

October 31, 2018



**Illinois Municipal  
Retirement Fund  
Monthly Performance Report**

**Investment Measurement Service  
Monthly Review**

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## Market Environment

### As of October 31, 2018

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell:3000 Index	(7.36)	2.43	6.60	11.27	10.81	13.35
S&P:500	(6.84)	3.01	7.35	11.52	11.34	13.24
Russell:2000 Index	(10.86)	(0.60)	1.85	10.68	8.01	12.44
MSCI:ACWI ex US	(8.13)	(10.97)	(8.24)	4.37	1.63	6.92
MSCI:EM	(8.71)	(15.72)	(12.52)	6.52	0.78	7.84
Blmbg:Aggregate	(0.79)	(2.38)	(2.05)	1.04	1.83	3.94
NCREIF:Total Index	0.55	5.86	7.12	7.61	9.51	6.78
Blmbg:Commodity Price Idx	(2.36)	(5.65)	(3.48)	(1.64)	(7.85)	(4.51)

Equity volatility resurfaced in October, with most major markets trading lower. In the U.S., equity market turbulence overshadowed positive economic data. Unemployment figures continued to fall and corporate earnings climbed. However, higher interest rates and lower guidance on forward-looking corporate profits were enough to rattle investors. Major indices in the U.S. experienced negative performance, with the tech sector and small capitalization stocks leading the descent. Paralleling U.S. trends, global equity markets also recorded negative returns. Emerging markets had another difficult month as the effects of global volatility were exacerbated by higher rates in the U.S., a stronger dollar, and continued trade tensions. Brazil was a notable exception, as equities traded higher following the Presidential election of market-friendly Jair Bolsonaro. In the Eurozone, GDP growth declined to 1.7% year-over-year in the third quarter, and purchasing managers' indices (PMI) data also disappointed. Political tensions also remained an issue in the region, with Moody's cutting the Italian government's debt rating to Baa3 in October (the lowest investment-grade status before entering "junk" territory) after the European Commission rejected Italy's deficit-widening budget proposal.

Nonfarm payroll growth in the U.S. exceeded expectations, with the economy adding 250,000 jobs in October. Manufacturing, professional and business services, and construction all added 30,000 or more jobs during the period. Hourly earnings grew 3.1% year-over-year, an increase of 30 basis points from September. However, the month-over-month growth rate lowered slightly to 0.2% from 0.3% last month. Unemployment remained unchanged from September at 3.7%, but the participation rate improved 20 basis points to 62.9%.

September's inflation figures continued to underwhelm. Year-over-year growth in headline CPI came in below consensus at 2.3%. Core CPI met the low end of the consensus range with a 2.2% year-over-year change. Transportation weighed on the core figure in September with new and used vehicle prices falling. Energy held down headline CPI as gasoline and electricity prices declined for the month.

The advance estimate of third quarter GDP came in at 3.5%, slightly exceeding Econoday's consensus estimate of 3.3%. Much of the growth was driven by consumer spending, which increased by 4%. Replenishing of inventories that were drawn down in the second quarter also contributed positively to growth. The gap in net exports widened as imports rose and exports contracted, culminating in a total negative impact of 1.8 percentage points on total GDP. Residential investment was also negative, which has raised concerns over the health of the housing sector.

\*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.

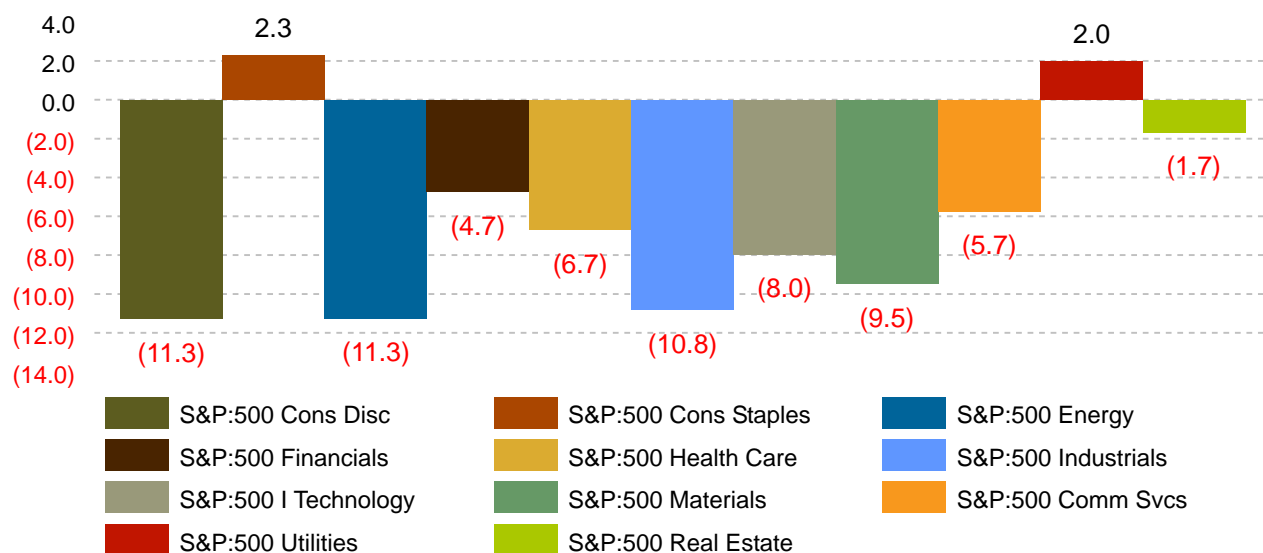
## U.S. Equity Overview As of October 31, 2018

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell:3000 Index	(7.36)	2.43	6.60	11.27	10.81	13.35
Russell:1000 Index	(7.08)	2.67	6.98	11.31	11.05	13.42
Russell:1000 Growth	(8.94)	6.62	10.71	13.67	13.43	15.45
Russell:1000 Value	(5.18)	(1.46)	3.03	8.88	8.61	11.30
Russell:Midcap Index	(8.31)	(1.47)	2.79	9.04	8.97	14.19
Russell:2000 Index	(10.86)	(0.60)	1.85	10.68	8.01	12.44
Russell:2000 Growth	(12.65)	1.11	4.13	10.72	8.75	13.89
Russell:2000 Value	(8.95)	(2.46)	(0.59)	10.52	7.18	10.95

U.S. equities experienced a correction in October as the S&P 500 fell over 10% before coming back to close the month down 6.8%. The month saw the same FAANG stocks that had driven year-to-date returns lead the way lower. Small caps again underperformed larger cap stocks (Russell 1000 Index: -7.1% vs. Russell 2000 Index: -10.9%). As a result, small caps rotated out of favor on a year-to-date basis (Russell 1000 Index: +2.7% vs. Russell 2000 Index: -0.6%). The Russell Midcap Index (-8.3%) fell between small and large cap during the month, but trails both on a year-to-date basis (-1.5%). Growth and value stocks reversed during the month as the Russell 1000 Value Index returned -5.2% compared to the -8.9% return of the Russell 1000 Growth Index. While growth stocks gave some back in October, year-to-date growth has outperformed value by over 8%. October showed significant volatility that has been relatively absent, with the VIX (CBOE Volatility Index) peaking on October 24 at 25.3, its highest level since February.

Consumer Discretionary (-11.3%) and Energy (-11.3%) led the way down in October. Consumer Discretionary names like Amazon and Netflix saw investors turn their backs despite strong returns year-to-date. The Energy sector fell in line with declining oil prices, which were down over 10% during the month before closing at \$65 per barrel (WTI Crude). Industrials (-10.8%) also struggled in October as sector stalwarts like 3M and Caterpillar announced poor third quarter earnings. The rare bright spots for the month were seen in lower risk sectors, Consumer Staples and Utilities, returning 2.3% and 2.0%, respectively.

### S&P 500 Index Sector Returns



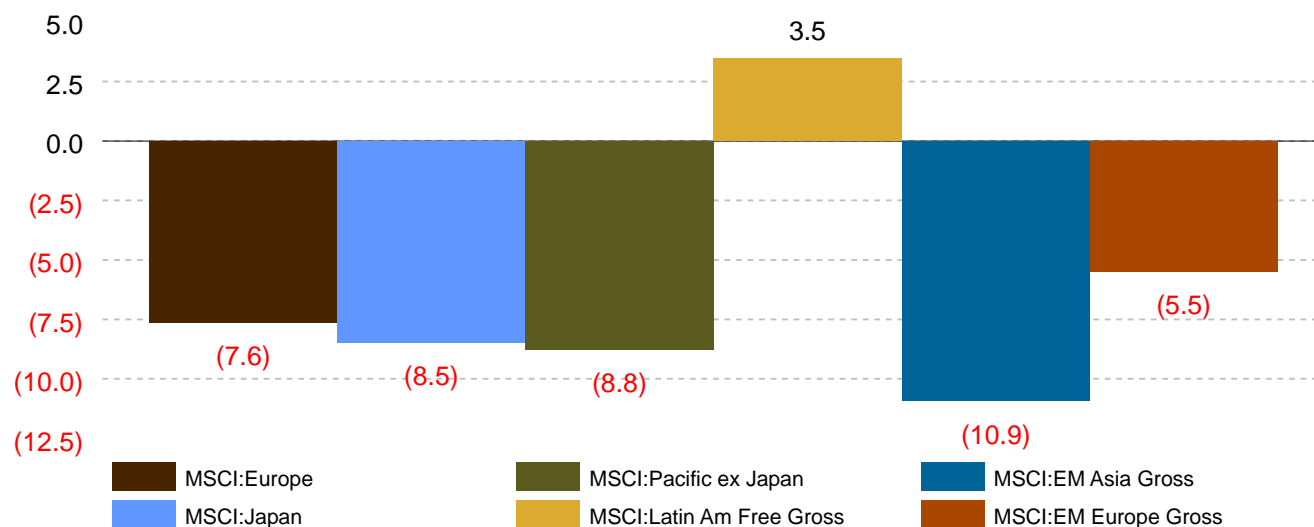
## Non-U.S. Equity Overview As of October 31, 2018

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
MSCI:ACWI ex US	(8.13)	(10.97)	(8.24)	4.37	1.63	6.92
MSCI:EAFE	(7.96)	(9.28)	(6.85)	3.62	2.02	6.89
MSCI:EAFE Hedged Net	(6.23)	(3.48)	(2.56)	5.67	6.45	8.34
MSCI:EM	(8.71)	(15.72)	(12.52)	6.52	0.78	7.84
MSCI:ACWI ex US Small Cap	(9.73)	(13.71)	(9.73)	5.47	3.36	10.88

A surging dollar coupled with ongoing tariff threats and slowing growth battered international markets particularly in Europe and Asia. Non-U.S. stocks posted negative results for the month (MSCI ACWI ex-U.S.: -8.1%), adding to year-to-date losses (-11.0%). Developed markets (MSCI EAFE Index: -8.0%) narrowly outperformed emerging markets (MSCI Emerging Markets Index: -8.7%) as emerging markets tend to be more vulnerable to the dollar. Strength of the dollar accelerated losses during the month (MSCI EAFE Index: -8.0% vs MSCI Hedged Net Index: -6.2%). Non-U.S. small cap stocks (MSCI ACWI ex-U.S. Small Cap Index) were hit the hardest in October, losing 9.7%.

Latin America was the lone region to post a positive return in October, returning 3.5%. Brazil (+17.8%) led the way thanks to a positive response to the election of Jair Bolsonaro, who was viewed as the more market friendly presidential candidate. Asian emerging markets (MSCI EM Asia Gross Index: -10.9%) struggled as China (-11.5%) continues to be at the center of trade rhetoric in addition to their economy showing signs of a slowdown during the month. European emerging markets (-5.5%) were down for the month as well. Tensions between the U.S. and Turkey has softened and the country was only down 2.3% (-41.3% year-to-date) for the month.

### MSCI Regional Returns

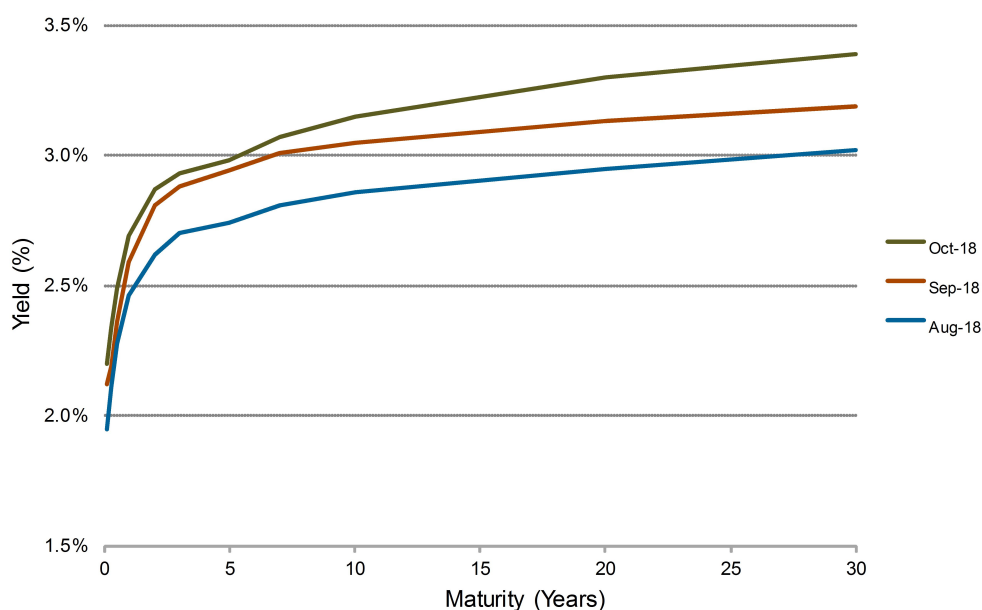


## Fixed Income Overview

### As of October 31, 2018

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Blmbg:Aggregate	(0.79)	(2.38)	(2.05)	1.04	1.83	3.94
Blmbg:Long Gov/Credit	(3.35)	(8.59)	(6.37)	2.12	4.04	7.54
Blmbg:US Government	(0.47)	(2.08)	(1.92)	0.22	1.15	2.64
Blmbg:Credit	(1.40)	(3.49)	(2.81)	2.34	2.81	6.43
Blmbg:Mortgage Backed Sec	(0.63)	(1.70)	(1.52)	0.74	1.75	3.40
Blmbg:US TIPS	(1.43)	(2.27)	(1.24)	1.46	0.97	4.11
ML:US High Yield Cash Pay	(1.64)	0.82	0.83	6.61	4.66	11.07
CS:Leveraged Loan	0.01	4.36	4.89	5.48	4.18	7.27
3 Month T-Bill	0.17	1.48	1.68	0.90	0.55	0.35

Treasury Yield Curve



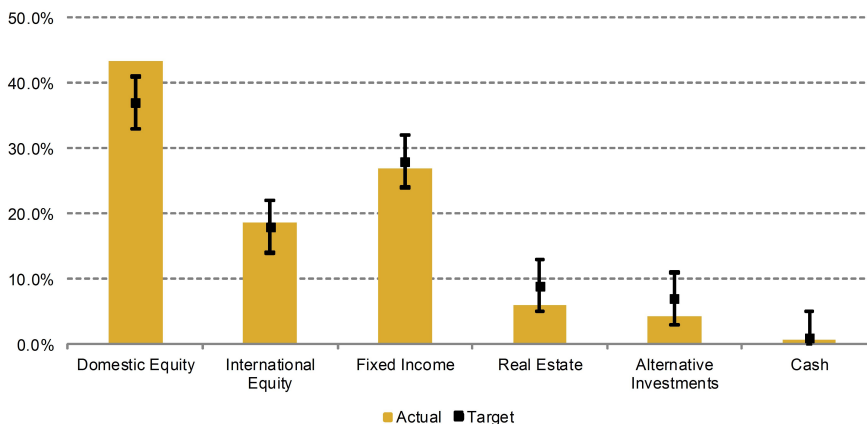
In October, rates moved higher on the back of strong economic data, while spreads widened in part due to continued geopolitical uncertainty. The Bloomberg Aggregate Index fell 0.8% for the month. Treasury rates climbed across the curve as the yield curve steepened overall. Over the period the yield on the two-year increased six basis points to 2.87%, the yield on the 10-year increased 10 basis points to 3.15% and the yield on the 30-year increased 20 basis points to 3.39%. The spread between the 2-year and 10-year treasuries increased four basis points over the month to close at 28 basis points. Fed Funds futures are currently projecting a 70% chance of a fourth rate hike of the year at the December meeting. Despite President Trump's criticism of the Fed's rate hikes, it appears to have had minimal impact on the Fed's path moving forward.

Investment grade corporate spreads widened 12 basis points in October and high yield spreads widened 55 basis points. For the month the Bloomberg Credit Index returned -1.4% and the Merrill Lynch High Yield Cash Pay Index return -1.6%. Rising rates hit long bonds the hardest as the Bloomberg Long Gov/Credit Index fell 3.4% over the month. Leveraged Loans (CS Leveraged Loan Index) managed to squeeze out a positive one basis point return. Year-to-date the Bloomberg Aggregate Index is down 2.4%, and all other fixed income sectors are in the red with the exception of High Yield (+0.8%) and Leveraged Loans (+4.4%).

**Total Fund**

The market value of the Total Fund was \$40.02 billion at the end of October, a decrease of \$2.39 billion from the prior month. The Fund returned -5.45% during the month, trailing the -4.30% return of its benchmark. Domestic Equity (-8.43%) underperformed its benchmark (-7.36%). International Equity (-7.96%) outperformed its benchmark by 17 basis points. The Fixed Income composite returned -0.73% besting its benchmark return of -0.79%. Real Estate gained 0.53% in October, underperforming its benchmark by nine basis points. Over the last three months, Alternatives (+4.47%) outperformed the benchmark return of 2.18%. For the trailing year, the fund is 15 basis points behind its benchmark, returning 1.56%.

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. As of October month end, Domestic Equity was 6.3% above the target. The Board approved rebalancing actions totaling \$1.7 billion across Domestic Equity and Fixed income at the October meeting. This rebalancing reduces the overweight allocation to Domestic Equity by 2% and underweight allocation to Fixed Income by 2%.



**U.S. Equity**

The U.S. Equity composite returned -8.43% during October, trailing the Russell 3000 Index by 107 basis points. For the month, large caps outperformed small caps.

**Large Cap:** IMRF's Large Cap managers returned -7.95% in October, falling behind the -7.08% return of the Russell 1000 Index. In aggregate, growth managers returned -10.51%, while the Russell 1000 Growth Index returned -8.94%. Value managers returned -5.88% collectively, underperforming the -5.18% return of the Russell 1000 Value Index.

**Small Cap:** The Small Cap composite (-10.99%) trailed the Russell 2000 Index by 13 basis points in October. The growth managers collectively returned -11.55%, relative to the -12.65% return of the Russell 2000 Growth Index. The value managers returned -10.91% during the month, trailing the Russell 2000 Value Index by 196 basis points. The Micro Cap composite returned -9.64% in October.

**Public Real Assets:** The Public Real Assets portfolio managed by Brookfield and Cohen & Steers returned -2.03% in October, 24 basis points ahead of the custom benchmark.

**International Equity**

The International Equity composite returned -7.96% in October, 17 basis points ahead of its MSCI ACWI ex-U.S. benchmark (-8.13%).

International Large Cap: International Large Cap managers collectively returned -7.63% in October, leading the MSCI ACWI ex-U.S. Index by 50 basis points. International Large Cap Growth managers (-9.44%) trailed the MSCI ACWI ex-U.S. Growth Index by nine basis points. International Large Cap Value managers returned -5.68% for the month, 118 basis points ahead of the MSCI ACWI ex-U.S. Value Index.

International Small Cap and Emerging Markets: The International Small Cap managers returned -11.45% in October, 172 basis points behind the MSCI ACWI Small Cap ex-U.S. Index return of -9.73%. The Emerging Markets portfolio, managed by Genesis, returned -8.75% during the month, trailing the MSCI Emerging Markets Index by five basis points.

**Fixed Income**

The Fixed Income composite returned -0.73% in October relative to the -0.79% return of the Bloomberg Aggregate Index.

Active Core: In aggregate, the Domestic Active Core managers were down 0.57% in October, 22 basis points ahead of the Bloomberg Aggregate Index.

Core Plus: Domestic Fixed Core Plus managers ended the month with a return of -0.87%, trailing the Bloomberg Aggregate Index by eight basis points.

Bank Loans: The Bank Loans portfolio, managed by Barings, returned -0.10% for the month, underperforming the custom benchmark by 19 basis points.

Emerging Markets: The Emerging Markets Debt component, managed by Standish, returned -1.71% in October, four basis points behind the custom benchmark.

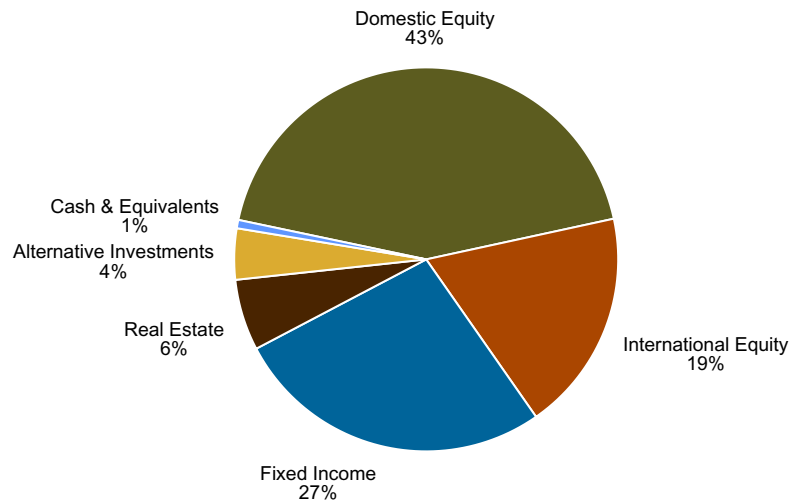
Opportunistic: The Opportunistic Fixed Income allocation, managed by Crescent, returned 1.43% in October, leading the custom benchmark by 226 basis points.



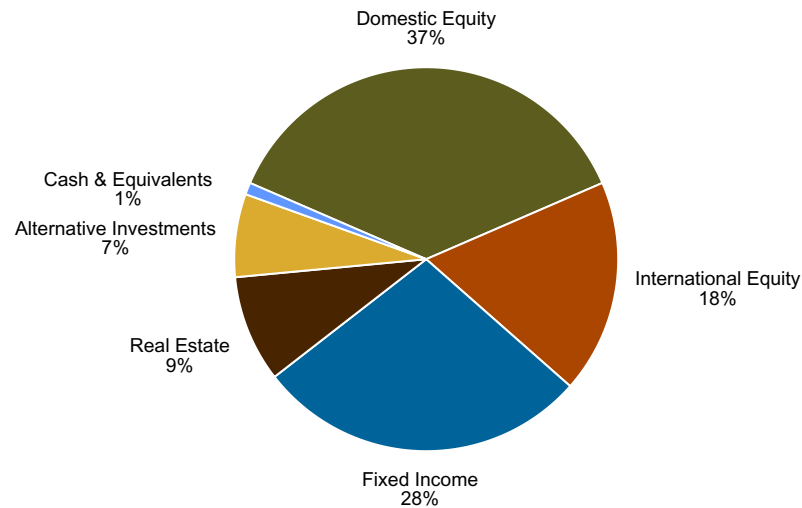
## Actual vs Target Asset Allocation

The first chart below shows the Fund's asset allocation as of October 31, 2018. 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	17,308	43.3%	37.0%	6.3%	2,502
International Equity	7,491	18.7%	18.0%	0.7%	288
Fixed Income	10,824	27.0%	28.0%	(1.0%)	(381)
Real Estate	2,389	6.0%	9.0%	(3.0%)	(1,212)
Alternative Investments	1,726	4.3%	7.0%	(2.7%)	(1,075)
Cash & Equivalents	280	0.7%	1.0%	(0.3%)	(121)
Total	40,017	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 October 31, 2018, with the distribution as of September 30, 2018.

### Asset Distribution Across Investment Managers

	October 31, 2018		September 30, 2018	
	Market Value	Percent	Market Value	Percent
<b>Domestic Equity*</b>	<b>\$17,307,934,745</b>	<b>43.25%</b>	<b>\$18,958,668,830</b>	<b>44.71%</b>
<b>Large Cap Growth</b>				
NTGI S&P 500 Growth Idx	2,089,724,759	5.22%	2,272,895,480	5.36%
Sands	1,944,207,365	4.86%	2,302,720,715	5.43%
Piedmont Russell 1000 G	916,179,491	2.29%	1,006,129,228	2.37%
<b>Large Cap Value</b>				
Dodge & Cox	1,302,145,195	3.25%	1,382,599,719	3.26%
BMO	1,306,897,973	3.27%	1,402,572,500	3.31%
LSV	1,479,629,336	3.70%	1,575,696,496	3.72%
NTGI S&P 500 Value Idx	1,634,977,186	4.09%	1,727,544,710	4.07%
<b>Large Cap Core</b>				
NTGI MarketCap Index	2,719,088,005	6.79%	2,936,584,981	6.92%
<b>Small Cap Growth</b>				
Frontier	505,590,856	1.26%	575,645,884	1.36%
FIAM	979,049,324	2.45%	1,102,950,477	2.60%
<b>Small Cap Value</b>				
Channing	215,112,225	0.54%	246,095,892	0.58%
Dimensional Small Cap Value	574,482,106	1.44%	632,335,361	1.49%
Inv. Counselors of Maryland	632,140,973	1.58%	717,408,585	1.69%
<b>Micro Cap</b>				
Ativo	129,236,961	0.32%	140,341,468	0.33%
Dimensional Micro Cap	423,992,740	1.06%	471,817,078	1.11%
<b>Public Real Assets</b>				
Brookfield	144,895,338	0.36%	149,867,217	0.35%
Cohen & Steers	310,584,913	0.78%	315,051,539	0.74%
<b>International Equity</b>	<b>\$7,490,789,749</b>	<b>18.72%</b>	<b>\$8,138,627,899</b>	<b>19.19%</b>
<b>International Large Cap Growth</b>				
EARNEST Partners	596,967,117	1.49%	647,851,076	1.53%
William Blair	672,275,082	1.68%	756,128,073	1.78%
<b>International Large Cap Value</b>				
Brandes	594,892,756	1.49%	629,450,042	1.48%
Lombardia	1	0.00%	1	0.00%
Mondrian	498,169,123	1.24%	526,579,043	1.24%
Lazard	104,958,370	0.26%	113,086,717	0.27%
<b>International Large Cap Core</b>				
Arrowstreet	646,996,523	1.62%	702,098,617	1.66%
Brown	324,900,683	0.81%	355,012,083	0.84%
GlobeFlex	561,893,792	1.40%	620,385,521	1.46%
NTGI MSCI EAFE Index	2,073,069,751	5.18%	2,251,271,383	5.31%
Progress Intl Equity	312,335,982	0.78%	312,335,982	0.74%
<b>International Small Cap</b>				
Franklin Templeton	175,497,805	0.44%	194,964,619	0.46%
William Blair	249,240,062	0.62%	284,709,942	0.67%
<b>Emerging Markets</b>				
Genesis	679,592,704	1.70%	744,754,802	1.76%

\* 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 October 31, 2018, with the distribution as of September 30, 2018.

### Asset Distribution Across Investment Managers

	October 31, 2018		September 30, 2018	
	Market Value	Percent	Market Value	Percent
<b>Total Fixed Income</b>	<b>\$10,823,700,420</b>	<b>27.05%</b>	<b>\$10,911,603,985</b>	<b>25.73%</b>
<b>Domestic Fixed Core</b>				
Brandes Core	339,487,438	0.85%	341,606,510	0.81%
EARNEST Partners	735,472,472	1.84%	739,819,752	1.74%
Piedmont Investment	735,784,114	1.84%	739,855,204	1.74%
Garcia Hamilton	721,422,853	1.80%	725,317,830	1.71%
<b>Domestic Fixed Passive Core</b>				
NTGI Blmbg Agg. Index	1,623,846,625	4.06%	1,636,539,215	3.86%
BlackRock US Debt	1,556,020,250	3.89%	1,568,487,274	3.70%
<b>Domestic Fixed Core Plus</b>				
LM Capital	836,920,808	2.09%	846,129,854	2.00%
Progress Fixed Income	883,296,070	2.21%	883,296,070	2.08%
Taplin, Canida, & Habacht	864,600,116	2.16%	873,986,062	2.06%
Western	1,005,270,787	2.51%	1,018,293,017	2.40%
<b>Bank Loans</b>				
Barings Global Loan Fund	580,218,962	1.45%	587,910,987	1.39%
<b>Emerging Markets Debt</b>				
Standish	192,158,812	0.48%	195,511,096	0.46%
<b>Opportunistic Fixed Income</b>				
Crescent	113,458,703	0.28%	113,457,912	0.27%
<b>High Yield</b>				
Mackay Shields	635,412,248	1.59%	641,062,574	1.51%
FIAM High Yield	330,159	0.00%	330,630	0.00%

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

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

## Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of October 31, 2018, with the distribution as of September 30, 2018.

### Asset Distribution Across Investment Managers

	October 31, 2018		September 30, 2018	
	Market Value	Percent	Market Value	Percent
<b>Real Estate</b>	<b>\$2,389,115,653</b>	<b>5.97%</b>	<b>\$2,422,847,838</b>	<b>5.71%</b>
<b>Real Estate Core</b>				
TA Buckhead Ind. Prop.	469,220,157	1.17%	434,326,269	1.02%
Barings Core Property Fund	1,070	0.00%	92,769,168	0.22%
Barings European Core Property	29,611,164	0.07%	30,354,677	0.07%
Blackstone Property Partners Europe	117,871,690	0.29%	120,831,353	0.28%
INVESCO Core RE	205,705,973	0.51%	202,245,837	0.48%
INVESCO Euro real estate	55,808,173	0.14%	57,209,467	0.13%
AEW Core Property Trust	235,585,799	0.59%	232,221,836	0.55%
CBRE US Core Property Trust	186,118,622	0.47%	182,068,390	0.43%
<b>Real Estate Non-Core</b>				
Artemis MWBE Spruce	150,173,485	0.38%	145,819,544	0.34%
Franklin Templeton EMREFF	21,141,908	0.05%	22,452,197	0.05%
Security Capital	53,086,636	0.13%	53,086,636	0.13%
Dune II	27,668,644	0.07%	27,668,644	0.07%
Non-Core Real Estate Funds*	736,828,709	1.84%	726,536,165	1.71%
Non-Core Intl Real Estate Funds**	96,825,937	0.24%	91,789,969	0.22%
Rockwood Fund VIII	305,208	0.00%	305,208	0.00%
Almanac ARS V	3,055,098	0.01%	3,055,098	0.01%
TA Fund IX	107,380	0.00%	107,380	0.00%
<b>Alternative Investments</b>	<b>\$1,725,848,358</b>	<b>4.31%</b>	<b>\$1,703,081,835</b>	<b>4.02%</b>
<b>Absolute Return</b>				
Aurora	743,596	0.00%	905,868	0.00%
<b>Private Equity</b>				
Abbott	334,333,830	0.84%	343,260,096	0.81%
Muller & Monroe ILPEFF	1	0.00%	1	0.00%
Muller & Monroe MPEFF	5,910,007	0.01%	6,174,958	0.01%
Pantheon	244,860,274	0.61%	241,025,683	0.57%
Private Equity Fund - Domestic	757,171,068	1.89%	728,265,407	1.72%
Private Equity Fund - International	86,846,398	0.22%	88,605,112	0.21%
<b>Agriculture</b>				
Premiere Partners IV	188,640,668	0.47%	187,502,195	0.44%
<b>Timberland</b>				
Forest Investment Assoc.	73,571,141	0.18%	73,571,141	0.17%
<b>Unlisted Infrastructure</b>				
Unlisted Infrastructure Funds	33,771,374	0.08%	33,771,374	0.08%
<b>Cash &amp; Equivalents</b>	<b>\$279,662,609</b>	<b>0.70%</b>	<b>\$271,870,849</b>	<b>0.64%</b>
<b>Total Fund</b>	<b>\$40,017,051,535</b>	<b>100.0%</b>	<b>\$42,406,701,237</b>	<b>100.0%</b>

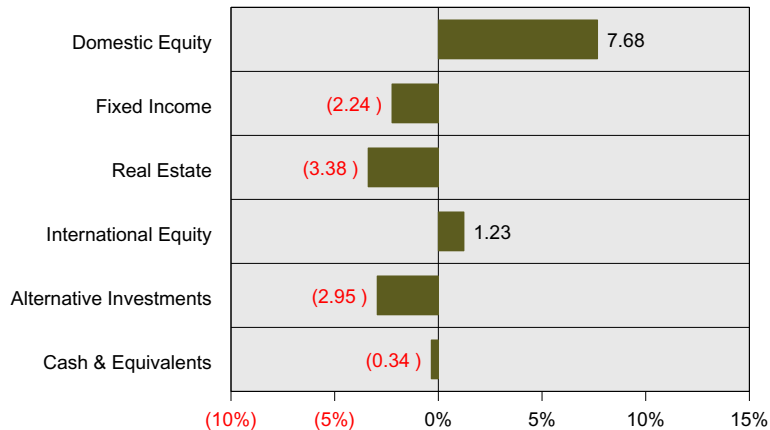
\* Non-Core Real Estate Funds funded since September 2011.

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

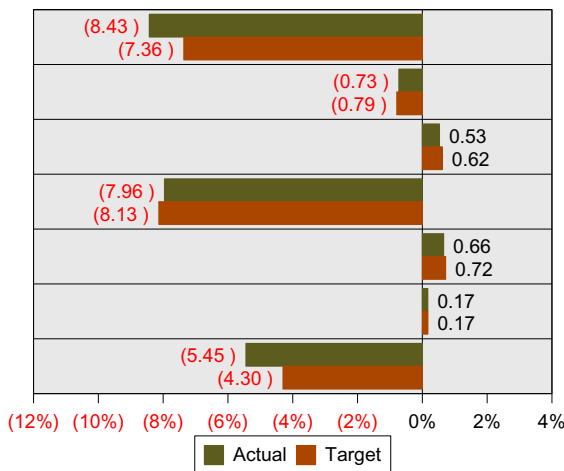
## Monthly Total Fund Relative Attribution - October 31, 2018

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.

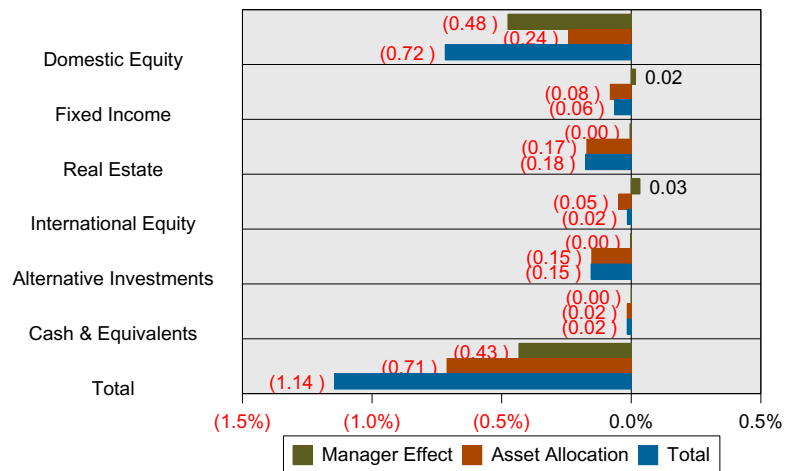
### Asset Class Under or Overweighting



### Actual vs Target Returns



### Relative Attribution by Asset Class



### Relative Attribution Effects for Month ended October 31, 2018

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	45%	37%	(8.43%)	(7.36%)	(0.48%)	(0.24%)	(0.72%)
Fixed Income	26%	28%	(0.73%)	(0.79%)	0.02%	(0.08%)	(0.06%)
Real Estate	6%	9%	0.53%	0.62%	(0.00%)	(0.17%)	(0.18%)
International Equity	19%	18%	(7.96%)	(8.13%)	0.03%	(0.05%)	(0.02%)
Alternative Investments	4%	7%	0.66%	0.72%	(0.00%)	(0.15%)	(0.15%)
Cash & Equivalents	1%	1%	0.17%	0.17%	(0.00%)	(0.02%)	(0.02%)
<b>Total</b>			<b>(5.45%)</b>	<b>(4.30%)</b>	<b>(0.43%)</b>	<b>(0.71%)</b>	<b>(1.14%)</b>

\* 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 October 31, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Domestic Equity	(8.43%)	(5.72%)	1.70%	5.40%
Blended Benchmark**	(7.36%)	(3.95%)	2.43%	6.60%
Domestic Equity - Net	(8.44%)	(5.77%)	1.54%	5.19%
International Equity	(7.96%)	(9.31%)	(9.79%)	(7.07%)
MSCI ACWI x US (Net)	(8.13%)	(9.65%)	(10.97%)	(8.24%)
International Equity - Net	(7.97%)	(9.30%)	(9.95%)	(7.29%)
Fixed Income	(0.73%)	(0.62%)	(1.71%)	(1.21%)
Blmbg Aggregate Index	(0.79%)	(0.79%)	(2.38%)	(2.05%)
Fixed Income - Net	(0.73%)	(0.65%)	(1.82%)	(1.35%)
Real Estate	0.53%	2.77%	6.38%	8.94%
Blended Benchmark***	0.62%	1.87%	6.41%	7.71%
Real Estate - Net	0.53%	2.77%	6.38%	8.94%
Alternative Investments	0.66%	4.47%	10.70%	14.16%
Alternatives Custom Benchmark****	0.72%	2.18%	7.45%	9.00%
Alternative Investments - Net	0.66%	4.44%	10.58%	14.01%
Private Equity	0.74%	5.52%	13.81%	17.99%
Alternatives Custom Benchmark****	0.72%	2.18%	7.45%	9.00%
Agriculture	0.61%	(0.30%)	(3.23%)	(3.43%)
Blended Benchmark***	0.62%	1.87%	6.41%	7.71%
Timberland	(0.25%)	(2.22%)	(3.74%)	(0.99%)
Blended Benchmark***	0.62%	1.87%	6.41%	7.71%
Unlisted Infrastructure	0.00%	5.51%	-	-
Alternatives Custom Benchmark****	0.72%	2.18%	7.45%	9.00%
<b>Total Fund</b>	<b>(5.45%)</b>	<b>(4.19%)</b>	<b>(0.96%)</b>	<b>1.56%</b>
Total Fund - Net	(5.44%)	(4.20%)	(1.08%)	1.40%
Total Fund Benchmark	(4.30%)	(3.07%)	(0.62%)	1.71%

\* 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 October 31, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Domestic Equity	10.56%	9.95%	13.44%	11.52% <sup>(1/82)</sup>
Blended Benchmark**	11.27%	10.80%	13.38%	11.33% <sup>(1/82)</sup>
Domestic Equity - Net	10.32%	9.70%	13.18%	8.22% <sup>(1/05)</sup>
International Equity	5.12%	2.99%	8.57%	7.61% <sup>(9/86)</sup>
MSCI ACWI x US (Net)	4.37%	1.63%	6.92%	-
International Equity - Net	4.79%	2.67%	8.24%	5.16% <sup>(1/05)</sup>
Fixed Income	2.26%	2.67%	5.71%	8.16% <sup>(1/82)</sup>
Blmbg Aggregate Index	1.04%	1.83%	3.94%	7.60% <sup>(1/82)</sup>
Fixed Income - Net	2.10%	2.52%	5.56%	4.43% <sup>(1/05)</sup>
Real Estate - Net	9.18%	10.67%	5.64%	7.32% <sup>(1/05)</sup>
Blended Benchmark***	7.68%	9.64%	7.44%	7.70% <sup>(1/05)</sup>
Alternative Investments	9.73%	10.02%	7.56%	10.77% <sup>(2/86)</sup>
Alternatives Custom Benchmark****	9.00%	9.00%	9.49%	12.79% <sup>(2/86)</sup>
Alternative Investments - Net	9.49%	9.69%	7.27%	8.36% <sup>(1/05)</sup>
Private Equity	12.26%	12.78%	8.80%	12.97% <sup>(2/86)</sup>
Alternatives Custom Benchmark****	9.00%	9.00%	9.49%	12.79% <sup>(2/86)</sup>
Agriculture	1.32%	8.71%	9.02%	7.48% <sup>(10/97)</sup>
Blended Benchmark***	7.68%	9.64%	7.44%	7.54% <sup>(10/97)</sup>
Timberland	(1.39%)	2.58%	3.32%	7.63% <sup>(10/92)</sup>
Blended Benchmark***	7.68%	9.64%	7.44%	7.56% <sup>(10/92)</sup>
Unlisted Infrastructure	-	-	-	6.96% <sup>(4/18)</sup>
Alternatives Custom Benchmark****	9.00%	9.00%	9.49%	5.16% <sup>(4/18)</sup>
<b>Total Fund</b>	<b>6.98%</b>	<b>6.47%</b>	<b>9.84%</b>	<b>9.79%</b> <sup>(1/82)</sup>
Total Fund - Net	6.77%	6.24%	9.61%	6.87% <sup>(1/05)</sup>
Total Fund Benchmark	6.64%	6.43%	9.04%	6.68% <sup>(1/05)</sup>

\* 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 October 31, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Large Cap Equity</b>	<b>(7.95%)</b>	<b>(4.86%)</b>	<b>2.27%</b>	<b>6.50%</b>
Russell 1000 Index	(7.08%)	(3.51%)	2.67%	6.98%
<b>Large Cap Growth</b>	<b>(10.51%)</b>	<b>(5.30%)</b>	<b>10.27%</b>	<b>12.51%</b>
NTGI S&P 500 Growth Idx	(8.06%)	(2.89%)	7.69%	11.37%
S&P/Citi 500 Growth Index	(8.08%)	(2.88%)	7.77%	11.44%
NTGI S&P 500 Growth Idx - Net	(8.06%)	(2.89%)	7.68%	11.37%
Piedmont Russell 1000 G	(8.94%)	-	-	-
Russell 1000 Growth Index	(8.94%)	(3.43%)	6.62%	10.71%
Piedmont Russell 1000 G - Net	(8.94%)	-	-	-
Sands	(13.68%)	(8.40%)	12.22%	12.86%
LCG Blended Benchmark*	(8.94%)	(3.43%)	6.62%	10.71%
Russell 1000 Growth Index	(8.94%)	(3.43%)	6.62%	10.71%
Sands - Net	(13.68%)	(8.45%)	12.05%	12.62%
<b>Large Cap Value</b>	<b>(5.88%)</b>	<b>(4.57%)</b>	<b>(2.06%)</b>	<b>3.24%</b>
Dodge & Cox	(5.66%)	(3.95%)	1.38%	6.51%
LCV Blended Benchmark**	(5.18%)	(3.59%)	(1.46%)	3.03%
Russell 1000 Value Index	(5.18%)	(3.59%)	(1.46%)	3.03%
Dodge & Cox - Net	(5.66%)	(3.99%)	1.22%	6.28%
BMO	(6.69%)	(5.22%)	(3.79%)	1.99%
LCV Blended Benchmark**	(5.18%)	(3.59%)	(1.46%)	3.03%
Russell 1000 Value Index	(5.18%)	(3.59%)	(1.46%)	3.03%
BMO - Net	(6.69%)	(5.27%)	(3.95%)	1.77%
LSV	(5.93%)	(5.54%)	(3.44%)	1.91%
LCV Blended Benchmark**	(5.18%)	(3.59%)	(1.46%)	3.03%
Russell 1000 Value Index	(5.18%)	(3.59%)	(1.46%)	3.03%
LSV - Net	(5.99%)	(5.60%)	(3.66%)	1.62%
NTGI S&P 500 Value Idx	(5.36%)	(3.69%)	(1.95%)	3.05%
S&P/Citi 500 Value Index	(5.33%)	(3.68%)	(2.00%)	3.02%
NTGI S&P 500 Value Idx - Net	(5.36%)	(3.69%)	(1.96%)	3.04%
<b>Large Cap Passive Core</b>	<b>(7.41%)</b>	<b>(4.05%)</b>	<b>2.39%</b>	<b>6.57%</b>
NTGI MarketCap Idx	(7.41%)	(4.05%)	2.39%	6.57%
DJ U.S. Total Stock Market Index	(7.41%)	(4.04%)	2.39%	6.56%
NTGI MarketCap Idx - Net	(7.41%)	(4.05%)	2.39%	6.56%

\* 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 October 31, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
<b>Large Cap Equity</b>	<b>10.91%</b>	<b>10.82%</b>	<b>13.50%</b>	<b>11.16%</b> <sup>(1/82)</sup>
Russell 1000 Index	11.31%	11.05%	13.42%	11.52% <sup>(1/82)</sup>
<b>Large Cap Growth</b>	<b>12.45%</b>	<b>12.19%</b>	<b>15.11%</b>	<b>11.78%</b> <sup>(1/82)</sup>
NTGI S&P 500 Growth Idx	13.10%	13.54%	15.17%	7.61% <sup>(8/01)</sup>
S&P/Citi 500 Growth Index	13.12%	13.55%	15.15%	7.58% <sup>(8/01)</sup>
NTGI S&P 500 Growth Idx - Net	13.09%	13.53%	15.16%	9.52% <sup>(1/05)</sup>
Piedmont Russell 1000 G	-	-	-	<b>(8.94%)</b> <sup>(10/18)</sup>
Russell 1000 Growth Index	13.67%	13.43%	15.45%	<b>(8.94%)</b> <sup>(10/18)</sup>
Piedmont Russell 1000 G - Net	-	-	-	<b>(8.94%)</b> <sup>(10/18)</sup>
Sands	12.20%	11.14%	18.68%	11.66% <sup>(11/03)</sup>
LCG Blended Benchmark*	13.67%	13.43%	15.45%	9.53% <sup>(11/03)</sup>
Russell 1000 Growth Index	13.67%	13.43%	15.45%	9.58% <sup>(11/03)</sup>
Sands - Net	11.97%	10.88%	18.41%	10.56% <sup>(1/05)</sup>
<b>Large Cap Value</b>	<b>9.92%</b>	<b>9.89%</b>	<b>12.34%</b>	<b>10.31%</b> <sup>(10/82)</sup>
Dodge & Cox	12.31%	10.78%	13.74%	9.61% <sup>(9/03)</sup>
LCV Blended Benchmark**	8.88%	8.61%	11.30%	8.16% <sup>(9/03)</sup>
Russell 1000 Value Index	8.88%	8.61%	11.30%	8.34% <sup>(9/03)</sup>
Dodge & Cox - Net	12.09%	10.56%	13.51%	7.91% <sup>(1/05)</sup>
BMO	8.56%	9.88%	12.15%	8.02% <sup>(2/01)</sup>
LCV Blended Benchmark**	8.88%	8.61%	11.30%	5.49% <sup>(2/01)</sup>
Russell 1000 Value Index	8.88%	8.61%	11.30%	6.54% <sup>(2/01)</sup>
BMO - Net	8.33%	9.64%	11.89%	8.10% <sup>(1/05)</sup>
LSV	9.97%	10.12%	13.23%	10.98% <sup>(2/03)</sup>
LCV Blended Benchmark**	8.88%	8.61%	11.30%	9.14% <sup>(2/03)</sup>
Russell 1000 Value Index	8.88%	8.61%	11.30%	9.15% <sup>(2/03)</sup>
LSV - Net	9.72%	9.84%	12.94%	8.24% <sup>(1/05)</sup>
NTGI S&P 500 Value Idx	9.55%	8.82%	11.16%	5.61% <sup>(8/99)</sup>
S&P/Citi 500 Value Index	9.46%	8.73%	11.09%	5.59% <sup>(8/99)</sup>
NTGI S&P 500 Value Idx - Net	9.54%	8.81%	11.15%	6.81% <sup>(1/05)</sup>
<b>Large Cap Passive Core</b>	<b>11.33%</b>	<b>10.85%</b>	<b>13.48%</b>	<b>11.07%</b> <sup>(1/85)</sup>
NTGI MarketCap Idx	11.33%	10.85%	13.49%	10.84% <sup>(2/85)</sup>
DJ U.S. Total Stock Market Index	11.24%	10.76%	13.36%	10.78% <sup>(2/85)</sup>
NTGI MarketCap Idx - Net	11.32%	10.84%	13.49%	8.36% <sup>(1/05)</sup>

\* 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 October 31, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Small Cap Equity</b>	<b>(10.99%)</b>	<b>(9.40%)</b>	<b>(0.38%)</b>	<b>1.65%</b>
Russell 2000 Index	(10.86%)	(9.26%)	(0.60%)	1.85%
<b>Small Cap Growth</b>	<b>(11.55%)</b>	<b>(7.97%)</b>	<b>3.04%</b>	<b>5.85%</b>
Frontier	(12.17%)	(5.52%)	12.62%	14.74%
Russell 2000 Growth Index	(12.65%)	(9.39%)	1.11%	4.13%
Frontier - Net	(12.29%)	(5.65%)	12.07%	14.18%
FIAM	(11.23%)	(9.13%)	(0.87%)	2.16%
Russell 2000 Growth Index	(12.65%)	(9.39%)	1.11%	4.13%
FIAM - Net	(11.23%)	(9.24%)	(1.19%)	1.71%
<b>Small Cap Value</b>	<b>(10.91%)</b>	<b>(11.16%)</b>	<b>(4.01%)</b>	<b>(2.32%)</b>
Channing	(12.59%)	(12.82%)	(6.68%)	(5.50%)
Russell 2000 Value Index	(8.95%)	(9.10%)	(2.46%)	(0.59%)
Channing - Net	(12.71%)	(12.94%)	(7.15%)	(5.98%)
DFA Small Cap Value	(9.15%)	(9.61%)	(3.25%)	(1.43%)
Russell 2000 Value Index	(8.95%)	(9.10%)	(2.46%)	(0.59%)
DFA Small Cap Value - Net	(9.15%)	(9.72%)	(3.60%)	(1.92%)
Inv. Counselors of Maryland	(11.89%)	(11.95%)	(3.75%)	(2.01%)
Russell 2000 Value Index	(8.95%)	(9.10%)	(2.46%)	(0.59%)
Inv. Couns. of Maryland - Net	(11.89%)	(12.14%)	(4.14%)	(2.49%)
<b>Micro Cap</b>	<b>(9.64%)</b>	<b>(8.71%)</b>	<b>(0.43%)</b>	<b>0.49%</b>
Ativo	(7.98%)	(6.91%)	(2.74%)	(4.55%)
Russell Microcap Index	(10.90%)	(10.10%)	(0.54%)	1.42%
Russell 2000 Growth Index	(12.65%)	(9.39%)	1.11%	4.13%
Russell 2000 Index	(10.86%)	(9.26%)	(0.60%)	1.85%
Ativo - Net	(8.13%)	(7.07%)	(3.35%)	(5.16%)
DFA Micro Cap	(10.14%)	(9.25%)	0.29%	2.14%
Russell 2000 Value Index	(8.95%)	(9.10%)	(2.46%)	(0.59%)
Russell 2000 Index	(10.86%)	(9.26%)	(0.60%)	1.85%
DFA Micro Cap - Net	(10.14%)	(9.36%)	(0.08%)	1.64%
<b>Public Real Assets</b>	<b>(2.03%)</b>	<b>(2.67%)</b>	<b>(0.82%)</b>	<b>0.73%</b>
Public Real Assets Benchmark (1)	(2.27%)	(4.09%)	(3.60%)	(3.08%)
Brookfield Public Global Inf	(3.32%)	(4.59%)	(2.70%)	(1.51%)
Dow Jones Global Infra Comp Idx	(3.52%)	(5.80%)	(4.68%)	(3.61%)
Brookfield Public Global Inf - Net	(3.32%)	(4.71%)	(3.09%)	(2.01%)
Cohen & Steers Public Global Inf	(1.42%)	(1.74%)	0.08%	1.81%
FTSE GI Core Infr 50/50 N	(1.85%)	(3.52%)	(3.26%)	(2.92%)
Cohen & St Public Global Inf - Net	(1.42%)	(1.85%)	(0.25%)	1.40%

(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 October 31, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
<b>Small Cap Equity</b>	<b>9.37%</b>	<b>7.55%</b>	<b>13.76%</b>	<b>12.13%</b> (7/88)
Russell 2000 Index	10.68%	8.01%	12.44%	9.45% (7/88)
<b>Small Cap Growth</b>	<b>8.76%</b>	<b>8.65%</b>	<b>14.25%</b>	<b>12.83%</b> (7/88)
Frontier	14.07%	9.66%	15.26%	13.15% (8/88)
Russell 2000 Growth Index	10.72%	8.75%	13.89%	8.17% (8/88)
Frontier - Net	13.46%	9.06%	14.56%	9.62% (1/05)
FIAM	6.49%	9.16%	14.83%	13.35% (8/88)
Russell 2000 Growth Index	10.72%	8.75%	13.89%	8.17% (8/88)
FIAM - Net	5.91%	8.60%	14.23%	10.34% (1/05)
<b>Small Cap Value</b>	<b>9.93%</b>	<b>7.61%</b>	<b>13.11%</b>	<b>11.84%</b> (9/89)
Channing	7.42%	6.64%	-	10.28% (7/11)
Russell 2000 Value Index	10.52%	7.18%	10.95%	9.40% (7/11)
Channing - Net	6.84%	6.12%	-	9.67% (7/11)
DFA Small Cap Value	9.26%	7.39%	13.78%	12.21% (2/96)
Russell 2000 Value Index	10.52%	7.18%	10.95%	9.63% (2/96)
DFA Small Cap Value - Net	8.69%	6.87%	13.23%	7.89% (1/05)
Inv. Counselors of Maryland	12.26%	8.99%	13.36%	11.49% (5/99)
Russell 2000 Value Index	10.52%	7.18%	10.95%	9.16% (5/99)
Inv. Couns. of Maryland - Net	11.64%	8.46%	12.82%	8.50% (1/05)
<b>Micro Cap</b>	<b>8.98%</b>	<b>5.15%</b>	<b>13.61%</b>	<b>11.65%</b> (7/84)
Ativo	7.11%	8.48%	-	12.47% (10/10)
Russell Microcap Index	10.08%	7.62%	12.09%	12.09% (10/10)
Russell 2000 Growth Index	10.72%	8.75%	13.89%	12.94% (10/10)
Russell 2000 Index	10.68%	8.01%	12.44%	11.97% (10/10)
Ativo - Net	6.37%	7.70%	-	11.67% (10/10)
DFA Micro Cap	12.04%	9.16%	14.25%	11.28% (8/87)
Russell 2000 Value Index	10.52%	7.18%	10.95%	9.91% (8/87)
Russell 2000 Index	10.68%	8.01%	12.44%	8.83% (8/87)
DFA Micro Cap - Net	11.49%	8.62%	13.69%	8.13% (1/05)
<b>Public Real Assets</b>	-	-	-	<b>1.14%</b> (8/17)
Public Real Assets Benchmark (1)	-	-	-	(1.87%) (8/17)
Brookfield Public Global Inf	-	-	-	(2.50%) (8/17)
Dow Jones Global Infra Comp Idx	3.49%	3.89%	10.56%	(4.02%) (8/17)
Brookfield Public Global Inf - Net	-	-	-	(2.90%) (8/17)
Cohen & Steers Public Global Inf	-	-	-	2.95% (8/17)
FTSE GI Core Infr 50/50 N	6.57%	5.84%	-	(1.15%) (8/17)
Cohen & St Public Global Inf - Net	-	-	-	2.61% (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 October 31, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Intl Large Cap Equity</b>	<b>(7.63%)</b>	<b>(8.68%)</b>	<b>(8.57%)</b>	<b>(6.07%)</b>
MSCI ACWI ex-US Index	(8.13%)	(9.65%)	(10.97%)	(8.24%)
<b>Intl Large Cap Growth</b>	<b>(9.44%)</b>	<b>(10.78%)</b>	<b>(11.32%)</b>	<b>(9.01%)</b>
EARNEST Partners	(7.85%)	(9.65%)	(10.96%)	(8.91%)
MSCI ACWI ex-US Index	(8.13%)	(9.65%)	(10.97%)	(8.24%)
MSCI ACWI ex-US Growth	(9.35%)	(11.07%)	(11.36%)	(8.42%)
EARNEST Partners - Net	(7.85%)	(9.65%)	(10.96%)	(8.91%)
William Blair	(11.09%)	(12.03%)	(11.99%)	(9.46%)
MSCI ACWI ex-US Index	(8.13%)	(9.65%)	(10.97%)	(8.24%)
MSCI ACWI ex-US Growth	(9.35%)	(11.07%)	(11.36%)	(8.42%)
William Blair - Net	(11.09%)	(12.11%)	(12.22%)	(9.69%)
<b>Intl Large Cap Value</b>	<b>(5.68%)</b>	<b>(7.11%)</b>	<b>(6.69%)</b>	<b>(3.66%)</b>
Brandes	(5.54%)	(7.03%)	(3.14%)	(0.05%)
MSCI ACWI ex-US Index	(8.13%)	(9.65%)	(10.97%)	(8.24%)
MSCI ACWI ex-US Value	(6.86%)	(8.03%)	(9.79%)	(7.17%)
Brandes - Net	(5.54%)	(7.03%)	(3.30%)	(0.22%)
Mondrian	(5.52%)	(7.01%)	(9.60%)	(6.84%)
MSCI ACWI ex-US Index	(8.13%)	(9.65%)	(10.97%)	(8.24%)
MSCI ACWI ex-US Value	(6.86%)	(8.03%)	(9.79%)	(7.17%)
Mondrian - Net	(5.52%)	(7.01%)	(9.81%)	(7.17%)
Lazard	(7.19%)	(7.99%)	(10.61%)	(6.47%)
MSCI ACWI ex-US Index	(8.13%)	(9.65%)	(10.97%)	(8.24%)
MSCI ACWI ex-US Value	(6.86%)	(8.03%)	(9.79%)	(7.17%)
Lazard - Net	(7.19%)	(8.05%)	(10.78%)	(6.64%)

## 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 October 31, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
<b>Intl Large Cap Equity</b>	<b>5.14%</b>	<b>3.21%</b>	<b>8.50%</b>	<b>7.65%</b> <sup>(9/86)</sup>
MSCI ACWI ex-US Index	4.37%	1.63%	6.92%	-
<b>Intl Large Cap Growth</b>	<b>5.15%</b>	<b>2.68%</b>	<b>8.76%</b>	<b>8.04%</b> <sup>(9/02)</sup>
EARNEST Partners	6.57%	2.02%	9.21%	8.85% <sup>(10/04)</sup>
MSCI ACWI ex-US Index	4.37%	1.63%	6.92%	5.49% <sup>(10/04)</sup>
MSCI ACWI ex-US Growth	4.84%	2.99%	7.78%	6.28% <sup>(10/04)</sup>
EARNEST Partners - Net	6.48%	1.87%	8.88%	7.54% <sup>(1/05)</sup>
William Blair	3.83%	3.20%	10.02%	9.17% <sup>(10/02)</sup>
MSCI ACWI ex-US Index	4.37%	1.63%	6.92%	7.80% <sup>(10/02)</sup>
MSCI ACWI ex-US Growth	4.84%	2.99%	7.78%	8.02% <sup>(10/02)</sup>
William Blair - Net	3.45%	2.83%	9.61%	5.68% <sup>(1/05)</sup>
<b>Intl Large Cap Value</b>	<b>4.71%</b>	<b>2.72%</b>	<b>6.68%</b>	<b>8.66%</b> <sup>(10/95)</sup>
Brandes	5.56%	3.16%	7.25%	8.98% <sup>(1/96)</sup>
MSCI ACWI ex-US Index	4.37%	1.63%	6.92%	4.87% <sup>(1/96)</sup>
MSCI ACWI ex-US Value	4.87%	1.17%	6.99%	-
Brandes - Net	5.32%	2.90%	6.99%	4.29% <sup>(1/05)</sup>
Mondrian	3.97%	2.46%	-	4.70% <sup>(4/12)</sup>
MSCI ACWI ex-US Index	4.37%	1.63%	6.92%	4.06% <sup>(4/12)</sup>
MSCI ACWI ex-US Value	4.87%	1.17%	6.99%	3.96% <sup>(4/12)</sup>
Mondrian - Net	3.50%	1.98%	-	4.22% <sup>(4/12)</sup>
Lazard	3.80%	2.22%	-	5.48% <sup>(4/12)</sup>
MSCI ACWI ex-US Index	4.37%	1.63%	6.92%	4.06% <sup>(4/12)</sup>
MSCI ACWI ex-US Value	4.87%	1.17%	6.99%	3.96% <sup>(4/12)</sup>
Lazard - Net	3.40%	1.74%	-	4.91% <sup>(4/12)</sup>

## 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 October 31, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Intl Large Cap Active Core</b>	<b>(7.22%)</b>	<b>(7.87%)</b>	<b>(7.66%)</b>	<b>(5.04%)</b>
Arrowstreet	(7.85%)	(7.26%)	(7.38%)	(5.50%)
MSCI ACWI ex-US Index	(8.13%)	(9.65%)	(10.97%)	(8.24%)
Arrowstreet - Net	(7.85%)	(7.37%)	(7.70%)	(5.94%)
Brown	(8.48%)	(9.06%)	(6.00%)	(2.78%)
MSCI ACWI ex-US Index	(8.13%)	(9.65%)	(10.97%)	(8.24%)
Brown - Net	(8.48%)	(9.12%)	(6.17%)	(3.56%)
GlobeFlex	(9.43%)	(11.32%)	(12.92%)	(10.24%)
MSCI ACWI ex-US Index	(8.13%)	(9.65%)	(10.97%)	(8.24%)
GlobeFlex - Net	(9.43%)	(11.41%)	(13.16%)	(10.56%)
Progress Intl Equity	0.00%	(0.94%)	1.01%	4.56%
Custom Benchmark	(8.13%)	(9.65%)	(10.97%)	(7.88%)
MSCI ACWI ex-US Index	(8.13%)	(9.65%)	(10.97%)	(8.24%)
Progress Intl Equity - Net	0.00%	(1.07%)	0.64%	4.05%
<b>Intl Large Cap Pass. Core</b>	<b>(7.92%)</b>	<b>(8.94%)</b>	<b>(8.74%)</b>	<b>(6.55%)</b>
NTGI MSCI EAFE Idx	(7.92%)	(8.94%)	(8.74%)	(6.55%)
MSCI EAFE Index	(7.96%)	(8.95%)	(9.28%)	(6.85%)
NTGI EAFE Idx - Net	(7.92%)	(8.94%)	(8.74%)	(6.56%)
<b>International Small Cap</b>	<b>(11.45%)</b>	<b>(13.77%)</b>	<b>(15.81%)</b>	<b>(12.88%)</b>
Franklin Templeton	(9.98%)	(12.14%)	(13.49%)	(10.85%)
ACWI Small Cap ex US	(9.73%)	(11.71%)	(13.71%)	(9.73%)
Franklin Templeton - Net	(9.98%)	(12.14%)	(13.80%)	(11.32%)
William Blair	(12.46%)	(14.88%)	(17.48%)	(14.30%)
ACWI Small Cap ex US	(9.73%)	(11.71%)	(13.71%)	(9.73%)
Intl SC Blended Benchmark	(9.73%)	(11.71%)	(13.71%)	(9.73%)
William Blair - Net	(12.46%)	(15.05%)	(17.94%)	(14.78%)
<b>Emerging Markets</b>	<b>(8.75%)</b>	<b>(12.17%)</b>	<b>(16.53%)</b>	<b>(12.14%)</b>
Genesis	(8.75%)	(12.17%)	(16.53%)	(12.14%)
MSCI Emerging Markets Index	(8.70%)	(11.58%)	(15.45%)	(12.19%)
Genesis - Net	(8.75%)	(12.21%)	(16.87%)	(12.58%)

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 October 31, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
<b>Intl Large Cap Active Core</b>	<b>6.87%</b>	<b>5.11%</b>	<b>10.79%</b>	<b>4.49%</b> <sup>(2/08)</sup>
Arrowstreet	7.43%	5.24%	10.86%	4.59% <sup>(3/08)</sup>
MSCI ACWI ex-US Index	4.37%	1.63%	6.92%	1.32% <sup>(3/08)</sup>
Arrowstreet - Net	6.93%	4.75%	10.35%	4.10% <sup>(3/08)</sup>
Brown	4.42%	5.11%	10.77%	7.64% <sup>(10/04)</sup>
MSCI ACWI ex-US Index	4.37%	1.63%	6.92%	5.49% <sup>(10/04)</sup>
Brown - Net	3.31%	4.01%	10.00%	6.07% <sup>(1/05)</sup>
GlobeFlex	5.80%	4.34%	9.33%	4.55% <sup>(3/06)</sup>
MSCI ACWI ex-US Index	4.37%	1.63%	6.92%	3.14% <sup>(3/06)</sup>
GlobeFlex - Net	5.41%	3.93%	8.90%	4.10% <sup>(3/06)</sup>
Progress Intl Equity	10.52%	-	-	5.14% <sup>(7/14)</sup>
Custom Benchmark	5.78%	-	-	1.61% <sup>(7/14)</sup>
MSCI ACWI ex-US Index	4.37%	1.63%	6.92%	0.38% <sup>(7/14)</sup>
Progress Intl Equity - Net	9.97%	-	-	4.68% <sup>(7/14)</sup>
<b>Intl Large Cap Pass. Core</b>	<b>4.01%</b>	<b>2.40%</b>	<b>7.32%</b>	<b>3.10%</b> <sup>(1/00)</sup>
NTGI MSCI EAFE Idx	4.01%	2.40%	7.31%	3.47% <sup>(2/00)</sup>
MSCI EAFE Index	3.62%	2.02%	6.89%	3.09% <sup>(2/00)</sup>
NTGI EAFE Idx - Net	4.01%	2.39%	7.30%	4.52% <sup>(1/05)</sup>
<b>International Small Cap</b>	<b>3.84%</b>	<b>3.02%</b>	<b>9.06%</b>	<b>4.09%</b> <sup>(12/05)</sup>
Franklin Templeton	4.95%	3.57%	-	5.46% <sup>(8/11)</sup>
ACWI Small Cap ex US	5.47%	3.36%	10.88%	3.95% <sup>(8/11)</sup>
Franklin Templeton - Net	4.27%	2.89%	-	4.75% <sup>(8/11)</sup>
William Blair	3.01%	2.63%	-	8.20% <sup>(9/10)</sup>
ACWI Small Cap ex US	5.47%	3.36%	10.88%	6.51% <sup>(9/10)</sup>
Intl SC Blended Benchmark	5.47%	3.36%	9.67%	6.91% <sup>(9/10)</sup>
William Blair - Net	2.23%	1.84%	-	7.39% <sup>(9/10)</sup>
<b>Emerging Markets</b>	<b>5.85%</b>	<b>0.91%</b>	<b>10.49%</b>	<b>8.54%</b> <sup>(2/92)</sup>
Genesis	5.85%	0.91%	10.49%	10.33% <sup>(5/04)</sup>
MSCI Emerging Markets Index	6.92%	1.15%	8.20%	8.40% <sup>(5/04)</sup>
Genesis - Net	5.24%	0.34%	9.85%	8.25% <sup>(1/05)</sup>

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 October 31, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Dom. Fixed Active Core</b>	<b>(0.57%)</b>	<b>(0.55%)</b>	<b>(1.65%)</b>	<b>(1.08%)</b>
Brandes Core*	(0.62%)	(0.52%)	(1.59%)	(1.63%)
Blmbg Aggregate Index	(0.79%)	(0.79%)	(2.38%)	(2.05%)
Brandes Core - Net	(0.62%)	(0.52%)	(1.59%)	(1.63%)
EARNEST Partners	(0.59%)	(0.54%)	(1.90%)	(1.42%)
Blmbg Aggregate Index	(0.79%)	(0.79%)	(2.38%)	(2.05%)
EARNEST Partners - Net	(0.59%)	(0.54%)	(2.01%)	(1.53%)
Piedmont	(0.55%)	(0.59%)	(1.94%)	(1.60%)
Blmbg Aggregate Index	(0.79%)	(0.79%)	(2.38%)	(2.05%)
Piedmont - Net	(0.59%)	(0.67%)	(2.09%)	(1.78%)
Garcia Hamilton	(0.54%)	(0.53%)	(1.07%)	(0.20%)
Blmbg Aggregate Index	(0.79%)	(0.79%)	(2.38%)	(2.05%)
Garcia Hamilton	(0.56%)	(0.58%)	(1.16%)	(0.32%)
<b>Dom. Fixed Passive Core</b>	<b>(0.79%)</b>	<b>(0.77%)</b>	<b>(2.32%)</b>	<b>(2.00%)</b>
BlackRock US Debt	(0.79%)	(0.77%)	(2.31%)	(1.98%)
Blmbg Aggregate Index	(0.79%)	(0.79%)	(2.38%)	(2.05%)
BlackRock US Debt - Net	(0.80%)	(0.78%)	(2.32%)	(1.98%)
NTGI Blmbg Agg. Index	(0.78%)	(0.77%)	(2.33%)	(2.03%)
Blmbg Aggregate Index	(0.79%)	(0.79%)	(2.38%)	(2.05%)
NTGI Blmbg Agg. Index - Net	(0.78%)	(0.77%)	(2.33%)	(2.04%)

\* 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 October 31, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
<b>Dom. Fixed Active Core</b>	<b>1.69%</b>	<b>2.44%</b>	<b>5.00%</b>	<b>4.30%</b> <sup>(4/01)</sup>
Brandes Core *	-	-	-	0.59% <sup>(3/16)</sup>
Blmbg Aggregate Index	1.04%	1.83%	3.94%	0.61% <sup>(3/16)</sup>
Brandes Core - Net	-	-	-	0.59% <sup>(3/16)</sup>
EARNEST Partners	1.35%	2.44%	4.63%	4.19% <sup>(5/05)</sup>
Blmbg Aggregate Index	1.04%	1.83%	3.94%	3.73% <sup>(5/05)</sup>
EARNEST Partners - Net	1.20%	2.25%	4.43%	3.99% <sup>(5/05)</sup>
Piedmont	1.84%	2.32%	4.66%	4.00% <sup>(6/05)</sup>
Blmbg Aggregate Index	1.04%	1.83%	3.94%	3.67% <sup>(6/05)</sup>
Piedmont - Net	1.68%	2.16%	4.49%	3.81% <sup>(6/05)</sup>
Garcia Hamilton	1.88%	-	-	1.82% <sup>(6/15)</sup>
Blmbg Aggregate Index	1.04%	1.83%	3.94%	0.95% <sup>(6/15)</sup>
Garcia Hamilton	1.77%	-	-	1.72% <sup>(6/15)</sup>
<b>Dom. Fixed Passive Core</b>	<b>1.09%</b>	<b>1.92%</b>	<b>4.06%</b>	<b>5.78%</b> <sup>(1/90)</sup>
BlackRock US Debt	1.14%	1.96%	-	2.10% <sup>(10/13)</sup>
Blmbg Aggregate Index	1.04%	1.83%	3.94%	1.97% <sup>(10/13)</sup>
BlackRock US Debt - Net	1.14%	1.96%	-	2.10% <sup>(10/13)</sup>
NTGI Blmbg Agg. Index	1.05%	1.87%	4.05%	5.83% <sup>(2/90)</sup>
Blmbg Aggregate Index	1.04%	1.83%	3.94%	5.82% <sup>(2/90)</sup>
NTGI Blmbg Agg. Index - Net	1.04%	1.87%	4.04%	3.67% <sup>(1/05)</sup>

\* 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 October 31, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Domestic Fixed Core Plus</b>	<b>(0.87%)</b>	<b>(0.83%)</b>	<b>(2.40%)</b>	<b>(1.90%)</b>
LM Capital	(1.09%)	(1.01%)	(2.74%)	(2.43%)
Blmbg Aggregate Index	(0.79%)	(0.79%)	(2.38%)	(2.05%)
LM Capital - Net	(1.13%)	(1.05%)	(2.89%)	(2.58%)
Progress Fixed Income	0.00%	0.21%	(0.98%)	(0.50%)
Blmbg Aggregate Index	(0.79%)	(0.79%)	(2.38%)	(2.05%)
Progress Fixed Inc. - Net	0.00%	0.13%	(1.23%)	(0.83%)
BMO-TCH	(1.07%)	(0.84%)	(2.00%)	(1.36%)
Blmbg Aggregate Index	(0.79%)	(0.79%)	(2.38%)	(2.05%)
BMO-TCH. - Net	(1.07%)	(0.87%)	(2.13%)	(1.49%)
Western	(1.28%)	(1.58%)	(3.69%)	(2.99%)
Blmbg Aggregate Index	(0.79%)	(0.79%)	(2.38%)	(2.05%)
Western - Net	(1.28%)	(1.58%)	(3.75%)	(3.09%)
<b>Bank Loans</b>	<b>(0.10%)</b>	<b>1.03%</b>	<b>4.05%</b>	<b>4.60%</b>
Barings Global Loan Fund	(0.10%)	1.03%	4.05%	4.60%
Custom Benchmark	0.09%	1.25%	4.46%	4.99%
Barings Global Loan Fund - Net	(0.10%)	1.03%	3.71%	4.15%
<b>Emerging Markets</b>	<b>(1.71%)</b>	<b>(3.98%)</b>	<b>(8.75%)</b>	<b>(6.51%)</b>
Standish	(1.71%)	(3.98%)	(8.75%)	(6.51%)
Custom Benchmark	(1.67%)	(3.55%)	(6.84%)	(4.98%)
Standish - Net	(1.71%)	(4.06%)	(9.00%)	(6.84%)
<b>Opportunistic Fixed Income</b>	<b>1.43%</b>	<b>2.72%</b>	<b>3.86%</b>	<b>3.81%</b>
Crescent	1.43%	2.72%	3.86%	3.81%
Custom Benchmark	(0.83%)	0.36%	2.42%	2.69%
Crescent - Net	1.43%	2.60%	3.32%	3.14%
<b>High Yield</b>	<b>(0.88%)</b>	<b>0.09%</b>	<b>1.38%</b>	<b>1.94%</b>
Mackay Shields	(0.88%)	0.09%	1.37%	1.93%
ML High Yield Cash Pay Index	(1.64%)	(0.35%)	0.82%	0.83%
Mackay Shields - Net	(0.88%)	(0.00%)	1.11%	1.57%

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.

Crescent Custom Benchmark is 50% ML U.S. High Yield Master II Index and 50% S&P/LSTA Leveraged Loan 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 October 31, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception	
<b>Domestic Fixed Core Plus</b>	<b>2.04%</b>	<b>2.69%</b>	<b>5.75%</b>	<b>7.99%</b>	(1/82)
LM Capital	1.56%	2.32%	5.52%	4.49%	(5/05)
Blmbg Aggregate Index	1.04%	1.83%	3.94%	3.73%	(5/05)
LM Capital - Net	1.38%	2.15%	5.35%	4.32%	(5/05)
Progress Fixed Income	2.32%	2.74%	5.05%	4.61%	(1/06)
Blmbg Aggregate Index	1.04%	1.83%	3.94%	3.80%	(1/06)
Progress Fixed Inc. - Net	1.99%	2.39%	4.70%	4.27%	(1/06)
BMO-TCH	3.03%	3.25%	5.94%	4.67%	(5/05)
Blmbg Aggregate Index	1.04%	1.83%	3.94%	3.73%	(5/05)
BMO-TCH - Net	2.90%	3.12%	5.81%	4.54%	(5/05)
Western	2.18%	2.94%	6.47%	5.09%	(11/01)
Blmbg Aggregate Index	1.04%	1.83%	3.94%	3.97%	(11/01)
Western - Net	2.05%	2.81%	6.33%	4.44%	(1/05)
<b>Bank Loans</b>	<b>6.04%</b>	-	-	<b>4.77%</b>	(8/14)
Barings Global Loan Fund	6.04%	-	-	4.77%	(8/14)
Custom Benchmark	5.57%	-	-	4.21%	(8/14)
Barings Global Loan Fund - Net	5.49%	-	-	4.20%	(8/14)
<b>Emerging Markets</b>	<b>4.04%</b>	-	-	<b>0.64%</b>	(8/14)
Standish	4.04%	-	-	0.64%	(8/14)
Custom Benchmark	3.68%	0.66%	6.64%	(0.01%)	(8/14)
Standish - Net	3.68%	-	-	0.32%	(8/14)
<b>Opportunistic Fixed Income</b>	<b>5.88%</b>	-	-	<b>3.84%</b>	(9/14)
Crescent	5.88%	-	-	3.84%	(9/14)
Custom Benchmark	6.01%	4.34%	9.41%	3.94%	(9/14)
Crescent - Net	5.24%	-	-	3.35%	(9/14)
<b>High Yield</b>	<b>6.76%</b>	<b>5.44%</b>	<b>10.99%</b>	<b>9.53%</b>	(4/86)
Mackay Shields	7.08%	5.52%	10.37%	8.78%	(11/00)
ML High Yield Cash Pay Index	6.61%	4.66%	11.07%	7.50%	(11/00)
Mackay Shields - Net	6.71%	5.16%	9.98%	6.76%	(1/05)

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

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

Crescent Custom Benchmark is 50% ML U.S. High Yield Master II Index and 50% S&P/LSTA Leveraged Loan Index.

**Five Best Performing Portfolio's vs. Benchmarks**

Manager	Year-to-Date Outperformance	Since Inception Outperformance	
	(in % points)	(in % points)	
Frontier	11.51	4.98	07/31/1988
Brandes	7.83	4.11	12/31/1995
Sands	5.61	2.14	10/31/2003
Brown	4.97	2.15	09/30/2004
Arrowstreet	3.59	2.98	02/29/2008

**Five Worst Performing Portfolio's vs. Benchmarks**

Manager	Year-to-Date Underperformance	Since Inception Underperformance	
	(in % points)	(in % points)	
Channing	-4.22	0.88	06/30/2011
Ativo	-3.85	-0.47	09/30/2010
William Blair Int'l SC	-3.77	1.69	08/31/2010
BMO	-2.33	2.52	01/31/2001
Pyramis SCG	-1.98	5.18	07/31/1988

**Five Highest Returning Portfolios**

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
Frontier	12.62	13.15	07/31/1988
Sands	12.22	11.66	10/31/2003
NTGI S&P500 Gr	7.69	7.61	07/31/2001
Babson	4.05	4.65	07/31/2014
Crescent	3.86	3.96	07/31/2014

**Five Lowest Returning Portfolios**

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
William Blair Int'l SC	-17.48	8.20	08/31/2010
Genesis	-16.53	10.33	04/30/2004
Franklin	-13.49	5.46	07/31/2011
GlobeFlex	-12.92	4.52	02/28/2006
William Blair	-11.99	9.17	09/30/2002

Returns are shown gross of investment management fees.

Excludes Real Estate and Alternative Investments portfolios.