Callan

November 30, 2019 Illinois Municipal Retirement Fund Monthly Performance Report

Investment Measurement Service Monthly Review

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Market Environment As of November 30, 2019

		Year to		Last 3	Last 5	Last 10
Index	Last Month	Date	Last Year	Years	Years	Years
Russell:3000 Index	3.80	27.34	15.49	14.22	10.61	13.41
S&P:500	3.63	27.63	16.11	14.88	10.98	13.44
Russell:2000 Index	4.12	22.01	7.51	8.57	8.22	12.38
MSCI:ACWI ex US	0.88	16.47	11.20	9.24	3.85	4.74
MSCI:EM	(0.14)	10.21	7.29	9.01	3.13	3.34
BImbg:Aggregate	(0.05)	8.79	10.79	4.10	3.08	3.59
NCREIF:Total Index	0.47	5.78	6.26	6.69	8.34	10.03
BImbg:Commodity Price Idx	(2.68)	0.52	(6.60)	(3.57)	(7.35)	(5.55)

November brought a reprieve from any major developments in trade negotiations between the U.S. and China. This provided a favorable environment for equities and corporate bonds as investors focused on mostly positive economic news. In the U.S., manufacturing picked up, corporate earnings came in stronger than expected, and the jobs report was way ahead of expectations. In Europe, consumer confidence and manufacturing numbers improved. While this generally boosted equities, gains in the U.S. dollar relative to other currencies impacted returns, particularly in emerging markets. The Bloomberg U.S. Dollar Index, which measures the dollar against a basket of other currencies, was up 0.9% in the month. With investors showing an appetite for risk, Treasury yields were up across the curve.

The employment report provided a significant upside surprise in November, adding 266,000 jobs compared to a consensus estimate of 187,000. This was the strongest reading since January when 312,000 jobs were added. The unemployment rate fell to 3.5% from 3.6% as a result, but the participation rate fell in tandem, down ten basis points to 63.2%. Average hourly earnings rose 3.1% from the prior year which is also up ten basis points from last month and ahead of expectations. However, compared to other historical periods with such low unemployment, wage gains remain muted.

The headline Consumer Price Index (CPI) climbed 0.3% in November and 2.1% over the trailing year. Housing and energy were primary contributors to inflation during the month, with medical costs, recreation, and food costs also climbing. Core CPI, which excludes food and energy, grew 0.2% in November and 2.3% over the trailing 12 months.

The second estimate of annualized third quarter GDP was revised upward by 20 basis points to 2.1%, surpassing last quarter's 2.0% growth. Stronger inventory investment was the primary source of the revision. Consumer spending continued to contribute to the expansion, along with residential investment and government spending. Business investment detracted from the growth figure.

^{*}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.

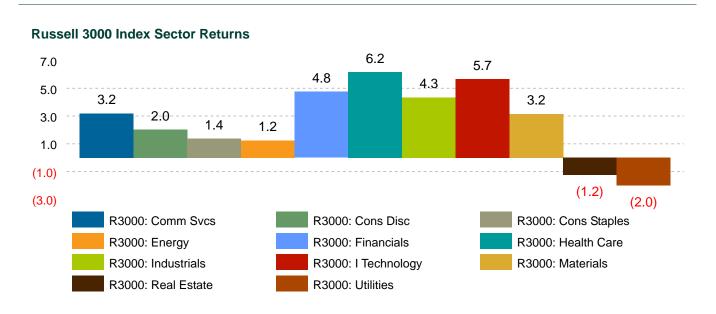


U.S. Equity Overview As of November 30, 2019

		Year to		Last 3	Last 5	Last 10
Index	Last Month	Date	Last Year	Years	Years	Years
Russell:3000 Index	3.80	27.34	15.49	14.22	10.61	13.41
S&P:500	3.63	27.63	16.11	14.88	10.98	13.44
Russell:1000 Index	3.78	27.74	16.10	14.67	10.80	13.49
Russell:1000 Growth	4.44	32.40	21.01	19.79	13.71	15.23
Russell:1000 Value	3.09	23.15	11.33	9.59	7.83	11.69
Russell:Midcap Index	3.57	27.61	14.96	11.63	8.88	13.56
Russell:2000 Index Russell:2000 Growth Russell:2000 Value	4.12 5.89 2.34	22.01 25.61 18.25	7.51 10.93 3.96	8.57 12.15 4.98	8.22 9.48 6.83	12.38 13.68 10.99

U.S. equities added another 3.6% in November, bringing the year-to-date return to a staggering 27.6% (S&P 500). A relatively benign period for U.S.-China trade negotiations allowed equities to climb unimpeded throughout the month. A strong manufacturing report, an upward revision in third quarter GDP, and stronger-than-expected corporate earnings supplied further support for the rally. Small caps outperformed large caps (Russell 2000 Index: +4.1% vs. Russell 1000 Index: +3.8%) while mid cap returns lagged large and small caps (Russell Midcap Index: +3.6%).

Nine out of 11 Russell 3000 Index sectors posted positive performance in November. For a second consecutive month, the more cyclical sectors outperformed. Health Care (+6.2%), Information Technology (+5.7%), and Industrials (+4.3%) were among the sectors lifted by hope of continued global economic strength if the U.S. and China strike a trade deal. Financials (+4.8%) benefitted from rising rates. Conversely, rising rates weighed on Real Estate (-1.2%) and Utilities (-2.0%) given their greater dependence on income.

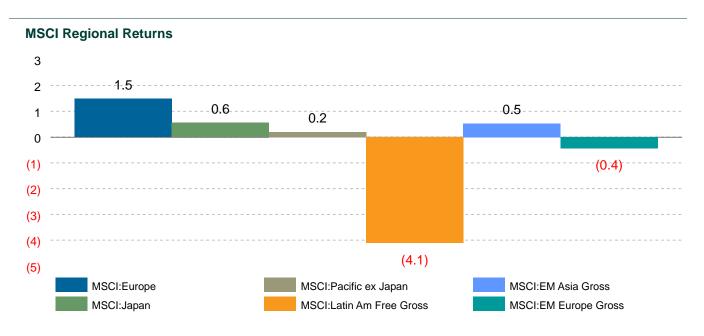


Non-U.S. Equity Overview As of November 30, 2019

Index MSCI:ACWI ex US	Last Month 0.88	Year to Date 16.47	Last Year 11.20	Last 3 Years 9.24	Last 5 Years 3.85	Last 10 Years 4.74
MSCI:EAFE MSCI:EAFE Hedged Net	1.13 2.23	18.17 22.72	12.44 15.77	9.62 10.95	4.26 7.49	5.32 8.38
MSCI:EM	(0.14)	10.21	7.29	9.01	3.13	3.34
MSCI:ACWI ex US Small Cap	1.67	16.67	10.32	8.66	5.75	6.67

Broad non-U.S. equities gained ground in the month with the MSCI ACWI ex U.S. returning 0.9%. However, gains in the U.S. dollar dampened returns in some regions (MSCI EAFE Index: +1.1% vs. MSCI EAFE Hedged Net Index: +2.2%) and completely wiped out returns in others (MSCI Emerging Markets Index: -0.1% vs. MSCI Emerging Markets Hedged Net Index: +0.5%). With U.S.-China trade news abating, investors focused on improvements in Eurozone consumer confidence and manufacturing along with bettering prospects for an orderly Brexit. Emerging markets lagged developed international equity (MSCI Emerging Markets Index: -0.1% vs. MSCI EAFE Index: +1.1%). Non-U.S. small cap stocks topped non-U.S. large cap stocks (MSCI ACWI ex-U.S. Small Cap: +1.7% vs. MSCI ACWI ex-U.S.: +0.9%).

Regional returns were mixed with four out of six regions shown in the chart producing a positive return. Europe (MSCI Europe Index: +1.5%) was the best performing region as the U.K., Germany, and France all posted strong gains to lift the region. Emerging Europe (MSCI EM Europe Gross: -0.4%) and Latin America (MSCI Latin America Free Gross Index: -4.1%) were the two regions with declines. Latin America in particular was hindered by weakening currencies as Brazil, Chile, and Colombia all saw their currencies fall by over four percent relative to the dollar.

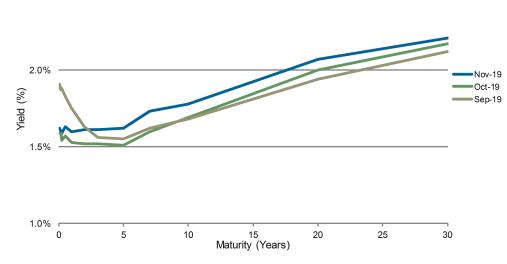


Fixed Income Overview As of November 30, 2019

		Year to		Last 3	Last 5	Last 10
Index	Last Month	Date	Last Year	Years	Years	Years
Blmbg:Aggregate	(0.05)	8.79	10.79	4.10	3.08	3.59
Blmbg:Long Gov/Credit	0.08	20.96	25.44	8.74	6.00	7.35
Blmbg:Government	(0.29)	7.42	9.70	3.46	2.50	2.85
Blmbg:Treasury	(0.30)	7.46	9.77	3.47	2.50	2.92
Blmbg:Credit	0.19	13.47	15.18	5.87	4.33	5.18
BImbg:MBS	0.08	6.06	7.98	3.15	2.56	2.98
BImbg:TIPS	0.15	8.02	8.61	3.15	2.31	3.09
ML:HY Corp Cash Pay	0.27	12.07	9.62	6.28	5.37	7.58
CS:Leveraged Loan	0.55	6.46	4.02	4.32	3.97	5.22
3 Month T-Bill	0.12	2.13	2.32	1.63	1.05	0.57

Treasury Yield Curve

2.5%



With no Fed meeting and little news about the U.S.-China trade spat, investor sentiment remained positive in November, buoyed by moderately positive economic data. However, fixed income markets were mixed as a general risk-on tone favored credit sectors over government issues. Treasury yields rose modestly across the curve which also impacted duration-sensitive securities. 3-month T-Bill yields added five basis points (bps) to 1.59%, 2-year yields rose nine bps to 1.61%, 10-year yields increased nine bps to 1.78%, and 30-year yields rose four bps to 2.21%.

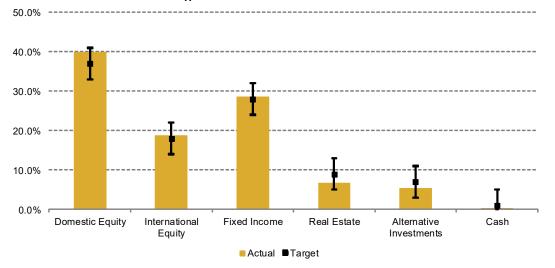
The Bloomberg Aggregate Index lost 0.1% in November, a month that saw rates rise across the curve. Credit sectors were the strongest performing in the month, with lower quality leading higher quality. The CS Leveraged Loan Index gained 0.6%, the ML High Yield CP Index returned 0.3%, and the investment grade Bloomberg Credit Index added 0.2%. Amid the risk-on environment, high yield credit spreads tightened by 22 bps and investment grade spreads narrowed by 5 bps. Rising rates drove both the Bloomberg Government Index and Bloomberg Treasury Index down by 0.3%. TIPS (Bloomberg U.S. TIPS Index: +0.2%) outperformed nominal bonds as long-term inflation expectations rose, driving up the breakeven inflation rate from 1.55% to 1.63%.

IMRF Commentary Executive Summary

Total Fund

The market value of the Total Fund was \$43.85 billion at the end of November, an increase of \$554.8 million from the prior month. The Fund returned 1.92% during the month, leading the 1.63% return of its benchmark. Domestic Equity (+3.79%) modestly underperformed its benchmark (+3.80%). International Equity (+1.53%) led its benchmark for the month. The Fixed Income composite returned 0.01%, leading its benchmark return. Real Estate returned 1.35% in November, outperforming its benchmark return of 0.36%. Over the last three months, Alternatives (+1.84%) trailed the benchmark return of 2.18%.

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



The U.S. Equity composite returned 3.79% during November, modestly trailing the Russell 3000 Index by one basis point. For the month, small caps outperformed large caps.

Large Cap: IMRF's Large Cap managers returned 3.97% in November, leading the 3.78% return of the Russell 1000 Index. In aggregate, growth managers returned 4.31%, while the Russell 1000 Growth Index returned 4.44%. Value managers returned 3.72% collectively, outperforming the 3.09% return of the Russell 1000 Value Index.

Small Cap: The Small Cap composite (+4.13%) led the Russell 2000 Index by one basis point in November. The growth managers collectively returned 6.66%, relative to the 5.89% return of the Russell 2000 Growth Index. The value managers returned 3.17% during the month, leading the Russell 2000 Value Index by 83 basis points. The Micro Cap composite returned 3.07% in November.

Public Real Assets: The Public Real Assets portfolio managed by Brookfield and Cohen & Steers returned -1.54% in November, underperforming the custom benchmark by 12 basis points.

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IMRF Commentary Executive Summary

International Equity

The International Equity composite returned 1.53% in November, outperforming its MSCI ACWI ex-U.S. benchmark (+0.88%).

International Large Cap: International Large Cap managers collectively returned 1.54% in November, leading the MSCI ACWI ex-U.S. Index by 66 basis points. International Large Cap Growth managers (+2.06%) led the MSCI ACWI ex-U.S. Growth Index by 53 basis points. International Large Cap Value managers returned 1.30% for the month, leading the MSCI ACWI ex-U.S. Value Index (+0.22%).

International Small Cap and Emerging Markets: The International Small Cap managers returned 3.38% in November, outperforming the MSCI ACWI Small Cap ex-U.S. Index (+1.67%). The Emerging Markets portfolio, managed by Genesis, returned 0.54% during the month, leading the MSCI Emerging Markets Index by 67 basis points.

Fixed Income

The Fixed Income composite returned 0.01% in November, outperforming the Bloomberg Aggregate Index.

Active Core: In aggregate, the Domestic Active Core managers returned -0.07% in November, 2 basis points behind the Bloomberg Aggregate Index.

Core Plus: Domestic Fixed Core Plus managers ended the month with a return of -0.05%, falling in line with the Bloomberg Aggregate Index.

Bank Loans: The Bank Loans portfolio, managed by Barings, returned 0.78% for the month, leading the custom benchmark by 22 basis points.

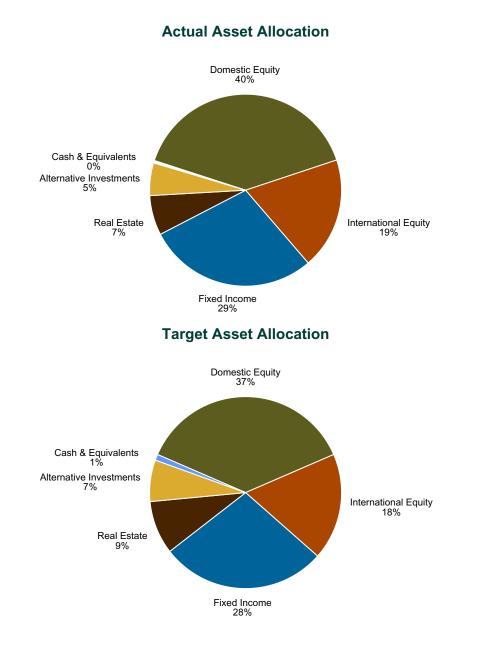
Emerging Markets: The Emerging Markets Debt component, managed by Standish, returned -1.17% in November, 29 basis points behind the custom benchmark.

High Yield: The High Yield allocation, managed by MacKay Shields, returned 0.76% in November, leading the benchmark return of 0.27%.

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Actual vs Target Asset Allocation

The first chart below shows the Fund's asset allocation as of November 30, 2019. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.



Asset Class	\$Millions Actual	Percent Actual	Percent Target	Percent Difference	\$Millions Difference
Domestic Equity	17.511	39.9%	37.0%	2.9%	1,288
International Equity	8,263	18.8%	18.0%	0.8%	371
Fixed Income	12,567	28.7%	28.0%	0.7%	290
Real Estate	2,945	6.7%	9.0%	(2.3%)	(1,001)
Alternative Investments	2,390	5.5%	7.0%	(1.5%)	(679)
Cash & Equivalents	169	0.4%	1.0%	(0.6%)	(269)
Total	43,846	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, 2019, with the distribution as of October 31, 2019.

Asset Distribution Across Investment Managers

	November 30, 2019		October 31, 2019		
	Market Value	Percent	Market Value	Percent	
omestic Equity* ∟arge Cap Growth	\$17,511,261,389	39.94%	\$16,999,293,766	39.27%	
NTGI S&P 500 Growth Idx	2,471,022,535	5.64%	2,388,952,315	5.52%	
Sands	2,042,649,258	4.66%	1,939,397,378	4.48%	
Piedmont Russell 1000 G	1,120,232,998	2.55%	1,072,687,632	2.48%	
_arge Cap Value					
Dodge & Cox	1,403,697,248	3.20%	1,352,542,639	3.12%	
BMO	1,080,035,941	2.46%	1,168,161,551	2.70%	
LSV NTGI S&P 500 Value Idx	1,626,031,421 1,660,440,131	3.71% 3.79%	1,570,261,365 1,598,805,989	3.63% 3.69%	
.arge Cap Core					
NTGI MarketCap Index	2,548,907,618	5.81%	2,455,893,435	5.67%	
Quantitative Factor Strategies					
Quantitative U.S. Equity - SB	256,962,682	0.59%	251,182,371	0.58%	
Small Cap Growth					
Frontier	610,355,152	1.39%	570,101,497	1.32%	
FIAM	180,545,834	0.41%	171,447,808	0.40%	
Small Cap Value					
Channing	235,202,202	0.54%	226,835,455	0.52%	
Dimensional Small Cap Value	579,585,450	1.32%	562,908,525	1.30%	
Inv. Counselors of Maryland	715,134,301	1.63%	694,413,450	1.60%	
licro Cap					
Dimensional Micro Cap	442,085,772	1.01%	428,923,231	0.99%	
Public Real Assets					
Brookfield Cohen & Steers	166,846,777 371,526,070	0.38% 0.85%	170,192,699 376,586,429	0.39% 0.87%	
nternational Equity nternational Large Cap Growth	\$8,263,493,137	18.85%	\$8,139,563,335	18.80%	
EARNEST Partners	E77 060 807	1 220/	E71 0E0 792	1 2 2 0/	
William Blair	577,960,897 804,870,866	1.32% 1.84%	571,052,783 783,863,262	1.32% 1.81%	
nternational Large Cap Value					
Brandes	621,901,230	1.42%	608,973,733	1.41%	
Mondrian	557,473,673	1.27%	554,553,584	1.28%	
	118,618,730	0.27%	117,832,969	0.27%	
nternational Large Cap Core	705 000 015	4.000%	711 511 100	4.050	
Arrowstreet Brown	725,892,812 371,237,122	1.66% 0.85%	714,511,103 358,232,068	1.65% 0.83%	
GlobeFlex	559,504,924	1.28%	555,703,332	1.28%	
NTGI MSCI EAFE Index Progress Intl Equity	1,950,518,450 334,205,076	4.45% 0.76%	1,929,594,279 328,082,145	4.46% 0.76%	
nternational All Cap Developed	··· , ···,· -		-,, <u>-</u>		
Ativo International	144,792,885	0.33%	142,312,978	0.33%	
nternational Small Cap Franklin Templeton	197,918,151	0.45%	193,920,561	0.45%	
William Blair	299,391,428	0.68%	287,127,021	0.45%	
E merging Markets Genesis	000 206 004	2 280/	003 003 510	J JU0∕	
Genesis	999,206,894	2.28%	993,803,518	2.30%	

* 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, 2019, with the distribution as of October 31, 2019.

	November 30, 2019		October 31, 2019	
	Market Value	Percent	Market Value	Percent
Total Fixed Income	\$12,567,203,358	28.66%	\$12,593,901,001	29.09%
Domestic Fixed Core				
Brandes Core	366,065,364	0.83%	367,569,325	0.85%
EARNEST Partners	1,004,900,180	2.29%	1,008,772,183	2.33%
Piedmont Investment	1,066,620,961	2.43%	1,070,740,097	2.47%
Garcia Hamilton	1,055,755,882	2.41%	1,061,725,001	2.45%
Domestic Fixed Passive Core				
NTGI Blmbg Agg. Index	1,810,613,443	4.13%	1,811,418,339	4.18%
BlackRock US Debt	1,735,507,783	3.96%	1,736,228,252	4.01%
Domestic Fixed Core Plus				
LM Capital	911,559,450	2.08%	917,197,751	2.12%
Progress Fixed Income	975,552,158	2.22%	975,231,001	2.25%
Taplin, Canida, & Habacht	942,213,631	2.15%	943,876,837	2.18%
Western	1,130,464,440	2.58%	1,136,149,939	2.62%
Bank Loans				
Barings Global Loan Fund	565,126,427	1.29%	560,893,519	1.30%
Emerging Markets Debt				
Standish	218,004,818	0.50%	220,575,462	0.51%
High Yield				
MacKay Shields	784,495,287	1.79%	783,196,538	1.81%
FIAM High Yield	323,533	0.00%	326,752	0.00%

Investment Manager Asset Allocation

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

Asset Distribution Across Investment Managers

	November 30, 2019		October 31, 2019		
	Market Value	Percent	Market Value	Percent	
eal Estate	\$2,945,336,478	6.72%	\$2,897,789,679	6.69%	
eal Estate Core					
TA Buckhead Ind. Prop.	608,522,263	1.39%	582,181,439	1.34%	
Barings Core Property Fund	1,070	0.00%	1.070	0.00%	
Barings European Core Property	124,718,609	0.28%	122,876,654	0.28%	
Blackstone Property Partners Europe	128,369,027	0.29%	126,568,389	0.29%	
INVESCO Core RE	211,508,105	0.48%	211,508,105	0.49%	
INVESCO Euro real estate	55,914,051	0.13%	56,582,922	0.13%	
AEW Core Property Trust	239,085,694	0.55%	241,173,186	0.56%	
CBRE US Core Property Trust	200,730,602	0.46%	200,730,602	0.46%	
eal Estate Non-Core					
Artemis MWBE Spruce	244,070,765	0.56%	242,714,086	0.56%	
Franklin Templeton EMREFF	14,756,093	0.03%	14,756,093	0.03%	
Security Capital	59,290,671	0.14%	58,840,456	0.14%	
Dune II	21,982,160	0.05%	21,778,218	0.05%	
Non-Core Real Estate Funds*	884,638,303	2.02%	869,714,927	2.01%	
Non-Core Intl Real Estate Funds**	151,206,202	0.34%	147,644,730	0.34%	
Rockwood Fund VIII	168,181	0.00%	188,953	0.00%	
Almanac ARS V	374,681	0.00%	529,848	0.00%	
TA Fund IX	1	0.00%	1	0.00%	
Iternative Investments	\$2,389,750,965	5.45%	\$2,356,912,718	5.44%	
bsolute Return					
Aurora	542,874	0.00%	564,932	0.00%	
rivate Equity					
Abbott	342,317,977	0.78%	340,171,696	0.79%	
Muller & Monroe MPEFF	5,139,236	0.01%	5,139,236	0.01%	
Pantheon	264,008,911	0.60%	263,951,026	0.61%	
Private Equity Fund - Domestic	997,138,792	2.27%	973,956,193	2.25%	
Private Equity Fund - International	321,000,060	0.73%	320,526,336	0.74%	
Oakbrook Opportunities Fund	5,645,964	0.01%	4,302,045	0.01%	
rivate Credit					
Private Credit Fund-Domestic	124,262,501	0.28%	119,773,782	0.28%	
griculture					
Premiere Partners IV	209,323,223	0.48%	209,446,580	0.48%	
imberland		•			
Forest Investment Assoc.	74,100,301	0.17%	74,100,301	0.17%	
nlisted Infrastructure	46 071 400	0.11%	44.090.504	0.100/	
Unlisted Infrastructure Funds	46,271,126	0.11%	44,980,591	0.10%	
ash & Equivalents	\$169,274,225	0.39%	\$304,065,615	0.70%	
otal Fund	\$43,846,319,552	100.0%	\$43,291,526,115	100.0%	

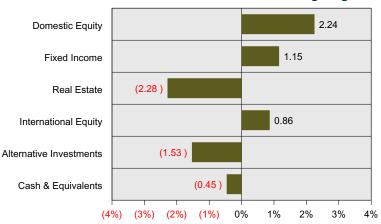
* Non-Core Real Estate Funds funded since September 2011.

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



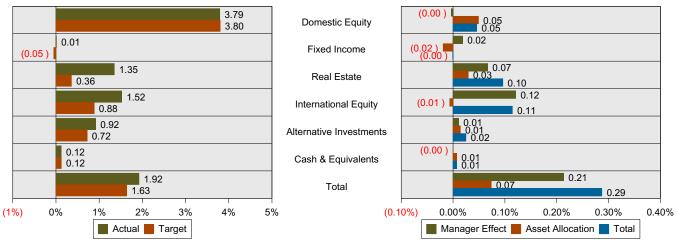
Monthly Total Fund Relative Attribution - November 30, 2019

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



Asset Class Under or Overweighting

Actual vs Target Returns



Relative Attribution Effects for Month ended November 30, 2019

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	39%	37%	3.79%	3.80%	(0.00%)	0.05%	0.05%
Fixed Income	29%	28%	0.01%	(0.05%)	0.02%	(0.02%)	(<mark>0.00%)</mark> 0.10%
Real Estate	7%	9%	1.35%	0.36%	0.07%	0.03%	`0.10%´
International Equity	19%	18%	1.52%	0.88%	0.12%	(0.01%)	0.11%
Alternative Investments		7%	0.92%	0.72%	0.01%	0.01%	0.02%
Cash & Equivalents	1%	1%	0.12%	0.12%	(0.00%)	0.01%	0.01%
Total			1.92% =	1.63%	+ 0.21% +	0.07%	0.29%

* 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.

Relative Attribution by Asset Class

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, 2019

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Domestic Equity	3.79%	8.03%	25.57%	13.59%	
Blended Benchmark**	3.80%	7.90%	27.34%	15.49%	
Domestic Equity - Net	3.76%	7.99%	25.35%	13.39%	
International Equity	1.53%	7.80%	18.90%	13.25%	
MSCI ACWI x US (Net)	0.88%	7.09%	16.47%	11.20%	
International Equity - Net	1.49%	7.72%	18.56%	12.91%	
Fixed Income	0.01%	(0.06%)	9.23%	10.55%	
Blmbg Aggregate Index	(0.05%)	(0.28%)	8.79%	10.79%	
Fixed Income - Net	(0.00%)	(0.09%)	9.11%	10.42%	
Real Estate	1.35%	2.37%	9.48%	10.02%	
Blended Benchmark***	0.36%	1.08%	3.82%	4.34%	
Real Estate - Net	1.35%	2.37%	9.45%	9.99%	
Alternative Investments	0.92%	1.84%	8.88%	10.34%	
Alternatives Custom Benchmark****	0.72%	2.18%	8.22%	9.00%	
Alternative Investments - Net	0.92%	1.84%	8.83%	10.29%	
Private Equity	0.91%	2.48%	11.00%	12.50%	
Alternatives Custom Benchmark****	0.72%	2.18%	8.22%	9.00%	
Agriculture	(0.06%)	(3.54%)	(5.82%)	(3.60%)	
Blended Benchmark***	0.36%	1.08%	3.82%	4.34%	
Timberland	(0.25%)	0.55%	1.00%	0.38%	
Blended Benchmark***	0.36%	1.08%	3.82%	4.34%	
Unlisted Infrastructure	2.87%	2.66%	9.65%	9.65%	
Alternatives Custom Benchmark****	0.72%	2.18%	8.22%	9.00%	
otal Fund	1.92%	4.81%	17.35%	12.09%	
Total Fund - Net	1.92%	4.77%	17.16%	11.91%	
Total Fund Benchmark	1.63%	4.34%	16.44%	12.19%	

* 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%.

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.

	Last	Last	Last	Last	
	36	60	84	120	Since
	Months	Months	Months	Months	Inception
Domestic Equity	12.94%	9.89%	13.65%	13.18%	11.61% (1/82)
Blended Benchmark**	14.22%	10.61%	14.09%	13.45%	11.47% (1/82)
Domestic Equity - Net	12.72%	9.66%	13.40%	12.92%	8.66% (1/05)
International Equity	10.22%	5.14%	6.97%	6.46%	7.76% (9/86)
MSCI ACWI x US (Net)	9.24%	3.85%	5.31%	4.74%	-
International Equity - Net	9.87%	4.80%	6.63%	6.12%	5.62% (1/05)
Fixed Income	4.70%	3.68%	3.43%	4.67%	8.21% (1/82)
Blmbg Aggregate Index	4.10%	3.08%	2.71%	3.59%	7.69% (1/82)
Fixed Income - Net	4.55%	3.53%	3.28%	4.51%	4.82% (1/05)
Real Estate - Net	9.51%	10.23%	10.47%	10.48%	7.55% (1/05)
Blended Benchmark***	6.16%	8.08%	9.22%	10.36%	7.45% (1/05)
Alternative Investments	12.81%	10.43%	10.77%	9.56%	10.87% (2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.17%	12.67% (2/86)
Alternative Investments - Net	12.66%	10.19%	10.50%	9.27%	8.77% (1/05)
Private Equity	15.94%	12.98%	13.32%	12.57%	13.09% (2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.17%	12.67% (2/86)
Agriculture	(3.26%)	4.79%	9.27%	8.01%	6.99% (10/97
Blended Benchmark***	6.16%	8.08%	9.22%	10.36%	7.38% (10/97
Timberland	1.46%	0.94%	3.08%	2.77%	7.36% (10/92
Blended Benchmark***	6.16%	8.08%	9.22%	10.36%	7.43% (10/92
Unlisted Infrastructure	-	-	-	-	10.76% (4/18)
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.17%	9.00% (4/18)
Fotal Fund	9.78%	7.14%	9.05%	9.00%	9.86% (1/82)
Total Fund - Net	9.58%	6.92%	8.82%	8.77%	7.24% (1/05)
Total Fund Benchmark	9.34%	7.04%	8.55%	8.58%	7.09% (1/05)

Returns for Periods Ended November 30, 2019

* 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%.



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, 2019

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Large Cap Equity	3.97%	7.93%	26.08%	14.41%	
Russell 1000 Index	3.78%	7.82%	27.74%	16.10%	
Large Cap Growth	4.31%	5.32%	29.29%	18.65%	
NTGI S&P 500 Growth Idx	3.44%	5.56%	27.43%	16.44%	
S&P/Citi 500 Growth Index	3.43%	5.54%	27.40%	16.42%	
NTGI S&P 500 Growth Idx - Net	3.44%	5.56%	27.42%	16.43%	
Piedmont Russell 1000 G	4.43%	7.39%	32.35%	20.99%	
Russell 1000 Growth Index	4.44%	7.39%	32.40%	21.01%	
Piedmont Russell 1000 G - Net	4.43%	7.38%	32.33%	20.97%	
Sands	5.32%	3.93%	29.94%	20.15%	
LCG Blended Benchmark*	4.44%	7.39%	32.40%	21.01%	
Russell 1000 Growth Index	4.44%	7.39%	32.40%	21.01%	
Sands - Net	5.27%	3.87%	29.67%	19.89%	
	0.70%	40.50%	00.000/	10 50%	
Large Cap Value	3.73%	10.52%	22.88%	10.53%	
Dodge & Cox	3.86%	9.65%	20.25%	7.65%	
LCV Blended Benchmark**	3.09%	8.26%	23.15%	11.33%	
Russell 1000 Value Index	3.09%	8.26%	23.15%	11.33%	
Dodge & Cox - Net	3.86%	9.60%	20.00%	7.42%	
ВМО	3.34%	8.07%	17.90%	6.84%	
LCV Blended Benchmark**	3.09%	8.26%	23.15%	11.33%	
Russell 1000 Value Index	3.09%	8.26%	23.15%	11.33%	
BMO - Net	3.34%	8.07%	17.70%	6.67%	
LSV	3.77%	13.19%	23.89%	10.37%	
LCV Blended Benchmark**	3.09%	8.26%	23.15%	11.33%	
Russell 1000 Value Index	3.09%	8.26%	23.15%	11.33%	
LSV - Net	3.77%	13.12%	23.61%	10.11%	
NTGI S&P 500 Value Idx	3.86%	10.56%	27.94%	15.84%	
S&P/Citi 500 Value Index	3.86%	10.59%	27.94%	15.81%	
NTGI S&P 500 Value Idx - Net	3.86%	10.56%	27.93%	15.83%	
	3.79%	7 020/	27.31%	15.46%	
Large Cap Passive Core	3.79%	7.83%	27.31%	15.40%	
NTGI MarketCap Idx	3.79%	7.83%	27.31%	15.46%	
DJ U.S. Total Stock Market Index	3.78%	7.81%	27.24%	15.37%	
NTGI MarketCap Idx - Net	3.79%	7.83%	27.30%	15.45%	
Quantitative Factor Strategies	2.30%	2.95%	-	-	
Quantitative US Equity - SciBeta	2.30%	2.95%	-	-	
SciBeta US HFI M-Beta/Strat 6F EW	2.35%	2.63%	-	-	
Quantitative US Equity - SciBeta - Net	2.30%	2.95%	-	-	
Quantilative US Equity - Scibeta - Ivet	2.30%	2.90%	-	-	

* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those 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, 2019

	Last	Last	Last		
	36	60	120	Since	
	Months	Months	Months	Inception	n
Large Cap Equity	14.24%	10.34%	13.37%	11.29%	(1/82)
Russell 1000 Index	14.67%	10.80%	13.49%	11.67%	(1/82)
Large Cap Growth	20.06%	12.66%	14.57%	11.99%	(1/82)
NTGI S&P 500 Growth Idx	18.05%	12.64%	14.70%	8.13%	(8/01)
S&P/Citi 500 Growth Index	18.08%	12.64%	14.68%	8.10%	(8/01)
NTGI S&P 500 Growth Idx - Net	18.04%	12.64%	14.69%	10.03%	(1/05)
Piedmont Russell 1000 G			_	9.65%	(10/18)
Russell 1000 Growth Index	- 19.79%	- 13.71%	15.23%	9.66%	(10/18)
Piedmont Russell 1000 G - Net	19.79%	-	-		. ,
Pleamont Russell 1000 G - Net	-	-	-	9.63%	(10/18)
Sands	22.94%	12.47%	17.06%	12.32%	(11/03)
LCG Blended Benchmark*	19.79%	13.71%	15.23%	10.23%	(11/03)
Russell 1000 Growth Index	19.79%	13.71%	15.23%	10.28%	(11/03)
Sands - Net	22.68%	12.22%	16.79%	11.32%	(1/05)
Large Cap Value	10.45%	8.58%	12.47%	10.37%	(10/82)
Dodge & Cox	10.45%	9.15%	12.77%	9.61%	(9/03)
LCV Blended Benchmark**	9.59%	7.83%	11.69%	8.51%	(9/03)
Russell 1000 Value Index	9.59%	7.83%	11.69%	8.67%	(9/03)
Dodge & Cox - Net	10.22%	8.92%	12.53%	8.01%	(1/05)
ВМО	9.33%	7.29%	12.09%	8.03%	(2/01)
LCV Blended Benchmark**	9.59%	7.83%	11.69%	5.94%	(2/01)
Russell 1000 Value Index	9.59%	7.83%	11.69%	6.92%	(2/01)
BMO - Net	9.12%	7.06%	11.84%	8.10%	(2/01) (1/05)
					(1100)
LSV	10.36%	8.74%	12.81%	11.08%	(2/03)
LCV Blended Benchmark**	9.59%	7.83%	11.69%	9.41%	(2/03)
Russell 1000 Value Index	9.59%	7.83%	11.69%	9.42%	(2/03)
LSV - Net	10.11%	8.48%	12.53%	8.53%	(1/05)
NTGI S&P 500 Value Idx	11.34%	9.04%	12.08%	6.21%	(8/99)
S&P/Citi 500 Value Index	11.28%	8.97%	12.01%	6.18%	(8/99)
NTGI S&P 500 Value Idx - Net	11.33%	9.03%	12.07%	7.54%	(1/05)
Large Cap Passive Core	14.25%	10.64%	13.49%	11.23%	(1/85)
NTGI MarketCap Idx	14.25%	10.64%	13.50%	11.00%	(2/85)
DJ U.S. Total Stock Market Index	14.17%	10.55%	13.42%	10.95%	(2/85)
NTGI MarketCap Idx - Net	14.24%	10.63%	13.49%	8.92%	(1/05)
Quantitative Factor Strategies	-	-	-	2.95%	(9/19)
Quantitative US Equity - SciBeta	-	-	-	2.95%	(9/19)
SciBeta US HFI M-Beta/Strat 6F EW	-	-	-	2.63%	(9/19)

* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those 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, 2019

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Small Cap Equity	4.08%	10.70%	23.81%	9.54%	
Russell 2000 Index	4.12%	9.08%	22.01%	7.51%	
Small Cap Growth	6.66%	10.78%	32.41%	19.05%	
Frontier	7.06%	11.17%	32.60%	19.51%	
Russell 2000 Growth Index	5.89%	8.01%	25.61%	10.93%	
Frontier - Net	7.06%	11.03%	31.56%	18.58%	
FIAM	5.31%	9.49%	30.29%	16.94%	
Russell 2000 Growth Index	5.89%	8.01%	25.61%	10.93%	
FIAM - Net	5.31%	9.49%	29.78%	16.49%	
Small Cap Value	3.08%	10.99%	20.51%	5.12%	
Channing	3.69%	8.41%	22.24%	5.89%	
Russell 2000 Value Index	2.34%	10.20%	18.25%	3.96%	
Channing - Net	3.69%	8.27%	21.63%	5.37%	
DFA Small Cap Value	2.96%	11.42%	14.62%	0.00%	
Russell 2000 Value Index	2.34%	10.20%	18.25%	3.96%	
DFA Small Cap Value - Net	2.84%	11.28%	14.07%	(0.48%)	
Inv. Counselors of Maryland	2.98%	11.53%	25.14%	9.39%	
Russell 2000 Value Index	2.34%	10.20%	18.25%	3.96%	
Inv. Couns. of Maryland - Net	2.89%	11.42%	24.49%	8.82%	
Micro Cap	3.07%	9.56%	17.25%	3.82%	
DFA Micro Cap	3.07%	9.56%	17.26%	3.69%	
Russell 2000 Value Index	2.34%	10.20%	18.25%	3.96%	
Russell 2000 Index	4.12%	9.08%	22.01%	7.51%	
DFA Micro Cap - Net	2.94%	9.42%	16.70%	3.19%	
		(- - ())		4 	
Public Real Assets	(1.54%)	(0.51%)	21.77%	16.37%	
Public Real Assets Benchmark (1)	(1.42%)	0.75%	20.02%	15.23%	
Brookfield Public Global Inf	(1.97%)	(1.73%)	20.49%	14.24%	
Dow Jones Global Infra Comp Idx	(1.69%)	(0.86%)	19.97%	13.79%	
Brookfield Public Global Inf - Net	(2.10%)	(1.86%)	19.87%	13.65%	
Cohen & Steers Public Global Inf	(1.34%)	0.04%	22.36%	17.35%	
FTSE GI Core Infr 50/50 N	(1.33%)	1.29%	20.03%	15.69%	
Cohen & St Public Global Inf - Net	(1.45%)	(0.06%)	21.85%	16.86%	

(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.

Retu			30, 2013	
	Last	Last	Last	
	36	60	120	Since
	Months	Months	Months	Inception
Small Cap Equity	8.38%	8.11%	12.83%	12.07% (7/88)
Russell 2000 Index	8.57%	8.22%	12.38%	9.42% (7/88)
	0.01 /0	0.22 /0	12.0070	0.1270 (//00)
Small Cap Growth	13.05%	10.39%	13.95%	13.03% (7/88)
Frontier	18.51%	11.65%	14.30%	13.35% (8/88)
Russell 2000 Growth Index	12.15%	9.48%	13.68%	8.29% (8/88)
Frontier - Net	17.82%	10.98%	13.58%	10.22% (1/05)
	10.00%	10.04%	44.00%	40.400/
FIAM	10.22%	10.21%	14.09%	13.48% (8/88)
Russell 2000 Growth Index	12.15%	9.48%	13.68%	8.29% (8/88)
FIAM - Net	9.75%	9.66%	13.49%	10.78% (1/05)
Small Cap Value	5.59%	7.54%	12.28%	11.66% (9/89)
Champing	4.040/	6 700/		10.000/
Channing	4.31%	6.76%	-	10.06% (7/11)
Russell 2000 Value Index	4.98%	6.83%	10.99%	8.85% (7/11)
Channing - Net	3.79%	6.25%	-	9.47% (7/11)
DFA Small Cap Value	2.91%	5.60%	12.23%	11.67% (2/96)
Russell 2000 Value Index	4.98%	6.83%	10.99%	9.42% (2/96)
DFA Small Cap Value - Net	2.38%	5.06%	11.69%	7.32% (1/05)
	2.0070	0.00 /0	11.0070	1.02.70 (1/05)
Inv. Counselors of Maryland	8.59%	10.34%	13.09%	11.52% (5/99)
Russell 2000 Value Index	4.98%	6.83%	10.99%	8.95% (5/99)
Inv. Couns. of Maryland - Net	8.03%	9.77%	12.56%	8.71% (1/05)
Aicro Cap	6.04%	5.15%	12.13%	11.38% (7/84)
-				
DFA Micro Cap	6.94%	8.45%	13.51%	11.03% (8/87)
Russell 2000 Value Index	4.98%	6.83%	10.99%	9.75% (8/87)
Russell 2000 Index	8.57%	8.22%	12.38%	8.82% (8/87)
DFA Micro Cap - Net	6.41%	7.91%	12.96%	7.77% (1/05)
Public Real Assets	-	-	-	8.08% (8/17)
Public Real Assets Benchmark (1)	-	-	-	6.32% (8/17)
				. /
Brookfield Public Global Inf	-	-	-	4.80% (8/17)
Dow Jones Global Infra Comp Idx	8.35%	3.14%	9.90%	3.91% (8/17)
Brookfield Public Global Inf - Net	-	-	-	4.28% (8/17)
Cohen & Steers Public Global Inf	-	-	_	9.67% (8/17)
	- 11.88%	-	-	
FTSE GI Core Infr 50/50 N	11.00%	6.60%	-	7.12% (8/17)
Cohen & St Public Global Inf - Net	-	-	-	9.24% (8/17)

Returns for Periods Ended November 30, 2019

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



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	2019
Netuina	101	r chous	LIIUCU	November	50,	2013

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Intl Large Cap Equity	1.54%	8.07%	18.06%	12.28%	
MSCI ACWI ex-US Index	0.88%	7.09%	16.47%	11.20%	
Intl Large Cap Growth	2.06%	7.41%	21.93%	15.00%	
EARNEST Partners	1.21%	6.99%	16.33%	9.32%	
MSCI ACWI ex-US Index	0.88%	7.09%	16.47%	11.20%	
MSCI ACWI ex-US Growth	1.53%	6.52%	22.71%	17.13%	
EARNEST Partners - Net	1.21%	6.94%	16.22%	9.15%	
William Blair	2.68%	7.65%	26.76%	19.95%	
MSCI ACWI ex-US Index	0.88%	7.09%	16.47%	11.20%	
MSCI ACWI ex-US Growth	1.53%	6.52%	22.71%	17.13%	
William Blair - Net	2.59%	7.56%	26.32%	19.54%	
Intl Large Cap Value	1.30%	9.14%	13.36%	8.54%	
Brandes	2.12%	9.81%	11.09%	5.80%	
MSCI ACWI ex-US Index	0.88%	7.09%	16.47%	11.20%	
MSCI ACWI ex-US Value	0.22%	7.90%	11.38%	6.44%	
Brandes - Net	2.12%	9.75%	10.86%	5.58%	
Mondrian	0.53%	9.28%	15.15%	10.89%	
MSCI ACWI ex-US Index	0.88%	7.09%	16.47%	11.20%	
MSCI ACWI ex-US Value	0.22%	7.90%	11.38%	6.44%	
Mondrian - Net	0.53%	9.17%	14.64%	10.40%	
Lazard	0.67%	5.16%	17.35%	12.60%	
MSCI ACWI ex-US Index	0.88%	7.09%	16.47%	11.20%	
MSCI ACWI ex-US Value	0.22%	7.90%	11.38%	6.44%	
Lazard - Net	0.67%	5.10%	17.06%	12.33%	

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.

	Last	Last	Last	
	36	60	120	Since
	Months	Months	Months	Inception
ntl Large Cap Equity	9.97%	5.01%	6.41%	7.75% (9/86)
MSCI ACWI ex-US Index	9.24%	3.85%	4.74%	-
ntl Large Cap Growth	10.45%	4.99%	6.79%	8.37% (9/02)
EARNEST Partners	8.96%	3.82%	5.86%	8.86% (10/04)
MSCI ACWI ex-US Index	9.24%	3.85%	4.74%	5.89% (10/04)
MSCI ACWI ex-US Growth	12.32%	6.09%	6.44%	7.03% (10/04)
EARNEST Partners - Net	8.78%	3.64%	5.58%	7.61% (1/05)
William Blair	11.75%	6.00%	8.26%	9.71% (10/02)
MSCI ACWI ex-US Index	9.24%	3.85%	4.74%	8.02% (10/02)
MSCI ACWI ex-US Growth	12.32%	6.09%	6.44%	8.58% (10/02)
William Blair - Net	11.35%	5.62%	7.86%	6.51% (1/05)
ntl Large Cap Value	8.23%	3.92%	4.92%	8.62% (10/95)
Brandes	7.19%	3.90%	5.10%	8.76% (1/96)
MSCI ACWI ex-US Index	9.24%	3.85%	4.74%	5.15% (1/96)
MSCI ACWI ex-US Value	7.22%	2.54%	3.95%	-
Brandes - Net	6.93%	3.66%	4.86%	4.27% (1/05)
Mondrian	9.13%	3.99%	-	5.60% (4/12)
MSCI ACWI ex-US Index	9.24%	3.85%	4.74%	5.05% (4/12)
MSCI ACWI ex-US Value	7.22%	2.54%	3.95%	4.29% (4/12)
Mondrian - Net	8.61%	3.48%	-	5.09% (4/12)
Lazard	9.71%	3.93%	-	6.37% (4/12)
MSCI ACWI ex-US Index	9.24%	3.85%	4.74%	5.05% (4/12)
MSCI ACWI ex-US Value	7.22%	2.54%	3.95%	4.29% (4/12)
Lazard - Net	9.42%	3.52%	-	5.84% (4/12)

Returns for Periods Ended November 30, 2019

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, 2019

	Last Month	Last 3 Months	Year to Date	Last 12	
				Months	
Intl Large Cap Active Core	1.79%	8.02%	18.24%	12.64%	
Arrowstreet	1.59%	8.48%	17.92%	12.07%	
MSCI ACWI ex-US Index	0.88%	7.09%	16.47%	11.20%	
Arrowstreet - Net	1.48%	8.36%	17.39%	11.56%	
Brown	3.63%	6.23%	21.21%	14.95%	
MSCI ACWI ex-US Index	0.88%	7.09%	16.47%	11.20%	
Brown - Net	3.53%	6.13%	20.88%	14.63%	
GlobeFlex	0.68%	7.71%	14.97%	10.21%	
MSCI ACWI ex-US Index	0.88%	7.09%	16.47%	11.20%	
GlobeFlex - Net	0.58%	7.59%	14.49%	9.75%	
	0.0070	1.0070		011070	
Progress Intl Equity	2.11%	9.82%	22.12%	16.19%	
Custom Benchmark	0.88%	7.09%	16.47%	11.20%	
MSCI ACWI ex-US Index	0.88%	7.09%	16.47%	11.20%	
Progress Intl Equity - Net	1.87%	9.56%	21.39%	15.49%	
Intl Large Cap Pass. Core	1.08%	7.93%	18.58%	12.73%	
NTGI MSCI EAFE Idx	1.08%	7.93%	18.58%	12.73%	
MSCI EAFE Index	1.13%	7.76%	18.17%	12.44%	
NTGI EAFE Idx - Net	1.08%	7.93%	18.57%	12.72%	
Intl All Cap Developed	1.74%	6.44%	12.07%	-	
Ativo International	1.74%	6.44%	-	-	
MSCI EAFE + Canada	1.25%	7.46%	18.71%	12.57%	
Ativo International - Net	1.74%	6.31%	-	-	
International Small Cap	3.38%	9.67%	24.84%	17.78%	
Franklin Templeton	2.06%	7.51%	18.81%	12.06%	
ACWI Small Cap ex US	1.67%	8.36%	16.67%	10.32%	
Franklin Templeton - Net	2.06%	7.51%	18.16%	11.45%	
· · · · · · · · · · · · · · · · · · ·	,				
William Blair	4.27%	11.14%	29.41%	21.96%	
ACWI Small Cap ex US	1.67%	8.36%	16.67%	10.32%	
Intl SC Blended Benchmark	1.67%	8.36%	16.67%	10.32%	
William Blair - Net	4.08%	10.94%	28.46%	21.06%	
Francisco Markata	0 540/	E 0.0%	22.00%	40.400/	
Emerging Markets	0.54%	5.36%	22.68%	19.10%	
Genesis	0.54%	5.36%	22.68%	19.10%	
MSCI Emerging Markets Index	(0.13%)	6.11%	10.57%	7.71%	
Genesis - Net	0.54%	5.25%	22.13%	18.51%	

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.



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.

	Last	Last 60	Last 120		
	36			Since	
	Months	Months	Months	Inceptio	า
ntl Large Cap Active Core	10.78%	6.28%	7.92%	4.97%	(2/08)
Arrowstreet	11.01%	6.47%	8.13%	5.18%	(3/08)
MSCI ACWI ex-US Index	9.24%	3.85%	4.74%	2.20%	(3/08)
Arrowstreet - Net	10.51%	5.97%	7.62%	4.69%	(3/08)
Brown	11.00%	6.50%	8.02%	8.02%	(10/04)
MSCI ACWI ex-US Index	9.24%	3.85%	4.74%	5.89%	(10/04)
Brown - Net	10.51%	5.71%	7.25%	6.54%	(1/05)
GlobeFlex	9.28%	5.60%	7.27%	4.84%	(2)(00)
			4.74%		(3/06)
MSCI ACWI ex-US Index	9.24%	3.85%		3.76%	(3/06)
GlobeFlex - Net	8.82%	5.19%	6.83%	4.39%	(3/06)
Progress Intl Equity	12.87%	6.85%	-	5.45%	(7/14)
Custom Benchmark	10.14%	4.97%	-	3.47%	(7/14)
MSCI ACWI ex-US Index	9.24%	3.85%	4.74%	2.47%	(7/14)
Progress Intl Equity - Net	12.27%	6.29%	-	4.94%	(7/14)
ntl Large Cap Pass. Core	10.05%	4.67%	5.72%	3.56%	(1/00)
NTGI MSCI EAFE Idx	10.05%	4.67%	5.72%	3.91%	(2/00)
MSCI EAFE Index	9.62%	4.26%	5.32%	3.52%	(2/00)
NTGI EAFE Idx - Net	10.04%	4.66%	5.71%	5.03%	(1/05)
ntl All Cap Developed	-	-	-	12.22%	(2/19)
Ativo International	-	-	-	12.22%	(2/19)
MSCI EAFE + Canada	9.36%	4.06%	5.15%	10.80%	(2/19)
Ativo International - Net	-	-	-	11.85%	(2/19)
nternational Small Cap	10.69%	6.74%	8.03%	4.95%	(12/05)
					(
Franklin Templeton	10.91%	6.28%	-	6.28%	(8/11)
ACWI Small Cap ex US	8.66%	5.75%	6.67%	4.68%	(8/11)
Franklin Templeton - Net	10.17%	5.54%	-	5.54%	(8/11)
William Blair	10.44%	7.08%	-	9.35%	(9/10)
ACWI Small Cap ex US	8.66%	5.75%	6.67%	6.89%	(9/10)
Intl SC Blended Benchmark	8.66%	5.75%	6.65%	7.24%	(9/10)
William Blair - Net	9.60%	6.27%	-	8.51%	(9/10)
Emerging Markets	12.00%	5.22%	6.38%	9.05%	(2/92)
		F 000/	0.000/		
Genesis	12.00%	5.22%	6.38%	11.13%	(5/04)
MSCI Emerging Markets Index	9.42%	3.51%	3.69%	8.59%	(5/04)
Genesis - Net	11.36%	4.60%	5.76%	9.17%	(1/05)

Returns for Periods Ended November 30, 2019

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.



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, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months	
Dom. Fixed Active Core	(0.07%)	(0.50%)	8.41%	10.12%	
Brandes Core*	(0.23%)	(0.62%)	7.65%	9.12%	
Blmbg Aggregate Index	(0.05%)	(0.28%)	8.79%	10.79%	
Brandes Core - Net	(0.23%)	(0.62%)	7.65%	9.12%	
EARNEST Partners	(0.11%)	(0.61%)	8.62%	10.68%	
Blmbg Aggregate Index	(0.05%)	(0.28%)	8.79%	10.79%	
EARNEST Partners - Net	(0.11%)	(0.65%)	8.48%	10.54%	
Piedmont	(0.11%)	(0.49%)	8.81%	10.30%	
Blmbg Aggregate Index	(0.05%)	(0.28%)	8.79%	10.79%	
Piedmont - Net	(0.14%)	(0.52%)	8.67%	10.16%	
Garcia Hamilton	0.05%	(0.38%)	8.12%	9.70%	
Blmbg Aggregate Index	(0.05%)	(0.28%)	8.79%	10.79%	
Garcia Hamilton	0.05%	(0.40%)	8.03%	9.61%	
Dama Finand Danakar Oran	(0.049())	(0.00%)	0.000/	40.00%	
Dom. Fixed Passive Core	(0.04%)	(0.29%)	8.86%	10.86%	
BlackRock US Debt	(0.04%)	(0.28%)	8.87%	10.87%	
Blmbg Aggregate Index	(0.05%)	(0.28%)	8.79%	10.79%	
BlackRock US Debt - Net	(0.04%)	(0.28%)	8.87%	10.86%	
NTGI BImbg Agg. Index	(0.04%)	(0.31%)	8.86%	10.86%	
Blmbg Aggregate Index	(0.05%)	(0.28%)	8.79%	10.79%	
NTGI Blmbg Agg. Index - Net	(0.04%)	(0.31%)	8.85%	10.86%	

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

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, 2019

	Last 36	Last 60	Last 120	Since
	Months	Months	Months	Inception
Dom. Fixed Active Core	4.27%	3.40%	4.22%	4.61% (4/01)
Brandes Core *	3.74%	-	-	2.88% (3/16)
Blmbg Aggregate Index	4.10%	3.08%	3.59%	3.38% _(3/16)
Brandes Core - Net	3.74%	-	-	2.88% (3/16)
EARNEST Partners	4.40%	3.47%	4.23%	4.65% (5/05)
Blmbg Aggregate Index	4.10%	3.08%	3.59%	4.22% (5/05)
EARNEST Partners - Net	4.26%	3.30%	4.04%	4.45% (5/05)
Piedmont	4.19%	3.34%	4.22%	4.41% (6/05)
BImbg Aggregate Index	4.10%	3.08%	3.59%	4.16% (6/05)
Piedmont - Net	4.05%	3.19%	4.06%	4.23% (6/05)
Garcia Hamilton	4.34%	-	-	3.60% (6/15)
Blmbg Aggregate Index	4.10%	3.08%	3.59%	3.18% (6/15)
Garcia Hamilton	4.24%	-	-	3.50% (6/15)
Dom. Fixed Passive Core	4.17%	3.15%	3.63%	5.95% (1/90)
			010070	
BlackRock US Debt	4.20%	3.19%	-	3.54% (10/13)
Blmbg Aggregate Index	4.10%	3.08%	3.59%	3.42% (10/13)
BlackRock US Debt - Net	4.19%	3.19%	-	3.54% (10/13)
NTGI Blmbg Agg. Index	4.14%	3.11%	3.61%	6.00% (2/90)
Blmbg Aggregate Index	4.10%	3.08%	3.59%	5.99% (2/90)
NTGI Blmbg Agg. Index - Net	4.13%	3.11%	3.61%	4.15% (1/05)

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

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, 2019

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Domestic Fixed Core Plus	(0.05%)	(0.00%)	9.86%	11.49%	
LM Capital	(0.15%)	(0.29%)	9.47%	10.67%	
Blmbg Aggregate Index	(0.05%)	(0.28%)	8.79%	10.79%	
LM Capital - Net	(0.15%)	(0.33%)	9.30%	10.50%	
Progress Fixed Income	0.03%	(0.14%)	9.46%	10.93%	
Blmbg Aggregate Index	(0.05%)	(0.28%)	8.79%	10.79%	
Progress Fixed Inc Net	(0.05%)	(0.22%)	9.11%	10.57%	
BMO-TCH	0.14%	(0.12%)	9.17%	10.45%	
Blmbg Aggregate Index	(0.05%)	(0.28%)	8.79%	10.79%	
BMO-TCH Net	0.14%	(0.15%)	9.03%	10.31%	
Western	(0.21%)	0.45%	11.10%	13.54%	
Blmbg Aggregate Index	(0.05%)	(0.28%)	8.79%	10.79%	
Western - Net	(0.25%)	0.41%	11.03%	13.46%	
Bank Loans	0.78%	0.66%	6.35%	4.27%	
Barings Global Loan Fund	0.78%	0.66%	6.35%	4.27%	
Custom Benchmark	0.56%	0.65%	6.64%	4.50%	
Barings Global Loan Fund - Net	0.78%	0.66%	6.12%	4.00%	
Emerging Markets	(1.17%)	1.27%	10.99%	12.15%	
Standish	(1.17%)	1.27%	10.99%	12.15%	
Custom Benchmark	(0.88%)	1.35%	10.65%	12.05%	
Standish - Net	(1.25%)	1.19%	10.62%	11.77%	
High Yield	0.76%	1.79%	13.22%	10.91%	
MacKay Shields	0.76%	1.79%	13.23%	10.92%	
ML High Yield Cash Pay Index	0.27%	0.82%	12.07%	9.62%	
MacKay Shields - Net	0.76%	1.71%	12.96%	10.66%	

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.



Bank Loans

Western - Net

Emerging Markets

Standish - Net

MacKay Shields

MacKay Shields - Net

Standish

High Yield

Blmbg Aggregate Index

Barings Global Loan Fund

Barings Global Loan Fund - Net

ML High Yield Cash Pay Index

Custom Benchmark

Custom Benchmark

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.

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
Domestic Fixed Core Plus	4.77%	3.73%	4.78%	8.07% (1/82)
LM Capital	4.17%	3.40%	4.33%	4.89% (5/05)
BImbg Aggregate Index	4.10%	3.08%	3.59%	4.22% (5/05)
LM Capital - Net	4.00%	3.24%	4.16%	4.73% (5/05)
Progress Fixed Income	4.72%	3.65%	4.44%	4.99% (1/06)
Blmbg Aggregate Index	4.10%	3.08%	3.59%	4.31% (1/06)
Progress Fixed Inc Net	4.37%	3.31%	4.09%	4.65% (1/06)
BMO-TCH	4.92%	3.86%	4.92%	5.06% (5/05)
Blmbg Aggregate Index	4.10%	3.08%	3.59%	4.22% (5/05)
BMO-TCH - Net	4.78%	3.73%	4.79%	4.92% (5/05)
Western	5.61%	4.37%	5.47%	5.55% (11/01)

3.08%

4.24%

4.61%

4.61%

4.23%

4.09%

2.68%

2.68%

3.02%

2.33%

6.46%

6.62%

5.37%

6.26%

3.59%

5.33%

4.35%

8.05%

8.05%

7.58%

7.67%

-

4.36% (11/01)

5.03% (1/05)

4.41% (8/14)

4.41% (8/14)

4.05% (8/14)

3.89% (8/14)

2.92% (8/14)

2.92% (8/14)

2.39% (8/14)

2.57% (8/14)

9.53% (4/86)

8.83% (11/00)

7.53% (11/00)

6.94% (1/05)

4.10%

5.49%

4.63%

4.63%

4.58%

4.17%

6.55%

6.55%

6.29%

6.19%

7.12%

7.10%

6.28%

6.76%

Returns for Periods Ended November 30, 2019

Taplin, Canida, & Habacht moved to Core Plus October 1, 2010. Barings Custom Benchmark is comprised of the Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each sector. Standish Custom Benchmark is 50% JPM GBI-EM Index, 25% JPM EMBI Global Index and 25% JPM Corporate EMBI Diversified Index.



Five Best Performing Portfolio's vs. Benchmarks

Manager	Year-to-Date Outperformance	Since Inception Outperformance	
	(in % points)	(in % points)	
William Blair Int'l SC	12.75	2.46	08/31/2010
Genesis	12.10	2.54	04/30/2004
William Blair	10.28	1.70	09/30/2002
Inv Couselors of MD	7.12	2.58	04/30/1999
Frontier	6.99	5.06	07/31/1988

Five Worst Performing Portfolio's vs. Benchmarks

Manager	Year-to-Date Underperformance	Since Inception Underperformance	
	(in % points)	(in % points)	
Brandes	-5.38	3.61	12/31/1995
BMO	-5.25	2.10	01/31/2001
DFA SCV	-3.63	2.25	01/31/1996
Dodge & Cox	-2.90	1.10	08/31/2003
Sands	-2.45	2.09	10/31/2003

Five Highest Returning Portfolios

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
Frontier	32.60	13.35	07/31/1988
Pyramis SCG	30.29	13.48	07/31/1988
Sands	29.94	12.32	10/31/2003
William Blair Int'l SC	29.41	9.35	08/31/2010
NTGI S&P500 Gr	27.43	8.13	07/31/2001

Five Lowest Returning Portfolios

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
Earnest FI	8.62	4.65	04/30/2005
Piedmont	8.81	4.39	05/31/2005
NTGI BC Agg	8.86	6.00	01/31/1990
Blackrock US Debt	8.87	3.51	09/01/2013
Taplin, Canida, Habacht	9.17	5.03	04/30/2005

Returns are shown gross of investment management fees.

Excludes Real Estate and Alternative Investments portfolios.