. Index	1,806,186,515	4.23%	1,816,154,842	4.31%
BlackRock US Debt	1,731,155,694	4.06%	1,740,425,761	4.13%
Domestic Fixed Core Plus				
LM Capital	915,417,555	2.15%	922,258,731	2.19%
Progress Fixed Income	972,497,037	2.28%	976,905,081	2.32%
Taplin, Canida, & Habacht	942,703,197	2.21%	951,500,355	2.26%
Western	1,129,826,467	2.65%	1,133,422,144	2.69%
Bank Loans				
Barings Global Loan Fund	572,585,272	1.34%	569,147,196	1.35%
Emerging Markets Debt				
Standish	216,368,843	0.51%	215,262,940	0.51%
High Yield				
Mackay Shields	784,396,985	1.84%	782,254,776	1.86%
FIAM High Yield	326,988	0.00%	326,237	0.00%

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2019, with the distribution as of August 31, 2019.

Asset Distribution Across Investment Managers

	September 30, 2019		August 31, 2019	
	Market Value	Percent	Market Value	Percent
Real Estate	\$2,878,340,782	6.75%	\$2,835,006,582	6.73%
Real Estate Core				
TA Buckhead Ind. Prop.	582,181,439	1.36%	589,267,622	1.40%
Barings Core Property Fund	1,070	0.00%	1,070	0.00%
Barings European Core Property	120,073,619	0.28%	121,290,647	0.29%
Blackstone Property Partners Europe	123,681,138	0.29%	124,934,737	0.30%
INVESCO Core RE	209,185,978	0.49%	209,185,978	0.50%
INVESCO Euro real estate	54,220,935	0.13%	55,281,218	0.13%
AEW Core Property Trust	237,519,445	0.56%	237,519,444	0.56%
CBRE US Core Property Trust	197,435,087	0.46%	197,435,087	0.47%
Real Estate Non-Core				
Artemis MWBE Spruce	246,078,082	0.58%	183,911,829	0.44%
Franklin Templeton EMREFF	13,998,139	0.03%	14,295,903	0.03%
Security Capital	58,006,135	0.14%	56,699,440	0.13%
Dune II	24,452,942	0.06%	24,452,942	0.06%
Non-Core Real Estate Funds*	869,329,739	2.04%	882,807,661	2.09%
Non-Core Intl Real Estate Funds**	141,458,231	0.33%	135,832,821	0.32%
Rockwood Fund VIII	188,953	0.00%	188,953	0.00%
Almanac ARS V	529,848	0.00%	1,901,229	0.00%
TA Fund IX	1	0.00%	1	0.00%
Alternative Investments	\$2,334,098,601	5.47%	\$2,299,619,574	5.46%
Absolute Return				
Aurora	615,766	0.00%	621,416	0.00%
Private Equity				
Abbott	335,260,146	0.79%	338,971,133	0.80%
Muller & Monroe MPEFF	5,139,236	0.01%	5,077,803	0.01%
Pantheon	258,175,653	0.61%	262,724,753	0.62%
Private Equity Fund - Domestic	1,097,286,582	2.57%	1,079,529,411	2.56%
Private Equity Fund - International	299,190,016	0.70%	291,039,483	0.69%
Oakbrook Opportunities Fund	3,099,607	0.01%	3,099,607	0.01%
Agriculture				
Premiere Partners IV	216,995,812	0.51%	204,395,599	0.49%
Timberland				
Forest Investment Assoc.	73,516,408	0.17%	73,816,408	0.18%
Unlisted Infrastructure				
Unlisted Infrastructure Funds	44,819,374	0.11%	40,343,961	0.10%
Cash & Equivalents	\$287,013,845	0.67%	\$75,314,062	0.18%
Total Fund	\$42,667,700,365	100.0%	\$42,139,769,934	100.0%

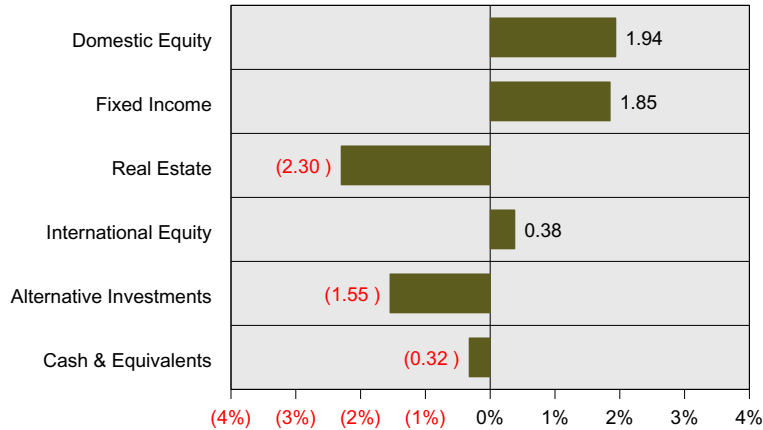
* Non-Core Real Estate Funds funded since September 2011.

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

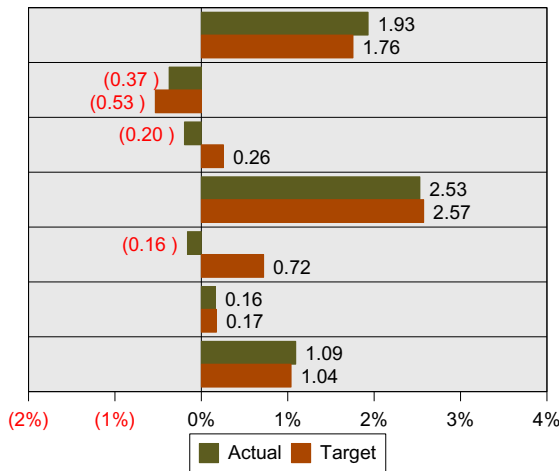
Monthly Total Fund Relative Attribution - September 30, 2019

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.

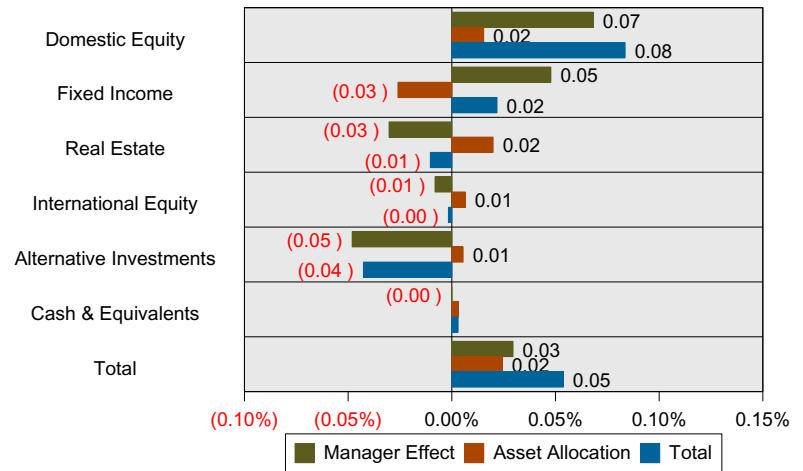
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Month ended September 30, 2019

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	39%	37%	1.93%	1.76%	0.07%	0.02%	0.08%
Fixed Income	30%	28%	(0.37%)	(0.53%)	0.05%	(0.03%)	0.02%
Real Estate	7%	9%	(0.20%)	0.26%	(0.03%)	0.02%	(0.01%)
International Equity	18%	18%	2.53%	2.57%	(0.01%)	0.01%	(0.00%)
Alternative Investments	5%	7%	(0.16%)	0.72%	(0.05%)	0.01%	(0.04%)
Cash & Equivalents	1%	1%	0.16%	0.17%	(0.00%)	0.00%	0.00%
Total			1.09%	1.04%	+ 0.03%	+ 0.02%	0.05%

* 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.

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 September 30, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Domestic Equity	1.93%	0.17%	18.48%	0.20%
Blended Benchmark**	1.76%	1.16%	20.09%	2.92%
Domestic Equity - Net	1.93%	0.12%	18.31%	0.01%
International Equity	2.53%	(1.31%)	13.09%	(0.92%)
MSCI ACWI x US (Net)	2.57%	(1.80%)	11.56%	(1.23%)
International Equity - Net	2.53%	(1.39%)	12.84%	(1.22%)
Fixed Income	(0.37%)	2.10%	8.89%	9.74%
Blmbg Aggregate Index	(0.53%)	2.27%	8.52%	10.30%
Fixed Income - Net	(0.37%)	2.08%	8.80%	9.61%
Real Estate	(0.20%)	1.64%	6.74%	9.30%
Blended Benchmark***	0.26%	0.77%	2.76%	4.33%
Real Estate - Net	(0.20%)	1.62%	6.71%	9.27%
Alternative Investments	(0.16%)	2.94%	6.74%	13.84%
Alternatives Custom Benchmark****	0.72%	2.18%	6.68%	9.00%
Alternative Investments - Net	(0.16%)	2.94%	6.69%	13.76%
Private Equity	(0.19%)	3.36%	8.12%	16.24%
Alternatives Custom Benchmark****	0.72%	2.18%	6.68%	9.00%
Agriculture	(0.01%)	(0.00%)	(2.36%)	1.79%
Blended Benchmark***	0.26%	0.77%	2.76%	4.33%
Timberland	0.00%	0.02%	0.45%	(0.16%)
Blended Benchmark***	0.26%	0.77%	2.76%	4.33%
Unlisted Infrastructure	0.00%	3.50%	6.81%	8.00%
Alternatives Custom Benchmark****	0.72%	2.18%	6.68%	9.00%
Total Fund	1.09%	0.70%	13.19%	3.51%
Total Fund - Net	1.09%	0.66%	13.05%	3.34%
Total Fund Benchmark	1.04%	1.00%	12.73%	5.16%

* 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 September 30, 2019

	Last 36 Months	Last 60 Months	Last 84 Months	Last 120 Months	Since Inception
Domestic Equity	12.05%	9.72%	12.59%	12.76%	11.49% ^(1/82)
Blended Benchmark**	12.83%	10.44%	12.97%	13.11%	11.35% ^(1/82)
Domestic Equity - Net	11.83%	9.48%	12.33%	12.50%	8.34% ^(1/05)
International Equity	6.95%	4.06%	6.64%	6.09%	7.64% ^(9/86)
MSCI ACWI x US (Net)	6.33%	2.90%	5.01%	4.46%	-
International Equity - Net	6.60%	3.72%	6.29%	5.76%	5.33% ^(1/05)
Fixed Income	3.66%	3.92%	3.50%	4.87%	8.24% ^(1/82)
Blmbg Aggregate Index	2.92%	3.38%	2.72%	3.75%	7.71% ^(1/82)
Fixed Income - Net	3.52%	3.77%	3.35%	4.72%	4.85% ^(1/05)
Real Estate - Net	9.33%	10.07%	10.36%	9.54%	7.45% ^(1/05)
Blended Benchmark***	6.23%	8.29%	9.35%	10.11%	7.47% ^(1/05)
Alternative Investments	13.14%	10.33%	10.52%	9.57%	10.86% ^(2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.22%	12.68% ^(2/86)
Alternative Investments - Net	12.98%	10.07%	10.24%	9.29%	8.72% ^(1/05)
Private Equity	16.27%	12.83%	12.96%	12.69%	13.07% ^(2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.22%	12.68% ^(2/86)
Agriculture	(1.84%)	5.66%	9.88%	8.40%	7.22% ^(10/97)
Blended Benchmark***	6.23%	8.29%	9.35%	10.11%	7.40% ^(10/97)
Timberland	0.92%	0.83%	3.02%	2.71%	7.39% ^(10/92)
Blended Benchmark***	6.23%	8.29%	9.35%	10.11%	7.44% ^(10/92)
Unlisted Infrastructure	-	-	-	-	10.09% ^(4/18)
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.22%	9.00% ^(4/18)
Total Fund	8.53%	6.93%	8.57%	8.81%	9.80% ^(1/82)
Total Fund - Net	8.32%	6.71%	8.34%	8.58%	7.07% ^(1/05)
Total Fund Benchmark	8.03%	6.92%	8.11%	8.44%	6.93% ^(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 September 30, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Large Cap Equity	1.59%	0.24%	18.66%	1.38%
Russell 1000 Index	1.73%	1.42%	20.53%	3.87%
Large Cap Growth	(1.09%)	(1.37%)	21.42%	1.76%
NTGI S&P 500 Growth Idx	0.30%	0.74%	21.08%	3.30%
S&P/Citi 500 Growth Index	0.29%	0.72%	21.06%	3.25%
NTGI S&P 500 Growth Idx - Net	0.30%	0.74%	21.07%	3.29%
Piedmont Russell 1000 G	0.01%	1.48%	23.27%	3.69%
Russell 1000 Growth Index	0.01%	1.49%	23.30%	3.71%
Piedmont Russell 1000 G - Net	0.01%	1.48%	23.25%	3.68%
Sands	(3.34%)	(5.29%)	20.86%	(0.55%)
LCG Blended Benchmark*	0.01%	1.49%	23.30%	3.71%
Russell 1000 Growth Index	0.01%	1.49%	23.30%	3.71%
Sands - Net	(3.34%)	(5.34%)	20.66%	(0.79%)
Large Cap Value	4.10%	1.32%	15.74%	0.49%
Dodge & Cox	3.22%	0.39%	13.19%	(1.91%)
LCV Blended Benchmark**	3.57%	1.36%	17.81%	4.00%
Russell 1000 Value Index	3.57%	1.36%	17.81%	4.00%
Dodge & Cox - Net	3.22%	0.34%	13.02%	(2.12%)
BMO	3.51%	(0.35%)	12.93%	(2.58%)
LCV Blended Benchmark**	3.57%	1.36%	17.81%	4.00%
Russell 1000 Value Index	3.57%	1.36%	17.81%	4.00%
BMO - Net	3.51%	(0.41%)	12.74%	(2.80%)
LSV	5.78%	1.80%	15.78%	(0.17%)
LCV Blended Benchmark**	3.57%	1.36%	17.81%	4.00%
Russell 1000 Value Index	3.57%	1.36%	17.81%	4.00%
LSV - Net	5.78%	1.74%	15.58%	(0.40%)
NTGI S&P 500 Value Idx	3.72%	2.82%	20.02%	5.54%
S&P/Citi 500 Value Index	3.74%	2.83%	20.01%	5.56%
NTGI S&P 500 Value Idx - Net	3.72%	2.82%	20.02%	5.54%
Large Cap Passive Core	1.89%	1.31%	20.29%	3.06%
NTGI MarketCap Idx	1.89%	1.31%	20.29%	3.06%
DJ U.S. Total Stock Market Index	1.73%	1.14%	20.06%	2.82%
NTGI MarketCap Idx - Net	1.89%	1.30%	20.29%	3.05%

* 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.

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 September 30, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Large Cap Equity	12.87%	10.05%	13.07%	11.16% ^(1/82)
Russell 1000 Index	13.19%	10.62%	13.23%	11.56% ^(1/82)
Large Cap Growth	16.49%	12.35%	14.43%	11.86% ^(1/82)
NTGI S&P 500 Growth Idx	15.71%	12.81%	14.73%	7.90% ^(8/01)
S&P/Citi 500 Growth Index	15.73%	12.82%	14.72%	7.87% ^(8/01)
NTGI S&P 500 Growth Idx - Net	15.70%	12.81%	14.72%	9.77% ^(1/05)
Piedmont Russell 1000 G	-	-	-	3.69% ^(10/18)
Russell 1000 Growth Index	16.89%	13.39%	14.94%	3.71% ^(10/18)
Piedmont Russell 1000 G - Net	-	-	-	3.68% ^(10/18)
Sands	17.59%	11.94%	16.94%	11.95% ^(11/03)
LCG Blended Benchmark*	16.89%	13.39%	14.94%	9.85% ^(11/03)
Russell 1000 Growth Index	16.89%	13.39%	14.94%	9.90% ^(11/03)
Sands - Net	17.34%	11.69%	16.67%	10.91% ^(1/05)
Large Cap Value	10.52%	8.11%	12.03%	10.24% ^(10/82)
Dodge & Cox	11.39%	8.40%	12.32%	9.30% ^(9/03)
LCV Blended Benchmark**	9.43%	7.79%	11.46%	8.30% ^(9/03)
Russell 1000 Value Index	9.43%	7.79%	11.46%	8.46% ^(9/03)
Dodge & Cox - Net	11.16%	8.17%	12.08%	7.67% ^(1/05)
BMO	9.65%	7.37%	11.72%	7.86% ^(2/01)
LCV Blended Benchmark**	9.43%	7.79%	11.46%	5.74% ^(2/01)
Russell 1000 Value Index	9.43%	7.79%	11.46%	6.73% ^(2/01)
BMO - Net	9.42%	7.13%	11.47%	7.87% ^(1/05)
LSV	10.31%	8.10%	12.34%	10.74% ^(2/03)
LCV Blended Benchmark**	9.43%	7.79%	11.46%	9.22% ^(2/03)
Russell 1000 Value Index	9.43%	7.79%	11.46%	9.23% ^(2/03)
LSV - Net	10.05%	7.85%	12.06%	8.13% ^(1/05)
NTGI S&P 500 Value Idx	10.69%	8.55%	11.63%	5.92% ^(8/99)
S&P/Citi 500 Value Index	10.61%	8.47%	11.56%	5.89% ^(8/99)
NTGI S&P 500 Value Idx - Net	10.68%	8.54%	11.63%	7.16% ^(1/05)
Large Cap Passive Core	12.92%	10.52%	13.17%	11.10% ^(1/85)
NTGI MarketCap Idx	12.92%	10.52%	13.18%	10.88% ^(2/85)
DJ U.S. Total Stock Market Index	12.78%	10.39%	13.09%	10.82% ^(2/85)
NTGI MarketCap Idx - Net	12.91%	10.51%	13.17%	8.61% ^(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 September 30, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Small Cap Equity	3.95%	(0.86%)	16.26%	(7.09%)
Russell 2000 Index	2.08%	(2.40%)	14.18%	(8.89%)
Small Cap Growth	0.42%	(1.65%)	20.03%	(3.30%)
Frontier	0.13%	(1.41%)	19.44%	(4.49%)
Russell 2000 Growth Index	(0.82%)	(4.17%)	15.34%	(9.63%)
Frontier - Net	0.13%	(1.52%)	18.65%	(5.25%)
FIAM	1.39%	(2.45%)	20.64%	(2.56%)
Russell 2000 Growth Index	(0.82%)	(4.17%)	15.34%	(9.63%)
FIAM - Net	1.39%	(2.67%)	20.18%	(2.94%)
Small Cap Value	5.78%	(0.26%)	14.85%	(8.63%)
Channing	3.44%	(1.83%)	16.63%	(8.81%)
Russell 2000 Value Index	5.13%	(0.57%)	12.82%	(8.24%)
Channing - Net	3.44%	(1.96%)	16.20%	(9.28%)
DFA Small Cap Value	6.27%	(1.10%)	9.33%	(12.57%)
Russell 2000 Value Index	5.13%	(0.57%)	12.82%	(8.24%)
DFA Small Cap Value - Net	6.27%	(1.23%)	8.94%	(13.01%)
Inv. Counselors of Maryland	6.17%	0.97%	19.13%	(5.11%)
Russell 2000 Value Index	5.13%	(0.57%)	12.82%	(8.24%)
Inv. Couns. of Maryland - Net	6.17%	0.73%	18.62%	(5.61%)
Micro Cap	3.97%	(1.56%)	11.28%	(11.35%)
DFA Micro Cap	3.97%	(1.56%)	11.28%	(11.08%)
Russell 2000 Value Index	5.13%	(0.57%)	12.82%	(8.24%)
Russell 2000 Index	2.08%	(2.40%)	14.18%	(8.89%)
DFA Micro Cap - Net	3.97%	(1.68%)	10.88%	(11.52%)
Public Real Assets	0.94%	3.21%	23.56%	17.49%
Public Real Assets Benchmark (1)	1.63%	2.16%	21.07%	16.47%
Brookfield Public Global Inf	0.80%	2.23%	23.59%	14.19%
Dow Jones Global Infra Comp Idx	1.01%	1.68%	22.23%	13.16%
Brookfield Public Global Inf - Net	0.80%	2.10%	23.12%	13.60%
Cohen & Steers Public Global Inf	1.01%	3.66%	23.54%	19.07%
FTSE GI Core Infr 50/50 N	1.84%	2.32%	20.68%	17.55%
Cohen & St Public Global Inf - Net	1.01%	3.55%	23.16%	18.56%

(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 September 30, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Small Cap Equity	8.54%	8.02%	11.78%	11.91% ^(7/88)
Russell 2000 Index	8.23%	8.19%	11.19%	9.24% ^(7/88)
Small Cap Growth	10.76%	9.70%	12.53%	12.75% ^(7/88)
Frontier	15.25%	11.03%	12.94%	13.04% ^(8/88)
Russell 2000 Growth Index	9.79%	9.08%	12.25%	8.04% ^(8/88)
Frontier - Net	14.54%	10.36%	12.22%	9.57% ^(1/05)
FIAM	8.99%	9.80%	12.87%	13.27% ^(8/88)
Russell 2000 Growth Index	9.79%	9.08%	12.25%	8.04% ^(8/88)
FIAM - Net	8.52%	9.25%	12.28%	10.33% ^(1/05)
Small Cap Value	7.64%	7.71%	11.35%	11.55% ^(9/89)
Channing	6.53%	6.99%	-	9.65% ^(7/11)
Russell 2000 Value Index	6.54%	7.17%	10.06%	8.42% ^(7/11)
Channing - Net	6.00%	6.48%	-	9.06% ^(7/11)
DFA Small Cap Value	4.95%	5.68%	11.19%	11.53% ^(2/96)
Russell 2000 Value Index	6.54%	7.17%	10.06%	9.27% ^(2/96)
DFA Small Cap Value - Net	4.40%	5.16%	10.65%	7.07% ^(1/05)
Inv. Counselors of Maryland	10.60%	10.55%	12.19%	11.35% ^(5/99)
Russell 2000 Value Index	6.54%	7.17%	10.06%	8.77% ^(5/99)
Inv. Couns. of Maryland - Net	10.02%	9.98%	11.66%	8.46% ^(1/05)
Micro Cap	5.44%	5.06%	10.95%	11.27% ^(7/84)
DFA Micro Cap	8.30%	8.50%	12.34%	10.91% ^(8/87)
Russell 2000 Value Index	6.54%	7.17%	10.06%	9.64% ^(8/87)
Russell 2000 Index	8.23%	8.19%	11.19%	8.65% ^(8/87)
DFA Micro Cap - Net	7.76%	7.96%	11.79%	7.49% ^(1/05)
Public Real Assets	-	-	-	9.46% ^(8/17)
Public Real Assets Benchmark (1)	-	-	-	7.26% ^(8/17)
Brookfield Public Global Inf	-	-	-	6.42% ^(8/17)
Dow Jones Global Infra Comp Idx	6.39%	3.83%	10.78%	5.11% ^(8/17)
Brookfield Public Global Inf - Net	-	-	-	5.91% ^(8/17)
Cohen & Steers Public Global Inf	-	-	-	10.95% ^(8/17)
FTSE GI Core Infr 50/50 N	9.73%	7.48%	-	7.96% ^(8/17)
Cohen & St Public Global Inf - Net	-	-	-	10.52% ^(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 September 30, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Intl Large Cap Equity	2.87%	(1.34%)	12.38%	(1.78%)
MSCI ACWI ex-US Index	2.57%	(1.80%)	11.56%	(1.23%)
Intl Large Cap Growth	1.68%	(1.55%)	15.42%	(1.72%)
EARNEST Partners	2.67%	(2.02%)	11.64%	(3.23%)
MSCI ACWI ex-US Index	2.57%	(1.80%)	11.56%	(1.23%)
MSCI ACWI ex-US Growth	1.22%	(0.79%)	16.61%	2.43%
EARNEST Partners - Net	2.67%	(2.02%)	11.58%	(3.34%)
William Blair	0.86%	(1.16%)	18.76%	(0.27%)
MSCI ACWI ex-US Index	2.57%	(1.80%)	11.56%	(1.23%)
MSCI ACWI ex-US Growth	1.22%	(0.79%)	16.61%	2.43%
William Blair - Net	0.86%	(1.24%)	18.45%	(0.63%)
Intl Large Cap Value	4.54%	(1.06%)	8.58%	(2.03%)
Brandes	5.44%	(0.04%)	6.67%	(5.13%)
MSCI ACWI ex-US Index	2.57%	(1.80%)	11.56%	(1.23%)
MSCI ACWI ex-US Value	4.18%	(2.66%)	7.54%	(3.89%)
Brandes - Net	5.44%	(0.09%)	6.51%	(5.33%)
Mondrian	4.05%	(2.07%)	9.64%	0.80%
MSCI ACWI ex-US Index	2.57%	(1.80%)	11.56%	(1.23%)
MSCI ACWI ex-US Value	4.18%	(2.66%)	7.54%	(3.89%)
Mondrian - Net	4.05%	(2.17%)	9.26%	0.32%
Lazard	2.25%	(1.61%)	14.10%	1.99%
MSCI ACWI ex-US Index	2.57%	(1.80%)	11.56%	(1.23%)
MSCI ACWI ex-US Value	4.18%	(2.66%)	7.54%	(3.89%)
Lazard - Net	2.25%	(1.67%)	13.89%	1.74%

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 September 30, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Intl Large Cap Equity	6.81%	3.97%	6.06%	7.63% ^(9/86)
MSCI ACWI ex-US Index	6.33%	2.90%	4.46%	-
Intl Large Cap Growth	7.09%	3.88%	6.48%	8.11% ^(9/02)
EARNEST Partners	6.69%	2.67%	5.86%	8.66% ^(10/04)
MSCI ACWI ex-US Index	6.33%	2.90%	4.46%	5.66% ^(10/04)
MSCI ACWI ex-US Growth	7.77%	5.25%	6.18%	6.75% ^(10/04)
EARNEST Partners - Net	6.51%	2.48%	5.51%	7.40% ^(1/05)
William Blair	7.48%	4.99%	7.76%	9.39% ^(10/02)
MSCI ACWI ex-US Index	6.33%	2.90%	4.46%	7.83% ^(10/02)
MSCI ACWI ex-US Growth	7.77%	5.25%	6.18%	8.35% ^(10/02)
William Blair - Net	7.10%	4.61%	7.37%	6.12% ^(1/05)
Intl Large Cap Value	5.46%	2.99%	4.44%	8.49% ^(10/95)
Brandes	5.32%	2.84%	4.64%	8.64% ^(1/96)
MSCI ACWI ex-US Index	6.33%	2.90%	4.46%	5.00% ^(1/96)
MSCI ACWI ex-US Value	5.87%	1.48%	3.64%	-
Brandes - Net	5.06%	2.60%	4.40%	4.04% ^(1/05)
Mondrian	5.52%	3.08%	-	5.04% ^(4/12)
MSCI ACWI ex-US Index	6.33%	2.90%	4.46%	4.56% ^(4/12)
MSCI ACWI ex-US Value	5.87%	1.48%	3.64%	3.90% ^(4/12)
Mondrian - Net	5.00%	2.57%	-	4.53% ^(4/12)
Lazard	6.26%	3.63%	-	6.12% ^(4/12)
MSCI ACWI ex-US Index	6.33%	2.90%	4.46%	4.56% ^(4/12)
MSCI ACWI ex-US Value	5.87%	1.48%	3.64%	3.90% ^(4/12)
Lazard - Net	6.00%	3.21%	-	5.59% ^(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 September 30, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Intl Large Cap Active Core	2.59%	(1.70%)	12.29%	(2.43%)
Arrowstreet	3.24%	(1.63%)	12.23%	(1.61%)
MSCI ACWI ex-US Index	2.57%	(1.80%)	11.56%	(1.23%)
Arrowstreet - Net	3.24%	(1.74%)	11.84%	(2.07%)
Brown	0.72%	(1.44%)	14.92%	(0.86%)
MSCI ACWI ex-US Index	2.57%	(1.80%)	11.56%	(1.23%)
Brown - Net	0.72%	(1.50%)	14.71%	(1.11%)
GlobeFlex	2.68%	(2.69%)	9.60%	(5.87%)
MSCI ACWI ex-US Index	2.57%	(1.80%)	11.56%	(1.23%)
GlobeFlex - Net	2.68%	(2.80%)	9.26%	(6.26%)
Progress Intl Equity Custom Benchmark	3.36%	(0.09%)	14.94%	0.95%
MSCI ACWI ex-US Index	2.57%	(1.80%)	11.56%	(1.23%)
Progress Intl Equity - Net	3.36%	(0.22%)	14.52%	0.44%
Intl Large Cap Pass. Core	2.96%	(0.97%)	13.12%	(0.91%)
NTGI MSCI EAFE Idx	2.96%	(0.97%)	13.12%	(0.91%)
MSCI EAFE Index	2.87%	(1.07%)	12.80%	(1.34%)
NTGI EAFE Idx - Net	2.96%	(0.97%)	13.11%	(0.92%)
Intl All Cap Developed	1.44%	(1.09%)	6.81%	-
Ativo International	1.44%	(1.09%)	-	-
MSCI EAFE + Canada	2.81%	(0.93%)	13.57%	(0.95%)
Ativo International - Net	1.44%	(1.22%)	-	-
International Small Cap	1.95%	(1.44%)	16.06%	(3.65%)
Franklin Templeton	2.31%	(1.77%)	13.06%	(3.39%)
ACWI Small Cap ex US	2.43%	(1.19%)	10.28%	(5.63%)
Franklin Templeton - Net	2.31%	(1.95%)	12.45%	(4.12%)
William Blair	1.71%	(1.22%)	18.43%	(3.77%)
ACWI Small Cap ex US	2.43%	(1.19%)	10.28%	(5.63%)
Intl SC Blended Benchmark	2.43%	(1.19%)	10.28%	(5.63%)
William Blair - Net	1.71%	(1.40%)	17.77%	(4.52%)
Emerging Markets	0.75%	(1.12%)	17.31%	8.60%
Genesis	0.75%	(1.12%)	17.31%	8.60%
MSCI Emerging Markets Index	1.94%	(4.11%)	6.23%	(1.62%)
Genesis - Net	0.75%	(1.23%)	16.91%	8.06%

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 September 30, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception	
Intl Large Cap Active Core	7.52%	5.18%	7.50%	4.58%	(2/08)
Arrowstreet	8.31%	5.54%	7.73%	4.81%	(3/08)
MSCI ACWI ex-US Index	6.33%	2.90%	4.46%	1.85%	(3/08)
Arrowstreet - Net	7.81%	5.05%	7.22%	4.32%	(3/08)
Brown	7.12%	5.27%	7.63%	7.73%	(10/04)
MSCI ACWI ex-US Index	6.33%	2.90%	4.46%	5.66%	(10/04)
Brown - Net	6.30%	4.32%	6.87%	6.24%	(1/05)
GlobeFlex	6.28%	4.48%	7.01%	4.53%	(3/06)
MSCI ACWI ex-US Index	6.33%	2.90%	4.46%	3.48%	(3/06)
GlobeFlex - Net	5.88%	4.07%	6.59%	4.08%	(3/06)
Progress Intl Equity	8.59%	5.60%	-	4.41%	(7/14)
Custom Benchmark	6.95%	3.98%	-	2.74%	(7/14)
MSCI ACWI ex-US Index	6.33%	2.90%	4.46%	1.71%	(7/14)
Progress Intl Equity - Net	8.06%	5.10%	-	3.94%	(7/14)
Intl Large Cap Pass. Core	6.88%	3.66%	5.31%	3.34%	(1/00)
NTGI MSCI EAFE Idx	6.88%	3.66%	5.31%	3.69%	(2/00)
MSCI EAFE Index	6.48%	3.27%	4.90%	3.31%	(2/00)
NTGI EAFE Idx - Net	6.87%	3.65%	5.31%	4.75%	(1/05)
Intl All Cap Developed	-	-	-	6.95%	(2/19)
Ativo International	-	-	-	6.95%	(2/19)
MSCI EAFE + Canada	6.49%	3.06%	4.78%	6.00%	(2/19)
Ativo International - Net	-	-	-	6.73%	(2/19)
International Small Cap	5.37%	5.05%	7.03%	4.45%	(12/05)
Franklin Templeton	6.70%	4.91%	-	5.77%	(8/11)
ACWI Small Cap ex US	4.64%	3.98%	6.13%	4.06%	(8/11)
Franklin Templeton - Net	5.93%	4.15%	-	5.02%	(8/11)
William Blair	4.34%	5.21%	-	8.47%	(9/10)
ACWI Small Cap ex US	4.64%	3.98%	6.13%	6.36%	(9/10)
Intl SC Blended Benchmark	4.64%	3.98%	5.85%	6.72%	(9/10)
William Blair - Net	3.54%	4.40%	-	7.64%	(9/10)
Emerging Markets	9.06%	4.18%	6.56%	8.93%	(2/92)
Genesis	9.06%	4.18%	6.56%	10.93%	(5/04)
MSCI Emerging Markets Index	6.38%	2.71%	3.73%	8.40%	(5/04)
Genesis - Net	8.44%	3.58%	5.95%	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 September 30, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Dom. Fixed Active Core	(0.62%)	2.30%	8.29%	9.99%
Brandes Core*	(0.60%)	1.86%	7.67%	8.87%
Blmbg Aggregate Index	(0.53%)	2.27%	8.52%	10.30%
Brandes Core - Net	(0.60%)	1.86%	7.67%	8.87%
EARNEST Partners	(0.78%)	2.24%	8.44%	10.66%
Blmbg Aggregate Index	(0.53%)	2.27%	8.52%	10.30%
EARNEST Partners - Net	(0.78%)	2.21%	8.34%	10.52%
Piedmont	(0.58%)	2.30%	8.71%	10.20%
Blmbg Aggregate Index	(0.53%)	2.27%	8.52%	10.30%
Piedmont - Net	(0.58%)	2.27%	8.60%	10.06%
Garcia Hamilton	(0.52%)	2.57%	7.96%	9.46%
Blmbg Aggregate Index	(0.53%)	2.27%	8.52%	10.30%
Garcia Hamilton	(0.52%)	2.55%	7.90%	9.37%
Dom. Fixed Passive Core	(0.54%)	2.28%	8.60%	10.37%
BlackRock US Debt	(0.53%)	2.28%	8.60%	10.37%
Blmbg Aggregate Index	(0.53%)	2.27%	8.52%	10.30%
BlackRock US Debt - Net	(0.53%)	2.28%	8.59%	10.37%
NTGI Blmbg Agg. Index	(0.55%)	2.28%	8.59%	10.37%
Blmbg Aggregate Index	(0.53%)	2.27%	8.52%	10.30%
NTGI Blmbg Agg. Index - Net	(0.55%)	2.28%	8.59%	10.36%

* 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 September 30, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Dom. Fixed Active Core	3.29%	3.72%	4.43%	4.65% ^(4/01)
Brandes Core *	2.60%	-	-	3.03% ^(3/16)
Blmbg Aggregate Index	2.92%	3.38%	3.75%	3.47% ^(3/16)
Brandes Core - Net	2.60%	-	-	3.03% ^(3/16)
EARNEST Partners	3.35%	3.82%	4.42%	4.69% ^(5/05)
Blmbg Aggregate Index	2.92%	3.38%	3.75%	4.25% ^(5/05)
EARNEST Partners - Net	3.21%	3.64%	4.23%	4.50% ^(5/05)
Piedmont	3.24%	3.62%	4.42%	4.46% ^(6/05)
Blmbg Aggregate Index	2.92%	3.38%	3.75%	4.20% ^(6/05)
Piedmont - Net	3.09%	3.47%	4.25%	4.27% ^(6/05)
Garcia Hamilton	3.37%	-	-	3.70% ^(6/15)
Blmbg Aggregate Index	2.92%	3.38%	3.75%	3.24% ^(6/15)
Garcia Hamilton	3.27%	-	-	3.61% ^(6/15)
Dom. Fixed Passive Core	2.98%	3.44%	3.82%	5.97% ^(1/90)
BlackRock US Debt	3.02%	3.48%	-	3.60% ^(10/13)
Blmbg Aggregate Index	2.92%	3.38%	3.75%	3.47% ^(10/13)
BlackRock US Debt - Net	3.02%	3.47%	-	3.60% ^(10/13)
NTGI Blmbg Agg. Index	2.94%	3.41%	3.81%	6.03% ^(2/90)
Blmbg Aggregate Index	2.92%	3.38%	3.75%	6.02% ^(2/90)
NTGI Blmbg Agg. Index - Net	2.93%	3.40%	3.80%	4.19% ^(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 September 30, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Domestic Fixed Core Plus	(0.40%)	2.20%	9.43%	10.29%
LM Capital	(0.53%)	2.01%	9.21%	9.52%
Blmbg Aggregate Index	(0.53%)	2.27%	8.52%	10.30%
LM Capital - Net	(0.53%)	1.97%	9.08%	9.34%
Progress Fixed Income	(0.45%)	2.29%	9.12%	10.10%
Blmbg Aggregate Index	(0.53%)	2.27%	8.52%	10.30%
Progress Fixed Inc. - Net	(0.45%)	2.21%	8.86%	9.74%
BMO-TCH	(0.61%)	1.80%	8.63%	9.07%
Blmbg Aggregate Index	(0.53%)	2.27%	8.52%	10.30%
BMO-TCH. - Net	(0.61%)	1.77%	8.52%	8.93%
Western	(0.05%)	2.61%	10.55%	12.16%
Blmbg Aggregate Index	(0.53%)	2.27%	8.52%	10.30%
Western - Net	(0.05%)	2.61%	10.51%	12.08%
Bank Loans	0.60%	1.25%	6.30%	3.08%
Barings Global Loan Fund	0.60%	1.25%	6.30%	3.08%
Custom Benchmark	0.50%	1.15%	6.48%	3.66%
Barings Global Loan Fund - Net	0.60%	1.22%	6.06%	2.75%
Emerging Markets	0.51%	(0.23%)	10.16%	10.67%
Standish	0.51%	(0.23%)	10.16%	10.67%
Custom Benchmark	0.49%	0.43%	9.71%	10.66%
Standish - Net	0.51%	(0.32%)	9.88%	10.29%
High Yield	0.68%	1.24%	11.99%	8.25%
MacKay Shields	0.68%	1.24%	11.99%	8.26%
ML High Yield Cash Pay Index	0.31%	1.23%	11.51%	6.34%
MacKay Shields - Net	0.68%	1.24%	11.82%	8.00%

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 September 30, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Domestic Fixed Core Plus	3.64%	3.99%	4.98%	8.09% ^(1/82)
LM Capital	3.11%	3.71%	4.53%	4.93% ^(5/05)
Blmbg Aggregate Index	2.92%	3.38%	3.75%	4.25% ^(5/05)
LM Capital - Net	2.94%	3.54%	4.36%	4.77% ^(5/05)
Progress Fixed Income	3.70%	3.90%	4.59%	5.03% ^(1/06)
Blmbg Aggregate Index	2.92%	3.38%	3.75%	4.34% ^(1/06)
Progress Fixed Inc. - Net	3.36%	3.56%	4.23%	4.69% ^(1/06)
BMO-TCH	3.91%	4.07%	5.11%	5.08% ^(5/05)
Blmbg Aggregate Index	2.92%	3.38%	3.75%	4.25% ^(5/05)
BMO-TCH - Net	3.77%	3.94%	4.97%	4.95% ^(5/05)
Western	4.29%	4.61%	5.68%	5.57% ^(11/01)
Blmbg Aggregate Index	2.92%	3.38%	3.75%	4.38% ^(11/01)
Western - Net	4.17%	4.48%	5.54%	5.05% ^(1/05)
Bank Loans	5.11%	4.73%	-	4.55% ^(8/14)
Barings Global Loan Fund	5.11%	4.73%	-	4.55% ^(8/14)
Custom Benchmark	4.90%	4.34%	-	4.16% ^(8/14)
Barings Global Loan Fund - Net	4.62%	4.20%	-	4.01% ^(8/14)
Emerging Markets	4.24%	2.38%	-	2.86% ^(8/14)
Standish	4.24%	2.38%	-	2.86% ^(8/14)
Custom Benchmark	3.91%	2.95%	4.50%	2.30% ^(8/14)
Standish - Net	3.88%	2.03%	-	2.52% ^(8/14)
High Yield	6.62%	6.28%	8.28%	9.55% ^(4/86)
MacKay Shields	6.72%	6.48%	8.27%	8.85% ^(11/00)
ML High Yield Cash Pay Index	6.06%	5.36%	7.82%	7.57% ^(11/00)
MacKay Shields - Net	6.39%	6.13%	7.90%	6.95% ^(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	11.08	2.53	04/30/2004
William Blair Int'l SC	8.15	2.11	08/31/2010
William Blair	7.20	1.57	09/30/2002
Inv Counselors of MD	6.31	2.57	04/30/1999
Pyramis SCG	5.30	5.24	07/31/1988

Five Worst Performing Portfolio's vs. Benchmarks

Manager	Year-to-Date Underperformance	Since Inception Underperformance	
	(in % points)	(in % points)	
BMO	-4.89	2.12	01/31/2001
Brandes	-4.89	3.64	12/31/1995
Dodge & Cox	-4.62	1.00	08/31/2003
DFA SCV	-3.48	2.26	01/31/1996
Sands	-2.44	2.10	10/31/2003

Five Highest Returning Portfolios

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
NTGI S&P500 Gr	21.08	7.90	07/31/2001
Sands	20.86	11.95	10/31/2003
Pyramis SCG	20.64	13.27	07/31/1988
NTGI US MarketCap	20.29	10.88	01/31/1985
Frontier	19.44	13.04	07/31/1988

Five Lowest Returning Portfolios

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
Brandes	6.67	8.64	12/31/1995
Earnest FI	8.44	4.69	04/30/2005
NTGI BC Agg	8.59	6.03	01/31/1990
Blackrock US Debt	8.60	3.56	09/01/2013
Taplin, Canida, Habacht	8.63	5.05	04/30/2005

Returns are shown gross of investment management fees.

Excludes Real Estate and Alternative Investments portfolios.