## Callan

June 30, 2018

Illinois Municipal
Retirement Fund
Monthly Performance Report
Investment Measurement Service
Monthly Review

## Market Environment As of June 30, 2018

		Year to		Last 3	Last 5	Last 10
Index	Last Month	Date	Last Year	Years	Years	Years
Russell:3000 Index	0.65	3.22	14.78	11.58	13.29	10.23
S&P:500	0.62	2.65	14.37	11.93	13.42	10.17
Russell:2000 Index	0.72	7.66	17.57	10.96	12.46	10.60
MSCI:ACWI ex US	(1.88)	(3.77)	7.28	5.07	5.99	2.54
MSCI:EM	(4.15)	(6.66)	8.20	5.60	5.01	2.26
Blmbg:Aggregate	(0.12)	(1.62)	(0.40)	1.72	2.27	3.72
NCREIF:Total Index	0.56	3.43	7.07	8.21	9.75	6.21
Blmbg:Commodity Price Idx	(3.64)	(0.86)	5.82	(5.23)	(6.82)	(9.34)

Global politics continued to be mired in retaliatory trade policy rhetoric among the world's economic juggernauts. Emerging markets were heavily impacted by the turmoil and lost 4.2%. European and Asian equity markets also declined in June. U.S. equities were the exception during the month recording modestly positive results. The Federal Reserve announced the second rate hike of 2018 at its June meeting, raising the targeted Federal Funds Rate to a range of 1.75% to 2.00%. Leadership at the European Central Bank (ECB) indicated that short-term rates in Europe would likely not be adjusted until the summer of 2019. However, quantitative easing measures will be reduced starting in September and completely wound down by the end of the year. These announcements signal a regime shift to modestly tighter global monetary policy as Europe drifts into the later stages of the economic cycle.

Employment growth in the U.S. exceeded expectations as the economy added 213,000 jobs in June. Despite job growth, the unemployment rate rose from last month to 4.0% from 3.8%. The jump in unemployment largely resulted from labor force growth as 500,000 people started actively looking for work. A larger labor force and higher unemployment should ease pressure on wage growth. June hourly earnings increased by only two tenths of a percent from May and remained unchanged on a year-over-year basis.

Inflation figures inched higher in June with the headline and core Consumer Price Indices (CPI) increasing by 0.1% and 0.2% on a month-over-month basis, respectively. Year-over-year rates also increased modestly from May, with headline CPI growing by 10 basis points to 2.9% and core CPI ticking 10 basis points higher to 2.3%. Fuel oil (+2.9%) experienced the largest growth in June, while electricity (-1.4%) and apparel (-0.9%) declined.

Real GDP growth in the first quarter was revised down further in June, falling 20 basis points to 2.0%. The decline was partially attributable to lower contributions from inventory growth and net exports than was initially reported.

<sup>\*</sup>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.

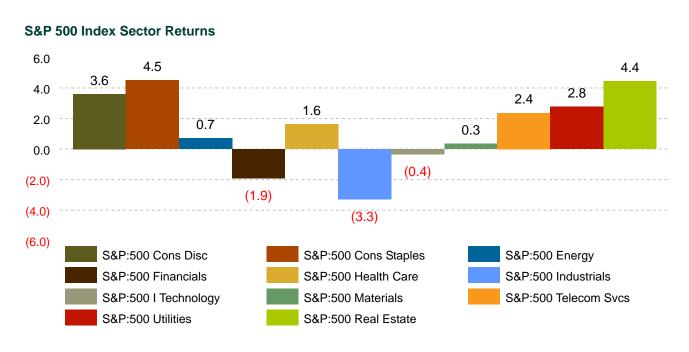


## U.S. Equity Overview As of June 30, 2018

						Last 10
Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Years
Russell:3000 Index	0.65	3.22	14.78	11.58	13.29	10.23
Russell:1000 Index	0.65	2.85	14.54	11.64	13.37	10.20
Russell:1000 Growth	0.96	7.25	22.51	14.98	16.36	11.83
Russell:1000 Value	0.25	(1.69)	6.77	8.26	10.34	8.49
Russell:Midcap Index	0.69	2.35	12.33	9.58	12.22	10.23
Russell:2000 Index	0.72	7.66	17.57	10.96	12.46	10.60
Russell:2000 Growth	0.78	9.70	21.86	10.60	13.65	11.24
Russell:2000 Value	0.61	5.44	13.10	11.22	11.18	9.88

U.S. equities began the month on an upward trend, recovering from the sharp declines that occurred in late May stemming from Italian political turmoil. With the situation in Italy resolving on June 1, investors turned their attention to a strong U.S. jobs report and the associated reaffirmation of macroeconomic strength. However, continued trade tensions between the U.S. and key trade partners in Europe and China ultimately weighed on equities and limited gains for the month (Russell 3000 Index: +0.7%). In June, growth handily outperformed value (Russell 1000 Growth Index: +1.0% vs. Russell 1000 Value Index: +0.2%) and small caps narrowly outperformed large caps (Russell 2000 Index: +0.7% vs. Russell 1000 Index: +0.6%). The Russell Midcap Index performed in line with small caps for the month, gaining 0.7%.

June brought a wide performance divergence among sectors, with some of the more defensive areas leading. Consumer Staples (+4.5%), Utilities (+2.8%), and Telecom Services (+2.4%) all posted strong gains. Consumer Discretionary (+3.6%) and Real Estate (+4.4%) also performed well. Conversely, more cyclical sectors including Industrials (-3.3%) and Financials (-1.9%) were laggards for the month.



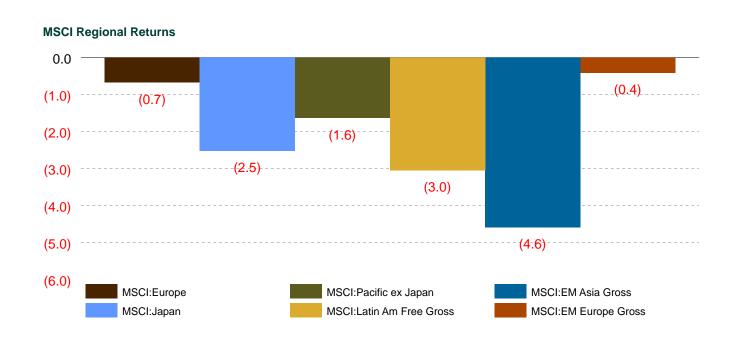


## Non-U.S. Equity Overview As of June 30, 2018

	Last	Year to		Last 3	Last 5	Last 10
Index	Month	Date	Last Year	Years	Years	Years
MSCI:ACWI ex US	(1.88)	(3.77)	7.28	5.07	5.99	2.54
MSCI:EAFE	(1.22)	(2.75)	6.84	4.90	6.44	2.84
MSCI:EAFE Hedged Net	(0.12)	0.02	7.94	6.30	9.49	5.57
MSCI:EM	(4.15)	(6.66)	8.20	5.60	5.01	2.26
MSCI:ACWI ex US Small Cap	(2.73)	(2.94)	10.57	7.94	8.98	5.77

Non-U.S. equities followed a similar pattern to their U.S. counterparts, recovering nicely from the Italian political scare for the first half of June but declining for the remainder of the month. As the Trump administration ramped up trade rhetoric with not just China but European trade partners as well, international equities could not hold on to early gains. With U.S. dollar strength serving as an additional headwind, non-U.S. equities ended the month in negative territory (MSCI ACWI ex US Index: -1.9%). Emerging markets was the region most significantly impacted by trade tensions and dollar strength; the MSCI EM Index fell 4.2%. Non-U.S. stocks held up far better in local currency terms (MSCI EAFE Index: -1.2% vs. MSCI EAFE Hedged Net Index: -0.1%).

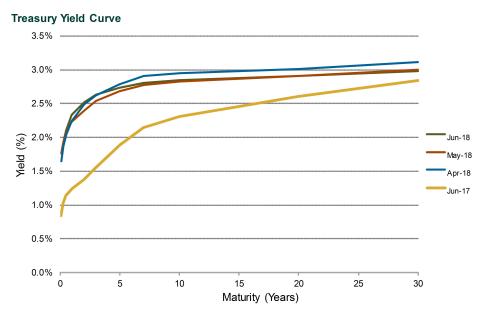
With a weight of 33% in the index and a return of -5.2%, China pulled the emerging markets index down. Given that, emerging Asia was the worst performing region in the month (MSCI EM Asia Gross: -4.6%). Latin America also struggled as Brazil's 8.3% loss heavily impacted the region (MSCI Latin America Free Gross: -3.0%). All regional components lost ground but developed and emerging Europe held up the best (MSCI Europe: -0.7%; MSCI EM Europe Gross: -0.4%).





## Fixed Income Overview As of June 30, 2018

	Last	Year to		Last 3	Last 5	Last 10
Index	Month	Date	Last Year	Years	Years	Years
Blmbg:Aggregate	(0.12)	(1.62)	(0.40)	1.72	2.27	3.72
Blmbg:Long Gov/Credit	(0.62)	(4.98)	(0.78)	4.34	5.10	6.79
Blmbg:US Government	0.02	(1.05)	(0.63)	1.02	1.48	2.91
Blmbg:Credit	(0.47)	(2.99)	(0.65)	2.86	3.37	5.15
Blmbg:Mortgage Backed Sec	0.05	(0.95)	0.15	1.46	2.25	3.54
Blmbg:US TIPS	0.40	(0.02)	2.11	1.93	1.68	3.03
ML:US High Yield Cash Pay	0.35	0.06	2.49	5.53	5.48	7.96
3 Month T-Bill	0.17	0.81	1.36	0.68	0.42	0.35
CS:Leveraged Loan	0.10	2.38	4.67	4.33	4.24	4.93



Government bond yields rose on the back of strong economic data to start out the month with the 10-year yield reaching 2.98% on June 13. Supported by strong economic data, the Fed increased rates by 25 basis points for a second time this year to a range of 1.75% to 2.00%. Markets continue to price in two additional rate hikes in 2018. Following the hike, yields began to feel pressure from international trade tensions, specifically between the U.S. and China, and moved lower to finish out the month. The 2-year Treasury yield reached 2.59% before ending the month at 2.52%, up 12 basis points from where it started. After peaking on June 13, the 10-year Treasury yield fell to 2.85% to close the month, up two basis points. Finally, the 30-year Treasury ended the month down 2 basis points at 2.98%, after reaching 3.10% mid-month. As the yield curve continued to flatten, the spread between the 2- and 10-year Treasuries fell to a post-crisis low of 33 basis points.

The Bloomberg Aggregate Index slid 0.1% in June. Heavy supply in investment grade credit pushed spreads wider by eight basis points. The Bloomberg Credit Index dropped 0.5% during the month. The more interest rate sensitive Bloomberg Long Gov/Credit Index fell 0.6% in June. The Bloomberg High Yield Index returned a modest 0.4%, given shorter duration and high yield spreads widening only three basis points. For the first time in roughly six years the core PCE index reached the Fed's target level of 2.0%. On the back of rising inflation expectations, TIPS were the best performing sector for the month, up 0.4% (Bloomberg U.S. TIPS Index).

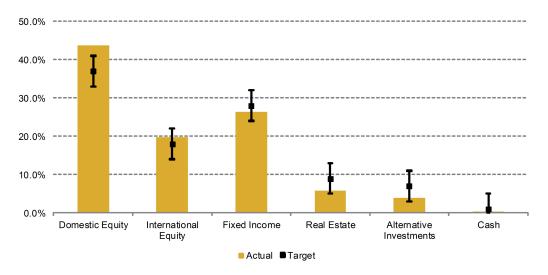


# IMRF Commentary Executive Summary

#### **Total Fund**

The market value of the Total Fund was \$41.29 billion at the end of June, a decrease of \$294.5 million from the prior month. The Fund returned -0.18% during the month, trailing the -0.02% return of its benchmark. Domestic Equity (+0.51%) underperformed its benchmark (+0.65%). International Equity (-1.95%) underperformed its benchmark by seven basis points. The Fixed Income composite returned -0.16% lagging its benchmark return of -0.12%. Real Estate gained 0.06% in June, underperforming its benchmark by 59 basis points. Over the last three months, Alternatives (+3.63%) outperformed the benchmark return of 2.18%. For the trailing year, the fund is 169 basis points ahead of its benchmark, returning 9.53%.

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 June month end, Domestic Equity was 6.8% above the target. The Chief Investment Officer and Consultant do not recommend any rebalancing at this time.



#### **U.S. Equity**

The U.S. Equity composite returned 0.51% during June, trailing the Russell 3000 Index by 14 basis points. For the month, large caps outperformed small caps.

Large Cap: IMRF's Large Cap managers added 0.55% in June, falling behind the 0.65% return of the Russell 1000 Index. In aggregate, growth managers returned 1.01%, while the Russell 1000 Growth Index returned 0.96%. Value managers added 0.17% collectively, underperforming the 0.25% return of the Russell 1000 Value Index.

Small Cap: The Small Cap composite (+0.25%) lagged the Russell 2000 Index by 47 basis points in June. The growth managers collectively returned -0.32%, relative to the 0.78% return of the Russell 2000 Growth Index. The value managers returned 0.39% during the month, trailing the Russell 2000 Value Index by 22 basis points. The Micro Cap composite returned 1.49% in June.

Public Real Assets: The Public Real Assets portfolio managed by Brookfield and Cohen & Steers increased 1.25% in June, 39 basis points behind the custom benchmark.



## IMRF Commentary Executive Summary

#### **International Equity**

The International Equity composite returned -1.95% in June, seven basis points behind its MSCI ACWI ex-U.S. benchmark (-1.88%).

International Large Cap: International Large Cap managers collectively returned -1.75% in June, outperforming the MSCI ACWI ex-U.S. Index by 13 basis points. International Large Cap Growth managers (-2.20%) underperformed the MSCI ACWI ex-U.S. Growth Index by 64 basis points. International Large Cap Value managers returned -0.88% for the month, 124 basis points ahead of the MSCI ACWI ex-U.S. Value Index.

International Small Cap and Emerging Markets: The International Small Cap managers returned -2.49% in June, 24 basis points ahead of the MSCI ACWI Small Cap ex-U.S. Index return of -2.73%. The Emerging Markets portfolio, managed by Genesis, lost 3.37% during the month, beating the MSCI Emerging Markets Index by 72 basis points.

#### **Fixed Income**

The Fixed Income composite returned -0.16% in June relative to the -0.12% return of the Bloomberg Aggregate Index.

Active Core: In aggregate, the Domestic Active Core managers were down 0.01% in June, 11 basis points ahead of the Bloomberg Aggregate Index.

Core Plus: Domestic Fixed Core Plus managers ended the month down 0.24%, underperforming the Bloomberg Aggregate Index by 12 basis points.

Bank Loans: The Bank Loans portfolio, managed by Barings, returned -0.02% for the month, underperforming the custom benchmark by five basis points.

Emerging Markets: The Emerging Markets Debt component, managed by Standish, lost 2.56% in June, 81 basis points behind the custom benchmark.

Opportunistic: The Opportunistic Fixed Income allocation, managed by Crescent, returned 0.22% in June, lagging the custom benchmark by one basis point.

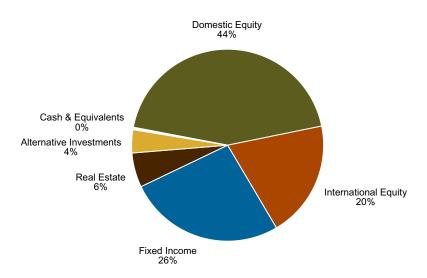
High Yield: The High Yield portfolio, managed by Mackay Shields, returned 0.18%, but trailed the ML High Yield Cash Pay Index return of 0.35%.



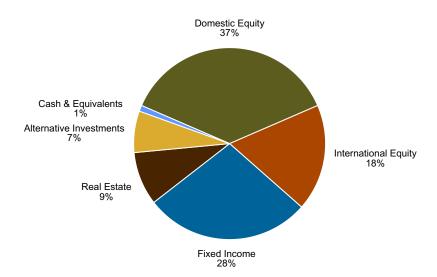
## **Actual vs Target Asset Allocation**

The first chart below shows the Fund's asset allocation as of June 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**



	\$Millions	Percent	Percent	Percent	\$Millions
Asset Class	Actual	Actual	Target	Difference	Difference
Domestic Equity	18,085	43.8%	37.0%	6.8%	2,809
International Equity	8,148	19.7%	18.0%	1.7%	716
Fixed Income	10,883	26.4%	28.0%	(1.6%)	(677)
Real Estate	2,376	5.8%	9.0%	(3.2%)	(1,339)
Alternative Investments	1,625	3.9%	7.0%	(3.1%)	(1,265)
Cash & Equivalents	170	0.4%	1.0%	(0.6%)	(243)
Total	41,287	100.0%	100.0%		

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



## **Investment Manager Asset Allocation**

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

#### **Asset Distribution Across Investment Managers**

	June 30, 20	18	May 31, 2018		
	Market Value	Percent	Market Value	Percent	
Domestic Equity* Large Cap Growth	\$18,084,681,730	43.80%	\$18,081,969,722	43.49%	
NTGI S&P 500 Growth Idx Sands	2,080,198,837 2,153,948,591	5.04% 5.22%	2,067,740,370 2,124,103,266	4.97% 5.11%	
Large Cap Value					
Dodge & Cox BMO LSV NTGI S&P 500 Value Idx	1,305,015,401 1,432,070,892 1,519,931,783 1,631,489,526	3.16% 3.47% 3.68% 3.95%	1,289,928,876 1,512,093,775 1,544,675,621 1,621,281,193	3.10% 3.64% 3.71% 3.90%	
Large Cap Core					
NTGI MarketCap Index	3,686,513,187	8.93%	3,662,256,011	8.81%	
Small Cap Growth					
Frontier FIAM	534,555,034 1,116,505,831	1.29% 2.70%	536,706,485 1,119,662,470	1.29% 2.69%	
Small Cap Value					
Channing Dimensional Small Cap Value Inv. Counselors of Maryland	238,176,304 627,054,090 707,600,677	0.58% 1.52% 1.71%	237,915,002 625,953,040 702,805,308	0.57% 1.51% 1.69%	
Micro Cap					
Ativo Dimensional Micro Cap	136,414,512 457,839,564	0.33% 1.11%	134,195,740 451,452,891	0.32% 1.09%	
Public Real Assets					
Brookfield Cohen & Steers	148,434,020 308,933,484	0.36% 0.75%	146,075,417 305,627,661	0.35% 0.74%	
International Equity International Large Cap Growth	\$8,147,631,701	19.73%	\$8,410,628,084	20.23%	
EARNEST Partners William Blair	643,624,008 755,791,155	1.56% 1.83%	656,923,878 774,019,786	1.58% 1.86%	
International Large Cap Value					
Brandes Lombardia Mondrian Lazard	622,626,333 1 520,950,762 112,454,004	1.51% 0.00% 1.26% 0.27%	621,874,879 1 580,804,609 114,402,233	1.50% 0.00% 1.40% 0.28%	
International Large Cap Core					
Arrowstreet Brown GlobeFlex NTGI MSCI EAFE Index Progress Intl Equity	683,461,747 346,045,950 666,764,921 2,223,406,840 307,793,497	1.66% 0.84% 1.61% 5.39% 0.75%	705,453,126 348,697,383 691,174,816 2,246,698,557 315,056,074	1.70% 0.84% 1.66% 5.40% 0.76%	
International Small Cap					
Franklin Templeton William Blair	200,205,846 291,602,928	0.48% 0.71%	256,907,009 298,736,543	0.62% 0.72%	
Emerging Markets Genesis	772,903,709	1.87%	799,879,191	1.92%	

<sup>\*</sup> 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 June 30, 2018, with the distribution as of May 31, 2018.

#### **Asset Distribution Across Investment Managers**

	June 30, 2	018	May 31, 2018			
	Market Value	Percent	Market Value	Percent		
Total Fixed Income	\$10,883,405,524	26.36%	\$10,900,690,027	26.22%		
Domestic Fixed Core						
Brandes Core	341,840,813	0.83%	341,386,172	0.82%		
EARNEST Partners	740,537,945	1.79%	741,198,124	1.78%		
Piedmont Investment	740,821,963	1.79%	741,738,059	1.78%		
Garcia Hamilton	727,178,263	1.76%	726,414,905	1.75%		
<b>Domestic Fixed Passive Core</b>						
NTGI Blmbg Agg. Index	1,636,012,937	3.96%	1,638,489,540	3.94%		
BlackRock US Debt	1,567,598,553	3.80%	1,569,296,908	3.77%		
Domestic Fixed Core Plus						
LM Capital	842,142,802	2.04%	843,914,227	2.03%		
Progress Fixed Income	880,298,129	2.13%	881,402,268	2.12%		
Taplin, Canida, & Habacht	868,186,361	2.10%	870,288,615	2.09%		
Western	1,016,720,126	2.46%	1,020,541,812	2.45%		
Bank Loans						
Barings Global Loan Fund	584,181,493	1.41%	584,298,038	1.41%		
Emerging Markets Debt						
Standish	195,778,117	0.47%	200,928,941	0.48%		
Opportunistic Fixed Income						
Crescent	114,490,837	0.28%	114,309,871	0.27%		
High Yield						
MacKay Shields	627,282,119	1.52%	626,176,806	1.51%		
FIAM High Yield	335,067	0.00%	324,363	0.00%		
<b>5</b>	,		- ,			

<sup>\*\*</sup> Non-Core International Real Estate Funds funded since August 2014.



<sup>\*</sup> Non-Core Real Estate Funds funded since September 2011.

## **Investment Manager Asset Allocation**

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

#### **Asset Distribution Across Investment Managers**

Real Estate	Market Value	B			
Real Estate	Market Value Percent		Market Value	Percent	
itcui Estate	\$2,376,293,510	5.76%	\$2,370,166,007	5.70%	
Real Estate Core					
TA Buckhead Ind. Prop.	408,333,110	0.99%	413,520,155	0.99%	
Barings Core Property Fund	113,039,011	0.27%	114,181,274	0.27%	
Barings European Core Property	30,512,788	0.07%	30,506,252	0.07%	
Blackstone Property Partners Europe	118,921,807	0.29%	99,834,522	0.24%	
INVESCO Core RE	200,216,037	0.48%	200,216,037	0.48%	
INVESCO Euro real estate	51,065,048	0.12%	51,054,104	0.12%	
AEW Core Property Trust	229,725,050	0.56%	229,725,050	0.55%	
CBRE US Core Property Trust	178,261,183	0.43%	178,261,183	0.43%	
CBRE 03 Core Property Trust	176,201,165	0.4376	170,201,103	0.43%	
Real Estate Non-Core					
Artemis MWBE Spruce	116,655,511	0.28%	115,934,578	0.28%	
Franklin Templeton EMREFF	25,954,554	0.06%	26,126,960	0.06%	
Security Capital	51,639,225	0.13%	48,870,715	0.12%	
Dune II	27,770,551	0.07%	27,770,551	0.07%	
Non-Core Real Estate Funds*	726,477,586	1.76%	736,114,405	1.77%	
Non-Core Intl Real Estate Funds**	91,475,734	0.22%	94,095,103	0.23%	
Rockwood Fund VIII	2,117,444	0.01%	2,117,444	0.01%	
Almanac ARS V	3,823,404	0.01%	3,823,404	0.01%	
		0.01%			
TA Fund IX	305,466	0.00%	305,466	0.00%	
Alternative Investments	\$1,624,641,935	3.94%	\$1,605,891,996	3.86%	
Absolute Return					
Aurora	970,120	0.00%	947,533	0.00%	
Private Equity					
Abbott	332,159,783	0.80%	320,095,631	0.77%	
Muller & Monroe ILPEFF	1	0.00%	1	0.00%	
Muller & Monroe MPEFF	6,001,172	0.01%	6,120,292	0.01%	
Pantheon	223,051,736	0.54%	221,808,640	0.53%	
Private Equity Fund - Domestic	694,087,396	1.68%	684,560,758	1.65%	
		0.19%			
Private Equity Fund - International	80,393,918	0.19%	86,562,112	0.21%	
Agriculture					
Premiere Partners IV	189,518,637	0.46%	187,352,919	0.45%	
<b>Fimberland</b>					
Forest Investment Assoc.	75,059,049	0.18%	75,359,049	0.18%	
	. 3,333,010	5 5 , 0	. 3,333,010	3370	
Unlisted Infrastructure	00.400.400	0.000/	00.005.004	0.000/	
Unlisted Infrastructure Funds	23,400,123	0.06%	23,085,061	0.06%	
Cash & Equivalents	\$169,873,080	0.41%	\$211,660,760	0.51%	

<sup>\*\*</sup> Non-Core International Real Estate Funds funded since August 2014.

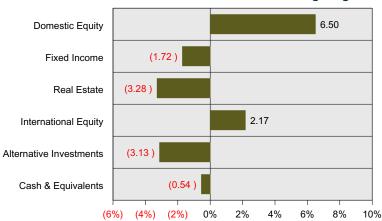


<sup>\*</sup> Non-Core Real Estate Funds funded since September 2011.

## Monthly Total Fund Relative Attribution - June 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.

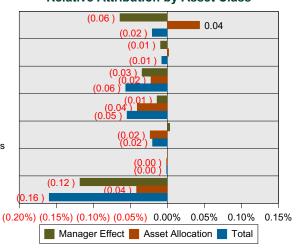
#### **Asset Class Under or Overweighting**



## **Actual vs Target Returns**

#### 0.51 0.65 **Domestic Equity** (0.16) (0.12)0.06 0.65 (1.95)(1.88) International Equity 0.80 0.72 Alternative Investments 0.17 0.17 Cash & Equivalents (0.18) (0.02)0.5% (2.5%) (2.0%) (1.5%) (1.0%) (0.5%) 0.0% 1.0% Actual Target

#### **Relative Attribution by Asset Class**



#### Relative Attribution Effects for Month ended June 30, 2018

Total

Fixed Income

Real Estate

Asset Class Domestic Equity	Effective Actual Weight 43%	Effective Target Weight 37%	Actual Return 0.51%	Target Return 0.65%	Manager Effect (0.06%)	Asset Allocation 0.04%	Total Relative <u>Return</u> (0.02%)
Fixed Income	43% 26%	37% 28%	(0.16%)	(0.12%)	(0.06%)	0.04%	(0.02%)
Real Estate	6%	9%	0.06%	0.65%	(0.03%)	(0.02%)	(0.06%)
International Equity Alternative Investments	20% s 4%	18% 7%	(1. <mark>95%)</mark> 0.80%	(1. <mark>88%)</mark> 0.72%	( <mark>0.01%)</mark> 0.00%	(0.04%) (0.02%)	(0.05%) (0.02%)
Cash & Equivalents	0%	1%	0.30 %	0.17%	0.00%	(0.02 %)	(0.00%)
Total			(0.18%) =	(0.02%) +	(0.12%) +	(0.04%)	(0.16%)

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



#### **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 June 30, 2018

	Last Month	Last 3 Months	Year to Date	Last 12 Months	
Domestic Equity	0.51%	4.63%	4.90%	16.30%	
Blended Benchmark**	0.65%	3.89%	3.22%	14.78%	
Domestic Equity - Net	0.50%	4.57%	4.80%	16.07%	
International Equity	(1.95%)	(2.60%)	(2.55%)	8.57%	
MSCI ACWI x US (Net)	(1.88%)	(2.61%)	(3.77%)	7.28%	
International Equity - Net	(1.95%)	(2.65%)	(2.66%)	8.26%	
Fixed Income	(0.16%)	(0.35%)	(1.36%)	0.39%	
Blmbg Aggregate Index	(0.12%)	(0.16%)	(1.62%)	(0.40%)	
Fixed Income - Net	(0.16%)	(0.38%)	(1.42%)	0.26%	
Real Estate	0.06%	1.35%	2.69%	8.62%	
Blended Benchmark***	0.65%	1.97%	3.98%	7.64%	
Real Estate - Net	0.06%	1.35%	2.69%	8.62%	
Alternative Investments	0.80%	3.63%	5.90%	11.27%	
Alternatives Custom Benchmark****	0.72%	2.18%	4.40%	9.00%	
Alternative Investments - Net	0.80%	3.59%	5.82%	11.11%	
Private Equity	0.98%	4.74%	7.65%	14.87%	
Alternatives Custom Benchmark****	0.72%	2.18%	4.40%	9.00%	
Agriculture	(0.04%)	(1.58%)	(2.11%)	(6.06%)	
Blended Benchmark***	0.65%	1.97%	3.98%	7.64%	
Timberland	(0.40%)	(1.14%)	(1.31%)	2.28%	
Blended Benchmark***	0.65%	1.97%	3.98%	7.64%	
Unlisted Infrastructure	1.36%	1.37%	-	-	
Alternatives Custom Benchmark****	0.72%	2.18%	4.40%	9.00%	
Total Fund	(0.18%)	1.56%	1.57%	9.53%	
Total Fund - Net	(0.18%)	1.52%	1.48%	9.32%	
Total Fund Benchmark	(0.02%)	1.25%	0.76%	7.84%	

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

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

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

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

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



#### **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 June 30, 2018

	Last 36	Last 60	Last 120	Since
Demostic Faults	Months 11.09%	Months 13.25%	Months 10.37%	Inception
Domestic Equity Blended Benchmark**	11.58%	13.25%	10.37%	11.73% (1/82) 11.46% (1/82)
Domestic Equity - Net	10.84%	12.99%	10.11%	8.69% (1/05)
Domestic Equity - Net	10.04 /0	12.99 /0	10.1176	0.09 /6 (1/05)
International Equity	6.30%	7.49%	3.88%	7.96% (9/86)
MSCI ACWI x US (Net)	5.07%	5.99%	2.54%	-
International Equity - Net	5.96%	7.14%	3.55%	5.90% (1/05)
, ,				. ,
Fixed Income	2.64%	3.15%	4.95%	8.24% (1/82)
Blmbg Aggregate Index	1.72%	2.27%	3.72%	7.70% (1/82)
Fixed Income - Net	2.49%	3.00%	4.80%	4.58% (1/05)
Real Estate - Net	9.90%	10.59%	5.26%	7.22% (1/05)
Blended Benchmark***	8.43%	10.07%	6.90%	7.71% (1/05)
Alternative Investments	8.88%	9.61%	6.31%	10.73% (2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.59%	12.83% (2/86)
Alternative Investments - Net	8.61%	9.28%	6.02%	8.23% (1/05)
Private Equity	11.64%	12.51%	7.96%	12.91% (2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.59%	12.83% (2/86)
Agriculture	3.93%	8.60%	9.05%	7.67% (10/97)
Blended Benchmark***	8.43%	10.07%	6.90%	7.55% (10/97)
Timberland	0.77%	4.81%	3.60%	7.84% (10/92)
Blended Benchmark***	8.43%	10.07%	6.90%	7.56% (10/92)
Unlisted Infrastructure	-	-	-	1.37% (4/18)
Alternatives Custom Benchmark****	9.00%	9.00%	9.59%	2.18% (4/18)
Total Fund	7.49%	8.90%	7.68%	<b>9.96%</b> (1/82)
Total Fund - Net	7.26%	8.66%	7.45%	7.25% (1/05)
Total Fund Benchmark	7.18%	8.32%	7.16%	6.96% (1/05)

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

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

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

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

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



## **Large Cap Equity Returns**

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

Returns for Periods Ended June 30, 2018

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Large Cap Equity	0.55%	3.82%	4.09%	16.23%	
Russell 1000 Index	0.65%	3.57%	2.85%	14.54%	
Large Cap Growth	1.01%	8.00%	14.07%	26.28%	
NTGI S&P 500 Growth Idx	0.60%	5.22%	7.20%	20.53%	
S&P/Citi 500 Growth Index	0.60%	5.25%	7.28%	20.64%	
NTGI S&P 500 Growth Idx - Net	0.60%	5.22%	7.19%	20.53%	
Sands	1.41%	10.84%	21.61%	34.75%	
LCG Blended Benchmark*	0.96%	5.76%	7.25%	22.51%	
Russell 1000 Growth Index	0.96%	5.76%	7.25%	22.51%	
Sands - Net	1.41%	10.78%	21.48%	34.47%	
Large Cap Value	0.17%	1.01%	(1.40%)	10.64%	
Dodge & Cox	1.45%	2.59%	0.94%	12.00%	
LCV Blended Benchmark**	0.25%	1.18%	(1.69%)	6.77%	
Russell 1000 Value Index	0.25%	1.18%	(1.69%)	6.77%	
Dodge & Cox - Net	1.45%	2.53%	0.83%	11.76%	
ВМО	(0.00%)	0.67%	(2.22%)	11.89%	
LCV Blended Benchmark**	0.25%	1.18%	(1.69%)	6.77%	
Russell 1000 Value Index	0.25%	1.18%	(1.69%)	6.77%	
BMO - Net	(0.06%)	0.56%	(2.39%)	11.59%	
LSV	(1.24%)	(0.43%)	(1.71%)	11.79%	
LCV Blended Benchmark**	0.25%	1.18%	(1.69%)	6.77%	
Russell 1000 Value Index	0.25%	1.18%	(1.69%)	6.77%	
LSV - Net	(1.24%)	(0.49%)	(1.82%)	11.54%	
NTGI S&P 500 Value Idx	0.63%	1.44%	(2.16%)	7.68%	
S&P/Citi 500 Value Index	0.63%	1.40%	(2.22%)	7.58%	
NTGI S&P 500 Value Idx - Net	0.63%	1.44%	(2.16%)	7.67%	
Large Cap Passive Core	0.66%	3.88%	3.26%	14.84%	
NTGI MarketCap Idx	0.66%	3.88%	3.26%	14.84%	
DJ U.S. Total Stock Market Index	0.66%	3.87%	3.24%	14.79%	
NTGI MarketCap Idx - Net	0.66%	3.88%	3.25%	14.83%	

<sup>\*\*</sup> 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.



<sup>\*</sup> 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.

## **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 June 30, 2018

	Last	Last	Last	
	36	60	120	Since
-	Months	Months	Months	Inception
Large Cap Equity	11.79%	13.74%	10.39%	<b>11.33%</b> (1/82)
Russell 1000 Index	11.64%	13.37%	10.20%	11.64% (1/82)
Large Cap Growth	15.10%	16.15%	11.88%	12.00% (1/82)
NTGI S&P 500 Growth Idx	14.44%	15.95%	11.71%	7.73% (8/01)
S&P/Citi 500 Growth Index	14.48%	15.99%	11.70%	7.70% (8/01)
NTGI S&P 500 Growth Idx - Net	14.43%	15.94%	11.70%	9.73% (1/05)
Sands	16.40%	17.98%	14.97%	12.56% (11/03)
LCG Blended Benchmark*	14.98%	16.36%	11.83%	9.80% (11/03)
Russell 1000 Growth Index	14.98%	16.36%	11.83%	9.85% (11/03)
Sands - Net	16.14%	17.73%	14.70%	11.49% (1/05)
Large Cap Value	9.57%	12.13%	9.42%	<b>10.44%</b> (10/82)
Dodge & Cox	11.26%	13.07%	10.12%	9.80% (9/03)
LCV Blended Benchmark**	8.26%	10.34%	8.49%	8.34% (9/03)
Russell 1000 Value Index	8.26%	10.34%	8.49%	8.51% (9/03)
Dodge & Cox - Net	11.03%	12.83%	9.88%	8.08% (1/05)
ВМО	8.80%	12.31%	8.81%	8.28% (2/01)
LCV Blended Benchmark**	8.26%	10.34%	8.49%	5.59% (2/01)
Russell 1000 Value Index	8.26%	10.34%	8.49%	6.65% (2/01)
BMO - Net	8.54%	12.06%	8.56%	8.44% (1/05)
LSV	9.95%	12.62%	10.45%	11.36% (2/03)
LCV Blended Benchmark**	8.26%	10.34%	8.49%	9.33% (2/03)
Russell 1000 Value Index	8.26%	10.34%	8.49%	9.34% (2/03)
LSV - Net	9.69%	12.35%	10.16%	8.61% (1/05)
NTGI S&P 500 Value ldx	8.93%	10.56%	8.50%	5.70% (8/99)
S&P/Citi 500 Value Index	8.82%	10.45%	8.44%	5.67% (8/99)
NTGI S&P 500 Value Idx - Net	8.92%	10.55%	8.49%	6.96% (1/05)
Large Cap Passive Core	11.66%	13.31%	10.26%	<b>11.21%</b> (1/85)
NTGI MarketCap Idx	11.66%	13.31%	10.28%	10.98% (2/85)
DJ U.S. Total Stock Market Index	11.56%	13.22%	10.28%	10.92% (2/85)
NTGI MarketCap Idx - Net	11.65%	13.31%	10.27%	8.64% (1/05)



<sup>\*</sup> 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 June 30, 2018

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Small Cap Equity	0.25%	7.73%	8.56%	18.16%	
Russell 2000 Index	0.72%	7.75%	7.66%	17.57%	
Small Cap Growth	(0.32%)	7.48%	11.34%	20.38%	
Frontier	(0.40%)	12.02%	19.07%	30.94%	
Russell 2000 Growth Index	0.78%	7.23%	9.70%	21.86%	
Frontier - Net	(0.40%)	11.88%	18.79%	30.31%	
FIAM	(0.28%)	5.51%	8.16%	16.16%	
Russell 2000 Growth Index	0.78%	7.23%	9.70%	21.86%	
FIAM - Net	(0.28%)	5.29%	7.93%	15.79%	
Small Cap Value	0.39%	7.95%	6.20%	16.63%	
Channing	0.11%	4.71%	3.32%	12.01%	
Russell 2000 Value Index	0.61%	8.30%	5.44%	13.10%	
Channing - Net	0.11%	4.58%	3.07%	11.46%	
DFA Small Cap Value	0.18%	7.97%	5.61%	15.63%	
Russell 2000 Value Index	0.61%	8.30%	5.44%	13.10%	
DFA Small Cap Value - Net	0.18%	7.83%	5.35%	14.98%	
Inv. Counselors of Maryland	0.68%	9.07%	7.74%	19.25%	
Russell 2000 Value Index	0.61%	8.30%	5.44%	13.10%	
Inv. Couns. of Maryland - Net	0.68%	8.97%	7.53%	18.60%	
Micro Cap	1.49%	7.92%	6.95%	15.93%	
A4:	4.700/	E 4E0/	0.040/	0.000/	
Ativo Russell Microcap Index	1.73% 1.30%	5.15% 9.97%	2.81% 10.71%	6.92% 20.21%	
Russell 2000 Growth Index	0.78%	9.97 % 7.23%	9.70%	21.86%	
Russell 2000 Index	0.72%	7.75%	7.66%	17.57%	
Ativo - Net	1.73%	4.99%	2.48%	6.26%	
DFA Micro Cap	1.41%	8.82%	8.29%	18.98%	
Russell 2000 Value Index	0.61%	8.30%	5.44%	13.10%	
Russell 2000 Index	0.72%	7.75%	7.66%	17.57%	
DFA Micro Cap - Net	1.41%	8.69%	8.03%	18.39%	
Public Real Assets	1.25%	3.97%	(0.41%)	1.64%	
Public Real Assets Benchmark (1)	1.64%	3.32%	(1.77%)	-	
Brookfield Public Global Inf	1.61%	5.46%	(0.33%)	(1.04%)	
Dow Jones Global Infra Comp Idx	1.87%	5.21%	(1.31%)	1.18%	
Brookfield Public Global Inf - Net	1.61%	5.32%	(0.59%)	(1.42%)	
Cohen & Steers Public Global Inf	1.08%	3.27%	(0.45%)	2.98%	
FTSE GI Core Infr 50/50 N	1.57%	2.70%	(1.94%)	2.75%	
Cohen & St Public Global Inf - Net	1.08%	3.15%	(0.67%)	2.67%	



## **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 June 30, 2018

	Last	Last	Last	
	36	60	120	Since
	Months	Months	Months	Inception
Small Can Equity	9.73%	12.30%	10.99%	
Small Cap Equity Russell 2000 Index	9.73% 10.96%	12.30%	10.99%	<b>12.60%</b> (7/88) 9.85% (7/88)
Nussell 2000 Illuex	10.90 /6	12.40 /0	10.00 /6	9.03 /6 (//66)
Small Cap Growth	8.95%	13.28%	10.96%	<b>13.28%</b> (7/88)
Frontier	10.86%	14.16%	12.07%	13.52% (8/88)
Russell 2000 Growth Index	10.60%	13.65%	11.24%	8.56% (8/88)
Frontier - Net	10.26%	13.54%	11.39%	10.34% (1/05)
FIAM	8.94%	13.74%	11.24%	13.84% (8/88)
Russell 2000 Growth Index	10.60%	13.65%	11.24%	8.56% (8/88)
FIAM - Net	8.35%	13.16%	10.66%	11.33% (1/05)
I IAW - Net	0.55 /6	13.10 /6	10.00 /6	11.33 /6 (1/05)
Small Cap Value	11.77%	12.59%	11.17%	<b>12.38%</b> (9/89)
Channing	9.49%	12.20%	-	12.42% (7/11)
Russell 2000 Value Index	11.22%	11.18%	9.88%	11.10% (7/11)
Channing - Net	8.95%	11.66%	-	11.81% (7/11)
<b>G</b>				
DFA Small Cap Value	10.35%	11.86%	12.00%	12.84% (2/96)
Russell 2000 Value Index	11.22%	11.18%	9.88%	10.16% (2/96)
DFA Small Cap Value - Net	9.77%	11.32%	11.45%	8.81% (1/05)
Inv. Counselors of Maryland	14.97%	14.47%	11.40%	12.36% (5/99)
Russell 2000 Value Index	11.22%	11.18%	9.88%	9.77% (5/99)
Inv. Couns. of Maryland - Net	14.37%	13.94%	10.86%	9.65% (1/05)
Micro Cap	6.80%	9.67%	9.93%	<b>12.01%</b> (7/84)
	0.007,0	0.0.70	0.0070	1210170 (1/61)
Ativo	7.96%	12.95%	-	13.85% (10/10)
Russell Microcap Index	10.49%	12.78%	10.63%	14.21% (10/10)
Russell 2000 Growth Index	10.60%	13.65%	11.24%	14.73% (10/10)
Russell 2000 Index	10.96%	12.46%	10.60%	13.68% (10/10)
Ativo - Net	7.26%	12.17%	-	13.06% (10/10)
DFA Micro Cap	13.15%	13.94%	12.54%	11.69% (8/87)
Russell 2000 Value Index	11.22%	11.18%	9.88%	10.30% (8/87)
Russell 2000 Index	10.96%	12.46%	10.60%	9.22% (8/87)
DFA Micro Cap - Net	12.59%	13.37%	11.99%	8.96% (1/05)
DI A Wildio Gap Thei	12.0070	10.07 /0	11.5570	0.0070 (1100)
Public Real Assets		-	-	<b>1.85%</b> (8/17)
Public Real Assets Benchmark (1)	-	-	-	(0.47%) (8/17)
,				
Brookfield Public Global Inf	-	-	-	(0.75%) (8/17)
Dow Jones Global Infra Comp Idx	3.48%	6.08%	7.91%	(1.65%) (8/17)
Brookfield Public Global Inf - Net	-	-	=	<b>(1.12%)</b> (8/17)
Cohen & Steers Public Global Inf	=	-	_	3.15% (8/17)
FTSE GI Core Infr 50/50 N	7.11%	7.72%	_	(0.09%) (8/17)
Cohen & St Public Global Inf - Net	-	-	_	2.84% (8/17)
Co & Ot 1 abile Clobal iii 110t				2.0170 (0/11)

<sup>(1) 1/3</sup> 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 June 30, 2018

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Intl Large Cap Equity	(1.75%)	(2.07%)	(2.22%)	8.31%	
MSCI ACWI ex-US Index	(1.88%)	(2.61%)	(3.77%)	7.28%	
Intl Large Cap Growth	(2.20%)	(2.09%)	(2.41%)	10.02%	
EARNEST Partners	(2.02%)	(2.77%)	(3.95%)	7.12%	
MSCI ACWI ex-US Index	(1.88%)	(2.61%)	(3.77%)	7.28%	
MSCI ACWI ex-US Growth	(1.56%)	(1.23%)	(2.02%)	10.30%	
EARNEST Partners - Net	(2.02%)	(2.77%)	(3.95%)	7.07%	
William Blair	(2.36%)	(1.50%)	(1.06%)	12.61%	
MSCI ACWI ex-US Index	(1.88%)	(2.61%)	(3.77%)	7.28%	
MSCI ACWI ex-US Growth	(1.56%)	(1.23%)	(2.02%)	10.30%	
William Blair - Net	(2.36%)	(1.59%)	(1.23%)	12.22%	
Intl Large Cap Value	(0.88%)	(2.38%)	(2.04%)	6.83%	
Brandes	0.12%	(0.81%)	1.43%	9.07%	
MSCI ACWI ex-US Index	(1.88%)	(2.61%)	(3.77%)	7.28%	
MSCI ACWI ex-US Value	(2.12%)	(3.59%)	(4.90%)	5.26%	
Brandes - Net	0.12%	(0.86%)	1.32%	8.84%	
Mondrian	(1.85%)	(3.82%)	(5.21%)	4.32%	
MSCI ACWI ex-US Index	(1.88%)	(2.61%)	(3.77%)	7.28%	
MSCI ACWI ex-US Value	(2.12%)	(3.59%)	(4.90%)	5.26%	
Mondrian - Net	(1.85%)	(3.94%)	(5.44%)	3.82%	
Lazard	(1.70%)	(3.84%)	(4.23%)	7.70%	
MSCI ACWI ex-US Index	(1.88%)	(2.61%)	(3.77%)	7.28%	
MSCI ACWI ex-US Value	(2.12%)	(3.59%)	(4.90%)	5.26%	
Lazard - Net	(1.70%)	(3.90%)	(4.35%)	7.44%	



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 June 30, 2018

	Last	Last	Last	
	36	60	120	Since
	Months	Months	Months	Inception
Intl Large Cap Equity	6.09%	7.54%	3.72%	<b>7.96%</b> (9/86)
MSCI ACWI ex-US Index	5.07%	5.99%	2.54%	-
Intl Large Cap Growth	6.66%	7.34%	3.55%	<b>8.87%</b> (9/02)
EARNEST Partners	6.60%	6.30%	4.89%	9.68% (10/04)
MSCI ACWI ex-US Index	5.07%	5.99%	2.54%	6.23% (10/04)
MSCI ACWI ex-US Growth	6.95%	7.56%	3.36%	7.21% (10/04)
EARNEST Partners - Net	6.48%	6.14%	4.56%	8.34% (1/05)
William Blair	6.71%	8.28%	4.69%	10.19% (10/02)
MSCI ACWI ex-US Index	5.07%	5.99%	2.54%	8.51% (10/02)
MSCI ACWI ex-US Growth	6.95%	7.56%	3.36%	8.88% (10/02)
William Blair - Net	6.32%	7.89%	4.30%	6.76% (1/05)
Intl Large Cap Value	4.64%	6.73%	3.26%	9.02% (10/95)
Brandes	5.11%	7.65%	3.79%	9.34% (1/96)
MSCI ACWI ex-US Index	5.07%	5.99%	2.54%	5.31% (1/96)
MSCI ACWI ex-US Value	4.12%	5.33%	2.61%	-
Brandes - Net	4.87%	7.39%	3.53%	4.76% (1/05)
Mondrian	4.19%	5.84%	-	5.76% (4/12)
MSCI ACWI ex-US Index	5.07%	5.99%	2.54%	5.59% (4/12)
MSCI ACWI ex-US Value	4.12%	5.33%	2.61%	5.06% (4/12)
Mondrian - Net	3.68%	5.31%	-	5.25% (4/12)
Lazard	4.52%	6.40%	-	6.95% (4/12)
MSCI ACWI ex-US Index	5.07%	5.99%	2.54%	5.59% (4/12)
MSCI ACWI ex-US Value	4.12%	5.33%	2.61%	5.06% (4/12)
Lazard - Net	4.12%	5.72%	-	6.36% (4/12)



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 June 30, 2018

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Intl Large Cap Active Core	(2.73%)	(2.66%)	(2.28%)	9.24%	
Arrowstreet	(3.12%)	(3.66%)	(2.16%)	8.73%	
MSCI ACWI ex-US Index	(1.88%)	(2.61%)	(3.77%)	7.28%	
Arrowstreet - Net	(3.12%)	(3.78%)	(2.38%)	8.24%	
Brown	(0.76%)	1.57%	0.12%	8.72%	
MSCI ACWI ex-US Index	(1.88%)	(2.61%)	(3.77%)	7.28%	
Brown - Net	(0.76%)	1.51%	(0.00%)	7.85%	
GlobeFlex	(3.53%)	(4.08%)	(4.41%)	8.82%	
MSCI ACWI ex-US Index	(1.88%)	(2.61%)	(3.77%)	7.28%	
GlobeFlex - Net	(3.53%)	(4.16%)	(4.57%)	8.44%	
Progress Intl Equity	(2.31%)	(1.87%)	(0.46%)	11.96%	
Custom Benchmark	(1.88%)	(2.61%)	(3.77%)	8.54%	
MSCI ACWI ex-US Index	(1.88%)	(2.61%)	(3.77%)	7.28%	
Progress Intl Equity - Net	(2.31%)	(2.00%)	(0.70%)	11.42%	
Intl Large Cap Pass. Core	(1.04%)	(1.31%)	(2.12%)	7.31%	
NTGI MSCI EAFE Idx	(1.04%)	(1.31%)	(2.12%)	7.31%	
MSCI EAFE Index	(1.22%)	(1.24%)	(2.75%)	6.84%	
NTGI EAFE ldx - Net	(1.04%)	(1.32%)	(2.12%)	7.31%	
International Small Cap	(2.49%)	(3.13%)	(2.57%)	10.69%	
Franklin Templeton	(2.66%)	(3.10%)	(1.58%)	10.94%	
ACWI Small Cap ex US	(2.73%)	(2.60%)	(2.94%)	10.57%	
Franklin Templeton - Net	(2.66%)	(3.10%)	(1.75%)	10.36%	
·			,		
William Blair	(2.39%)	(3.20%)	(3.45%)	10.44%	
ACWI Small Cap ex US	(2.73%)	(2.60%)	(2.94%)	10.57%	
Intl SC Blended Benchmark	(2.73%)	(2.60%)	(2.94%)	10.57%	
William Blair - Net	(2.39%)	(3.39%)	(3.81%)	9.62%	
Emerging Markets	(3.37%)	(6.75%)	(5.41%)	9.55%	
Genesis	(3.37%)	(6.75%)	(5.41%)	9.55%	
MSCI Emerging Markets Index	(4.09%)	(7.86%)	(6.51%)	8.59%	
Genesis - Net	(3.37%)	(6.75%)	(5.46%)	9.16%	
	• /	•	• • • • • • • • • • • • • • • • • • • •		

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.

Returns for Periods Ended June 30, 2018

	Last	Last	Last	
	36	60	120	Since
	Months	Months	Months	Inception
ntl Large Cap Active Core	7.64%	9.23%	5.88%	<b>5.21%</b> (2/08)
Arrowstreet	7.26%	9.53%	5.93%	5.30% (3/08)
MSCI ACWI ex-US Index	5.07%	5.99%	2.54%	2.13% (3/08)
Arrowstreet - Net	6.77%	9.02%	5.42%	4.81% (3/08)
Brown	6.63%	9.32%	6.59%	8.33% (10/04)
MSCI ACWI ex-US Index	5.07%	5.99%	2.54%	6.23% (10/04)
Brown - Net	5.50%	8.17%	5.83%	6.72% (1/05)
GlobeFlex	8.52%	9.06%	3.87%	5.47% (3/06)
MSCI ACWI ex-US Index	5.07%	5.99%	2.54%	3.88% (3/06)
GlobeFlex - Net	8.11%	8.63%	3.43%	5.02% (3/06)
Progress Intl Equity	7.79%	-	_	5.19% (7/14)
Custom Benchmark	6.36%	_	_	3.74% (7/14)
MSCI ACWI ex-US Index	5.07%	5.99%	2.54%	2.38% (7/14)
Progress Intl Equity - Net	7.26%	-	-	4.73% (7/14)
- 1 - <del>3</del> - 1 - 1 - 1 - 1 - 1 - 1				2,0 (,
ntl Large Cap Pass. Core	5.33%	6.86%	3.26%	3.55% (1/00)
NTGI MSCI EAFE Idx	5.33%	6.86%	3.25%	3.93% (2/00)
MSCI EAFE Index	4.90%	6.44%	2.84%	3.53% (2/00)
NTGI EAFE ldx - Net	5.32%	6.85%	3.24%	5.18% (1/05)
nternational Small Cap	8.63%	9.14%	4.10%	<b>5.42%</b> (12/05)
·	0.000/	0.440/		7.700/
Franklin Templeton	8.09%	9.14%	- - 770/	7.72% (8/11)
ACWI Small Cap ex US	7.94%	8.98%	5.77%	5.93% (8/11)
Franklin Templeton - Net	7.38%	8.39%	-	6.99% (8/11)
William Blair	9.09%	9.13%	_	10.76% (9/10)
ACWI Small Cap ex US	7.94%	8.98%	5.77%	8.42% (9/10)
Intl SC Blended Benchmark	7.94%	8.98%	4.78%	8.84% (9/10)
William Blair - Net	8.26%	8.29%	-	9.92% (9/10)
	5.2070	3.20 /0		0.02 /0 (and)
Emerging Markets	6.71%	5.73%	5.52%	9.17% (2/92)
Genesis	6.71%	5.73%	5.52%	11.56% (5/04)
MSCI Emerging Markets Index	5.98%	5.39%	2.60%	9.38% (5/04)
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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 June 30, 2018

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Dom. Fixed Active Core	(0.01%)	0.06%	(0.94%)	0.57%	
Brandes Core*	0.13%	0.25%	(0.91%)	(0.13%)	
Blmbg Aggregate Index	(0.12%)	(0.16%)	(1.62%)	(0.40%)	
Brandes Core - Net	0.13%	0.25%	(0.91%)	(0.13%)	
EARNEST Partners	(0.09%)	(0.11%)	(1.23%)	0.24%	
Blmbg Aggregate Index	(0.12%)	(0.16%)	(1.62%)	(0.40%)	
EARNEST Partners - Net	(0.09%)	(0.14%)	(1.30%)	0.09%	
Piedmont	(0.12%)	(0.21%)	(1.27%)	0.16%	
Blmbg Aggregate Index	(0.12%)	(0.16%)	(1.62%)	(0.40%)	
Piedmont - Net	(0.12%)	(0.25%)	(1.35%)	0.02%	
Garcia Hamilton	0.11%	0.42%	(0.28%)	1.33%	
Blmbg Aggregate Index	(0.12%)	(0.16%)	(1.62%)	(0.40%)	
Garcia Hamilton	0.11%	0.39%	(0.33%)	1.24%	
Dom. Fixed Passive Core	(0.13%)	(0.14%)	(1.59%)	(0.36%)	
BlackRock US Debt	(0.110/)	(0.139/)	(4 500/)	(0.249/)	
	(0.11%)	(0.13%)	(1.59%)	(0.31%)	
Blmbg Aggregate Index BlackRock US Debt - Net	(0.12%)	(0.16%)	(1.62%)	(0.40%)	
DIACKROCK OS DEDI - NEI	(0.11%)	(0.13%)	(1.59%)	(0.31%)	
NTGI Blmbg Agg. Index	(0.15%)	(0.15%)	(1.59%)	(0.40%)	
Blmbg Aggregate Index	(0.12%)	(0.16%)	(1.62%)	(0.40%)	
NTGI Blmbg Agg. Index - Net	(0.15%)	(0.15%)	(1.60%)	(0.40%)	

<sup>\*</sup> 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 June 30, 2018

	Last 36	Last 60	Last 120	Since
	Months	Months	Months	Inception
Dom. Fixed Active Core	2.31%	2.84%	4.44%	<b>4.43%</b> (4/01)
Brandes Core *	-	-	-	0.97% (3/16)
Blmbg Aggregate Index	1.72%	2.27%	3.72%	1.03% (3/16)
Brandes Core - Net	-	-	-	0.97% (3/16)
EARNEST Partners	2.14%	2.72%	4.43%	4.35% (5/05)
Blmbg Aggregate Index	1.72%	2.27%	3.72%	3.88% (5/05)
EARNEST Partners - Net	1.96%	2.53%	4.22%	4.15% (5/05)
Piedmont	2.22%	2.81%	4.29%	4.16% (6/05)
Blmbg Aggregate Index	1.72%	2.27%	3.72%	3.82% (6/05)
Piedmont - Net	2.06%	2.66%	4.12%	3.97% (6/05)
Garcia Hamilton	2.82%	-	-	2.29% (6/15)
Blmbg Aggregate Index	1.72%	2.27%	3.72%	1.31% (6/15)
Garcia Hamilton	2.72%	-	-	2.19% (6/15)
Dom. Fixed Passive Core	1.77%	2.33%	3.68%	<b>5.87%</b> (1/90)
Dom: 1 IXOU 1 GOOIVE GOIG	111170	2.0070	0.0070	0.01 70 (1190)
BlackRock US Debt	1.83%	-	-	2.41% (10/13)
Blmbg Aggregate Index	1.72%	2.27%	3.72%	2.27% (10/13)
BlackRock US Debt - Net	1.82%	-	-	2.40% (10/13)
NTGI Blmbg Agg. Index	1.72%	2.30%	3.67%	5.93% (2/90)
Blmbg Aggregate Index	1.72%	2.27%	3.72%	5.92% (2/90)
NTGI Blmbg Agg. Index - Net	1.71%	2.30%	3.66%	3.82% (1/05)

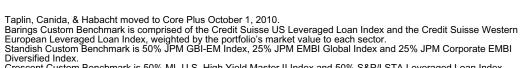
<sup>\*</sup> Brandes changed to a Core mandate from Core Plus on 01/01/2018. Performance shown is Brandes full SI history.



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 June 30, 2018

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Domestic Fixed Core Plus	(0.24%)	(0.65%)	(1.93%)	(0.20%)	
LM Capital	(0.21%)	(0.61%)	(2.13%)	(0.69%)	
Blmbg Aggregate Index	(0.12%)	(0.16%)	(1.62%)	(0.40%)	
LM Capital - Net	(0.21%)	(0.65%)	(2.21%)	(0.85%)	
Progress Fixed Income	(0.13%)	(0.11%)	(1.32%)	0.35%	
Blmbg Aggregate Index	(0.12%)	(0.16%)	(1.62%)	(0.40%)	
Progress Fixed Inc Net	(0.13%)	(0.19%)	(1.48%)	0.02%	
BMO-TCH	(0.24%)	(0.37%)	(1.60%)	0.61%	
Blmbg Aggregate Index	(0.12%)	(0.16%)	(1.62%)	(0.40%)	
BMO-TCH Net	(0.24%)	(0.40%)	(1.69%)	0.47%	
Western	(0.37%)	(1.38%)	(2.56%)	(0.61%)	
Blmbg Aggregate Index	(0.12%)	(0.16%)	(1.62%)	(0.40%)	
Western - Net	(0.37%)	(1.42%)	(2.62%)	(0.75%)	
Bank Loans	(0.02%)	0.70%	1.88%	4.36%	
Barings Global Loan Fund	(0.02%)	0.70%	1.88%	4.36%	
Custom Benchmark	0.03%	0.76%	2.34%	4.65%	
Barings Global Loan Fund - Net	(0.02%)	0.70%	1.88%	4.31%	
Emerging Markets	(2.56%)	(8.63%)	(7.03%)	(2.52%)	
Standish	(2.56%)	(8.63%)	(7.03%)	(2.52%)	
Custom Benchmark	(1.75%)	(6.53%)	(5.12%)	(1.63%)	
Standish - Net	(2.56%)	(8.71%)	(7.20%)	(2.86%)	
Opportunistic Fixed Income	0.22%	0.78%	0.11%	2.37%	
Opportunistic Fixed income	0.22/0	0.7076	0.1176	2.37 /6	
Crescent	0.22%	0.80%	0.13%	2.39%	
Custom Benchmark	0.23%	0.85%	1.12%	3.45%	
Crescent - Net	0.16%	0.62%	(0.22%)	1.74%	
High Yield	0.18%	0.30%	0.08%	3.33%	
MacKay Shields	0.18%	0.30%	0.07%	3.24%	
ML High Yield Cash Pay Index	0.35%	1.00%	0.06%	2.49%	
MacKay Shields - Net	0.09%	0.21%	(0.10%)	2.88%	
as. a, ornoido 110t	0.0070	0.2170	(0.1070)	2.0070	



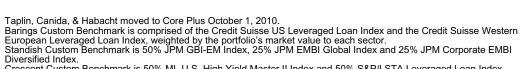




The table below details the rates of return for the fund's domestic fixed core plus and high yield managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized.

Returns for Periods Ended June 30, 2018

	Last	Last	Last	
	36	60	120	Since
	Months	Months	Months	Inception
Oomestic Fixed Core Plus	2.55%	3.19%	4.89%	8.08% (1/82)
LM Capital	2.23%	2.92%	4.60%	4.65% (5/05)
Blmbg Aggregate Index	1.72%	2.27%	3.72%	3.88% (5/05)
LM Capital - Net	2.07%	2.76%	4.44%	4.48% (5/05)
Progress Fixed Income	2.56%	3.01%	4.58%	4.71% (1/06)
Blmbg Aggregate Index	1.72%	2.27%	3.72%	3.97% (1/06)
Progress Fixed Inc Net	2.23%	2.67%	4.23%	4.37% (1/06)
BMO-TCH	3.20%	3.75%	5.13%	4.83% (5/05)
Blmbg Aggregate Index	1.72%	2.27%	3.72%	3.88% (5/05)
BMO-TCH - Net	3.06%	3.62%	5.00%	4.70% (5/05)
Western	2.98%	3.58%	5.47%	5.27% (11/01)
Blmbg Aggregate Index	1.72%	2.27%	3.72%	4.10% (11/01)
Western - Net	2.83%	3.44%	5.33%	4.64% (1/05)
Bank Loans	4.83%	-	-	<b>4.56%</b> (8/14)
Barings Global Loan Fund	4.83%	-	-	4.56% (8/14)
Custom Benchmark	4.46%	-	-	4.03% (8/14)
Barings Global Loan Fund - Net	4.41%	-	-	4.10% (8/14)
merging Markets	3.07%			<b>1.18%</b> (8/14)
Standish	3.07%	<u>-</u>	-	1.18% (8/14)
Custom Benchmark	3.21%	1.62%	4.54%	0.45% (8/14)
Standish - Net	2.71%	-	-	0.85% (8/14)
Opportunistic Fixed Income	4.20%		-	<b>3.33%</b> (8/14)
Crescent	4.20%	_	_	3.19% (9/14)
Custom Benchmark	4.89%	4.77%	6.62%	3.94% (9/14)
Crescent - Net	3.58%	-	-	2.70% (9/14)
ligh Yield	6.04%	6.00%	8.28%	<b>9.59%</b> (4/86)
MacKay Shields	6.38%	6.15%	7.94%	8.88% (11/00)
ML High Yield Cash Pay Index	5.53%	5.48%	7.96%	7.60% (11/00)
MacKay Shields - Net	6.01%	5.78%	7.56%	6.84% (1/05)







## Five Best Performing Portfolio's vs. Benchmarks

Manager	Year-to-Date Outperformance	Since Inception Outperformance	
	(in % points)	(in % points)	
Sands	14.35	2.76	10/31/2003
Frontier	8.72	4.94	07/31/1988
Brandes	5.20	4.03	12/31/1995
Brown	3.89	2.10	09/30/2004
DFA Micro Cap	2.85	1.39	07/31/1987

## Five Worst Performing Portfolio's vs. Benchmarks

Manager	Year-to-Date Underperformance	Since Inception Underperformance	
	(in % points)	(in % points)	
Ativo	-6.89	-0.88	09/30/2010
Channing	-2.12	1.32	06/30/2011
Standish	-1.85	0.75	07/31/2014
Pyramis SCG	-1.54	5.28	07/31/1988
Mondrian	-1.44	0.17	03/31/2012

## **Five Highest Returning Portfolios**

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
Sands	21.61	12.56	10/31/2003
Frontier	18.42	13.50	07/31/1988
DFA Micro Cap	8.29	11.69	07/31/1987
Pyramis SCG	8.16	13.84	07/31/1988
Inv Couselors of MD	7.74	12.36	04/30/1999

## **Five Lowest Returning Portfolios**

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
Standish	-7.03	1.18	07/31/2014
Genesis	-5.41	11.56	04/30/2004
Mondrian	-5.21	5.76	03/31/2012
GlobeFlex	-4.41	5.43	02/28/2006
Lazard	-4.23	6.95	03/31/2012

Returns are shown gross of investment management fees.

Excludes Real Estate and Alternative Investments portfolios.