

November 30, 2018



**Illinois Municipal
Retirement Fund
Monthly Performance Report**

**Investment Measurement Service
Monthly Review**

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Market Environment

As of November 30, 2018

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell:3000 Index	2.00	4.48	5.53	11.80	10.62	14.51
S&P:500	2.04	5.11	6.27	12.16	11.12	14.31
Russell:2000 Index	1.59	0.98	0.57	10.08	7.50	14.04
MSCI:ACWI ex US	0.95	(10.13)	(8.12)	5.43	1.79	7.66
MSCI:EM	4.12	(12.24)	(9.09)	9.41	1.90	9.13
Blmbg:Aggregate	0.60	(1.79)	(1.34)	1.33	2.03	3.67
NCREIF:Total Index	0.55	6.44	7.08	7.46	9.45	7.15
Blmbg:Commodity Price Idx	(0.76)	(6.36)	(3.67)	0.61	(7.85)	(3.89)

Risk-off sentiment was pervasive among market participants in November as fears of slowing global growth loomed. Disappointing third quarter GDP figures outside of the U.S., most notably in Germany and China, sparked concerns that corporate earnings may soon follow suit. Oil has been a victim of the anticipated slowdown, with WTI crude oil dropping below \$51 per barrel in November, down from its October peak of over \$75. In the U.S. mid-term elections, Republicans lost control of the House of Representatives following the November midterm elections, yet modestly increased their majority in the Senate. The resulting split in Congress will make further tax reform and other Republican initiatives more difficult to pass. The Federal Reserve announced at its November meeting that the targeted federal funds rate would remain unchanged. The yield on the 10-year Treasury fell throughout November to end the month at 3.01%. In Europe, equities in both the U.K. and the broader Eurozone traded lower as political turmoil continued to haunt the region.

The U.S. economy added 155,000 nonfarm payrolls in November, which was near the lower end of consensus estimates. Overall, the November report was relatively benign, with both the unemployment and participation rates remaining unchanged from October; 3.7% and 62.9%, respectively. Hourly earnings growth was also consistent with October, growing at a year-over-year rate of 3.1% and increasing 0.2% month-over-month.

October's inflation figures came in near expectations. Year-over-year growth in headline CPI was in line with consensus expectations at 2.5%. Core CPI met the low end of the consensus range with a 2.1% year-over-year change. Energy price, specifically gasoline supported the headline figure in October. Housing prices, a major component in the consumer report, moderated during the month.

The second estimate of third quarter GDP remained unchanged at 3.5%, slightly exceeding analysts' consensus estimate of 3.3%. Consumer spending growth was revised down 40 basis points to 3.6%, but still drove the overall appreciation in GDP. The replenishment of inventories that were drawn down in the second quarter contributed more to growth than was initially estimated. The impact of net exports was revised down slightly, culminating in a total negative impact of 1.9 percentage points on total GDP.

*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

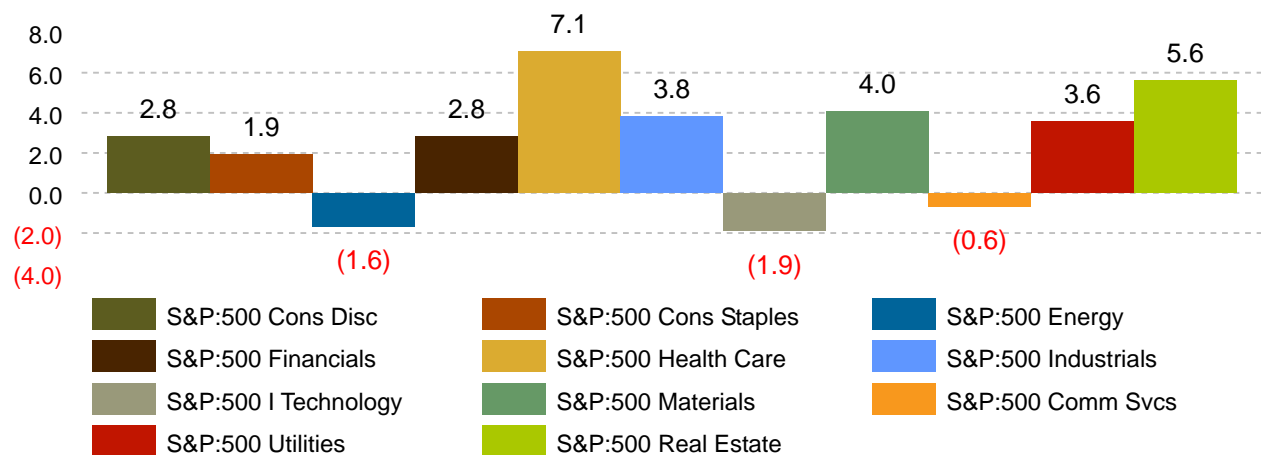
As of November 30, 2018

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell:3000 Index	2.00	4.48	5.53	11.80	10.62	14.51
Russell:1000 Index	2.04	4.76	5.92	11.94	10.89	14.55
Russell:1000 Growth	1.06	7.75	8.59	13.97	13.04	16.54
Russell:1000 Value	2.99	1.48	2.96	9.82	8.65	12.46
Russell:Midcap Index	2.46	0.95	1.89	9.84	9.14	15.71
Russell:2000 Index	1.59	0.98	0.57	10.08	7.50	14.04
Russell:2000 Growth	1.56	2.69	2.81	9.97	8.22	15.55
Russell:2000 Value	1.61	(0.88)	(1.83)	10.08	6.71	12.50

U.S. equities saw a bounce-back in November after a tough October where the S&P 500 Index fell 6.8%. However, the ride throughout the month was anything but smooth. The benchmark reached a peak intra-month gain of 3.8% on November 7, fell to an intra-month low of -2.7% on November 23, and finally rebounded to finish up 2.0%. Early gains came on the heels of a strong October jobs report that included unemployment at a 49-year low and the largest percentage hourly wage increases since 2009. U.S. equities then reversed course on concerns of slowing earnings growth, sparked by numerous Apple suppliers lowering guidance. The late-month surge came as investors perceived comments in a speech given by Fed Chair Jerome Powell as dovish and reacted favorably. Large caps outperformed small caps in the period (Russell 1000 Index: +2.0% vs. Russell 2000 Index: +1.6%) while value outperformed growth for a second consecutive month (Russell 1000 Value: +3.0% vs. Russell 1000 Growth: +1.1%). Mid caps were a strong segment of the market, with the Russell Midcap Index returning 2.5%.

Eight of 11 sectors produced a positive return in November led by Health Care and Real Estate, which gained 7.1% and 5.6%, respectively. The result of midterm elections - a split congress - helped allay concerns of major legislative changes and aided performance of sectors like Health Care which are heavily impacted by regulation. Information Technology (IT) and Energy were the worst performing sectors in the month. IT was weighed down by the aforementioned Apple news, and Energy declined along with oil prices (down more than 22% on oversupply).

S&P 500 Index Sector Returns



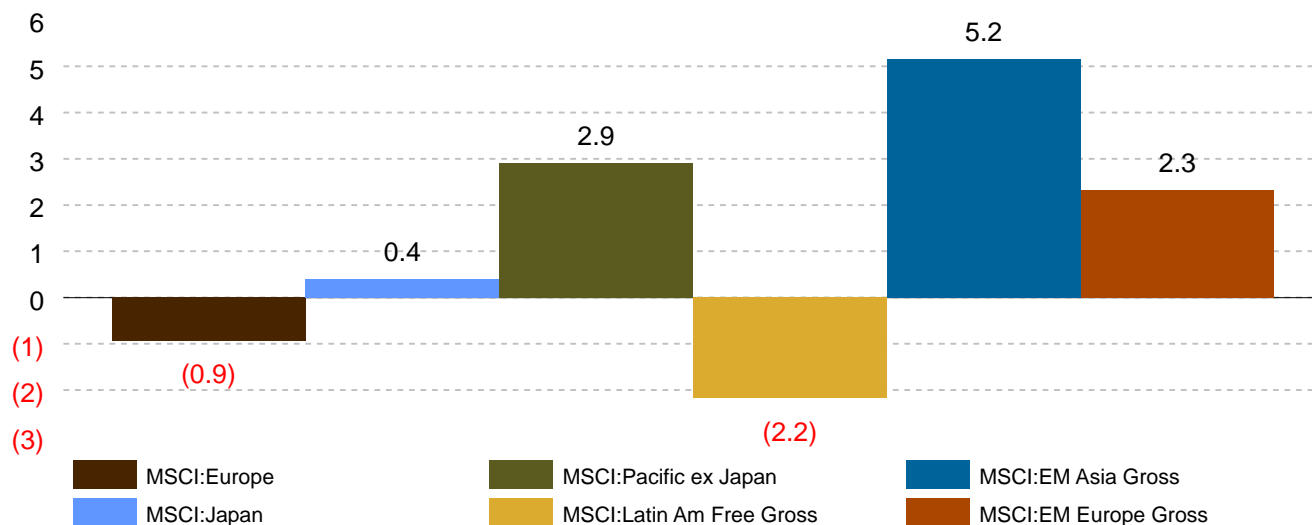
Non-U.S. Equity Overview As of November 30, 2018

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
MSCI:ACWI ex US	0.95	(10.13)	(8.12)	5.43	1.79	7.66
MSCI:EAFE	(0.13)	(9.39)	(7.94)	4.12	1.84	7.47
MSCI:EAFE Hedged Net	(0.02)	(3.50)	(2.17)	5.21	6.13	8.86
MSCI:EM	4.12	(12.24)	(9.09)	9.41	1.90	9.13
MSCI:ACWI ex US Small Cap	0.25	(13.49)	(10.83)	5.81	3.46	11.48

Developed non-U.S. equities declined in November (MSCI EAFE Index: -0.1%) while emerging market equities posted a strong gain (MSCI Emerging Markets Index: +4.1%). In combination, international equities added 0.9% in the month (MSCI ACWI ex U.S.), trailing their U.S. counterparts (Russell 1000 Index: +2.0%). Geopolitical concerns in Europe were the primary detractor among developed non-U.S. markets as the European Union dealt with both Brexit negotiations and battles over the rejected Italian budget law. Conversely, emerging markets were aided by optimism over a meeting between President Trump and President Xi at the G20 summit. The dollar had minimal impact in November (MSCI EAFE Index: -0.1% vs MSCI EAFE Hedged Net Index: -0.0%). Non-U.S. small cap stocks posted a modest gain (MSCI ACWI ex U.S. Small Cap Index: +0.2%).

Emerging Asia was the best performing region as China's rebound lifted the MSCI EM Asia Gross Index to a 5.2% gain, although India and South Korea also contributed strong returns to the region. Pacific ex Japan also performed well, lifted by Hong Kong and Singapore, both of which bounced back after dramatic declines in October. Latin America was the worst performing region as Mexico slid amid an unexpected central bank rate hike. Brazil also weighed on the region, modestly pulling back from the significant gains achieved last month when the country elected market-friendly presidential candidate Jair Bolsonaro. As previously mentioned, Europe also posted losses (MSCI Europe: -0.9%).

MSCI Regional Returns

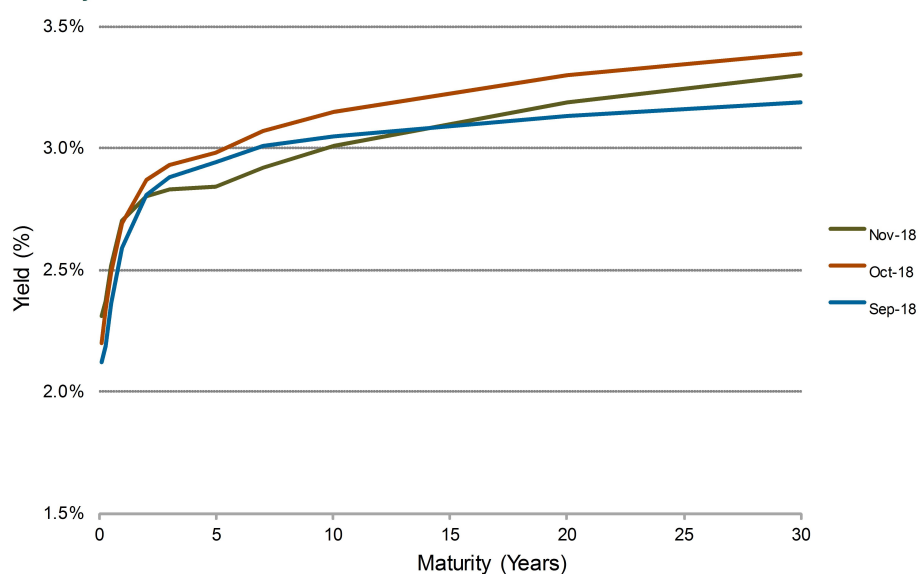


Fixed Income Overview

As of November 30, 2018

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Blmbg:Aggregate	0.60	(1.79)	(1.34)	1.33	2.03	3.67
Blmbg:Long Gov/Credit	0.55	(8.08)	(6.35)	2.50	4.49	6.63
Blmbg:US Government	0.88	(1.22)	(0.92)	0.64	1.38	2.25
Blmbg:Credit	(0.07)	(3.56)	(2.79)	2.39	2.86	6.01
Blmbg:Mortgage Backed Sec	0.90	(0.81)	(0.49)	1.09	2.06	3.09
Blmbg:US TIPS	0.48	(1.80)	(0.90)	1.66	1.28	4.09
ML:US High Yield Cash Pay	(0.89)	(0.08)	0.21	7.09	4.38	11.95
CS:Leveraged Loan	(0.82)	3.51	3.91	5.50	3.91	8.06
3 Month T-Bill	0.21	1.69	1.80	0.97	0.59	0.36

Treasury Yield Curve



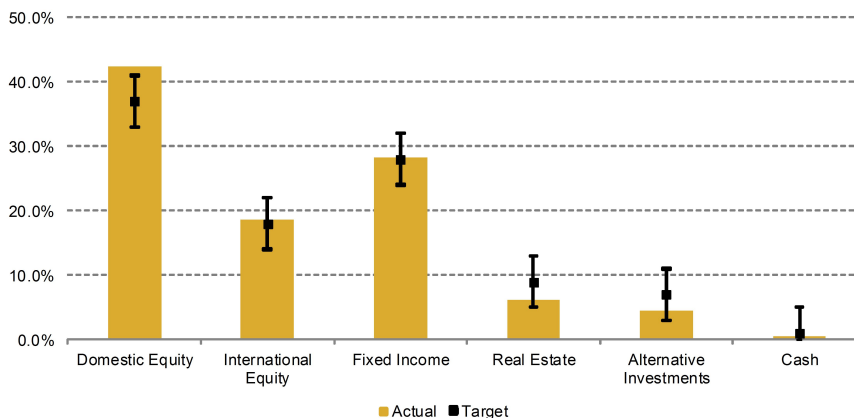
With the future of global growth coming into question, rates moved lower across the middle and longer maturities of the yield curve. The Bloomberg Aggregate Index returned 0.6% for the month. While yields on the extremely short end of the Treasury curve (one year or less) moved higher, longer maturities fell as much as 15 basis points over the period. The yield on the two-year fell seven basis points to 2.80%, the 10-year fell 14 basis points to 3.01% and the 30-year fell nine basis points to 3.30%. The spread between 2-year and 10-year treasuries reached a new post-crisis low of 21 basis points. As expected, the Fed left rates unchanged at their November meeting and the market is pricing in an 80% chance of a fourth rate hike in 2018 at the Fed's December meeting. Rate hike expectations for 2019 were lowered when Fed Chair Jerome Powell said rates are "just below" the neutral level, a change in language from previous meetings.

Investment grade corporate spreads widened 20 basis points in November and high yield spreads widened 47 basis points. For the month the Bloomberg U.S. Credit Index fell 0.1% and the Merrill Lynch High Yield Cash Pay Index fell 0.9%. Despite the spread widening, long bonds (Bloomberg Long Gov/Credit Index) performed well returning 0.6% for the month. Government bonds (Bloomberg U.S. Government Index) and Mortgages (Bloomberg Mortgage Backed Securities Index) were the best performing sectors, both up 0.9% in November. The Credit Suisse Leveraged Loan Index fell 0.8% for the month but leads the way year-to-date up 3.5%. The Bloomberg Aggregate Index is down 1.8% year-to-date.

Total Fund

The market value of the Total Fund was \$40.25 billion at the end of November, an increase of \$257.86 million from the prior month. The Fund returned 1.26% during the month, leading the 1.19% return of its benchmark. Domestic Equity (+2.08%) outperformed its benchmark (+2.00%). International Equity (+0.21%) underperformed its benchmark by 74 basis points. The Fixed Income composite returned 0.33% trailing its benchmark return of 0.60%. Real Estate returned 1.31% in November, leading its benchmark by 69 basis points. Over the last three months, Alternatives (+5.53%) outperformed the benchmark return of 2.18%. For the trailing year, the Fund is 23 basis points behind its benchmark, returning 1.32%.

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 November month end, Domestic Equity was 5.3% 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%. Staff is currently implementing these changes.



U.S. Equity

The U.S. Equity composite returned 2.08% during November, leading the Russell 3000 Index by eight basis points. For the month, large caps outperformed small caps.

Large Cap: IMRF's Large Cap managers returned 2.27% in November, leading the 2.04% return of the Russell 1000 Index. In aggregate, growth managers returned 2.06%, while the Russell 1000 Growth Index returned 1.06%. Value managers returned 2.55% collectively, underperforming the 2.99% return of the Russell 1000 Value Index.

Small Cap: The Small Cap composite (+1.40%) trailed the Russell 2000 Index by 19 basis points in November. The growth managers collectively returned 1.09%, relative to the 1.56% return of the Russell 2000 Growth Index. The value managers returned 2.37% during the month, outperforming the Russell 2000 Value Index by 76 basis points. The Micro Cap composite returned -0.44% in November.

Public Real Assets: The Public Real Assets portfolio managed by Brookfield and Cohen & Steers returned 1.54% in November, 98 basis points behind the custom benchmark.

International Equity

The International Equity composite returned 0.21% in November, 74 basis points behind its MSCI ACWI ex-U.S. benchmark (+0.95%).

International Large Cap: International Large Cap managers collectively returned -0.17% in November, trailing the MSCI ACWI ex-U.S. Index by 112 basis points. International Large Cap Growth managers (-0.05%) trailed the MSCI ACWI ex-U.S. Growth Index by 157 basis points. International Large Cap Value managers returned -0.18% for the month, 58 basis points behind the MSCI ACWI ex-U.S. Value Index.

International Small Cap and Emerging Markets: The International Small Cap managers returned -0.70% in November, 95 basis points behind the MSCI ACWI Small Cap ex-U.S. Index return of 0.25%. The Emerging Markets portfolio, managed by Genesis, returned 4.39% during the month, leading the MSCI Emerging Markets Index by 26 basis points.

Fixed Income

The Fixed Income composite returned 0.33% in November relative to the 0.60% return of the Bloomberg Aggregate Index.

Active Core: In aggregate, the Domestic Active Core managers were up 0.48% in November, 12 basis points behind the Bloomberg Aggregate Index.

Core Plus: Domestic Fixed Core Plus managers ended the month with a return of 0.32%, trailing the Bloomberg Aggregate Index by 28 basis points.

Bank Loans: The Bank Loans portfolio, managed by Barings, returned -1.05% for the month, underperforming the custom benchmark by 30 basis points.

Emerging Markets: The Emerging Markets Debt component, managed by Standish, returned 1.16% in November, 15 basis points behind the custom benchmark.

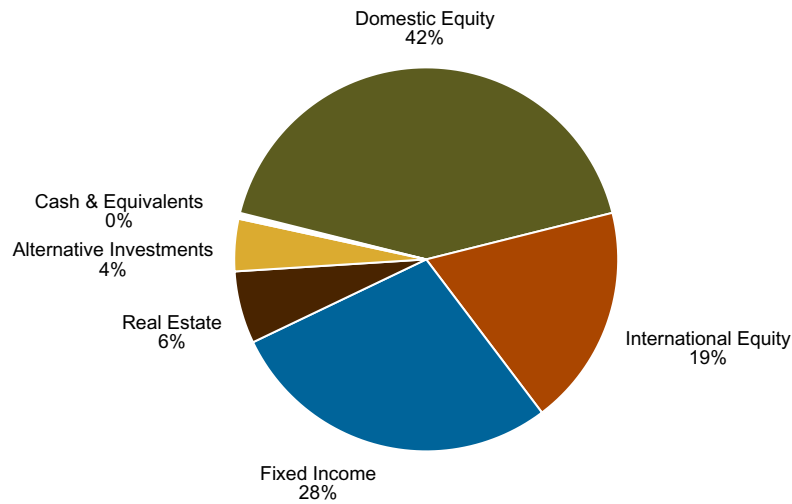
Opportunistic: The Opportunistic Fixed Income allocation, managed by Crescent, returned -1.10% in November, trailing the custom benchmark by 20 basis points.

High Yield: The High Yield allocation, managed by MacKay Shields, returned -0.45% in November, leading the benchmark return of -0.89%.

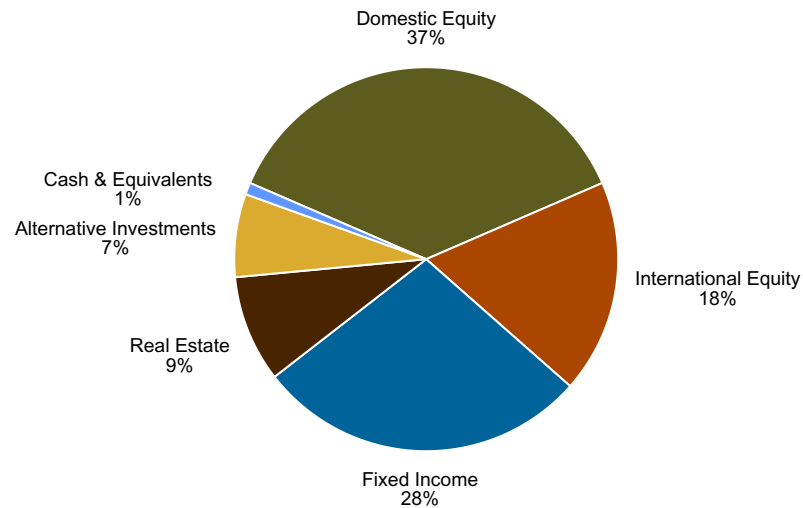
Actual vs Target Asset Allocation

The first chart below shows the Fund's asset allocation as of November 30, 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	17,005	42.3%	37.0%	5.3%	2,114
International Equity	7,479	18.6%	18.0%	0.6%	235
Fixed Income	11,353	28.2%	28.0%	0.2%	84
Real Estate	2,449	6.1%	9.0%	(2.9%)	(1,174)
Alternative Investments	1,764	4.4%	7.0%	(2.6%)	(1,054)
Cash & Equivalents	197	0.5%	1.0%	(0.5%)	(205)
Total	40,247	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 November 30, 2018, with the distribution as of October 31, 2018.

Asset Distribution Across Investment Managers

	November 30, 2018		October 31, 2018	
	Market Value	Percent	Market Value	Percent
Domestic Equity*	\$17,005,014,217	42.25%	\$17,307,898,189	43.28%
Large Cap Growth				
NTGI S&P 500 Growth Idx	2,122,156,571	5.27%	2,089,724,759	5.23%
Sands	1,700,112,373	4.22%	1,944,207,361	4.86%
Piedmont Russell 1000 G	925,895,958	2.30%	916,179,491	2.29%
Large Cap Value				
Dodge & Cox	1,334,764,681	3.32%	1,302,145,196	3.26%
BMO	1,331,033,199	3.31%	1,306,897,968	3.27%
LSV	1,519,522,557	3.78%	1,479,629,331	3.70%
NTGI S&P 500 Value Idx	1,677,865,102	4.17%	1,634,977,186	4.09%
Large Cap Core				
NTGI MarketCap Index	2,774,133,315	6.89%	2,719,088,005	6.80%
Small Cap Growth				
Frontier	510,738,996	1.27%	505,590,856	1.26%
FIAM	739,860,487	1.84%	979,049,324	2.45%
Small Cap Value				
Channing	222,127,602	0.55%	215,112,226	0.54%
Dimensional Small Cap Value	579,581,264	1.44%	574,482,106	1.44%
Inv. Counselors of Maryland	653,767,045	1.62%	632,140,972	1.58%
Micro Cap				
Ativo	24,457,236	0.06%	129,051,061	0.32%
Dimensional Micro Cap	426,343,157	1.06%	423,992,740	1.06%
Public Real Assets				
Brookfield	146,048,509	0.36%	145,044,697	0.36%
Cohen & Steers	316,606,164	0.79%	310,584,913	0.78%
International Equity	\$7,479,204,514	18.58%	\$7,462,549,810	18.66%
International Large Cap Growth				
EARNEST Partners	597,563,966	1.48%	596,967,117	1.49%
William Blair	671,010,093	1.67%	672,275,082	1.68%
International Large Cap Value				
Brandes	587,797,779	1.46%	594,892,756	1.49%
Lombardia	1	0.00%	1	0.00%
Mondrian	502,722,386	1.25%	498,169,123	1.25%
Lazard	105,341,788	0.26%	104,958,370	0.26%
International Large Cap Core				
Arrowstreet	645,563,038	1.60%	646,996,523	1.62%
Brown	322,964,620	0.80%	324,900,683	0.81%
GlobeFlex	555,793,943	1.38%	561,899,908	1.41%
NTGI MSCI EAFE Index	2,074,423,782	5.15%	2,073,069,751	5.18%
Progress Intl Equity	284,481,639	0.71%	284,481,639	0.71%
International Small Cap				
Franklin Templeton	176,613,022	0.44%	175,497,805	0.44%
William Blair	245,486,035	0.61%	249,240,062	0.62%
Emerging Markets				
Genesis	709,442,423	1.76%	679,200,991	1.70%

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

Asset Distribution Across Investment Managers

	November 30, 2018		October 31, 2018	
	Market Value	Percent	Market Value	Percent
Total Fixed Income	\$11,353,319,013	28.21%	\$10,816,243,025	27.05%
Domestic Fixed Core				
Brandes Core	340,725,184	0.85%	339,487,438	0.85%
EARNEST Partners	993,319,695	2.47%	735,472,472	1.84%
Piedmont Investment	737,312,494	1.83%	735,784,114	1.84%
Garcia Hamilton	976,203,652	2.43%	721,422,853	1.80%
Domestic Fixed Passive Core				
NTGI Blmbg Agg. Index	1,633,195,801	4.06%	1,623,846,625	4.06%
BlackRock US Debt	1,565,423,863	3.89%	1,556,020,250	3.89%
Domestic Fixed Core Plus				
LM Capital	839,347,780	2.09%	836,920,808	2.09%
Progress Fixed Income	875,744,136	2.18%	875,841,010	2.19%
Taplin, Canida, & Habacht	867,300,911	2.15%	864,600,116	2.16%
Western	1,011,257,817	2.51%	1,005,262,811	2.51%
Bank Loans				
Barings Global Loan Fund	573,983,808	1.43%	580,218,962	1.45%
Emerging Markets Debt				
Standish	194,386,819	0.48%	192,158,812	0.48%
Opportunistic Fixed Income				
Crescent	112,208,553	0.28%	113,458,703	0.28%
High Yield				
Mackay Shields	632,573,059	1.57%	635,412,248	1.59%
FIAM High Yield	335,441	0.00%	335,801	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 November 30, 2018, with the distribution as of October 31, 2018.

Asset Distribution Across Investment Managers

	November 30, 2018		October 31, 2018	
	Market Value	Percent	Market Value	Percent
Real Estate	\$2,448,703,957	6.08%	\$2,391,390,583	5.98%
Real Estate Core				
TA Buckhead Ind. Prop.	482,577,089	1.20%	469,220,157	1.17%
Barings Core Property Fund	1,070	0.00%	1,070	0.00%
Barings European Core Property	29,590,257	0.07%	29,611,164	0.07%
Blackstone Property Partners Europe	120,425,361	0.30%	117,871,690	0.29%
INVESCO Core RE	205,705,973	0.51%	205,705,973	0.51%
INVESCO Euro real estate	56,984,122	0.14%	57,024,415	0.14%
AEW Core Property Trust	233,396,523	0.58%	235,585,799	0.59%
CBRE US Core Property Trust	186,118,622	0.46%	186,118,622	0.47%
Real Estate Non-Core				
Artemis MWBE Spruce	170,858,129	0.42%	150,173,485	0.38%
Franklin Templeton EMREFF	21,515,955	0.05%	21,141,908	0.05%
Security Capital	52,451,755	0.13%	53,086,636	0.13%
Dune II	28,405,977	0.07%	27,668,644	0.07%
Non-Core Real Estate Funds*	760,683,778	1.89%	738,736,522	1.85%
Non-Core Intl Real Estate Funds**	97,441,327	0.24%	95,976,811	0.24%
Rockwood Fund VIII	262,601	0.00%	305,208	0.00%
Almanac ARS V	2,182,612	0.01%	3,055,098	0.01%
TA Fund IX	102,806	0.00%	107,380	0.00%
Alternative Investments	\$1,763,714,690	4.38%	\$1,731,677,145	4.33%
Absolute Return				
Aurora	739,873	0.00%	743,596	0.00%
Private Equity				
Abbott	335,969,165	0.83%	338,929,012	0.85%
Muller & Monroe ILPEFF	1	0.00%	1	0.00%
Muller & Monroe MPEFF	5,910,007	0.01%	5,910,007	0.01%
Pantheon	244,196,685	0.61%	244,890,694	0.61%
Private Equity Fund - Domestic	789,445,672	1.96%	758,384,342	1.90%
Private Equity Fund - International	91,480,192	0.23%	86,846,398	0.22%
Agriculture				
Premiere Partners IV	188,630,580	0.47%	188,630,580	0.47%
Timberland				
Forest Investment Assoc.	73,571,141	0.18%	73,571,141	0.18%
Unlisted Infrastructure				
Unlisted Infrastructure Funds	33,771,374	0.08%	33,771,374	0.08%
Cash & Equivalents	\$197,325,015	0.49%	\$279,662,609	0.70%
Total Fund	\$40,247,281,406	100.0%	\$39,989,421,362	100.0%

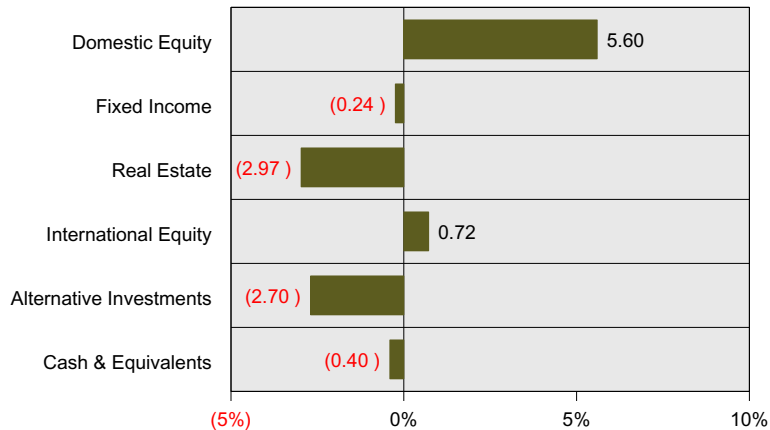
* Non-Core Real Estate Funds funded since September 2011.

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

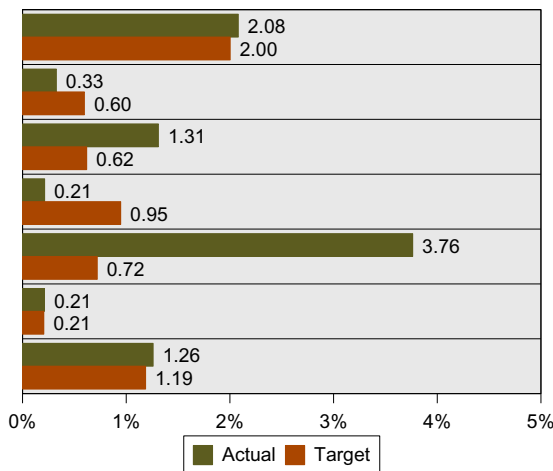
Monthly Total Fund Relative Attribution - November 30, 2018

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.

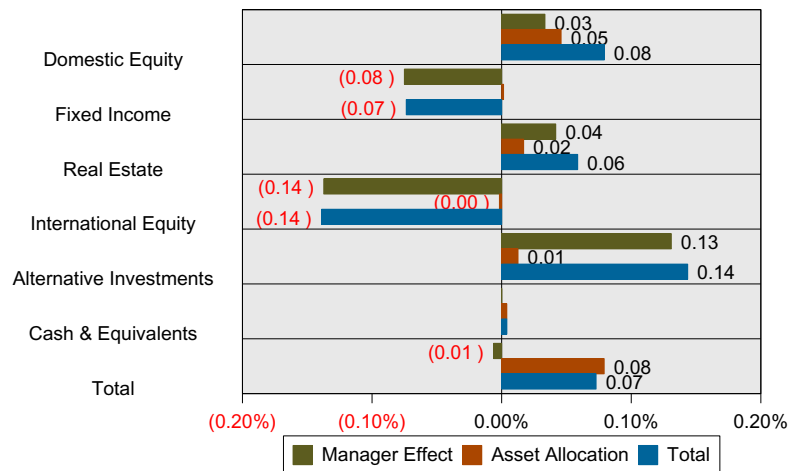
Asset Class Under or Overweighting



Actual vs Target Returns



Relative Attribution by Asset Class



Relative Attribution Effects for Month ended November 30, 2018

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	43%	37%	2.08%	2.00%	0.03%	0.05%	0.08%
Fixed Income	28%	28%	0.33%	0.60%	(0.08%)	0.00%	(0.07%)
Real Estate	6%	9%	1.31%	0.62%	0.04%	0.02%	0.06%
International Equity	19%	18%	0.21%	0.95%	(0.14%)	(0.00%)	(0.14%)
Alternative Investments	4%	7%	3.76%	0.72%	0.13%	0.01%	0.14%
Cash & Equivalents	1%	1%	0.21%	0.21%	0.00%	0.00%	0.00%

Total **1.26% = 1.19% + (0.01%) + 0.08%** **0.07%**

* 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 November 30, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Domestic Equity	2.08%	(6.85%)	3.82%	4.68%
Blended Benchmark**	2.00%	(5.35%)	4.48%	5.53%
Domestic Equity - Net	2.05%	(6.89%)	3.63%	4.47%
International Equity	0.21%	(7.70%)	(9.94%)	(7.88%)
MSCI ACWI x US (Net)	0.95%	(6.84%)	(10.13%)	(8.12%)
International Equity - Net	0.17%	(7.76%)	(10.13%)	(8.08%)
Fixed Income	0.33%	(0.83%)	(1.46%)	(0.94%)
Blmbg Aggregate Index	0.60%	(0.84%)	(1.79%)	(1.34%)
Fixed Income - Net	0.31%	(0.86%)	(1.58%)	(1.07%)
Real Estate	1.31%	2.00%	7.88%	9.07%
Blended Benchmark***	0.62%	1.87%	7.07%	7.72%
Real Estate - Net	1.31%	2.00%	7.88%	9.07%
Alternative Investments	3.76%	5.53%	15.25%	17.44%
Alternatives Custom Benchmark****	0.72%	2.18%	8.22%	9.00%
Alternative Investments - Net	3.75%	5.50%	15.11%	17.30%
Private Equity	4.56%	6.88%	19.49%	22.05%
Alternatives Custom Benchmark****	0.72%	2.18%	8.22%	9.00%
Agriculture	0.00%	(0.20%)	(3.24%)	(3.44%)
Blended Benchmark***	0.62%	1.87%	7.07%	7.72%
Timberland	0.00%	(2.00%)	(3.74%)	(0.75%)
Blended Benchmark***	0.62%	1.87%	7.07%	7.72%
Unlisted Infrastructure	0.00%	0.00%	-	-
Alternatives Custom Benchmark****	0.72%	2.18%	8.22%	9.00%
Total Fund	1.26%	(4.45%)	0.22%	1.32%
Total Fund - Net	1.23%	(4.47%)	0.07%	1.16%
Total Fund Benchmark	1.19%	(3.10%)	0.56%	1.55%

* 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 November 30, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Domestic Equity	10.88%	9.62%	14.71%	11.56% ^(1/82)
Blended Benchmark**	11.80%	10.60%	14.55%	11.36% ^(1/82)
Domestic Equity - Net	10.65%	9.38%	14.44%	8.33% ^(1/05)
International Equity	5.58%	2.86%	9.16%	7.59% ^(9/86)
MSCI ACWI x US (Net)	5.43%	1.79%	7.66%	-
International Equity - Net	5.27%	2.55%	8.83%	5.11% ^(1/05)
Fixed Income	2.48%	2.77%	5.58%	8.14% ^(1/82)
Blmbg Aggregate Index	1.33%	2.03%	3.67%	7.60% ^(1/82)
Fixed Income - Net	2.33%	2.62%	5.43%	4.42% ^(1/05)
Real Estate - Net	9.45%	10.52%	6.33%	7.38% ^(1/05)
Blended Benchmark***	7.54%	9.56%	7.80%	7.70% ^(1/05)
Alternative Investments	11.15%	9.84%	8.20%	10.87% ^(2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.47%	12.78% ^(2/86)
Alternative Investments - Net	10.93%	9.53%	7.91%	8.62% ^(1/05)
Private Equity	13.97%	12.97%	9.63%	13.10% ^(2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.47%	12.78% ^(2/86)
Agriculture	1.32%	4.34%	9.02%	7.45% ^(10/97)
Blended Benchmark***	7.54%	9.56%	7.80%	7.54% ^(10/97)
Timberland	(1.39%)	2.64%	2.50%	7.61% ^(10/92)
Blended Benchmark***	7.54%	9.56%	7.80%	7.56% ^(10/92)
Unlisted Infrastructure	-	-	-	6.96% ^(4/18)
Alternatives Custom Benchmark****	9.00%	9.00%	9.47%	5.91% ^(4/18)
Total Fund	7.35%	6.32%	10.33%	9.80% ^(1/82)
Total Fund - Net	7.15%	6.09%	10.10%	6.91% ^(1/05)
Total Fund Benchmark	7.08%	6.44%	9.49%	6.73% ^(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 November 30, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Large Cap Equity	2.27%	(5.75%)	4.59%	5.89%
Russell 1000 Index	2.04%	(4.83%)	4.76%	5.92%
Large Cap Growth	2.06%	(8.24%)	12.54%	12.97%
NTGI S&P 500 Growth Idx	1.55%	(5.95%)	9.36%	10.00%
S&P/Citi 500 Growth Index	1.53%	(5.99%)	9.42%	10.06%
NTGI S&P 500 Growth Idx - Net	1.55%	(5.95%)	9.35%	10.00%
Piedmont Russell 1000 G	1.06%	(7.43%)	-	-
Russell 1000 Growth Index	1.06%	(7.46%)	7.75%	8.59%
Piedmont Russell 1000 G - Net	1.06%	(7.44%)	-	-
Sands	3.32%	(10.54%)	15.96%	16.14%
LCG Blended Benchmark*	1.06%	(7.46%)	7.75%	8.59%
Russell 1000 Growth Index	1.06%	(7.46%)	7.75%	8.59%
Sands - Net	3.24%	(10.61%)	15.70%	15.87%
Large Cap Value	2.55%	(3.67%)	0.44%	2.32%
Dodge & Cox	2.62%	(3.08%)	4.04%	6.57%
LCV Blended Benchmark**	2.99%	(2.15%)	1.48%	2.96%
Russell 1000 Value Index	2.99%	(2.15%)	1.48%	2.96%
Dodge & Cox - Net	2.56%	(3.13%)	3.81%	6.34%
BMO	2.01%	(5.40%)	(1.85%)	0.00%
LCV Blended Benchmark**	2.99%	(2.15%)	1.48%	2.96%
Russell 1000 Value Index	2.99%	(2.15%)	1.48%	2.96%
BMO - Net	2.01%	(5.40%)	(2.01%)	(0.16%)
LSV	2.90%	(3.90%)	(0.64%)	0.91%
LCV Blended Benchmark**	2.99%	(2.15%)	1.48%	2.96%
Russell 1000 Value Index	2.99%	(2.15%)	1.48%	2.96%
LSV - Net	2.90%	(3.96%)	(0.87%)	0.62%
NTGI S&P 500 Value Idx	2.62%	(2.51%)	0.62%	2.29%
S&P/Citi 500 Value Index	2.63%	(2.46%)	0.58%	2.26%
NTGI S&P 500 Value Idx - Net	2.62%	(2.51%)	0.62%	2.29%
Large Cap Passive Core	2.02%	(5.40%)	4.47%	5.53%
NTGI MarketCap Idx	2.02%	(5.40%)	4.47%	5.53%
DJ U.S. Total Stock Market Index	2.00%	(5.41%)	4.44%	5.49%
NTGI MarketCap Idx - Net	2.02%	(5.40%)	4.46%	5.52%

* 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 November 30, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Large Cap Equity	11.62%	10.57%	14.70%	11.21% ^(1/82)
Russell 1000 Index	11.94%	10.89%	14.55%	11.56% ^(1/82)
Large Cap Growth	13.10%	11.93%	16.25%	11.82% ^(1/82)
NTGI S&P 500 Growth Idx	13.63%	13.16%	16.01%	7.66% ^(8/01)
S&P/Citi 500 Growth Index	13.65%	13.17%	15.99%	7.64% ^(8/01)
NTGI S&P 500 Growth Idx - Net	13.63%	13.15%	16.00%	9.59% ^(1/05)
Piedmont Russell 1000 G	-	-	-	(7.97%) ^(10/18)
Russell 1000 Growth Index	13.97%	13.04%	16.54%	(7.98%) ^(10/18)
Piedmont Russell 1000 G - Net	-	-	-	(7.98%) ^(10/18)
Sands	12.88%	11.23%	21.02%	11.84% ^(11/03)
LCG Blended Benchmark*	13.97%	13.04%	16.54%	9.55% ^(11/03)
Russell 1000 Growth Index	13.97%	13.04%	16.54%	9.60% ^(11/03)
Sands - Net	12.62%	10.98%	20.74%	10.74% ^(1/05)
Large Cap Value	10.77%	9.59%	13.60%	10.37% ^(10/82)
Dodge & Cox	13.41%	10.44%	15.08%	9.74% ^(9/03)
LCV Blended Benchmark**	9.82%	8.65%	12.46%	8.32% ^(9/03)
Russell 1000 Value Index	9.82%	8.65%	12.46%	8.50% ^(9/03)
Dodge & Cox - Net	13.17%	10.21%	14.83%	8.06% ^(1/05)
BMO	9.25%	9.45%	13.22%	8.10% ^(2/01)
LCV Blended Benchmark**	9.82%	8.65%	12.46%	5.64% ^(2/01)
Russell 1000 Value Index	9.82%	8.65%	12.46%	6.68% ^(2/01)
BMO - Net	9.02%	9.22%	12.97%	8.20% ^(1/05)
LSV	10.83%	9.81%	14.45%	11.12% ^(2/03)
LCV Blended Benchmark**	9.82%	8.65%	12.46%	9.29% ^(2/03)
Russell 1000 Value Index	9.82%	8.65%	12.46%	9.30% ^(2/03)
LSV - Net	10.57%	9.55%	14.16%	8.41% ^(1/05)
NTGI S&P 500 Value Idx	10.31%	8.77%	12.51%	5.73% ^(8/99)
S&P/Citi 500 Value Index	10.23%	8.70%	12.43%	5.70% ^(8/99)
NTGI S&P 500 Value Idx - Net	10.30%	8.77%	12.50%	6.96% ^(1/05)
Large Cap Passive Core	11.86%	10.66%	14.67%	11.11% ^(1/85)
NTGI MarketCap Idx	11.86%	10.66%	14.68%	10.87% ^(2/85)
DJ U.S. Total Stock Market Index	11.77%	10.56%	14.53%	10.82% ^(2/85)
NTGI MarketCap Idx - Net	11.85%	10.65%	14.67%	8.46% ^(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 November 30, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Small Cap Equity	1.40%	(11.75%)	1.01%	0.52%
Russell 2000 Index	1.59%	(11.62%)	0.98%	0.57%
Small Cap Growth	1.09%	(12.02%)	4.16%	4.71%
Frontier	1.02%	(12.69%)	13.77%	14.92%
Russell 2000 Growth Index	1.56%	(13.36%)	2.69%	2.81%
Frontier - Net	1.02%	(12.81%)	13.21%	14.36%
FIAM	1.35%	(11.48%)	0.47%	0.80%
Russell 2000 Growth Index	1.56%	(13.36%)	2.69%	2.81%
FIAM - Net	1.35%	(11.48%)	0.14%	0.36%
Small Cap Value	2.37%	(11.38%)	(1.73%)	(3.05%)
Channing	3.26%	(11.40%)	(3.64%)	(6.09%)
Russell 2000 Value Index	1.61%	(9.78%)	(0.88%)	(1.83%)
Channing - Net	3.26%	(11.53%)	(4.13%)	(6.57%)
DFA Small Cap Value	0.89%	(11.13%)	(2.39%)	(2.63%)
Russell 2000 Value Index	1.61%	(9.78%)	(0.88%)	(1.83%)
DFA Small Cap Value - Net	0.75%	(11.25%)	(2.88%)	(3.12%)
Inv. Counselors of Maryland	3.42%	(11.60%)	(0.46%)	(2.34%)
Russell 2000 Value Index	1.61%	(9.78%)	(0.88%)	(1.83%)
Inv. Couns. of Maryland - Net	3.31%	(11.70%)	(0.97%)	(2.84%)
Micro Cap	(0.44%)	(12.20%)	(0.89%)	(1.89%)
DFA Micro Cap	0.55%	(11.89%)	0.84%	0.03%
Russell 2000 Value Index	1.61%	(9.78%)	(0.88%)	(1.83%)
Russell 2000 Index	1.59%	(11.62%)	0.98%	0.57%
DFA Micro Cap - Net	0.41%	(12.01%)	0.33%	(0.47%)
Public Real Assets	1.54%	(0.68%)	0.74%	(0.17%)
Public Real Assets Benchmark (1)	2.52%	(0.49%)	(1.18%)	(2.22%)
Brookfield Public Global Inf	0.69%	(3.52%)	(1.93%)	(2.25%)
Dow Jones Global Infra Comp Idx	1.16%	(3.67%)	(3.57%)	(3.72%)
Brookfield Public Global Inf - Net	0.55%	(3.66%)	(2.46%)	(2.78%)
Cohen & Steers Public Global Inf	1.94%	0.69%	2.02%	0.82%
FTSE GI Core Infr 50/50 N	2.96%	0.58%	(0.39%)	(1.73%)
Cohen & St Public Global Inf - Net	1.82%	0.58%	1.57%	0.38%

(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 November 30, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Small Cap Equity	8.57%	6.97%	15.34%	12.15% ^(7/88)
Russell 2000 Index	10.08%	7.50%	14.04%	9.48% ^(7/88)
Small Cap Growth	7.63%	8.01%	15.72%	12.83% ^(7/88)
Frontier	12.69%	9.07%	16.75%	13.15% ^(8/88)
Russell 2000 Growth Index	9.97%	8.22%	15.55%	8.20% ^(8/88)
Frontier - Net	12.08%	8.47%	16.04%	9.64% ^(1/05)
FIAM	5.59%	8.48%	16.25%	13.36% ^(8/88)
Russell 2000 Growth Index	9.97%	8.22%	15.55%	8.20% ^(8/88)
FIAM - Net	5.15%	7.94%	15.66%	10.38% ^(1/05)
Small Cap Value	9.64%	7.29%	14.92%	11.89% ^(9/89)
Channing	7.60%	6.69%	-	10.64% ^(7/11)
Russell 2000 Value Index	10.08%	6.71%	12.50%	9.53% ^(7/11)
Channing - Net	7.06%	6.18%	-	10.03% ^(7/11)
DFA Small Cap Value	8.48%	6.53%	15.45%	12.21% ^(2/96)
Russell 2000 Value Index	10.08%	6.71%	12.50%	9.67% ^(2/96)
DFA Small Cap Value - Net	7.91%	6.01%	14.89%	7.90% ^(1/05)
Inv. Counselors of Maryland	12.07%	9.08%	15.28%	11.63% ^(5/99)
Russell 2000 Value Index	10.08%	6.71%	12.50%	9.21% ^(5/99)
Inv. Couns. of Maryland - Net	11.46%	8.55%	14.74%	8.70% ^(1/05)
Micro Cap	7.62%	4.08%	14.81%	11.61% ^(7/84)
DFA Micro Cap	11.19%	8.14%	15.80%	11.27% ^(8/87)
Russell 2000 Value Index	10.08%	6.71%	12.50%	9.94% ^(8/87)
Russell 2000 Index	10.08%	7.50%	14.04%	8.86% ^(8/87)
DFA Micro Cap - Net	10.64%	7.60%	15.24%	8.11% ^(1/05)
Public Real Assets	-	-	-	2.26% ^(8/17)
Public Real Assets Benchmark (1)	-	-	-	0.10% ^(8/17)
Brookfield Public Global Inf	-	-	-	(1.76%) ^(8/17)
Dow Jones Global Infra Comp Idx	5.61%	4.30%	11.80%	(2.94%) ^(8/17)
Brookfield Public Global Inf - Net	-	-	-	(2.24%) ^(8/17)
Cohen & Steers Public Global Inf	-	-	-	4.25% ^(8/17)
FTSE GI Core Infr 50/50 N	8.86%	6.87%	-	1.11% ^(8/17)
Cohen & St Public Global Inf - Net	-	-	-	3.85% ^(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 November 30, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Intl Large Cap Equity	(0.17%)	(7.65%)	(9.13%)	(7.30%)
MSCI ACWI ex-US Index	0.95%	(6.84%)	(10.13%)	(8.12%)
Intl Large Cap Growth	(0.05%)	(9.98%)	(11.37%)	(9.64%)
EARNEST Partners	0.10%	(7.84%)	(10.87%)	(8.65%)
MSCI ACWI ex-US Index	0.95%	(6.84%)	(10.13%)	(8.12%)
MSCI ACWI ex-US Growth	1.52%	(8.70%)	(10.01%)	(8.05%)
EARNEST Partners - Net	0.10%	(7.84%)	(10.87%)	(8.65%)
William Blair	(0.19%)	(12.08%)	(12.16%)	(10.85%)
MSCI ACWI ex-US Index	0.95%	(6.84%)	(10.13%)	(8.12%)
MSCI ACWI ex-US Growth	1.52%	(8.70%)	(10.01%)	(8.05%)
William Blair - Net	(0.29%)	(12.17%)	(12.48%)	(11.17%)
Intl Large Cap Value	(0.18%)	(4.65%)	(6.86%)	(4.81%)
Brandes	(1.19%)	(5.06%)	(4.29%)	(2.12%)
MSCI ACWI ex-US Index	0.95%	(6.84%)	(10.13%)	(8.12%)
MSCI ACWI ex-US Value	0.40%	(4.74%)	(9.43%)	(7.29%)
Brandes - Net	(1.19%)	(5.06%)	(4.45%)	(2.27%)
Mondrian	0.91%	(3.90%)	(8.77%)	(6.87%)
MSCI ACWI ex-US Index	0.95%	(6.84%)	(10.13%)	(8.12%)
MSCI ACWI ex-US Value	0.40%	(4.74%)	(9.43%)	(7.29%)
Mondrian - Net	0.91%	(3.90%)	(8.99%)	(7.09%)
Lazard	0.37%	(5.86%)	(10.29%)	(8.14%)
MSCI ACWI ex-US Index	0.95%	(6.84%)	(10.13%)	(8.12%)
MSCI ACWI ex-US Value	0.40%	(4.74%)	(9.43%)	(7.29%)
Lazard - Net	0.30%	(5.93%)	(10.51%)	(8.38%)

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 November 30, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Intl Large Cap Equity	5.38%	2.93%	9.01%	7.61% ^(9/86)
MSCI ACWI ex-US Index	5.43%	1.79%	7.66%	-
Intl Large Cap Growth	5.49%	2.53%	9.34%	7.99% ^(9/02)
EARNEST Partners	7.12%	2.03%	9.93%	8.80% ^(10/04)
MSCI ACWI ex-US Index	5.43%	1.79%	7.66%	5.53% ^(10/04)
MSCI ACWI ex-US Growth	5.76%	3.23%	8.68%	6.35% ^(10/04)
EARNEST Partners - Net	7.04%	1.89%	9.60%	7.50% ^(1/05)
William Blair	3.99%	2.91%	10.61%	9.11% ^(10/02)
MSCI ACWI ex-US Index	5.43%	1.79%	7.66%	7.82% ^(10/02)
MSCI ACWI ex-US Growth	5.76%	3.23%	8.68%	8.08% ^(10/02)
William Blair - Net	3.62%	2.54%	10.20%	5.63% ^(1/05)
Intl Large Cap Value	5.31%	2.58%	7.19%	8.62% ^(10/95)
Brandes	5.70%	2.75%	7.66%	8.89% ^(1/96)
MSCI ACWI ex-US Index	5.43%	1.79%	7.66%	4.90% ^(1/96)
MSCI ACWI ex-US Value	6.10%	1.25%	7.58%	-
Brandes - Net	5.48%	2.51%	7.40%	4.18% ^(1/05)
Mondrian	5.15%	2.60%	-	4.79% ^(4/12)
MSCI ACWI ex-US Index	5.43%	1.79%	7.66%	4.15% ^(4/12)
MSCI ACWI ex-US Value	6.10%	1.25%	7.58%	3.97% ^(4/12)
Mondrian - Net	4.72%	2.13%	-	4.31% ^(4/12)
Lazard	4.07%	2.18%	-	5.46% ^(4/12)
MSCI ACWI ex-US Index	5.43%	1.79%	7.66%	4.15% ^(4/12)
MSCI ACWI ex-US Value	6.10%	1.25%	7.58%	3.97% ^(4/12)
Lazard - Net	3.67%	1.70%	-	4.90% ^(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 November 30, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Intl Large Cap Active Core	(0.52%)	(8.71%)	(9.53%)	(7.14%)
Arrowstreet	(0.22%)	(6.50%)	(7.59%)	(5.47%)
MSCI ACWI ex-US Index	0.95%	(6.84%)	(10.13%)	(8.12%)
Arrowstreet - Net	(0.35%)	(6.62%)	(8.02%)	(5.91%)
Brown	(0.60%)	(10.23%)	(6.56%)	(4.60%)
MSCI ACWI ex-US Index	0.95%	(6.84%)	(10.13%)	(8.12%)
Brown - Net	(0.66%)	(10.29%)	(6.79%)	(4.84%)
GlobeFlex	(1.09%)	(10.10%)	(13.87%)	(11.13%)
MSCI ACWI ex-US Index	0.95%	(6.84%)	(10.13%)	(8.12%)
GlobeFlex - Net	(1.19%)	(10.20%)	(14.19%)	(11.46%)
Progress Intl Equity	0.00%	(9.08%)	(8.00%)	(5.39%)
Custom Benchmark	0.95%	(6.84%)	(10.13%)	(7.87%)
MSCI ACWI ex-US Index	0.95%	(6.84%)	(10.13%)	(8.12%)
Progress Intl Equity - Net	(0.14%)	(9.21%)	(8.46%)	(5.87%)
Intl Large Cap Pass. Core	0.07%	(6.86%)	(8.67%)	(7.41%)
NTGI MSCI EAFE Idx	0.07%	(6.86%)	(8.67%)	(7.41%)
MSCI EAFE Index	(0.13%)	(7.28%)	(9.39%)	(7.94%)
NTGI EAFE Idx - Net	0.07%	(6.86%)	(8.68%)	(7.42%)
International Small Cap	(0.70%)	(13.03%)	(16.41%)	(14.12%)
Franklin Templeton	0.43%	(10.23%)	(12.93%)	(10.78%)
ACWI Small Cap ex US	0.25%	(10.62%)	(13.49%)	(10.83%)
Franklin Templeton - Net	0.43%	(10.23%)	(13.43%)	(11.29%)
William Blair	(1.51%)	(14.93%)	(18.72%)	(16.31%)
ACWI Small Cap ex US	0.25%	(10.62%)	(13.49%)	(10.83%)
Intl SC Blended Benchmark	0.25%	(10.62%)	(13.49%)	(10.83%)
William Blair - Net	(1.73%)	(15.12%)	(19.36%)	(16.97%)
Emerging Markets	4.39%	(4.70%)	(12.87%)	(9.02%)
Genesis	4.39%	(4.65%)	(12.83%)	(8.98%)
MSCI Emerging Markets Index	4.13%	(5.40%)	(11.96%)	(8.75%)
Genesis - Net	4.39%	(4.75%)	(13.27%)	(9.48%)

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 November 30, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Intl Large Cap Active Core	6.41%	4.44%	11.16%	4.26% ^(2/08)
Arrowstreet	7.45%	4.87%	11.43%	4.53% ^(3/08)
MSCI ACWI ex-US Index	5.43%	1.79%	7.66%	1.40% ^(3/08)
Arrowstreet - Net	6.95%	4.38%	10.91%	4.04% ^(3/08)
Brown	3.83%	4.74%	11.43%	7.55% ^(10/04)
MSCI ACWI ex-US Index	5.43%	1.79%	7.66%	5.53% ^(10/04)
Brown - Net	3.03%	3.80%	10.64%	5.98% ^(1/05)
GlobeFlex	6.17%	3.96%	9.82%	4.43% ^(3/06)
MSCI ACWI ex-US Index	5.43%	1.79%	7.66%	3.20% ^(3/06)
GlobeFlex - Net	5.77%	3.56%	9.38%	3.98% ^(3/06)
Progress Intl Equity	7.53%	-	-	2.84% ^(7/14)
Custom Benchmark	6.82%	-	-	1.80% ^(7/14)
MSCI ACWI ex-US Index	5.43%	1.79%	7.66%	0.59% ^(7/14)
Progress Intl Equity - Net	7.00%	-	-	2.37% ^(7/14)
Intl Large Cap Pass. Core	4.58%	2.26%	7.92%	3.09% ^(1/00)
NTGI MSCI EAFE Idx	4.58%	2.26%	7.91%	3.46% ^(2/00)
MSCI EAFE Index	4.12%	1.84%	7.47%	3.07% ^(2/00)
NTGI EAFE Idx - Net	4.57%	2.25%	7.91%	4.50% ^(1/05)
International Small Cap	3.60%	2.93%	9.79%	4.01% ^(12/05)
Franklin Templeton	5.73%	3.89%	-	5.49% ^(8/11)
ACWI Small Cap ex US	5.81%	3.46%	11.48%	3.94% ^(8/11)
Franklin Templeton - Net	5.03%	3.16%	-	4.76% ^(8/11)
William Blair	2.06%	2.25%	-	7.91% ^(9/10)
ACWI Small Cap ex US	5.81%	3.46%	11.48%	6.48% ^(9/10)
Intl SC Blended Benchmark	5.81%	3.46%	10.26%	6.87% ^(9/10)
William Blair - Net	1.27%	1.46%	-	7.08% ^(9/10)
Emerging Markets	8.94%	2.29%	11.80%	8.69% ^(2/92)
Genesis	8.96%	2.30%	11.81%	10.59% ^(5/04)
MSCI Emerging Markets Index	9.81%	2.27%	9.50%	8.65% ^(5/04)
Genesis - Net	8.31%	1.70%	11.15%	8.53% ^(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 November 30, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Dom. Fixed Active Core	0.48%	(0.77%)	(1.17%)	(0.68%)
Brandes Core*	0.36%	(0.94%)	(1.24%)	(1.02%)
Blmbg Aggregate Index	0.60%	(0.84%)	(1.79%)	(1.34%)
Brandes Core - Net	0.36%	(0.94%)	(1.24%)	(1.02%)
EARNEST Partners	0.74%	(0.59%)	(1.18%)	(0.70%)
Blmbg Aggregate Index	0.60%	(0.84%)	(1.79%)	(1.34%)
EARNEST Partners - Net	0.71%	(0.62%)	(1.31%)	(0.83%)
Piedmont	0.21%	(0.94%)	(1.74%)	(1.30%)
Blmbg Aggregate Index	0.60%	(0.84%)	(1.79%)	(1.34%)
Piedmont - Net	0.21%	(0.98%)	(1.89%)	(1.44%)
Garcia Hamilton	0.47%	(0.78%)	(0.61%)	(0.05%)
Blmbg Aggregate Index	0.60%	(0.84%)	(1.79%)	(1.34%)
Garcia Hamilton	0.47%	(0.83%)	(0.70%)	(0.14%)
Dom. Fixed Passive Core	0.59%	(0.83%)	(1.74%)	(1.30%)
BlackRock US Debt	0.60%	(0.82%)	(1.72%)	(1.27%)
Blmbg Aggregate Index	0.60%	(0.84%)	(1.79%)	(1.34%)
BlackRock US Debt - Net	0.60%	(0.82%)	(1.73%)	(1.27%)
NTGI Blmbg Agg. Index	0.58%	(0.85%)	(1.76%)	(1.33%)
Blmbg Aggregate Index	0.60%	(0.84%)	(1.79%)	(1.34%)
NTGI Blmbg Agg. Index - Net	0.58%	(0.85%)	(1.77%)	(1.34%)

* 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 November 30, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Dom. Fixed Active Core	1.91%	2.58%	4.75%	4.31% ^(4/01)
Brandes Core *	-	-	-	0.70% ^(3/16)
Blmbg Aggregate Index	1.33%	2.03%	3.67%	0.81% ^(3/16)
Brandes Core - Net	-	-	-	0.70% ^(3/16)
EARNEST Partners	1.62%	2.62%	4.58%	4.22% ^(5/05)
Blmbg Aggregate Index	1.33%	2.03%	3.67%	3.75% ^(5/05)
EARNEST Partners - Net	1.46%	2.44%	4.38%	4.02% ^(5/05)
Piedmont	1.96%	2.41%	4.59%	3.99% ^(6/05)
Blmbg Aggregate Index	1.33%	2.03%	3.67%	3.69% ^(6/05)
Piedmont - Net	1.80%	2.25%	4.42%	3.80% ^(6/05)
Garcia Hamilton	2.19%	-	-	1.92% ^(6/15)
Blmbg Aggregate Index	1.33%	2.03%	3.67%	1.10% ^(6/15)
Garcia Hamilton	2.09%	-	-	1.82% ^(6/15)
Dom. Fixed Passive Core	1.38%	2.11%	3.76%	5.78% ^(1/90)
BlackRock US Debt	1.43%	2.17%	-	2.18% ^(10/13)
Blmbg Aggregate Index	1.33%	2.03%	3.67%	2.05% ^(10/13)
BlackRock US Debt - Net	1.43%	2.16%	-	2.18% ^(10/13)
NTGI Blmbg Agg. Index	1.33%	2.07%	3.74%	5.83% ^(2/90)
Blmbg Aggregate Index	1.33%	2.03%	3.67%	5.83% ^(2/90)
NTGI Blmbg Agg. Index - Net	1.32%	2.06%	3.73%	3.69% ^(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 November 30, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Domestic Fixed Core Plus	0.32%	(1.07%)	(2.30%)	(1.71%)
LM Capital	0.29%	(1.03%)	(2.45%)	(1.94%)
Blmbg Aggregate Index	0.60%	(0.84%)	(1.79%)	(1.34%)
LM Capital - Net	0.29%	(1.07%)	(2.61%)	(2.10%)
Progress Fixed Income	0.07%	(1.23%)	(1.75%)	(1.23%)
Blmbg Aggregate Index	0.60%	(0.84%)	(1.79%)	(1.34%)
Progress Fixed Inc. - Net	(0.01%)	(1.31%)	(2.07%)	(1.55%)
BMO-TCH	0.31%	(1.05%)	(1.70%)	(0.96%)
Blmbg Aggregate Index	0.60%	(0.84%)	(1.79%)	(1.34%)
BMO-TCH. - Net	0.28%	(1.08%)	(1.86%)	(1.12%)
Western	0.56%	(1.00%)	(3.15%)	(2.49%)
Blmbg Aggregate Index	0.60%	(0.84%)	(1.79%)	(1.34%)
Western - Net	0.56%	(1.00%)	(3.22%)	(2.56%)
Bank Loans	(1.05%)	(0.49%)	2.96%	3.36%
Barings Global Loan Fund	(1.05%)	(0.49%)	2.96%	3.36%
Custom Benchmark	(0.75%)	0.05%	3.68%	4.06%
Barings Global Loan Fund - Net	(1.05%)	(0.49%)	2.62%	2.97%
Emerging Markets	1.16%	1.67%	(7.69%)	(6.46%)
Standish	1.16%	1.67%	(7.69%)	(6.46%)
Custom Benchmark	1.31%	1.51%	(5.62%)	(4.47%)
Standish - Net	1.07%	1.58%	(8.02%)	(6.80%)
Opportunistic Fixed Income	(1.10%)	1.05%	2.72%	3.02%
Crescent	(1.10%)	1.05%	2.72%	3.02%
Custom Benchmark	(0.90%)	(1.11%)	1.49%	1.84%
Crescent - Net	(1.10%)	0.99%	2.18%	2.42%
High Yield	(0.45%)	(1.22%)	0.93%	1.39%
Mackay Shields	(0.45%)	(1.22%)	0.92%	1.38%
ML High Yield Cash Pay Index	(0.89%)	(1.94%)	(0.08%)	0.21%
Mackay Shields - Net	(0.53%)	(1.31%)	0.57%	0.94%

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 November 30, 2018

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception	
Domestic Fixed Core Plus	2.20%	2.76%	5.70%	7.97%	(1/82)
LM Capital	1.71%	2.41%	5.20%	4.48%	(5/05)
Blmbg Aggregate Index	1.33%	2.03%	3.67%	3.75%	(5/05)
LM Capital - Net	1.55%	2.24%	5.03%	4.31%	(5/05)
Progress Fixed Income	2.14%	2.61%	4.71%	4.52%	(1/06)
Blmbg Aggregate Index	1.33%	2.03%	3.67%	3.82%	(1/06)
Progress Fixed Inc. - Net	1.80%	2.27%	4.36%	4.17%	(1/06)
BMO-TCH	3.41%	3.40%	5.53%	4.67%	(5/05)
Blmbg Aggregate Index	1.33%	2.03%	3.67%	3.75%	(5/05)
BMO-TCH - Net	3.28%	3.26%	5.39%	4.54%	(5/05)
Western	2.47%	3.12%	6.66%	5.10%	(11/01)
Blmbg Aggregate Index	1.33%	2.03%	3.67%	3.99%	(11/01)
Western - Net	2.35%	2.99%	6.51%	4.45%	(1/05)
Bank Loans	6.00%	-	-	4.42%	(8/14)
Barings Global Loan Fund	6.00%	-	-	4.42%	(8/14)
Custom Benchmark	5.57%	-	-	3.95%	(8/14)
Barings Global Loan Fund - Net	5.46%	-	-	3.87%	(8/14)
Emerging Markets	4.77%	-	-	0.90%	(8/14)
Standish	4.77%	-	-	0.90%	(8/14)
Custom Benchmark	4.57%	1.44%	6.52%	0.29%	(8/14)
Standish - Net	4.41%	-	-	0.56%	(8/14)
Opportunistic Fixed Income	5.92%	-	-	3.49%	(9/14)
Crescent	5.92%	-	-	3.49%	(9/14)
Custom Benchmark	6.25%	4.06%	10.29%	3.64%	(9/14)
Crescent - Net	5.29%	-	-	3.01%	(9/14)
High Yield	7.09%	5.26%	11.92%	9.49%	(4/86)
Mackay Shields	7.42%	5.36%	11.11%	8.71%	(11/00)
ML High Yield Cash Pay Index	7.09%	4.38%	11.95%	7.41%	(11/00)
Mackay Shields - Net	7.01%	4.99%	10.72%	6.68%	(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.

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	11.08	4.95	07/31/1988
Sands	8.21	2.29	10/31/2003
Brandes	5.83	3.99	12/31/1995
Brown	3.57	2.02	09/30/2004
Dodge & Cox	2.56	1.42	08/31/2003

Five Worst Performing Portfolio's vs. Benchmarks

Manager	Year-to-Date Underperformance	Since Inception Underperformance	
	(in % points)	(in % points)	
William Blair Int'l SC	-5.23	1.44	08/31/2010
BMO	-3.33	2.46	01/31/2001
Channing	-2.75	1.11	06/30/2011
Pyramis SCG	-2.23	5.16	07/31/1988
LSV	-2.12	1.83	01/31/2003

Five Highest Returning Portfolios

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
Sands	15.96	11.84	10/31/2003
Frontier	13.77	13.15	07/31/1988
NTGI S&P500 Gr	9.36	7.67	07/31/2001
NTGI US MarketCap	4.47	10.87	01/31/1985
Babson	4.23	4.60	07/31/2014

Five Lowest Returning Portfolios

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
William Blair Int'l SC	-18.72	7.91	08/31/2010
GlobeFlex	-13.87	4.40	02/28/2006
Franklin	-12.93	5.49	07/31/2011
Genesis	-12.83	10.59	04/30/2004
William Blair	-12.16	9.11	09/30/2002

Returns are shown gross of investment management fees.

Excludes Real Estate and Alternative Investments portfolios.