

ILLINOIS MUNICIPAL RETIREMENT FUND

MEETING NO. 19-03

REGULAR MEETING

OF THE

BOARD OF TRUSTEES

The Regular Meeting of the Board of Trustees was held at 9:00 a.m. on March 22, 2019, in the Fund Office at 2211 York Road, Suite 400, Oak Brook, Illinois.

Mr. Miller presided as Vice Chair and called the meeting to order.

Ms. Enright took a visual roll:

Present: Copper, Henry, Kuehne, Miller, Thompson, Wallace\*, Williams  
Absent: Stanish

\*Trustee Wallace was present via telephone.

Ms. Becker-Wold from Callan Associates, a representative from Loop Capital, and representatives from Southcom 911 Dispatch were also present.

Ms. Stanish arrived at 9:08 a.m.

(19-03-01) (4<sup>th</sup> Quarter Investment Performance Report) Ms. Becker-Wold from Callan Associates presented an evaluation of IMRF's investment performance for the period ending December 31, 2018.

Questions and discussion followed.

(19-03-02) (Investment Manager Activities - Callan Associates) Ms. Becker-Wold of Callan Associates presented the following report to the Board on the activities of IMRF's investment managers for the month of February 2019:

**February 28, 2019**



**Illinois Municipal  
Retirement Fund  
Monthly Performance Report**

**Investment Measurement Service  
Monthly Review**

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**Market Environment**  
**As of February 28, 2019**

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell:3000 Index	3.52	12.40	5.05	15.53	10.15	16.81
S&P:500	3.21	11.48	4.68	15.28	10.67	16.67
Russell:2000 Index	5.20	17.03	5.58	16.67	7.36	16.60
MSCI:ACWI ex US	1.95	9.66	(6.46)	10.72	2.50	9.63
MSCI:EM	0.22	9.00	(9.89)	15.04	4.13	10.33
Blmbg:Aggregate	(0.06)	1.00	3.17	1.69	2.32	3.71
NCREIF:Total Index	0.46	0.91	6.49	7.02	9.13	8.13
Blmbg:Commodity Price Idx	0.82	6.09	(7.66)	2.33	(9.49)	(2.61)

February was a positive month for equity markets globally. Optimism largely stemmed from a favorable outlook regarding U.S.-China trade relations as pending tariffs scheduled for March were rescinded. Global central banks also indicated a more dovish approach to monetary policy moving forward. The Federal Reserve announced intentions to end quantitative tightening by the end of the year and thereby maintain a larger balance sheet than previously suggested. Strong earnings in the U.S. further fueled equities despite lower earnings guidance. Europe experienced rather lackluster growth in the fourth quarter, reporting 0.2% (1.5% YOY). In February, consumer confidence climbed but manufacturing appeared to stall. The dominant headline in the region continued to be the failure of the U.K. government to adopt a withdrawal agreement with the European Union (EU). The country is rapidly approaching the March 29th deadline to exit the EU. It is expected that policy makers will seek an extension. Emerging market equities were flat in February, following a strong January. A dovish Federal Reserve could lead to a weaker dollar going forward which would bode well for the region.

The economy added a mere 20,000 nonfarm payrolls in February, far below analysts' expectations. The figure is in stark contrast to the surprisingly large addition of 311,000 jobs in January. Construction and retail both contracted in February, while professional and business services added to overall employment. The unemployment rate ticked 20 basis points lower to 3.8%, while wage growth moved to a 10-year high of 3.4% year-over-year.

Headline CPI climbed 0.2% in February and is up 1.5% over the trailing twelve months. Core CPI rose a modest 0.1% in February, and is up 2.1% year-over-year. The housing market was relatively flat in February, with prices appreciating by only 0.2%. Medical care costs declined 0.2%, led by hospital services and prescription drugs.

The first estimate of fourth quarter U.S. GDP showed growth of 2.6%. GDP growth exceeded analysts' expectations, but fell short of the third quarter's strong 3.4%. Consumer spending was a factor in the fourth quarter, rising 2.8%. Growth was also supported by business investment in nonresidential fixed investments, while residential investments fell during the quarter.

\*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.

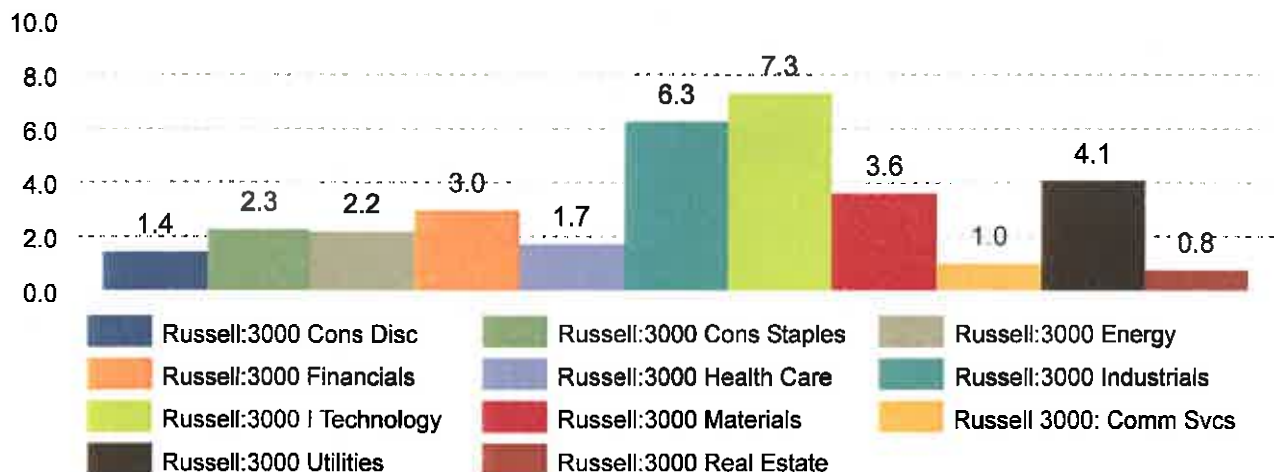
**U.S. Equity Overview**  
**As of February 28, 2019**

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Russell:3000 Index	3.52	12.40	5.05	15.53	10.15	16.81
S&P:500	3.21	11.48	4.68	15.28	10.67	16.67
Russell:1000 Index	3.39	12.05	4.99	15.43	10.39	16.82
Russell:1000 Growth	3.58	12.89	6.62	17.99	12.63	18.19
Russell:1000 Value	3.20	11.23	3.16	12.80	8.09	15.39
Russell:Midcap Index	4.30	15.55	5.63	14.46	8.56	17.81
Russell:2000 Index	5.20	17.03	5.58	16.67	7.36	16.60
Russell:2000 Growth	6.46	18.75	6.70	18.27	8.16	17.69
Russell:2000 Value	3.89	15.25	4.42	14.95	6.48	15.43

U.S. equities continued the rebound that began in January, adding another 3.2% (S&P 500 Index) to last month's 8.0% gain. The 11.5% year-to-date marks only the seventh time the index has gained over 10% in the first two months of the year, per a Wall Street Journal report. In four of the previous six cases, the index went on to post further gains for the rest of the year, although in 1931 and 1987 the index posted losses over the remaining 10 months. The major news propelling markets in February was the improvement in trade negotiations between the U.S. and China. The U.S. announced it would not follow through with increasing tariffs on China to 25%, noting progress in talks between the countries. Large caps trailed small caps for the second month in a row (Russell 1000 Index: +3.4% vs. Russell 2000 Index: +5.2%) while growth continued to outperform value (Russell 1000 Growth Index: +3.6% vs. Russell 1000 Value Index: +3.2%). Mid cap returns were between large and small caps (Russell Midcap Index: +4.3%).

All 11 Russell 3000 sectors were positive for the second consecutive month and eight of the 11 have now posted double-digit gains through the first two months of 2019. Information Technology stocks led the way in February, up 7.3%. The Industrials sector also performed strongly, returning 6.3%. Boeing led the sector higher as the stock climbed 14% after the company announced a large order from a new client. Communication Services and Real Estate were the worst performing sectors, adding 1.0% and 0.8%, respectively.

**Russell 3000 Index Sector Returns**



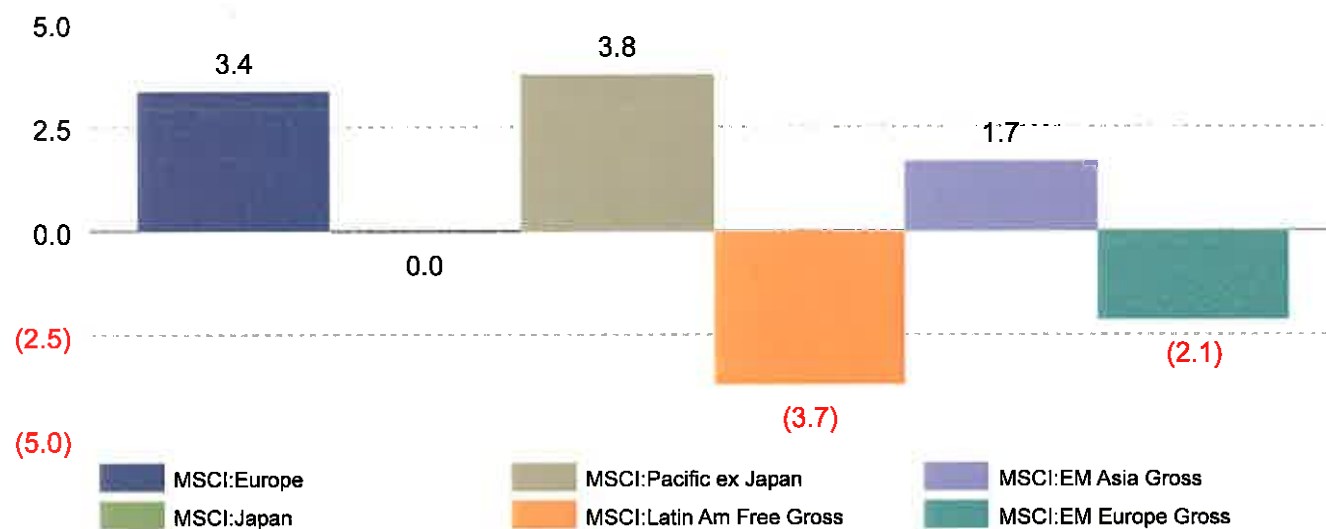
## Non-U.S. Equity Overview As of February 28, 2019

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
MSCI:ACWI ex US	1.95	9.66	(6.46)	10.72	2.50	9.63
MSCI:EAFE	2.55	9.29	(6.04)	9.32	2.07	9.56
MSCI:EAFE Hedged Net	3.64	9.57	1.54	10.80	6.48	10.61
MSCI:EM	0.22	9.00	(9.89)	15.04	4.13	10.33
MSCI:ACWI ex US Small Cap	2.10	10.09	(10.65)	9.96	3.26	12.71

With trade negotiations between the U.S. and China dominating investors' attention around the world, non-U.S. equities received a boost from the improving sentiment around that issue. Gains came despite growing signs of an economic slowdown outside of the U.S. The competing forces of slowing economic momentum and positive trade sentiment resulted in non-U.S. equity returns that, while positive, lagged their U.S. counterparts (MSCI ACWI ex-U.S.: +2.0% vs. Russell 1000 Index: +3.4%). Emerging markets trailed developed markets in February (MSCI Emerging Markets Index: +0.2% vs. MSCI EAFE Index: +2.6%). The dollar gained against developed market currencies, ending a two-month skid (MSCI EAFE Index: +2.6% vs MSCI EAFE Hedged Net Index: +3.6%). Non-U.S. small cap stocks edged out non-U.S. large caps (MSCI ACWI ex U.S. Small Cap: +2.1% vs. MSCI ACWI ex-U.S.: +2.0%).

Pacific ex-Japan was the best performing region (MSCI Pacific ex-Japan Index: +3.8%) as Australia and Hong Kong propelled the region higher. Developed Europe also performed well (MSCI Europe Index: +3.4%). Latin America continued to display volatility, frequently swinging from best performing to worst performing region on a monthly basis. In February, the region was the worst performer (MSCI Latin America Free Gross Index: -3.7%), led downward by losses in Brazil and Mexico. Emerging Europe also struggled (MSCI EM Europe Gross Index: -2.1%).

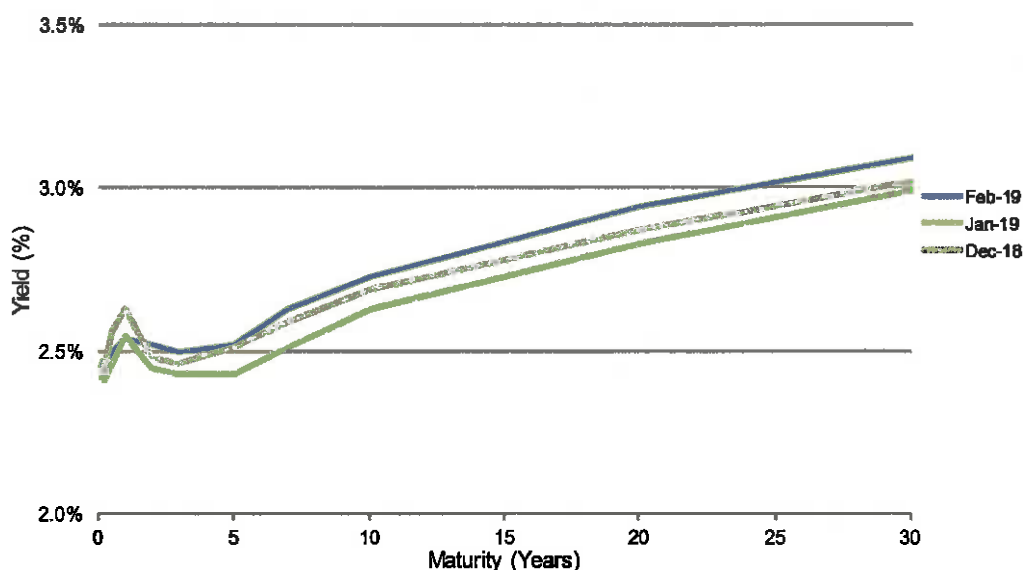
### MSCI Regional Returns



**Fixed Income Overview**  
**As of February 28, 2019**

Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Bimbg:Aggregate	(0.06)	1.00	3.17	1.69	2.32	3.71
Bimbg:Long Gov/Credit	(0.55)	1.67	2.17	3.13	4.54	6.92
Bimbg:US Government	(0.26)	0.21	3.21	0.50	1.71	2.43
Bimbg:Credit	0.22	2.38	2.72	3.51	3.13	5.96
Bimbg:Mortgage Backed Sec	(0.09)	0.70	3.58	1.38	2.28	3.10
Bimbg:US TIPS	(0.01)	1.33	1.91	1.69	1.47	3.81
ML:US High Yield Cash Pay	1.68	6.35	4.28	9.85	4.52	11.38
CS:Leveraged Loan	1.57	3.90	3.78	6.83	3.93	8.00
3 Month T-Bill	0.18	0.38	2.04	1.13	0.70	0.41

**Treasury Yield Curve**



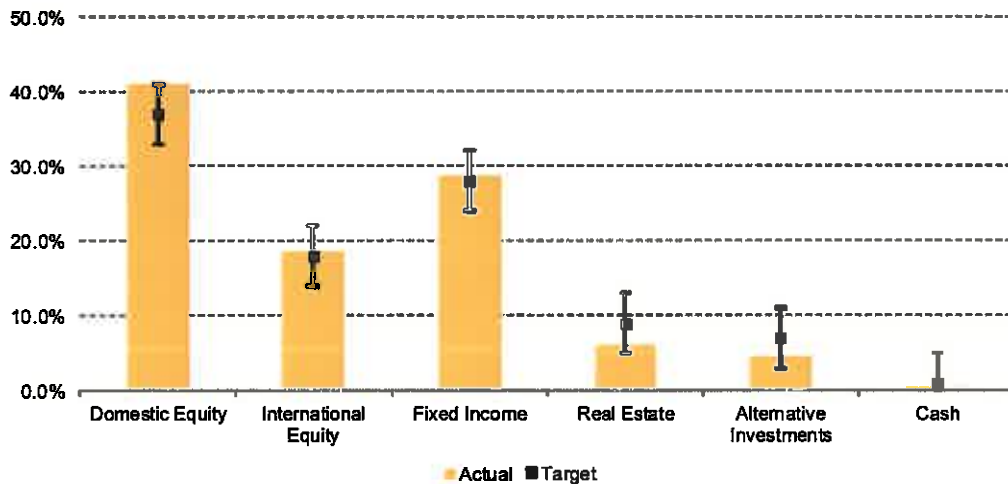
Minutes from the January Federal Open Market Committee meeting lent support to the growing consensus that the Fed has turned more dovish. Committee members continued to debate further rate hikes during the meeting but agreed to maintain a larger balance sheet and end quantitative tightening before the end of the year, sooner than expected. Market-implied probabilities still favor a rate cut over a rate hike in 2019. Despite these developments, a resurgence in risk appetite drove investors out of Treasuries, causing yields to rise across the curve with the exception of the 1-year note, which fell one basis point. On the long end, the 30-year rose 10 bps to 3.09%. The 10-year climbed 10 bps to 2.73%, while the 2-year added 7 bps to close at 2.52%. The spread between the 2- and 10-year Treasuries widened from 18 bps to 21 bps. The yield curve remained inverted for maturities from 1- to 5-years but the 7-year is back above shorter maturities.

The Bloomberg Aggregate Index declined 0.1% amid rising rates. Longer-dated issues were hit the hardest (Bloomberg Long Gov/Credit Index: -0.6%). The Bloomberg Mortgage Backed Securities Index also fell modestly, losing 0.1%. Credit performed well in this environment as investors sought risk assets (Bloomberg Credit Index: +0.2%). High yield (ML U.S. High Yield CP Index: +1.7%) and leveraged loans (Credit Suisse Leveraged Loan Index: +1.6%) were the best performing fixed income sectors. High yield spreads tightened by 44 bps and are now approximately 60 bps below their five-year average.

**Total Fund**

The market value of the Total Fund was \$41.50 billion at the end of February, an increase of \$761.66 million from the prior month. The Fund returned 2.11% during the month, leading the 1.73% return of its benchmark. Domestic Equity (+3.73%) outperformed its benchmark (+3.52%). International Equity (+2.15%) led its benchmark by 20 basis points. The Fixed Income composite returned 0.23% leading its benchmark return of -0.06%. Real Estate returned 0.78% in February, leading its benchmark by 28 basis points. Over the last three months, Alternatives (+3.05%) outperformed the benchmark return of 2.18%.

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 February month end, the Domestic Equity allocation is 4.1% away from its policy target due to gains in January and February. The Chief Investment Officer and Consultant do not recommend any rebalancing at this time.



**U.S. Equity**

The U.S. Equity composite returned 3.73% during February, leading the Russell 3000 Index by 21 basis points. For the month, small caps outperformed large caps.

**Large Cap:** IMRF's Large Cap managers returned 3.49% in February, outperforming the 3.39% return of the Russell 1000 Index. In aggregate, growth managers returned 4.35%, while the Russell 1000 Growth Index returned 3.58%. Value managers returned 2.74% collectively, underperforming the 3.20% return of the Russell 1000 Value Index.

**Small Cap:** The Small Cap composite (+5.07%) trailed the Russell 2000 Index by 13 basis points in February. The growth managers collectively returned 6.03%, relative to the 6.46% return of the Russell 2000 Growth Index. The value managers returned 4.33% during the month, leading the Russell 2000 Value Index by 44 basis points. The Micro Cap composite returned 5.04% in February.

**Public Real Assets:** The Public Real Assets portfolio managed by Brookfield and Cohen & Steers returned 2.26% in February, trailing the custom benchmark by one basis point.



**International Equity**

The International Equity composite returned 2.15% in February, 20 basis points ahead of its MSCI ACWI ex-U.S. benchmark (+1.95%).

**International Large Cap:** International Large Cap managers collectively returned 1.98% in February, leading the MSCI ACWI ex-U.S. Index by three basis points. International Large Cap Growth managers (+2.86%) led the MSCI ACWI ex-U.S. Growth Index by 15 basis points. International Large Cap Value managers returned 0.94% for the month, trailing the MSCI ACWI ex-U.S. Value Index (+1.23%).

**International Small Cap and Emerging Markets:** The International Small Cap managers returned 3.87% in February, 177 basis points ahead of the MSCI ACWI Small Cap ex-U.S. Index return of 2.10%. The Emerging Markets portfolio, managed by Genesis, returned 2.72% during the month, leading the MSCI Emerging Markets Index by 249 basis points.

**Fixed Income**

The Fixed Income composite returned 0.23% in February relative to the -0.06% return of the Bloomberg Aggregate Index.

**Active Core:** In aggregate, the Domestic Active Core managers were up 0.06% in February, 12 basis points ahead of the Bloomberg Aggregate Index.

**Core Plus:** Domestic Fixed Core Plus managers ended the month with a return of 0.14%, leading the Bloomberg Aggregate Index by 20 basis points.

**Bank Loans:** The Bank Loans portfolio, managed by Barings, returned 1.64% for the month, leading the custom benchmark by 16 basis points.

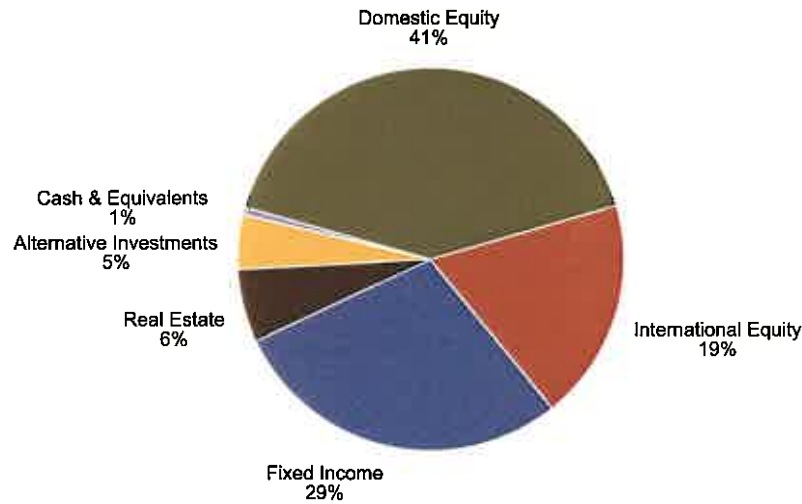
**Emerging Markets:** The Emerging Markets Debt component, managed by Standish, returned 0.07% in February, 19 basis points ahead of the custom benchmark.

**High Yield:** The High Yield allocation, managed by MacKay Shields, returned 1.55% in February, underperforming the benchmark return of 1.68%.

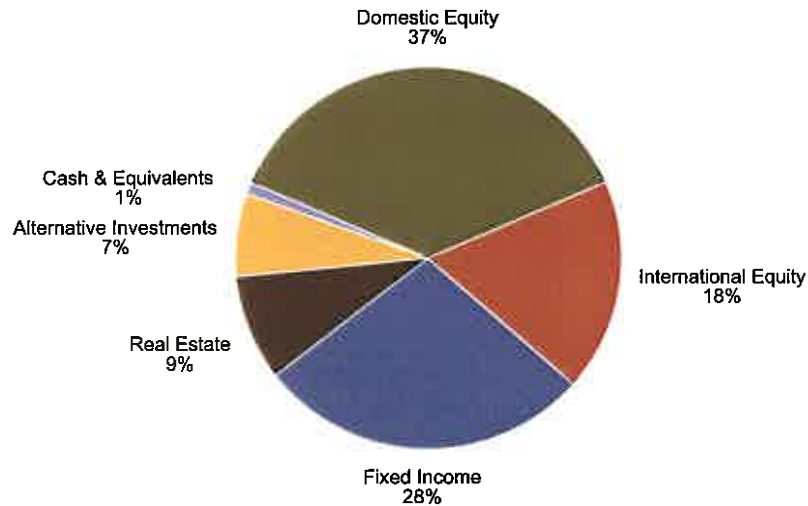
## Actual vs Target Asset Allocation

The first chart below shows the Fund's asset allocation as of February 28, 2019. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.

### Actual Asset Allocation



### Target Asset Allocation



Asset Class	\$Millions Actual	Percent Actual	Percent Target	Percent Difference	\$Millions Difference
Domestic Equity	17,055	41.1%	37.0%	4.1%	1,700
International Equity	7,777	18.7%	18.0%	0.7%	307
Fixed Income	11,937	28.8%	28.0%	0.8%	317
Real Estate	2,557	6.2%	9.0%	(2.8%)	(1,178)
Alternative Investments	1,905	4.6%	7.0%	(2.4%)	(1,000)
Cash & Equivalents	268	0.6%	1.0%	(0.4%)	(147)
<b>Total</b>	<b>41,501</b>	<b>100.0%</b>	<b>100.0%</b>		

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

## Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of February 28, 2019, with the distribution as of January 31, 2019.

### Asset Distribution Across Investment Managers

	February 28, 2019		January 31, 2019	
	Market Value	Percent	Market Value	Percent
<b>Domestic Equity*</b>	<b>\$17,055,061,049</b>	<b>41.10%</b>	<b>\$16,593,974,128</b>	<b>40.73%</b>
<b>Large Cap Growth</b>				
NTGI S&P 500 Growth Idx	2,169,869,477	5.23%	2,084,828,428	5.12%
Sands	1,897,626,607	4.57%	1,806,286,989	4.43%
Piedmont Russell 1000 G	955,390,196	2.30%	922,413,776	2.26%
<b>Large Cap Value</b>				
Dodge & Cox	1,310,028,863	3.16%	1,288,029,532	3.16%
BMO	1,348,293,137	3.25%	1,299,092,908	3.19%
LSV	1,511,587,942	3.64%	1,469,364,007	3.61%
NTGI S&P 500 Value Idx	1,579,469,036	3.81%	1,544,567,651	3.79%
<b>Large Cap Core</b>				
NTGI MarketCap Index	2,828,677,562	6.82%	2,732,652,486	6.71%
<b>Small Cap Growth</b>				
Frontier	573,831,100	1.38%	539,514,999	1.32%
FIAM	468,819,907	1.13%	588,795,939	1.45%
<b>Small Cap Value</b>				
Channing	228,459,410	0.55%	214,804,742	0.53%
Dimensional Small Cap Value	583,125,137	1.41%	565,079,225	1.39%
Inv. Counselors of Maryland	668,752,853	1.61%	639,090,960	1.57%
<b>Micro Cap</b>				
Ativo	161	0.00%	189,575	0.00%
Dimensional Micro Cap	436,753,891	1.05%	415,791,175	1.02%
<b>Public Real Assets</b>				
Brookfield	156,404,070	0.38%	152,995,309	0.38%
Cohen & Steers	337,971,699	0.81%	330,476,426	0.81%
<b>International Equity</b>	<b>\$7,777,343,363</b>	<b>18.74%</b>	<b>\$7,613,363,420</b>	<b>18.69%</b>
<b>International Large Cap Growth</b>				
EARNEST Partners	618,500,949	1.49%	606,284,642	1.49%
William Blair	707,177,484	1.70%	682,489,889	1.68%
<b>International Large Cap Value</b>				
Brandes	606,035,871	1.46%	606,388,404	1.49%
Lombardia	1	0.00%	1	0.00%
Mondrian	526,887,815	1.27%	517,461,831	1.27%
Lazard	110,469,715	0.27%	107,958,034	0.27%
<b>International Large Cap Core</b>				
Arrowstreet	676,012,720	1.63%	666,244,444	1.64%
Brown	335,600,129	0.81%	328,672,619	0.81%
GlobeFlex	587,030,478	1.41%	580,505,422	1.42%
NTGI MSCI EAFE Index	1,944,551,238	4.69%	1,897,910,848	4.66%
Progress Intl Equity	305,868,364	0.74%	299,501,762	0.74%
<b>International All Cap Developed</b>				
Ativo International	130,933,430	0.32%	129,025,896	0.32%
<b>International Small Cap</b>				
Franklin Templeton	188,842,161	0.46%	179,867,250	0.44%
William Blair	259,549,907	0.63%	251,836,376	0.62%
<b>Emerging Markets</b>				
Genesis	779,883,101	1.88%	759,216,003	1.86%

\* 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 February 28, 2019, with the distribution as of January 31, 2019.

### Asset Distribution Across Investment Managers

	February 28, 2019		January 31, 2019	
	Market Value	Percent	Market Value	Percent
<b>Total Fixed Income</b>	<b>\$11,937,495,449</b>	<b>28.76%</b>	<b>\$11,910,020,643</b>	<b>29.24%</b>
<b>Domestic Fixed Core</b>				
Brandes Core	350,122,779	0.84%	349,733,496	0.86%
EARNEST Partners	1,019,525,279	2.46%	1,019,105,767	2.50%
Piedmont Investment	1,008,830,005	2.43%	1,007,323,823	2.47%
Garcia Hamilton	1,000,387,005	2.41%	1,000,512,880	2.46%
<b>Domestic Fixed Passive Core</b>				
NTGI Bimbg Agg. Index	1,680,344,129	4.05%	1,680,901,365	4.13%
BlackRock US Debt	1,610,675,803	3.88%	1,611,381,402	3.96%
<b>Domestic Fixed Core Plus</b>				
LM Capital	865,226,453	2.08%	863,378,700	2.12%
Progress Fixed Income	905,068,258	2.18%	903,287,934	2.22%
Taplin, Canida, & Habacht	893,931,212	2.15%	891,528,645	2.19%
Western	1,054,103,223	2.54%	1,054,499,852	2.59%
<b>Bank Loans</b>				
Barings Global Loan Fund	575,848,527	1.39%	566,583,205	1.39%
<b>Emerging Markets Debt</b>				
Standish	206,473,004	0.50%	206,331,442	0.51%
<b>Opportunistic Fixed Income</b>				
Crescent	11,115,637	0.03%	11,115,635	0.03%
<b>High Yield</b>				
MacKay Shields	755,509,917	1.82%	744,002,384	1.83%
FIAM High Yield	334,218	0.00%	334,114	0.00%

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

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

## Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of February 28, 2019, with the distribution as of January 31, 2019.

### Asset Distribution Across Investment Managers

	February 28, 2019		January 31, 2019	
	Market Value	Percent	Market Value	Percent
<b>Real Estate</b>	<b>\$2,557,261,320</b>	<b>6.16%</b>	<b>\$2,540,767,247</b>	<b>6.24%</b>
<b>Real Estate Core</b>				
TA Buckhead Ind. Prop.	497,656,433	1.20%	479,284,513	1.18%
Barings Core Property Fund	1,070	0.00%	1,070	0.00%
Barings European Core Property	86,680,017	0.21%	87,359,998	0.21%
Blackstone Property Partners Europe	121,111,374	0.29%	122,042,023	0.30%
INVESCO Core RE	208,383,270	0.50%	208,383,270	0.51%
INVESCO Euro real estate	57,606,305	0.14%	57,292,496	0.14%
AEW Core Property Trust	235,144,734	0.57%	237,342,034	0.58%
CBRE US Core Property Trust	189,500,154	0.46%	189,500,154	0.47%
<b>Real Estate Non-Core</b>				
Artemis MWBE Spruce	175,253,531	0.42%	175,253,531	0.43%
Franklin Templeton EMREFF	18,234,052	0.04%	18,094,696	0.04%
Security Capital	55,257,568	0.13%	51,897,758	0.13%
Dune II	28,018,636	0.07%	28,405,977	0.07%
Non-Core Real Estate Funds*	775,065,950	1.87%	784,483,753	1.93%
Non-Core Intl Real Estate Funds**	107,706,653	0.26%	99,770,353	0.24%
Rockwood Fund VIII	248,553	0.00%	262,601	0.00%
Almanac ARS V	1,364,882	0.00%	1,364,882	0.00%
TA Fund IX	28,138	0.00%	28,138	0.00%
<b>Alternative Investments</b>	<b>\$1,905,397,740</b>	<b>4.59%</b>	<b>\$1,849,939,559</b>	<b>4.54%</b>
<b>Absolute Return</b>				
Aurora	658,358	0.00%	661,104	0.00%
<b>Private Equity</b>				
Abbott	341,643,522	0.82%	341,649,822	0.84%
Muller & Monroe MPEFF	5,800,581	0.01%	5,800,581	0.01%
Pantheon	258,935,039	0.62%	259,092,107	0.64%
Private Equity Fund - Domestic	885,669,309	2.13%	837,626,199	2.06%
Private Equity Fund - International	102,607,862	0.25%	95,946,375	0.24%
<b>Agriculture</b>				
Premiere Partners IV	202,036,611	0.49%	201,895,562	0.50%
<b>Timberland</b>				
Forest Investment Assoc.	73,899,790	0.18%	73,121,141	0.18%
<b>Unlisted Infrastructure</b>				
Unlisted Infrastructure Funds	34,146,667	0.08%	34,146,667	0.08%
<b>Cash &amp; Equivalents</b>	<b>\$267,947,551</b>	<b>0.65%</b>	<b>\$230,784,771</b>	<b>0.57%</b>
<b>Total Fund</b>	<b>\$41,500,506,471</b>	<b>100.0%</b>	<b>\$40,738,849,768</b>	<b>100.0%</b>

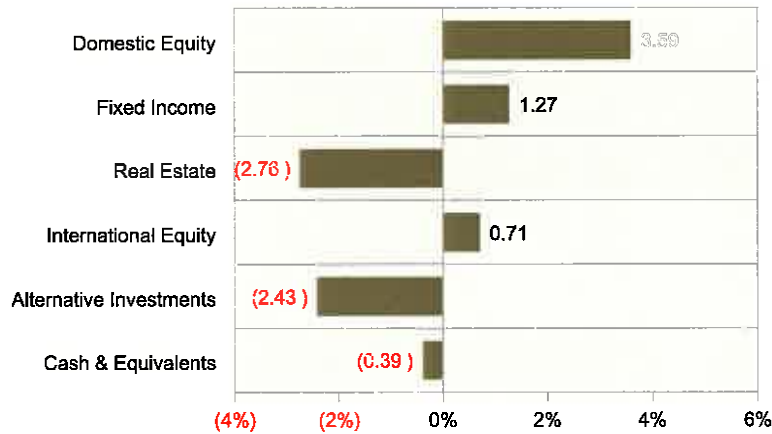
\* Non-Core Real Estate Funds funded since September 2011.

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

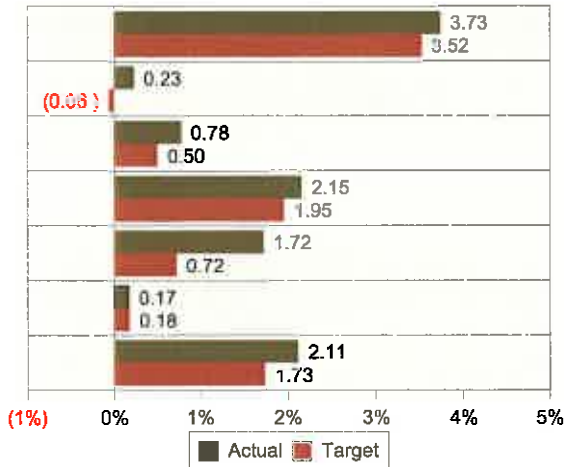
## Monthly Total Fund Relative Attribution - February 28, 2019

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

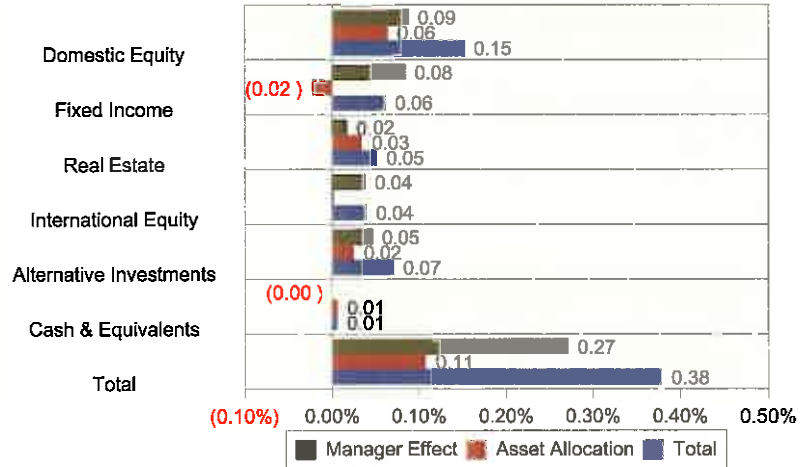
### Asset Class Under or Overweighting



### Actual vs Target Returns



### Relative Attribution by Asset Class



### Relative Attribution Effects for Month ended February 28, 2019

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	41%	37%	3.73%	3.52%	0.09%	0.06%	0.15%
Fixed Income	29%	28%	0.23%	(0.06%)	0.08%	(0.02%)	0.06%
Real Estate	6%	9%	0.78%	0.50%	0.02%	0.03%	0.05%
International Equity	19%	18%	2.15%	1.95%	0.04%	0.00%	0.04%
Alternative Investments	5%	7%	1.72%	0.72%	0.05%	0.02%	0.07%
Cash & Equivalents	1%	1%	0.17%	0.18%	(0.00%)	0.01%	0.01%
<b>Total</b>			<b>2.11%</b>	<b>1.73%</b>	<b>+ 0.27%</b>	<b>+ 0.11%</b>	<b>0.38%</b>

\* Current Month Target = 37.0% Russell 3000 Index, 28.0% Bimbg 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 February 28, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
Domestic Equity	3.73%	3.15%	14.02%	5.27%
Blended Benchmark**	3.52%	1.94%	12.40%	5.05%
Domestic Equity - Net	3.71%	3.09%	13.97%	5.06%
International Equity	2.15%	4.88%	10.11%	(6.63%)
MSCI ACWI x US (Net)	1.95%	4.69%	9.66%	(6.46%)
International Equity - Net	2.15%	4.82%	10.06%	(6.89%)
Fixed Income	0.23%	2.98%	1.76%	3.08%
Blmbg Aggregate Index	(0.06%)	2.86%	1.00%	3.17%
Fixed Income - Net	0.23%	2.96%	1.74%	2.95%
Real Estate	0.78%	1.57%	1.07%	8.73%
Blended Benchmark***	0.50%	1.52%	1.01%	7.05%
Real Estate - Net	0.78%	1.57%	1.07%	8.73%
Alternative Investments	1.72%	3.05%	1.68%	18.86%
Alternatives Custom Benchmark****	0.72%	2.18%	1.45%	9.00%
Alternative Investments - Net	1.69%	3.01%	1.64%	18.68%
Private Equity	2.00%	3.33%	1.96%	23.18%
Alternatives Custom Benchmark****	0.72%	2.18%	1.45%	9.00%
Agriculture	0.07%	2.42%	0.07%	0.89%
Blended Benchmark***	0.50%	1.52%	1.01%	7.05%
Timberland	1.06%	0.45%	1.06%	(2.36%)
Blended Benchmark***	0.50%	1.52%	1.01%	7.05%
Unlisted Infrastructure	0.00%	0.00%	0.00%	9.88%
Alternatives Custom Benchmark****	0.72%	2.18%	1.45%	9.00%
<b>Total Fund</b>	<b>2.11%</b>	<b>3.22%</b>	<b>8.06%</b>	<b>2.82%</b>
Total Fund - Net	2.10%	3.18%	8.02%	2.65%
Total Fund Benchmark	1.73%	2.86%	6.75%	3.12%

\* 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 February 28, 2019

	Last 36 Months	Last 60 Months	Last 84 Months	Last 120 Months	Since Inception
Domestic Equity	16.02%	9.28%	12.77%	17.03%	11.57% <sup>(1/82)</sup>
Blended Benchmark**	15.53%	10.13%	12.85%	16.83%	11.34% <sup>(1/82)</sup>
Domestic Equity - Net	15.78%	9.03%	12.51%	16.76%	8.41% <sup>(1/05)</sup>
International Equity	10.72%	3.38%	6.17%	11.01%	7.69% <sup>(9/88)</sup>
MSCI ACWI x US (Net)	10.72%	2.50%	4.43%	9.63%	-
International Equity - Net	10.37%	3.05%	5.83%	10.67%	5.37% <sup>(1/05)</sup>
Fixed Income	3.20%	2.97%	3.15%	5.57%	8.17% <sup>(1/82)</sup>
Blmbg Aggregate Index	1.69%	2.32%	2.12%	3.71%	7.63% <sup>(1/82)</sup>
Fixed Income - Net	3.06%	2.82%	3.00%	5.42%	4.56% <sup>(1/05)</sup>
Real Estate - Net	9.12%	10.34%	10.83%	6.95%	7.36% <sup>(1/05)</sup>
Blended Benchmark***	7.17%	9.30%	10.07%	8.77%	7.65% <sup>(1/05)</sup>
Alternative Investments	12.39%	10.52%	10.04%	8.73%	10.90% <sup>(2/86)</sup>
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.40%	12.75% <sup>(2/86)</sup>
Alternative Investments - Net	12.17%	10.21%	9.74%	8.43%	8.72% <sup>(1/05)</sup>
Private Equity	15.76%	13.52%	12.51%	10.45%	13.12% <sup>(2/86)</sup>
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.40%	12.75% <sup>(2/86)</sup>
Agriculture	(1.64%)	6.17%	9.74%	8.67%	7.55% <sup>(10/97)</sup>
Blended Benchmark***	7.17%	9.30%	10.07%	8.77%	7.51% <sup>(10/97)</sup>
Timberland	(0.91%)	1.53%	2.83%	2.23%	7.58% <sup>(10/92)</sup>
Blended Benchmark***	7.17%	9.30%	10.07%	8.77%	7.53% <sup>(10/92)</sup>
Unlisted Infrastructure	-	-	-	-	8.14% <sup>(4/18)</sup>
Alternatives Custom Benchmark****	9.00%	9.00%	9.00%	9.40%	8.22% <sup>(4/18)</sup>
<b>Total Fund</b>	<b>10.61%</b>	<b>6.32%</b>	<b>8.42%</b>	<b>11.36%</b>	<b>9.83%</b> <sup>(1/82)</sup>
Total Fund - Net	10.39%	6.10%	8.19%	11.13%	7.03% <sup>(1/05)</sup>
Total Fund Benchmark	9.46%	6.50%	7.82%	10.69%	6.82% <sup>(1/05)</sup>

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

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

\*\*\* The Blended Benchmark is currently ODCE Value Weighted Index. Returns between January 1, 2007 and December 31, 2012 reflect NPI+1%. Returns prior to January 1, 2007, reflect those of the Consumer Price Index +5%. Given that ODCE returns are updated quarterly, an approximation of the Index is used in the monthly reports.

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



## Large Cap Equity Returns

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

### Returns for Periods Ended February 28, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Large Cap Equity</b>	<b>3.49%</b>	<b>2.61%</b>	<b>13.07%</b>	<b>4.68%</b>
Russell 1000 Index	3.39%	1.84%	12.05%	4.99%
<b>Large Cap Growth</b>	<b>4.35%</b>	<b>5.79%</b>	<b>15.27%</b>	<b>10.12%</b>
NTGI S&P 500 Growth Idx	4.08%	2.25%	11.90%	6.48%
S&P/Citi 500 Growth Index	4.09%	2.26%	11.90%	6.50%
NTGI S&P 500 Growth Idx - Net	4.08%	2.25%	11.89%	6.48%
Piedmont Russell 1000 G	3.58%	3.19%	12.88%	-
Russell 1000 Growth Index	3.58%	3.18%	12.89%	6.62%
Piedmont Russell 1000 G - Net	3.58%	3.18%	12.87%	-
Sands	5.06%	11.62%	20.72%	15.88%
LCG Blended Benchmark*	3.58%	3.18%	12.89%	6.62%
Russell 1000 Growth Index	3.58%	3.18%	12.89%	6.62%
Sands - Net	5.00%	11.56%	20.65%	15.62%
<b>Large Cap Value</b>	<b>2.74%</b>	<b>0.31%</b>	<b>11.52%</b>	<b>0.84%</b>
Dodge & Cox	1.80%	(1.44%)	10.10%	0.79%
LCV Blended Benchmark**	3.20%	0.55%	11.23%	3.16%
Russell 1000 Value Index	3.20%	0.55%	11.23%	3.16%
Dodge & Cox - Net	1.75%	(1.49%)	10.04%	0.57%
BMO	3.91%	1.92%	12.47%	1.34%
LCV Blended Benchmark**	3.20%	0.55%	11.23%	3.16%
Russell 1000 Value Index	3.20%	0.55%	11.23%	3.16%
BMO - Net	3.85%	1.87%	12.41%	1.12%
LSV	3.05%	0.22%	12.50%	(1.49%)
LCV Blended Benchmark**	3.20%	0.55%	11.23%	3.16%
Russell 1000 Value Index	3.20%	0.55%	11.23%	3.16%
LSV - Net	3.05%	0.16%	12.43%	(1.73%)
NTGI S&P 500 Value Idx	2.26%	0.51%	11.01%	2.70%
S&P/Citi 500 Value Index	2.25%	0.49%	11.01%	2.68%
NTGI S&P 500 Value Idx - Net	2.26%	0.51%	11.01%	2.69%
<b>Large Cap Passive Core</b>	<b>3.51%</b>	<b>1.97%</b>	<b>12.43%</b>	<b>5.04%</b>
NTGI MarketCap Idx	3.51%	1.97%	12.43%	5.04%
DJ U.S. Total Stock Market Index	3.51%	1.95%	12.43%	5.00%
NTGI MarketCap Idx - Net	3.51%	1.96%	12.43%	5.04%

\* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Growth Index.

\*\* The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

## Large Cap Equity Returns

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

### Returns for Periods Ended February 28, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
<b>Large Cap Equity</b>	<b>16.13%</b>	<b>10.06%</b>	<b>17.02%</b>	<b>11.20%</b> <sup>(1/82)</sup>
Russell 1000 Index	15.43%	10.39%	16.82%	11.53% <sup>(1/82)</sup>
<b>Large Cap Growth</b>	<b>19.51%</b>	<b>11.66%</b>	<b>18.21%</b>	<b>11.90%</b> <sup>(1/82)</sup>
NTGI S&P 500 Growth Idx	17.37%	12.57%	17.76%	7.69% <sup>(8/01)</sup>
S&P/Citi 500 Growth Index	17.40%	12.59%	17.74%	7.66% <sup>(8/01)</sup>
NTGI S&P 500 Growth Idx - Net	17.36%	12.56%	17.75%	9.58% <sup>(1/05)</sup>
Piedmont Russell 1000 G	-	-	-	(5.04%) <sup>(10/18)</sup>
Russell 1000 Growth Index	17.99%	12.63%	18.19%	(5.05%) <sup>(10/18)</sup>
Piedmont Russell 1000 G - Net	-	-	-	(5.05%) <sup>(10/18)</sup>
Sands	23.74%	11.70%	22.91%	12.42% <sup>(11/03)</sup>
LCG Blended Benchmark*	17.99%	12.63%	18.19%	9.61% <sup>(11/03)</sup>
Russell 1000 Growth Index	17.99%	12.63%	18.19%	9.66% <sup>(11/03)</sup>
Sands - Net	23.47%	11.44%	22.62%	11.38% <sup>(1/05)</sup>
<b>Large Cap Value</b>	<b>14.18%</b>	<b>8.85%</b>	<b>16.25%</b>	<b>10.30%</b> <sup>(10/82)</sup>
Dodge & Cox	16.66%	9.23%	17.33%	9.47% <sup>(9/03)</sup>
LCV Blended Benchmark**	12.80%	8.09%	15.39%	8.22% <sup>(9/03)</sup>
Russell 1000 Value Index	12.80%	8.09%	15.39%	8.39% <sup>(9/03)</sup>
Dodge & Cox - Net	16.41%	9.00%	17.08%	7.79% <sup>(1/05)</sup>
BMO	13.38%	8.79%	15.35%	8.10% <sup>(2/01)</sup>
LCV Blended Benchmark**	12.80%	8.09%	15.39%	5.59% <sup>(2/01)</sup>
Russell 1000 Value Index	12.80%	8.09%	15.39%	6.62% <sup>(2/01)</sup>
BMO - Net	13.14%	8.56%	15.09%	8.19% <sup>(1/05)</sup>
LSV	14.37%	9.14%	17.17%	10.96% <sup>(2/03)</sup>
LCV Blended Benchmark**	12.80%	8.09%	15.39%	9.17% <sup>(2/03)</sup>
Russell 1000 Value Index	12.80%	8.09%	15.39%	9.19% <sup>(2/03)</sup>
LSV - Net	14.11%	8.88%	16.88%	8.27% <sup>(1/05)</sup>
NTGI S&P 500 Value Idx	12.79%	8.44%	15.52%	5.68% <sup>(8/99)</sup>
S&P/Citi 500 Value Index	12.69%	8.37%	15.45%	5.65% <sup>(8/99)</sup>
NTGI S&P 500 Value Idx - Net	12.78%	8.43%	15.51%	6.87% <sup>(1/05)</sup>
<b>Large Cap Passive Core</b>	<b>15.59%</b>	<b>10.19%</b>	<b>16.95%</b>	<b>11.08%</b> <sup>(1/85)</sup>
NTGI MarketCap Idx	15.59%	10.19%	16.96%	10.85% <sup>(2/85)</sup>
DJ U.S. Total Stock Market Index	15.50%	10.09%	16.81%	10.80% <sup>(2/85)</sup>
NTGI MarketCap Idx - Net	15.58%	10.18%	16.95%	8.46% <sup>(1/05)</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 February 28, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Small Cap Equity</b>	<b>5.07%</b>	<b>5.13%</b>	<b>18.82%</b>	<b>6.75%</b>
Russell 2000 Index	5.20%	3.13%	17.03%	5.58%
<b>Small Cap Growth</b>	<b>6.03%</b>	<b>10.68%</b>	<b>23.09%</b>	<b>12.75%</b>
Frontier	6.36%	12.36%	24.66%	23.78%
Russell 2000 Growth Index	6.46%	4.88%	18.75%	6.70%
Frontier - Net	6.36%	11.89%	24.14%	22.81%
FIAM	5.62%	9.13%	21.58%	7.36%
Russell 2000 Growth Index	6.46%	4.88%	18.75%	6.70%
FIAM - Net	5.62%	9.13%	21.58%	7.01%
<b>Small Cap Value</b>	<b>4.33%</b>	<b>1.71%</b>	<b>16.61%</b>	<b>2.60%</b>
Channing	6.36%	2.85%	18.73%	1.09%
Russell 2000 Value Index	3.89%	1.32%	15.25%	4.42%
Channing - Net	6.36%	2.72%	18.58%	0.57%
DFA Small Cap Value	3.19%	0.61%	15.32%	1.54%
Russell 2000 Value Index	3.89%	1.32%	15.25%	4.42%
DFA Small Cap Value - Net	3.08%	0.50%	15.19%	1.04%
Inv. Counselors of Maryland	4.64%	2.30%	17.03%	4.09%
Russell 2000 Value Index	3.89%	1.32%	15.25%	4.42%
Inv. Couns. of Maryland - Net	4.64%	2.20%	16.92%	3.56%
<b>Micro Cap</b>	<b>5.04%</b>	<b>2.57%</b>	<b>15.84%</b>	<b>4.88%</b>
DFA Micro Cap	5.04%	2.44%	15.85%	5.72%
Russell 2000 Value Index	3.89%	1.32%	15.25%	4.42%
Russell 2000 Index	5.20%	3.13%	17.03%	5.58%
DFA Micro Cap - Net	4.93%	2.33%	15.72%	5.20%
<b>Public Real Assets</b>	<b>2.26%</b>	<b>6.86%</b>	<b>11.82%</b>	<b>13.05%</b>
Public Real Assets Benchmark (1)	2.27%	6.39%	10.81%	11.24%
Brookfield Public Global Inf	2.23%	7.09%	12.95%	11.04%
Dow Jones Global Infra Comp Idx	2.32%	6.66%	12.45%	9.57%
Brookfield Public Global Inf - Net	2.10%	6.96%	12.80%	10.45%
Cohen & Steers Public Global Inf	2.27%	6.75%	11.31%	14.00%
FTSE GI Core Infr 50/50 N	2.26%	6.28%	10.27%	11.75%
Cohen & St Public Global Inf - Net	2.27%	6.64%	11.19%	13.50%

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

## Small Cap Equity Returns

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

### Returns for Periods Ended February 28, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
<b>Small Cap Equity</b>	<b>15.66%</b>	<b>7.17%</b>	<b>17.67%</b>	<b>12.23%</b> <sup>(7/88)</sup>
Russell 2000 Index	16.67%	7.36%	16.60%	9.51% <sup>(7/88)</sup>
<b>Small Cap Growth</b>	<b>17.52%</b>	<b>9.14%</b>	<b>18.06%</b>	<b>13.10%</b> <sup>(7/88)</sup>
Frontier	24.20%	10.14%	18.73%	13.47% <sup>(8/88)</sup>
Russell 2000 Growth Index	18.27%	8.16%	17.69%	8.30% <sup>(8/88)</sup>
Frontier - Net	23.45%	9.47%	17.98%	10.33% <sup>(1/05)</sup>
FIAM	14.28%	9.62%	18.63%	13.57% <sup>(8/88)</sup>
Russell 2000 Growth Index	18.27%	8.16%	17.69%	8.30% <sup>(8/88)</sup>
FIAM - Net	13.80%	9.10%	18.04%	10.87% <sup>(1/05)</sup>
<b>Small Cap Value</b>	<b>14.56%</b>	<b>7.17%</b>	<b>17.84%</b>	<b>11.85%</b> <sup>(8/89)</sup>
Channing	14.24%	6.69%	-	10.68% <sup>(7/11)</sup>
Russell 2000 Value Index	14.95%	6.48%	15.43%	9.39% <sup>(7/11)</sup>
Channing - Net	13.68%	6.19%	-	10.07% <sup>(7/11)</sup>
DFA Small Cap Value	13.07%	6.17%	18.51%	12.10% <sup>(2/98)</sup>
Russell 2000 Value Index	14.95%	6.48%	15.43%	9.62% <sup>(2/98)</sup>
DFA Small Cap Value - Net	12.49%	5.65%	17.94%	7.79% <sup>(1/05)</sup>
Inv. Counselors of Maryland	16.57%	9.00%	18.16%	11.60% <sup>(5/99)</sup>
Russell 2000 Value Index	14.95%	6.48%	15.43%	9.16% <sup>(5/99)</sup>
Inv. Couns. of Maryland - Net	15.94%	8.47%	17.60%	8.71% <sup>(1/05)</sup>
<b>Micro Cap</b>	<b>14.04%</b>	<b>3.39%</b>	<b>16.62%</b>	<b>11.60%</b> <sup>(7/84)</sup>
DFA Micro Cap	16.12%	8.25%	18.34%	11.26% <sup>(8/87)</sup>
Russell 2000 Value Index	14.95%	6.48%	15.43%	9.90% <sup>(8/87)</sup>
Russell 2000 Index	16.67%	7.36%	16.60%	8.90% <sup>(8/87)</sup>
DFA Micro Cap - Net	15.55%	7.71%	17.76%	8.14% <sup>(1/05)</sup>
<b>Public Real Assets</b>	-	-	-	<b>6.26%</b> <sup>(8/17)</sup>
Public Real Assets Benchmark (1)	-	-	-	4.08% <sup>(8/17)</sup>
Brookfield Public Global Inf	-	-	-	2.87% <sup>(8/17)</sup>
Dow Jones Global Infra Comp Idx	9.84%	4.37%	13.40%	1.57% <sup>(8/17)</sup>
Brookfield Public Global Inf - Net	-	-	-	2.37% <sup>(8/17)</sup>
Cohen & Steers Public Global Inf	-	-	-	7.93% <sup>(8/17)</sup>
FTSE GI Core Infr 50/50 N	11.29%	7.25%	-	4.89% <sup>(8/17)</sup>
Cohen & St Public Global Inf - Net	-	-	-	7.51% <sup>(8/17)</sup>

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

## International Equity Returns

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

### Returns for Periods Ended February 28, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Intl Large Cap Equity</b>	<b>1.98%</b>	<b>4.24%</b>	<b>9.61%</b>	<b>(6.22%)</b>
MSCI ACWI ex-US Index	1.95%	4.69%	9.66%	(6.46%)
<b>Intl Large Cap Growth</b>	<b>2.86%</b>	<b>4.48%</b>	<b>10.77%</b>	<b>(8.47%)</b>
EARNEST Partners	2.01%	3.45%	10.09%	(7.82%)
MSCI ACWI ex-US Index	1.95%	4.69%	9.66%	(6.46%)
MSCI ACWI ex-US Growth	2.71%	5.51%	10.54%	(5.54%)
EARNEST Partners - Net	2.01%	3.39%	10.09%	(7.96%)
William Blair	3.62%	5.39%	11.37%	(8.89%)
MSCI ACWI ex-US Index	1.95%	4.69%	9.66%	(6.46%)
MSCI ACWI ex-US Growth	2.71%	5.51%	10.54%	(5.54%)
William Blair - Net	3.62%	5.30%	11.27%	(9.23%)
<b>Intl Large Cap Value</b>	<b>0.94%</b>	<b>3.92%</b>	<b>8.53%</b>	<b>(5.28%)</b>
Brandes	(0.06%)	3.10%	8.26%	(5.23%)
MSCI ACWI ex-US Index	1.95%	4.69%	9.66%	(6.46%)
MSCI ACWI ex-US Value	1.23%	4.02%	8.84%	(6.46%)
Brandes - Net	(0.06%)	3.05%	8.21%	(5.37%)
Mondrian	1.82%	4.68%	8.70%	(4.99%)
MSCI ACWI ex-US Index	1.95%	4.69%	9.66%	(6.46%)
MSCI ACWI ex-US Value	1.23%	4.02%	8.84%	(6.46%)
Mondrian - Net	1.82%	4.68%	8.70%	(5.11%)
Lazard	2.33%	4.87%	9.28%	(6.55%)
MSCI ACWI ex-US Index	1.95%	4.69%	9.66%	(6.46%)
MSCI ACWI ex-US Value	1.23%	4.02%	8.84%	(6.46%)
Lazard - Net	2.33%	4.80%	9.22%	(6.79%)

## International Equity Returns

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

### Returns for Periods Ended February 28, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
<b>Intl Large Cap Equity</b>	<b>10.41%</b>	<b>3.26%</b>	<b>10.74%</b>	<b>7.69%</b> <sup>(9/86)</sup>
MSCI ACWI ex-US Index	10.72%	2.50%	9.63%	-
<b>Intl Large Cap Growth</b>	<b>10.86%</b>	<b>2.92%</b>	<b>10.90%</b>	<b>8.14%</b> <sup>(9/02)</sup>
EARNEST Partners	12.31%	2.53%	12.01%	8.92% <sup>(10/04)</sup>
MSCI ACWI ex-US Index	10.72%	2.50%	9.63%	5.77% <sup>(10/04)</sup>
MSCI ACWI ex-US Growth	10.90%	4.07%	10.45%	6.64% <sup>(10/04)</sup>
EARNEST Partners - Net	12.11%	2.32%	11.64%	7.61% <sup>(1/05)</sup>
William Blair	9.70%	3.31%	12.16%	9.31% <sup>(10/02)</sup>
MSCI ACWI ex-US Index	10.72%	2.50%	9.63%	8.00% <sup>(10/02)</sup>
MSCI ACWI ex-US Growth	10.90%	4.07%	10.45%	8.30% <sup>(10/02)</sup>
William Blair - Net	9.30%	2.93%	11.75%	5.91% <sup>(1/05)</sup>
<b>Intl Large Cap Value</b>	<b>9.65%</b>	<b>2.99%</b>	<b>9.12%</b>	<b>8.70%</b> <sup>(10/95)</sup>
Brandes	10.17%	2.96%	9.51%	8.93% <sup>(1/96)</sup>
MSCI ACWI ex-US Index	10.72%	2.50%	9.63%	5.05% <sup>(1/95)</sup>
MSCI ACWI ex-US Value	11.59%	1.83%	9.78%	-
Brandes - Net	9.93%	2.72%	9.26%	4.32% <sup>(1/05)</sup>
Mondrian	9.20%	3.21%	-	5.30% <sup>(4/12)</sup>
MSCI ACWI ex-US Index	10.72%	2.50%	9.63%	4.69% <sup>(4/12)</sup>
MSCI ACWI ex-US Value	11.59%	1.83%	9.78%	4.42% <sup>(4/12)</sup>
Mondrian - Net	8.80%	2.77%	-	4.84% <sup>(4/12)</sup>
Lazard	8.85%	2.69%	-	5.99% <sup>(4/12)</sup>
MSCI ACWI ex-US Index	10.72%	2.50%	9.63%	4.69% <sup>(4/12)</sup>
MSCI ACWI ex-US Value	11.59%	1.83%	9.78%	4.42% <sup>(4/12)</sup>
Lazard - Net	8.42%	2.21%	-	5.43% <sup>(4/12)</sup>

## International Equity Returns

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

### Returns for Periods Ended February 28, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Intl Large Cap Active Core</b>	<b>1.58%</b>	<b>4.94%</b>	<b>10.16%</b>	<b>(6.29%)</b>
Arrowstreet	1.47%	4.37%	9.82%	(5.81%)
MSCI ACWI ex-US Index	1.95%	4.69%	9.66%	(6.46%)
Arrowstreet - Net	1.47%	4.25%	9.70%	(6.26%)
Brown	2.11%	3.91%	9.58%	(0.75%)
MSCI ACWI ex-US Index	1.95%	4.69%	9.66%	(6.46%)
Brown - Net	2.11%	3.85%	9.51%	(1.00%)
GlobeFlex	1.12%	5.62%	10.18%	(10.96%)
MSCI ACWI ex-US Index	1.95%	4.69%	9.66%	(6.46%)
GlobeFlex - Net	1.02%	5.51%	10.07%	(11.30%)
Progress Intl Equity	2.13%	6.09%	11.50%	(3.31%)
Custom Benchmark	1.95%	4.69%	9.66%	(6.46%)
MSCI ACWI ex-US Index	1.95%	4.69%	9.66%	(6.46%)
Progress Intl Equity - Net	2.13%	5.96%	11.37%	(3.80%)
<b>Intl Large Cap Pass. Core</b>	<b>2.46%</b>	<b>3.71%</b>	<b>9.10%</b>	<b>(5.25%)</b>
NTGI MSCI EAFE Idx	2.46%	3.71%	9.10%	(5.25%)
MSCI EAFE Index	2.55%	3.98%	9.29%	(6.04%)
NTGI EAFE Idx - Net	2.46%	3.71%	9.09%	(5.26%)
<b>Intl All Cap Developed</b>	<b>1.48%</b>	<b>-</b>	<b>-</b>	<b>-</b>
Ativo International	1.48%	-	-	-
MSCI EAFE + Canada	2.57%	4.21%	9.89%	(5.30%)
Ativo International - Net	1.48%	-	-	-
<b>International Small Cap</b>	<b>3.87%</b>	<b>6.15%</b>	<b>12.60%</b>	<b>(11.98%)</b>
Franklin Templeton	4.99%	6.73%	13.16%	(8.31%)
ACWI Small Cap ex US	2.10%	4.10%	10.09%	(10.65%)
Franklin Templeton - Net	4.99%	6.73%	13.16%	(8.83%)
William Blair	3.06%	5.73%	12.19%	(14.50%)
ACWI Small Cap ex US	2.10%	4.10%	10.09%	(10.65%)
Intl SC Blended Benchmark	2.10%	4.10%	10.09%	(10.65%)
William Blair - Net	3.06%	5.53%	11.98%	(15.18%)
<b>Emerging Markets</b>	<b>2.72%</b>	<b>10.04%</b>	<b>13.35%</b>	<b>(6.73%)</b>
Genesis	2.72%	10.04%	13.35%	(6.73%)
MSCI Emerging Markets Index	0.23%	6.20%	9.02%	(9.54%)
Genesis - Net	2.72%	9.93%	13.29%	(7.25%)

Brown and GlobeFlex moved to International Large Cap Active Core April 1, 2011.

Progress Custom Benchmark is a comprised of each manager's weighted benchmark until 201712.

after 201712 the benchmark is MSCI ACWI ex US - Net.

Intl SC Blended Benchmark consists of the S&P Developed Ex-U.S. Small Cap Index through May 31, 2011 and the MSCI ACWI Ex-U.S. Small Cap Index thereafter.

## International Equity Returns

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

### Returns for Periods Ended February 28, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception	
<b>Intl Large Cap Active Core</b>	<b>11.49%</b>	<b>4.84%</b>	<b>13.25%</b>	<b>4.65%</b>	(2/08)
Arrowstreet	13.10%	5.20%	13.46%	4.86%	(3/08)
MSCI ACWI ex-US Index	10.72%	2.50%	9.63%	1.79%	(3/08)
Arrowstreet - Net	12.58%	4.71%	12.93%	4.37%	(3/08)
Brown	7.92%	4.19%	13.02%	7.70%	(10/04)
MSCI ACWI ex-US Index	10.72%	2.50%	9.63%	5.77%	(10/04)
Brown - Net	7.09%	3.25%	12.22%	6.15%	(1/05)
GlobeFlex	10.98%	4.74%	11.63%	4.78%	(3/06)
MSCI ACWI ex-US Index	10.72%	2.50%	9.63%	3.50%	(3/06)
GlobeFlex - Net	10.57%	4.33%	11.19%	4.33%	(3/06)
Progress Intl Equity	13.14%	-	-	4.30%	(7/14)
Custom Benchmark	11.93%	-	-	2.70%	(7/14)
MSCI ACWI ex-US Index	10.72%	2.50%	9.63%	1.55%	(7/14)
Progress Intl Equity - Net	12.59%	-	-	3.82%	(7/14)
<b>Intl Large Cap Pass. Core</b>	<b>9.70%</b>	<b>2.43%</b>	<b>9.99%</b>	<b>3.25%</b>	(1/00)
NTGI MSCI EAFE Idx	9.70%	2.43%	9.98%	3.61%	(2/00)
MSCI EAFE Index	9.32%	2.07%	9.56%	3.24%	(2/00)
NTGI EAFE Idx - Net	9.69%	2.42%	9.97%	4.69%	(1/05)
<b>Intl All Cap Developed</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.48%</b>	(2/19)
Ativo International	-	-	-	1.48%	(2/19)
MSCI EAFE + Canada	9.48%	2.01%	9.47%	2.57%	(2/19)
Ativo International - Net	-	-	-	1.48%	(2/19)
<b>International Small Cap</b>	<b>8.59%</b>	<b>3.26%</b>	<b>11.81%</b>	<b>4.40%</b>	(12/05)
Franklin Templeton	10.74%	4.53%	-	6.21%	(8/11)
ACWI Small Cap ex US	9.96%	3.26%	12.71%	4.36%	(8/11)
Franklin Templeton - Net	10.08%	3.84%	-	5.50%	(8/11)
William Blair	7.00%	2.31%	-	8.38%	(9/10)
ACWI Small Cap ex US	9.96%	3.26%	12.71%	6.79%	(9/10)
Intl SC Blended Benchmark	9.96%	3.26%	11.83%	7.17%	(9/10)
William Blair - Net	6.18%	1.52%	-	7.55%	(9/10)
<b>Emerging Markets</b>	<b>15.15%</b>	<b>4.89%</b>	<b>13.87%</b>	<b>9.00%</b>	(2/92)
Genesis	15.15%	4.89%	13.87%	11.13%	(5/04)
MSCI Emerging Markets Index	15.46%	4.52%	10.70%	8.94%	(5/04)
Genesis - Net	14.48%	4.27%	13.20%	9.10%	(1/05)

Brown and GlobeFlex moved to International Large Cap Active Core April 1, 2011.

Progress Custom Benchmark is a comprised of each manager's weighted benchmark until 201712.

after 201712 the benchmark is MSCI ACWI ex US - Net.

Intl SC Blended Benchmark consists of the S&P Developed Ex-U.S. Small Cap Index through May 31, 2011 and the MSCI ACWI Ex-U.S. Small Cap Index thereafter.



## Fixed Income Returns

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

### Returns for Periods Ended February 28, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Dom. Fixed Active Core</b>	<b>0.06%</b>	<b>2.58%</b>	<b>0.99%</b>	<b>3.06%</b>
Brandes Core*	0.11%	2.76%	1.37%	3.45%
Blmbg Aggregate Index	(0.06%)	2.86%	1.00%	3.17%
Brandes Core - Net	0.11%	2.76%	1.37%	3.45%
EARNEST Partners	0.04%	2.64%	0.73%	3.24%
Blmbg Aggregate Index	(0.06%)	2.86%	1.00%	3.17%
EARNEST Partners - Net	0.04%	2.61%	0.70%	3.11%
Piedmont	0.15%	2.48%	1.09%	2.32%
Blmbg Aggregate Index	(0.06%)	2.86%	1.00%	3.17%
Piedmont - Net	0.15%	2.45%	1.06%	2.17%
Garcia Hamilton	(0.01%)	2.48%	1.00%	3.35%
Blmbg Aggregate Index	(0.06%)	2.86%	1.00%	3.17%
Garcia Hamilton	(0.01%)	2.46%	0.98%	3.26%
<b>Dom. Fixed Passive Core</b>	<b>(0.04%)</b>	<b>2.89%</b>	<b>1.03%</b>	<b>3.25%</b>
BlackRock US Debt	(0.04%)	2.89%	1.04%	3.29%
Blmbg Aggregate Index	(0.06%)	2.86%	1.00%	3.17%
BlackRock US Debt - Net	(0.04%)	2.89%	1.04%	3.28%
NTGI Blmbg Agg. Index	(0.03%)	2.89%	1.03%	3.21%
Blmbg Aggregate Index	(0.06%)	2.86%	1.00%	3.17%
NTGI Blmbg Agg. Index - Net	(0.03%)	2.89%	1.03%	3.21%

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

## Fixed Income Returns

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

### Returns for Periods Ended February 28, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
<b>Dom. Fixed Active Core</b>	<b>2.16%</b>	<b>2.78%</b>	<b>4.78%</b>	<b>4.40%</b> <sup>(4/01)</sup>
Brandes Core *	1.56%	-	-	1.56% <sup>(3/16)</sup>
Blmbg Aggregate Index	1.69%	2.32%	3.71%	1.69% <sup>(3/16)</sup>
Brandes Core - Net	1.56%	-	-	1.56% <sup>(3/16)</sup>
EARNEST Partners	1.80%	2.86%	4.46%	4.34% <sup>(5/05)</sup>
Blmbg Aggregate Index	1.69%	2.32%	3.71%	3.89% <sup>(5/05)</sup>
EARNEST Partners - Net	1.64%	2.67%	4.27%	4.14% <sup>(5/05)</sup>
Piedmont	2.47%	2.56%	4.71%	4.10% <sup>(6/05)</sup>
Blmbg Aggregate Index	1.69%	2.32%	3.71%	3.83% <sup>(6/05)</sup>
Piedmont - Net	2.31%	2.41%	4.54%	3.91% <sup>(6/05)</sup>
Garcia Hamilton	2.02%	-	-	2.45% <sup>(6/15)</sup>
Blmbg Aggregate Index	1.69%	2.32%	3.71%	1.79% <sup>(6/15)</sup>
Garcia Hamilton	1.92%	-	-	2.36% <sup>(6/15)</sup>
<b>Dom. Fixed Passive Core</b>	<b>1.75%</b>	<b>2.39%</b>	<b>3.80%</b>	<b>5.83%</b> <sup>(1/90)</sup>
BlackRock US Debt	1.80%	2.44%	-	2.62% <sup>(10/13)</sup>
Blmbg Aggregate Index	1.69%	2.32%	3.71%	2.49% <sup>(10/13)</sup>
BlackRock US Debt - Net	1.79%	2.43%	-	2.62% <sup>(10/13)</sup>
NTGI Blmbg Agg. Index	1.71%	2.35%	3.79%	5.89% <sup>(2/90)</sup>
Blmbg Aggregate Index	1.69%	2.32%	3.71%	5.88% <sup>(2/90)</sup>
NTGI Blmbg Agg. Index - Net	1.70%	2.34%	3.78%	3.83% <sup>(1/05)</sup>

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

## Fixed Income Returns

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

### Returns for Periods Ended February 28, 2019

	Last Month	Last 3 Months	Year to Date	Last 12 Months
<b>Domestic Fixed Core Plus</b>	<b>0.14%</b>	<b>3.36%</b>	<b>1.85%</b>	<b>2.96%</b>
LM Capital	0.21%	3.08%	1.97%	2.43%
Blmbg Aggregate Index	(0.06%)	2.86%	1.00%	3.17%
LM Capital - Net	0.21%	3.04%	1.93%	2.26%
Progress Fixed Income	0.20%	2.91%	1.55%	3.23%
Blmbg Aggregate Index	(0.06%)	2.86%	1.00%	3.17%
Progress Fixed Inc. - Net	0.20%	2.83%	1.47%	2.90%
BMO-TCH	0.27%	3.07%	1.87%	3.03%
Blmbg Aggregate Index	(0.06%)	2.86%	1.00%	3.17%
BMO-TCH. - Net	0.27%	3.04%	1.84%	2.90%
Western	(0.07%)	4.24%	2.00%	3.10%
Blmbg Aggregate Index	(0.06%)	2.86%	1.00%	3.17%
Western - Net	(0.07%)	4.24%	2.00%	2.99%
<b>Bank Loans</b>	<b>1.64%</b>	<b>1.65%</b>	<b>3.71%</b>	<b>3.58%</b>
Barings Global Loan Fund	1.64%	1.65%	3.71%	3.58%
Custom Benchmark	1.48%	1.54%	3.63%	3.99%
Barings Global Loan Fund - Net	1.64%	1.65%	3.71%	3.34%
<b>Emerging Markets</b>	<b>0.07%</b>	<b>6.22%</b>	<b>5.12%</b>	<b>(3.22%)</b>
Standish	0.07%	6.22%	5.12%	(3.22%)
Custom Benchmark	(0.12%)	5.66%	4.34%	(1.19%)
Standish - Net	(0.01%)	6.13%	5.04%	(3.56%)
<b>High Yield</b>	<b>1.55%</b>	<b>3.59%</b>	<b>5.75%</b>	<b>4.51%</b>
MacKay Shields	1.55%	3.59%	5.76%	4.50%
ML High Yield Cash Pay Index	1.68%	4.03%	6.35%	4.28%
MacKay Shields - Net	1.55%	3.59%	5.76%	4.13%

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

Barings Custom Benchmark is comprised of the Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each sector.

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

## Fixed Income Returns

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

### Returns for Periods Ended February 28, 2019

	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception
<b>Domestic Fixed Core Plus</b>	<b>3.01%</b>	<b>3.04%</b>	<b>5.70%</b>	<b>8.02%</b> <sup>(1/82)</sup>
LM Capital	2.30%	2.69%	5.09%	4.63% <sup>(5/05)</sup>
Bimbg Aggregate Index	1.69%	2.32%	3.71%	3.89% <sup>(5/05)</sup>
LM Capital - Net	2.14%	2.53%	4.92%	4.46% <sup>(5/05)</sup>
Progress Fixed Income	2.78%	2.88%	4.77%	4.69% <sup>(1/06)</sup>
Bimbg Aggregate Index	1.69%	2.32%	3.71%	3.97% <sup>(1/06)</sup>
Progress Fixed Inc. - Net	2.44%	2.54%	4.42%	4.34% <sup>(1/06)</sup>
BMO-TCH	4.30%	3.44%	5.63%	4.81% <sup>(5/05)</sup>
Bimbg Aggregate Index	1.69%	2.32%	3.71%	3.89% <sup>(5/05)</sup>
BMO-TCH - Net	4.16%	3.30%	5.49%	4.68% <sup>(5/05)</sup>
Western	3.63%	3.55%	6.73%	5.28% <sup>(11/01)</sup>
Bimbg Aggregate Index	1.69%	2.32%	3.71%	4.10% <sup>(11/01)</sup>
Western - Net	3.50%	3.41%	6.58%	4.67% <sup>(1/05)</sup>
<b>Bank Loans</b>	<b>7.38%</b>	-	-	<b>4.55%</b> <sup>(8/14)</sup>
Barings Global Loan Fund	7.38%	-	-	4.55% <sup>(8/14)</sup>
Custom Benchmark	6.85%	-	-	4.08% <sup>(8/14)</sup>
Barings Global Loan Fund - Net	6.88%	-	-	4.02% <sup>(8/14)</sup>
<b>Emerging Markets</b>	<b>7.45%</b>	-	-	<b>2.18%</b> <sup>(8/14)</sup>
Standish	7.45%	-	-	2.18% <sup>(8/14)</sup>
Custom Benchmark	6.62%	2.46%	6.85%	1.48% <sup>(8/14)</sup>
Standish - Net	7.08%	-	-	1.84% <sup>(8/14)</sup>
<b>High Yield</b>	<b>9.86%</b>	<b>5.34%</b>	<b>11.67%</b>	<b>9.53%</b> <sup>(4/86)</sup>
MacKay Shields	10.07%	5.47%	10.84%	8.80% <sup>(11/00)</sup>
ML High Yield Cash Pay Index	9.85%	4.52%	11.38%	7.54% <sup>(11/00)</sup>
MacKay Shields - Net	9.72%	5.10%	10.46%	6.83% <sup>(1/05)</sup>

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**

<b>Manager</b>	<b>Year-to-Date Outperformance</b> (in % points)	<b>Since Inception Outperformance</b> (in % points)	
Sands	<b>7.83</b>	<b>2.81</b>	<b>10/31/2003</b>
Frontier	<b>5.91</b>	<b>5.17</b>	<b>07/31/1988</b>
Genesis	<b>4.33</b>	<b>2.19</b>	<b>04/30/2004</b>
Channing	<b>3.48</b>	<b>1.29</b>	<b>06/30/2011</b>
Franklin	<b>3.07</b>	<b>1.86</b>	<b>07/31/2011</b>

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

<b>Manager</b>	<b>Year-to-Date Underperformance</b> (in % points)	<b>Since Inception Underperformance</b> (in % points)	
Brandes	<b>-1.40</b>	<b>3.88</b>	<b>12/31/1995</b>
Dodge & Cox	<b>-1.13</b>	<b>1.25</b>	<b>08/31/2003</b>
Mondrian	<b>-0.96</b>	<b>0.61</b>	<b>03/31/2012</b>
MacKay Shields	<b>-0.60</b>	<b>1.26</b>	<b>10/31/2000</b>
Lazard	<b>-0.37</b>	<b>1.30</b>	<b>03/31/2012</b>

**Five Highest Returning Portfolios**

<b>Manager</b>	<b>Year-to-Date Return</b> (in % points)	<b>Since Inception Return</b> (in % points)	
Frontier	<b>24.66</b>	<b>13.47</b>	<b>07/31/1988</b>
Pyramis SCG	<b>21.58</b>	<b>13.57</b>	<b>07/31/1988</b>
Sands	<b>20.72</b>	<b>12.42</b>	<b>10/31/2003</b>
Channing	<b>18.73</b>	<b>10.68</b>	<b>06/30/2011</b>
Inv Counselors of MD	<b>17.03</b>	<b>11.60</b>	<b>04/30/1999</b>

**Five Lowest Returning Portfolios**

<b>Manager</b>	<b>Year-to-Date Return</b> (in % points)	<b>Since Inception Return</b> (in % points)	
Earnest FI	<b>0.73</b>	<b>4.34</b>	<b>04/30/2005</b>
NTGI BC Agg	<b>1.03</b>	<b>5.89</b>	<b>01/31/1990</b>
Blackrock US Debt	<b>1.04</b>	<b>2.61</b>	<b>09/01/2013</b>
Piedmont	<b>1.09</b>	<b>4.07</b>	<b>05/31/2005</b>
Progress	<b>1.56</b>	<b>4.69</b>	<b>12/31/2005</b>

Returns are shown gross of investment management fees.

Excludes Real Estate and Alternative Investments portfolios.

Discussion followed.

(19-03-03) (Consent Agenda) The Chair presented an agenda consisting of a Consent Agenda. The following items remained on the Consent Agenda since no Board member asked for their removal.

Approval of Minutes

Regular Meeting 19-02-15  
Special Meeting 19-03S-15

Schedules - Dated March 22, 2019

- Schedule A - Benefit award listing of retirement, temporary disability, death benefits, and refund of employee contributions processed during the preceding calendar month under Article 7 of the Illinois Pension Code.
- Schedule B - Adjustment of Benefit Awards showing adjustments required in benefit awards and the reasons therefore.
- Schedule C - Benefit Cancellations.
- Schedule D - Expiration of Temporary Disability Benefits terminated under the provisions of Section 7-147 of the Illinois Pension Code.
- Schedule E - Total and Permanent Disability Benefit Awards recommended by the Fund's medical consultants as provided by Section 7-150 of the Illinois Pension Code.
- Schedule F - Benefits Terminated.
- Schedule G - Administrative Benefit Denials.
- Schedule P - Administrative Denial of Application for Past Service Credit.
- Schedule R - Prior Service - New Governmental Units

Bids

Vocational Expert Disability Review - Two Year  
Approved Bidder: Managed Medical Review Organization  
Approved Bid: Not to exceed \$125.00 per hour

Window Tint Project  
Approved Bidder: Midwest Glass Tinters, Inc.  
Approved Bid: \$\$48,132.00

Network Link to Disaster Recovery Site  
Approved Bidder: Sungard Availability Services  
Approved Bid: \$31,044.00 per year

200+Mbs Enterprise-Business Class Internet Line  
Approved Bidder: Vinakom Communications  
Approved Bid: \$34,020.00

Portfolio Project Management Services  
Approved Bidder: Integrated Project Management (IPM)  
Approved Bid: \$112,000

Participation of New Units of Government

Winfield Park District  
County: DuPage  
2019 Rate: 17.72%  
Effective Participation Date: June 1, 2019  
Number of Participating Employees: 11

Elwood Library District  
County: Vermilion  
2019 Rate: 7.40%  
Effective Participation Date: April 1, 2019  
Number of Participating Employees: 1

Southcom  
County: Cook  
2019 Rate: 7.40%  
Effective Participation Date: April 1, 2019  
Number of Participating Employees: 19

It was moved by Ms. Henry, seconded by Mr. Kuehne, to approve the items on the consent agenda.

Vote: Unanimous Voice Vote  
Absent: None

(19-03-04) (Benefit Review Committee Meeting) The Chair of the Benefit Review Committee reported on the Benefit Review Committee Meeting held on March 21 2019.

It was moved by Ms. Copper, seconded by Ms. Thompson, to accept the following recommendations of the Benefit Review Committee:

- To table the matter of Robert Hadley to allow the February 11, 2019 neuropsychological report and March 6, 2019 MRI report to be submitted to Dr. Rao and the vocational rehab consultant. The Committee will deliberate and make a final recommendation upon receipt of the supplemental reports at the May 16, 2019 Benefit Review Committee Meeting.

- To adopt the findings and conclusion of the IMRF hearing officer in the case of McLean County.
- To authorize staff to file and interpleader action in DuPage County regarding the distribution of the Earnest Blevins death benefits.

Vote: Unanimous Voice Vote  
Absent: None

(19-03-05) (Report of the Investment Committee Meeting) The Chair of the Investment Committee reported on the meeting held on March 21, 2019.

Staff gave a Private Equity presentation to the Investment Committee that included recommendations, followed by presentations from three Private Equity managers (Inflexion Enterprise V/Supplemental V/Strategic Partners, L.P.,; Lightspeed Global Opportunity Fund, L.P.; and, Vista Credit Partners Fund III, L.P.).

It was the consensus of the Investment Committee to recommend the Board approve the following recommendations:

For Private Equity

- Authorize a commitment of up to £70 million (approximately \$91.8 million) in aggregate to Inflexion Enterprise Fund V, L.P., and Inflexion Supplemental Fund V. L.P., subject to satisfactory legal due diligence;
- Authorize a commitment of up to £150 million (approximately \$195 million) to Inflexion Strategic Partners, L.P., subject to satisfactory legal due diligence;
- Authorize a commitment of up to \$100 million to Lightspeed Global Opportunity Fund, L.P., subject to satisfactory legal due diligence;
- Authorize a commitment of up to \$50 million to Vista Credit Partners Fund III, L.P., subject to satisfactory legal due diligence;
- Authorize an additional commitment of up to \$10 million to True North Fund VI, LLP, subject to satisfactory legal due diligence; and,
- Authorize staff to complete all documentation necessary to execute these recommendations.

Next, staff gave an Internal Equity Management presentation to the Investment Committee that included recommendations.

It was the consensus of the Investment Committee to recommend the Board approve the following recommendations:

For Internal Equity Management

- Authorize up to \$250 million in assets to be managed by staff in the internal domestic equity portfolio;
- Authorize staff to work with Net Alpha Advisors on implementation, subject to satisfactory legal due diligence;
- Authorize staff to work with ERI Scientific Beta as the provider of the Index Data, subject to satisfactory legal due diligence; and,
- Authorize staff to complete all documentation necessary to execute these recommendations, subject to satisfactory legal due diligence.



It was moved by Ms. Stanish, seconded by Mr. Kuehne, to approve the above recommendations of the Investment Committee.

Vote: Unanimous Voice Vote  
Absent: None

(19-03-06) (Report of the Legislative Committee Meetings) The Vice Chair of the Legislative Committee reported on the meeting held via teleconference on March 12, 2019.

The Legislative Committee reviewed several bills affecting IMRF that have been introduced in 2019.

It was the consensus of the Legislative Committee to recommend the Board remain neutral on the following proposals:

- HB 1625 - excludes sick and vacation time from wage & service for new systems.
- HB 2592 - excludes all elected officials from participation. New members only.
- HB 2748 - restricts participation for elected officials to full-time only.
- HB 2750 - restricts participation for elected officials to full-time only.
- HB 3263 - requires IMRF employers to post certain cost and enrollment information.
- SB 1671 - definition and bidding requirement changes for emerging managers.
- SB 1698 - requires all pension funds to broadcast meetings live online.
- SB 1846 - expands emerging manager definition to include veteran-owned firms.
- SB 2022 - opens a window allowing certain surviving spouses to re-establish eligibility.
- SB 2033 - limits the amount of retroactive service one month.
- SB 2060 - requires funds to set the MWBE goals as a percentage of total fees paid.
- SB 2062 - requires all funds to include sustainability factors in its investment policies.

Next, it was the consensus of the Legislative Committee to recommend the Board oppose the following proposals:

- HB 2749 - allows employers to opt-out of participation in local government pension funds.
- HB 3518 - allows Tier 1 members to choose an alternative COLA calculation.
- SB 1236 - suspends IMRF pensions for annuitants serving on a county board.

Lastly, it was the consensus of the Legislative Committee not to pursue HB 3054 (it includes provisions from the IMRF Legislative Agenda to allow the Board of Trustees to assign up to 100% of the return to work liability on the employer).

It was moved by Mr. Miller, seconded by Ms. Copper, to approve the recommendations of the Legislative Committee.

Vote: Unanimous Voice Vote  
Absent: None

Next, the Chair of the Legislative Committee reported on the meeting held on March 21, 2019.

The Legislative Committee reviewed legislation that has been introduced that would consolidate police and fire funds in to IMRF.

It was the consensus of the Legislative Committee to recommend the Board oppose the following proposals:

- HB 1566 - complete merge of police/fire funds into IMRF; new police/fire participate in regular IMRF.
- HB 1567 - complete merge of police/fire funds into IMRF; new police/fire remain in current police/fire funds, respectively.
- HB 1568 - merge investment authority of police/fire funds into IMRF; all funds with a minimum balance requirement would be required to transfer authority.
- HB 1571 - merge investment authority of police/fire funds into IMRF; all funds with a minimum balance requirement could transfer authority, by option of the municipality.

It was moved by Ms. Thompson, seconded by Mr. Kuehne, to approve the recommendations of the Legislative Committee>

Vote: Unanimous Voice Vote  
Absent: None

(19-03-07) (Legislative Update) The Legislative Liaison stated the introduction deadlines for new legislation passed in both the House and Senate, and the deadline for legislation to pass out of committee is on March 22<sup>nd</sup> in the Senate and March 29<sup>th</sup> in the House.

She further reported that the following two bills that the Board voted to oppose haven't moved out of either chamber:

- HB 3518 - allows Tier 1 members to choose an alternative COLA calculation
- SB 1236 - suspends IMRF pensions for annuitants serving on a county board.

The Legislative Liaison further reported that HB 3446 (amends the IMRF Article of the Pension Code concerning eligibility for temporary disability benefits or total and permanent disability benefits) passed out of committee, and is on its way to the Senate.

Discussion followed.

(19-03-08) (Litigation Update) The following is an update of the currently pending or recently concluded litigation:

**IN RE TRIBUNE CO, ET AL. , THE OFFICIAL COMMITTEE OF UNSECURED CREDITORS OF TRIBUNE CO, ET AL. VS. FITZSIMONS, ET AL.**

**Summary:** The unsecured creditors in the Tribune bankruptcy sued investors who sold their Tribune stock at the time of the buyout by the Sam Zell group. The plaintiff's theory is that the buyout was fraudulent and therefore a portion of those stockholders' proceeds from the stock sale was due to the fraud and should be returned to the Tribune's bankruptcy estate.

**Status:** IMRF was served in January of 2012 and shares defense counsel with a group of public pension funds. The stockholders' motion to dismiss the intentional fraudulent transfer claim was granted on January 6, 2017 and the claim against them was dismissed. Another portion of this claim against the stockholders was previously dismissed on motions and that decision was upheld on appeal. No claims are currently pending against the group of shareholders that IMRF is a part of, but there is a chance that some form of a claim could be revived. The court has made it clear that it is not requiring dismissed shareholders to mediate. Dismissed shareholders are being given the opportunity to mediate although none of them has determined to participate in the mediation at this time. IMRF continues to monitor this litigation.

**JAMES SWEENEY, ET AL v. IMRF, ET AL (U.S. DISTRICT CT FOR NORTHERN DIST. OF ILL. 2018 CV 1410)**

**Summary:** This is a case alleging that mandatory participation in IMRF is a violation of First Amendment. In its Second Amended Complaint, the Plaintiffs have added a new count alleging that the Board of Trustees has breached its fiduciary duty by investing in companies which participate in anti-union lobbying.

**Status:** IMRF's Motion to Dismiss Plaintiffs' Second Amended Complaint was filed on September 14, 2018. Plaintiff's response is due October 12, 2018 and IMRF's reply is due October 26, 2018. The court struck the January 10, 2019 hearing date and will instead rule by mail.

**THOMAS SHEAHAN v. MEABF AND IMRF (COOK COUNTY 2017 CH 14040)**

**Summary:** This is a case in which the Plaintiff is attempting to reinstate creditable service with the MEABF as a result of the prior *Village of Oak Brook v. Sheahan* and *Sheahan v. IMRF* litigation. IMRF was recently added as a co-defendant. MEABF also filed a crossclaim against IMRF for payment of interest on the disputed funds.

**Status:** Plaintiff has filed a Third Amended Complaint. IMRF's responsive pleading is due April 2, 2019. Staff intends to file a motion to dismiss the new counts in the Third Amended Complaint. This case is set for status on April 3, 2019.

**WILLIAMSON COUNTY v. IMRF (WILLIAMSON COUNTY 18 MR 215)**

**Summary:** This is administrative review of IMRF's adoption of hearing officer recommendation to affirm the staff decision to terminate the IMRF participation of the County Commissioners.

**Status:** IMRF has filed its answer and administrative record to Plaintiffs' First Amended Complaint. Plaintiff was granted an extension of time to the original briefing schedule. Plaintiff's initial brief is now due March 22; IMRF's response is due May 3; Plaintiff's reply brief is due May 24; and this matter is set for oral argument on May 28.

**JEFF BOYD v. IMRF (ROCK ISLAND COUNTY 18 MR 514)**

**Summary:** This is administrative review of IMRF's adoption of hearing officer recommendation to affirm the staff decision to plaintiff's service credit and salary related to his service as Sheriff.

**Status:** IMRF filed a motion to dismiss Plaintiff's Complaint which is set for argument before the court on November 19, 2018. At the request of the Plaintiff, the argument has been postponed to December 11, 2018. Due to court delays, the hearing was rescheduled to January 9, 2019 at which time the court granted IMRF's motion to dismiss with prejudice. Plaintiff has filed a motion to reconsider with the circuit court. IMRF has responded to the motion, but the court has not yet set Plaintiff's motion for hearing.

**BRENDA HORTON v. IMRF (COOK COUNTY 18 CH 10774)**

**Summary:** This is administrative review of IMRF's closure of Plaintiff's disability claim.

**Status:** IMRF has filed a motion to dismiss the complaint. While the briefing schedule was pending, Plaintiff filed a motion to substitute the judge. A new judge has been assigned and IMRF's motion to dismiss is scheduled for hearing on March 27.

**ROBERT ALLEN v. IMRF (ST. CLAIR COUNTY 18 MR 303)**

**Summary:** This is administrative review of IMRF's adoption of hearing officer recommendation to affirm the staff decision to terminate the IMRF participation of the County Board Member, Robert Allen.

**Status:** After hearing argument on IMRF's motion to dismiss, the court chose to take it under advisement and withhold ruling until the merits of the case were heard. Plaintiff subsequently filed an amended complaint. IMRF has filed a responsive pleading and a briefing schedule has been entered. Plaintiff's initial brief is due March 11; IMRF's response brief is due April 15; and this matter is set for status on June 3, 2019.

**RICHARD CHAPPELL v. IMRF, ET AL. (COOK COUNTY 18 CH 12400)**

**Summary:** This is administrative review of IMRF's adoption of hearing officer recommendation to affirm the staff decision to remove omitted service credit from the Plaintiff based on the employer conducting its own audit and determining that he was not entitled to omitted service. Plaintiff has named both IMRF and his former employer, River Forest Township, as defendants in the lawsuit.

**Status:** IMRF has filed a motion to dismiss this case. The court granted IMRF until February 22, 2019 to file a brief in support of its motion. Plaintiff is to respond to the motion by March 22, 2019. IMRF and co-defendant River Forest Township are to reply by April 5, 2019. Once the matter is fully briefed, the motion will be set for oral argument.

**LENDITA ISTOGU v. IMRF BOARD OF TRUSTEES (DUPAGE COUNTY 19 MR 64)**

**Summary:** This is administrative review of IMRF's closure of Plaintiff's disability claim.

**Status:** IMRF was served with this Complaint on January 23, 2019. IMRF has filed a motion to dismiss which is set to be presented to the Court on March 18.

**GORDON v. IMRF (U.S. EEOC 440-2019-00509)**

**Summary:** This is an EEOC charge of discrimination by a current employee.

**Status:** IMRF's position statement is due March 28.

(19-03-09) (Report of the Executive Director) The Executive Director gave an update to the Board on IMRF's Modernization Project.

(19-03-10) (Employer Contribution Rate Phase-In Proposal) The Executive Director presented and optional phase-in plan for the 2020 Employer Contribution Rate for consideration by the Board.

He reported that the proposal is to provide Employers with an optional 10% year-over-year increase limit ("Cap") on their Employer Contribution Rate for the Regular Plan (ERI, SLEP Plans and ECO rates would not be impacted by this phase-in plan). Employers would be able to choose to either pay the recommended Employer Contribution Rate or the optional 10% capped rate. The optional rate would only be available for the year 2020.

After questions and discussion, it was moved by Mr. Kuehne, seconded by Ms. Stanish, to approve the optional phase-in plan for the 2020 Employer Contribution Rate.

Vote:

Aye: Miller, Stanish, Thompson, Wallace, Williams, Copper, Henry, Kuehne  
Nay: None  
Absent: None

(19-03-11) (Trustee Forum) The Vice Chair reported the following Trustees requested authorization from the Board for the following conferences:

Natalie Copper                    2019 IPPFA Illinois Pension Conference  
   IPPFA  
   April 30 - May 3, 2019  
   East Peoria, IL

   Fraud Prevention Institute  
   IFEBP  
   July 15-16, 2019  
   Chicago, IL

Alex Wallace, Jr.                    2019 IPPFA Illinois Pension Conference  
   IPPFA  
   April 30 - May 3, 2019  
   East Peoria, IL

   Fraud Prevention Institute  
   IFEBP  
   July 15-16, 2019  
   Chicago, IL

It was moved by Ms. Stanish, seconded by Ms. Thompson, to approve the above Trustee requests.

Vote:    Unanimous Voice Vote  
Absent: None

(19-03-12) (Executive Session) It was moved by Ms. Copper, seconded by Ms. Thompson, to go into executive session under section 2(c)(1) of the Open Meetings Act for the purpose of discussing the performance appraisal of the Executive Director as well as compensation for the Chief Investment Officer and Executive Director. The IMRF Chief Investment Officer and Executive Director both began participation after January 1, 2011, and therefore discussions surrounding their compensation are not subject to the Local Government Wage Transparency Act.

Vote:  
  Aye: Miller, Stanish, Thompson, Wallace, Williams, Copper, Henry, Kuehne  
  Nay: None  
  Absent: None

It was moved by Ms. Thompson, seconded by Ms. Copper, to return to open session.

Vote:  
  Aye: Miller, Stanish, Thompson, Wallace, Williams, Copper, Henry, Kuehne  
  Nay: None  
  Absent: None

(19-03-13) (Chief Investment Officer Compensation) It was moved by Ms. Henry, seconded by Mr. Kuehne, to recommend a 4% increase for the Chief Investment Officer, effective January 1, 2019.

Vote:

Aye: Miller, Stanish, Thompson, Wallace, Williams, Henry, Kuehne  
Nay: Copper  
Absent: None

It was moved by Mr. Kuehne, seconded by Ms. Stanish, to recommend a 4% increase for the Executive Director, effective January 1, 2019.

Vote:

Aye: Miller, Stanish, Thompson, Wallace, Williams, Copper, Henry, Kuehne  
Nay: None  
Absent: None

(19-03-14) (Board Self-Evaluation) Board Members along with Ms. Nicholson from JIN Consulting, conducted a self-evaluation.

(19-03-15) (Adjournment) It was moved by Ms. Copper, seconded by Ms. Thompson, to adjourn the Board Meeting at 1:00 p.m., to reconvene in the Fund offices, 2211 York Road, Suite 400, Oak Brook, Illinois, at 9:00 a.m. on May 17, 2019.

Vote: Unanimous Voice Vote  
Absent: None

  
\_\_\_\_\_  
President

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Secretary

  
\_\_\_\_\_  
Date

