# Callan

July 31, 2017

Illinois Municipal Retirement Fund Monthly Performance Report

Investment Measurement Service Monthly Review

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## Market Environment As of July 31, 2017

		Year to		Last 3	Last 5	Last 10
Index	Last Month	Date	Last Year	Years	Years	Years
Russell:3000 Index	1.89	10.99	16.14	10.52	14.79	7.83
S&P:500	2.06	11.59	16.04	10.87	14.78	7.74
Russell:2000 Index	0.74	5.77	18.45	9.89	14.19	7.76
MSCI:ACWI ex US	3.69	18.30	19.01	2.37	7.70	1.52
MSCI:EM	5.96	25.49	24.84	2.39	4.76	1.98
Blmbg:Aggregate	0.43	2.71	(0.51)	2.71	2.02	4.44
NCREIF:Total Index						
NUREIF. IULAI IIIUEX						
Blmbg:Commodity Price Idx	2.17	(3.57)	0.13	(12.95)	(10.16)	(6.90)
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Fundamentals took the driver's seat and geopolitics moved to the backseat for seemingly the first time this year. While the U.S. health care bill and tensions with North Korea continued to make headlines, corporate earnings stole the show. According to FactSet data, with over 80% of S&P 500 companies reporting, more than 70% beat their earnings estimates, bringing the average year-over-year earnings growth rate to 10.1%. It was a similar story abroad as healthy corporate earnings and an improving economic outlook lifted global equities. The Russell 3000 Index rose 1.9% during the month. A declining dollar further bolstered non-U.S. equities. The MSCI ACWI ex U.S. Index advanced 3.7% and the MSCI Emerging Markets Index gained 6.0%. The U.S. Aggregate rose 0.4% as rates held fairly steady in July.

For the second straight month, nonfarm payroll growth was stronger than anticipated and the prior reading was revised upward. 209,000 jobs were added in July versus a consensus estimate of 178,000 and the June figure increased by 9,000. Further, the unemployment rate fell a tenth of percent to 4.3% despite the labor force participation rate climbing 0.1% to 62.9%. Month-over-month average hourly earnings rose 0.3% while year-over-year growth held steady at 2.5%. The Federal Open Market Committee (FOMC) held rates during the month but cited a tight and strengthening labor market as having the potential to spark inflation.

Consumer prices continued a recent streak of soft results. Month-over-month headline and core CPI gained 0.1% in July, which are no better than the low end of estimates. Year-over-year, the headline and core numbers are both up 1.7%, 0.1% below both of their consensus estimates. Housing, a central category, remains a major headwind to inflation, climbing 0.1% for the month. It is clear the FOMC will have to continue monitoring the inflation situation closely. On the positive side, GDP met expectations with the first estimate for second quarter growth coming in at 2.6%. Consumer spending continues to be a bright spot rising 2.8%. Business investment and federal government spending also contributed to GDP growth in the quarter.

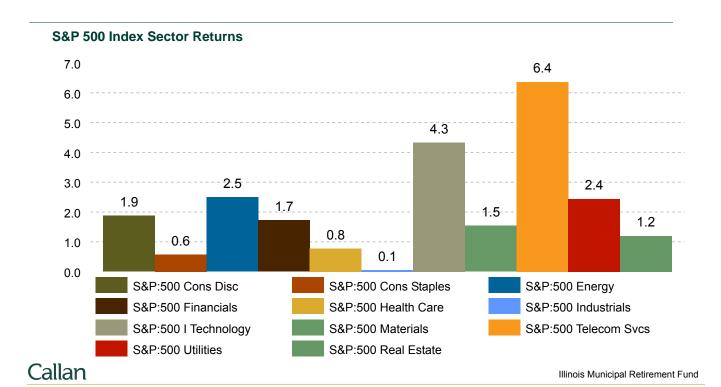
\*Due to a lag in the reporting of NCREIF Property Index returns, the monthly return shown is deduced from the most recent quarterly return. This monthly return, when compounded over three months, equates to the quarterly return.

# U.S. Equity Overview As of July 31, 2017

						Last 10
Index	Last Month	Year to Date	Last Year	Last 3 Years	Last 5 Years	Years
Russell:3000 Index	1.89	10.99	16.14	10.52	14.79	7.83
Russell:1000 Index	1.98	11.44	15.95	10.58	14.85	7.84
Russell:1000 Growth	2.66	17.02	18.05	12.66	15.60	9.36
Russell:1000 Value	1.33	6.05	13.76	8.45	14.00	6.21
Russell:Midcap Index	1.47	9.58	13.04	9.31	15.00	8.24
Russell:2000 Index	0.74	5.77	18.45	9.89	14.19	7.76
Russell:2000 Growth	0.85	10.91	17.76	10.22	14.58	8.49
Russell:2000 Value	0.63	1.18	19.21	9.50	13.76	6.94

U.S. equities continued their gains in July bolstered by strong corporate earnings and continued easy monetary policy. After a brief market hiccup on July 6, the Dow and S&P 500 indices went on a tear and closed at new record highs July 14. That same day the VIX sunk to a low not seen since 1993. Information Technology recovered from its late June swoon, reclaimed its position as top performing sector, and pushed growth to outperform the broader market. After losing some ground last month, large caps regained dominance over small caps (Russell 1000 Index: +2.0%; Russell 2000 Index: +0.7%). Similarly, the trend of growth outperforming value returned after taking a break in June (Russell 1000 Growth: +2.7%; Russell 1000 Value: +1.3%). The Russell Midcap Index (+1.5%) outperformed small cap but trailed large cap.

All 11 sectors were positive for the month. Growth and value stocks, cyclical and defensive sectors, were all represented in the top performers. Telecom led, returning 6.4%, followed by Technology which rose 4.3%. Energy followed, increasing 2.5%, with Utilities and Consumer Discretionary trailing closely behind at 2.4% and 1.9%, respectively. Industrials was the worst performing sector, up only 0.1%.

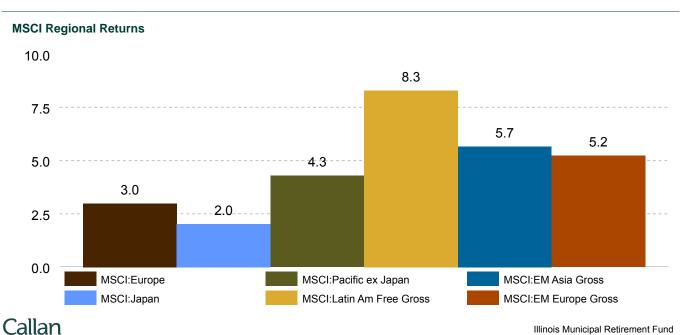


# Non-U.S. Equity Overview As of July 31, 2017

•						
	Last	Year to		Last 3	Last 5	Last 10
Index	Month	Date	Last Year	Years	Years	Years
MSCI:ACWI ex US	3.69	18.30	19.01	2.37	7.70	1.52
MSCI:EAFE	2.88	17.09	17.77	2.79	9.06	1.46
MSCI:EAFE Hedged Net	0.80	9.14	18.74	7.71	12.54	2.82
MSCI:EM	5.96	25.49	24.84	2.39	4.76	1.98
MSCI:ACWI ex US Small Cap	3.53	19.64	18.00	5.18	10.66	3.17

Major world economies continue to experience accomodative policy with near absent inflation. The Bank of Japan (BOJ) voted at its policy meeting on July 20 to hold its bond buying program constant but delayed the date it says the Japanese economy is expected to reach 2% inflation. Markets in the EU responded positively to improving economic conditions in July. Greece successfully issued debt for the first time since 2014. The EU unemployment rate fell to 9.1%, the lowest rate since February 2009. At its policy meeting on July 20, the European Central Bank (ECB) voted to hold its bond buying program and interest rate policy steady. Draghi's comments were less hawkish than at the prior month's meeting and markets responded favorably. However, euro zone inflation remains stubbornly non-existent. The euro strengthened against the dollar during the month, reaching a two-year record high. A swooning dollar propelled international equity returns higher throughout the period (MSCI EAFE Index: +2.9% vs MSCI EAFE Hedged Index: +0.8%) and U.S. stocks trailed their international counterparts (Russell 3000 Index: +1.9% vs MSCI ACWI ex U.S. Index: +3.7%). Emerging markets benefited not only from the falling dollar but also from oil prices that stabilized then rose the last part of the month. The MSCI EM Index was a top performer and gained 6.0% for the period.

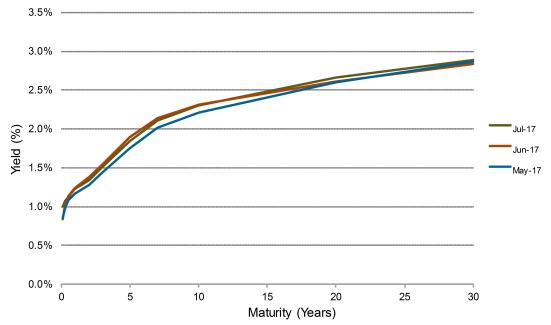
MSCI regional returns were positive across the board with emerging markets outpacing developed. Latin American markets were the runaway victor despite unrest in Venezuela and Brazil. The MSCI Latin America Index rose 8.3% for the month. Asian and European emerging markets followed, up 5.7% (MSCI EM Asia Index) and 5.2% (MSCI EM Europe Index), respectively. Despite continuing concern over Brexit and subpar inflation figures, the MSCI Europe Index gained 3.0% in July. Japan brought up the rear with an increase of 2.0% (MSCI Japan Index).



# Fixed Income Overview As of July 31, 2017

	Last	Year to		Last 3	Last 5	Last 10
Index	Month	Date	Last Year	Years	Years	Years
Blmbg:Aggregate	0.43	2.71	(0.51)	2.71	2.02	4.44
Blmbg:US Government	0.17	2.03	(2.40)	2.10	1.14	3.80
Blmbg:Credit	0.73	4.44	1.26	3.67	3.27	5.65
Blmbg:Mortgage Backed Sec	0.45	1.81	0.19	2.53	1.93	4.28
BImbg:US TIPS	0.45	1.30	(1.04)	0.77	(0.02)	4.09
ML:US High Yield Cash Pay	1.15	6.14	11.23	5.35	6.71	7.94
3 Month T-Bill	0.09	0.39	0.54	0.26	0.19	0.55
CS:Leveraged Loan	0.78	2.76	6.83	3.77	4.78	4.53





The FOMC left the Fed Funds rate unchanged during their July meeting at a range of 1.00% - 1.25%. While the result was anticipated, focus quickly moved to the reinvestment policy related to assets maturing from the balance sheet. The Fed provided no specific date of when the unwinding would begin, but noted process initiation would come "relatively soon." The market is currently pricing in almost no chance of a hike in September but about a 40% chance of an additional hike by year end, down from 50% in June. On the extreme short end of the Treasury curve, the 1-month increased 16 basis points to 1.00%. Otherwise the curve steepened slightly. The 2-year dropped four basis points to 1.38%, and the 30-year rose five basis points to 2.89%.

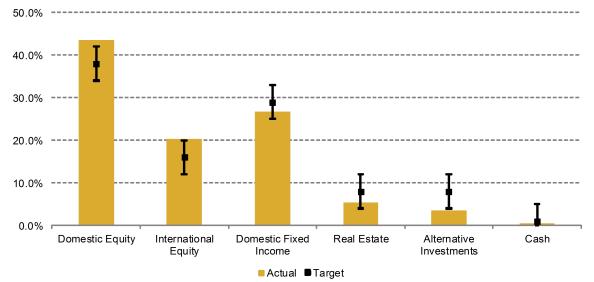
Fixed income returns were up across the board in July. The Bloomberg Aggregate Index (+0.4%) provided solid returns after a difficult June where all but two fixed income sectors experienced a loss. High yield (ML High Yield CP Index) continued its charge up 1.2% during the month, the only sector to gain over 1.0%. Leveraged loans (CS Leveraged Loan Index) and investment grade credit (Bloomberg Credit Index) also climbed in July, up 0.8% and 0.7%, respectively. TIPS (Bloomberg U.S. TIPS Index) and mortgages (Bloomberg Mortgage Backed Securities Index) both retuned 0.5% during the month, bouncing back from poor performance in June. Finally, governments (Bloomberg U.S. Government Index) gained a modest 0.2%. All fixed income sectors remain positive year to date.

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## IMRF Commentary Executive Summary Total Fund

Total Fund assets grew approximately \$702.3 million during the month, ending July at \$39.30 billion. The Fund had a 19 basis point advantage over the benchmark, gaining 1.72%. The U.S. Equity composite led its benchmark by 9 basis points while the International Equity composite fell short of its benchmark by 15 basis points. Real Estate grew 0.69% during July and surpassed the 0.49% return of its benchmark. Alternatives fell 0.37% relative to the 0.72% return of its benchmark. The Fixed Income composite outpaced the 0.43% return of the Bloomberg Aggregate Index, returning 0.49%. For the trailing year, the Fund is 2.32% ahead of its benchmark, returning 12.54%.

Current policy states that when actual allocations of the asset classes differ by more than four percentage points from their policy targets, a recommendation for rebalancing will be made to the Board of Trustees. As of July, Alternatives was below target allocation by 4.5%, while Domestic Equity and International Equity were above target by 5.5% and 4.3%, respectively. The Chief Investment Officer and Consultant do not recommend any rebalancing at this time.



## U.S. Equity

The U.S. Equity composite gained 1.98% during July, outperforming the 1.89% return of the Russell 3000 Index. In a reversal from June, large cap had the advantage over small while growth outperformed value across the capitalizations.

Large Cap: IMRF's Large Cap managers outpaced the Russell 1000 Index by 34 basis points, gaining 2.32% during the month. In aggregate, the growth managers advanced 3.43% relative to the 2.66% return of the Russell 1000 Growth Index. Sands was the best performing growth manager as its 5.02% return outperformed the Russell 1000 Growth Index by 2.36%. Collectively, the value managers added 1.77% and outpaced the 1.33% return of the Russell 1000 Value Index. BMO led the value managers with a 2.13% return.

Small Cap: The Small Cap composite led the Russell 2000 Index by 8 basis points during the month, returning 0.82%. The growth managers collectively gained 1.26%, led by the 1.97% return of Frontier. FIAM's 0.98% return also outpaced the 0.85% return of the Russell 2000 Growth Index. The value managers had a positive absolute return of 0.58% but fell short of the 0.63% return of the Russell 2000 Value Index. Both Channing and DFA outperformed the benchmark while Inv. Counselors of Maryland missed by 43 basis points. The Micro-Cap composite returned 0.45% in July.

## IMRF Commentary Executive Summary

## **International Equity**

The International Equity composite fell behind the 3.69% return of the MSCI ACWI ex-U.S. (Net) Index, returning 3.54%.

Large Cap: International Large Cap managers collectively gained 3.36% but underperformed the MSCI ACWI ex-U.S. (Net) Index by 33 basis points. International Large Cap Growth managers had the edge over the benchmark, gaining 5.01% in aggregate. Both EARNEST Partners and William Blair outperformed during July. The International Large Cap Value managers collectively gained 2.92%, led by the 4.06% return of Lazard.

International Small Cap and Emerging Markets: The International Small Cap managers surpassed the 3.53% return of the ACWI Small Cap ex U.S. Index, returning 3.92%. Both William Blair and Franklin Templeton outperformed the benchmark by 0.64% and 0.08%, respectively. The Emerging Markets portfolio, managed by Genesis, had a strong absolute return of 4.93% but missed the 6.04% return of the MSCI Emerging Markets Index.

## **Fixed Income**

The Fixed Income composite was up 0.49% in July and surpassed the 0.43% return of the Bloomberg Aggregate Index.

Active Core: In aggregate, the Active Core Fixed Income managers outperformed the Bloomberg Aggregate index by 4 basis points in July, returning 0.47%. EARNEST Partners and Piedmont both outperformed the benchmark while Garcia Hamilton fell 31 basis points behind.

Core Plus: The Core Plus managers ended July up 0.37%, but behind the Bloomberg Aggregate Index by 6 basis points. BlackRock Core Plus was terminated in July and the assets were reallocated to Garcia Hamilton Core Fixed Income, EARNEST Partners Core Fixed Income, Piedmont Core Fixed Income, and to the BlackRock U.S. Debt Fund. Performance data is not yet available for Progress.

Bank Loans: The Bank Loans composite, managed by Barings, returned 0.88% and ended July 12 basis points ahead of its benchmark.

Emerging Markets: The Emerging Market Debt component, managed by Standish, was the best performing fixed income manager during the month, returning 1.71% and surpassing the 1.43% return of its custom benchmark.

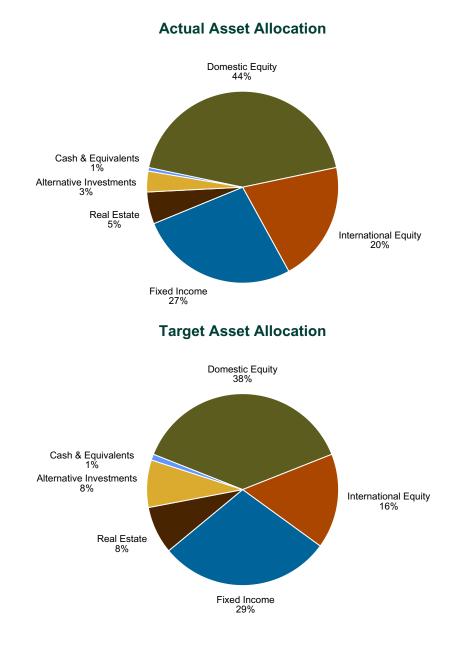
Opportunistic: The Opportunistic fixed income allocation, managed by Crescent, was approximately flat for the month, falling behind the 0.92% return of its benchmark.

High Yield: The high yield manager, MacKay Shields, returned 1.17% and performed approximately in line with its benchmark.



## **Actual vs Target Asset Allocation**

The first chart below shows the Fund's asset allocation as of July 31, 2017. The second chart shows the Fund's target asset allocation as outlined in the investment policy statement.



Asset Class	\$Millions Actual	Percent Actual	Percent Target	Percent Difference	\$Millions Difference
Domestic Equity	17.101	43.5%	38.0%	5.5%	2.166
International Equity	7,961	20.3%	16.0%	4.3%	1,673
Fixed Income	10,527	26.8%	29.0%	(2.2%)	(871)
Real Estate	2,107	5.4%	8.0%	(2.6%)	(1,037)
Alternative Investments	1,359	3.5%	8.0%	(4.5%)	(1,785)
Cash & Equivalents	247	0.6%	1.0%	(0.4%)	(146)
Total	39,302	100.0%	100.0%	. ,	

\* Current Month Target = 38.0% Russell 3000 Index, 29.0% Blmbg Aggregate, 16.0% MSCI ACWI ex US, 8.0% NCREIF NFI-ODCE Val Wt Nt, 8.0% 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 July 31, 2017, with the distribution as of June 30, 2017.

#### Asset Distribution Across Investment Managers

	July 31, 201	1	June 30, 2017		
	Market Value	Percent	Market Value	Percent	
omestic Equity* ∟arge Cap Growth	\$17,101,066,510	43.51%	\$16,760,020,091	43.42%	
Holland NTGI S&P 500 Growth Idx Sands	967,687,269 1,770,703,791 1,453,805,251	2.46% 4.51% 3.70%	942,852,040 1,725,779,025 1,384,345,909	2.44% 4.47% 3.59%	
₋arge Cap Value					
Dodge & Cox BMO LSV NTGI S&P 500 Value Idx	1,390,763,371 1,404,038,575 1,417,681,701 1,629,285,391	3.54% 3.57% 3.61% 4.15%	1,367,182,229 1,376,872,386 1,395,097,742 1,607,050,693	3.54% 3.57% 3.61% 4.16%	
arge Cap Core					
NTGI MarketCap Index	3,271,012,791	8.32%	3,210,129,205	8.32%	
Small Cap Growth					
Frontier FIAM	416,324,408 1,059,875,412	1.06% 2.70%	408,262,629 1,049,609,636	1.06% 2.72%	
Small Cap Value					
Channing Dimensional Small Cap Value Inv. Counselors of Maryland	215,109,479 546,581,522 594,315,555	0.55% 1.39% 1.51%	212,644,373 841,315,283 724,899,006	0.55% 2.18% 1.88%	
/licro Cap					
Ariel Ativo Dimensional Micro Cap	150 127,876,358 386,940,894	0.00% 0.33% 0.98%	1,486,247 127,680,669 384,813,020	0.00% 0.33% 1.00%	
Public Real Assets					
Brookfield Cohen & Steers	149,554,303 299,510,290	0.38% 0.76%	-	-	
nternational Equity nternational Large Cap Growth	\$7,961,059,765	20.26%	\$7,688,340,309	19.92%	
EARNEST Partners William Blair	633,970,951 700,860,286	1.61% 1.78%	599,941,594 671,155,308	1.55% 1.74%	
nternational Large Cap Value					
Brandes Lombardia Mondrian Lazard	586,310,648 3,371 562,725,394 108,652,410	1.49% 0.00% 1.43% 0.28%	570,824,596 3,371 546,457,108 104,412,358	1.48% 0.00% 1.42% 0.27%	
nternational Large Cap Core					
Arrowstreet Brown GlobeFlex NTGI MSCI EAFE Index Progress Intl Equity	649,398,791 322,229,598 644,154,670 2,226,697,673 274,925,795	1.65% 0.82% 1.64% 5.67% 0.70%	628,593,587 318,276,787 612,745,522 2,163,920,787 274,925,795	1.63% 0.82% 1.59% 5.61% 0.71%	
nternational Small Cap					
	233,134,542	0.59%	225,007,100	0.58%	
Franklin Templeton William Blair	275,050,561	0.70%	264,027,848	0.68%	

\* includes asset in equity transition account.

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## **Investment Manager Asset Allocation**

The table below contrasts the distribution of assets across the Fund's investment managers as of July 31, 2017, with the distribution as of June 30, 2017.

	July 31, 20	)17	June 30, 2017		
	Market Value	Percent	Market Value	Percent	
Total Fixed Income	\$10,526,594,060	26.78%	\$10,496,677,540	27.19%	
Domestic Fixed Core					
EARNEST Partners	754,316,764	1.92%	553,113,528	1.43%	
Piedmont Investment	755,059,724	1.92%	553,122,244	1.43%	
Garcia Hamilton	725,788,874	1.85%	525,867,877	1.36%	
Domestic Fixed Passive Core					
NTGI Blmbg Agg. Index	1,550,572,154	3.95%	1,543,821,681	4.00%	
BlackRock US Debt	1,579,491,216	4.02%	1,426,466,136	3.70%	
Domestic Fixed Core Plus					
BlackRock Core Plus	540,796	0.00%	751,604,479	1.95%	
Transition Account	4,497,261	0.01%	-	-	
Brandes Core Plus	248,054,672	0.63%	247,291,782	0.64%	
LM Capital	866,148,889	2.20%	865,030,935	2.24%	
Progress Fixed Income	877,206,382	2.23%	877,206,382	2.27%	
Taplin, Canida, & Habacht	881,535,888	2.24%	878,952,341	2.28%	
Western	946,212,492	2.41%	942,899,029	2.44%	
Bank Loans					
Barings Global Loan Fund	382,328,089	0.97%	382,671,848	0.99%	
Emerging Markets Debt					
Standish	204,269,825	0.52%	200,838,674	0.52%	
Opportunistic Fixed Income					
Crescent	116,926,847	0.30%	118,525,645	0.31%	
High Yield					
MacKay Shields	632,652,057	1.61%	628,371,004	1.63%	
FIAM High Yield	992,132	0.00%	893,954	0.00%	

#### Asset Distribution Across Investment Managers

\* 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 July 31, 2017, with the distribution as of June 30, 2017.

#### Asset Distribution Across Investment Managers

	July 31, 20	017	June 30, 20	017
	Market Value	Percent	Market Value	Percent
Real Estate	\$2,107,048,079	5.36%	\$2,083,637,979	5.40%
Real Estate Core				
TA Buckhead Ind. Prop.	394,377,263	1.00%	394,377,263	1.02%
Barings Core Property Fund	143,693,037	0.37%	143,693,037	0.37%
Barings European Core Property	30,174,392	0.08%	29,190,332	0.08%
INVESCO Core RE	192,926,452	0.49%	194,516,787	0.50%
AEW Core Property Trust	225,364,888	0.57%	224,180,987	0.58%
CBRE US Core Property Trust	165,845,686	0.42%	162,791,481	0.42%
Real Estate Non-Core				
Artemis MWBE Spruce	51,491,412	0.13%	49,871,275	0.13%
Franklin Templeton EMREFF	32,851,670	0.08%	32,851,670	0.09%
Security Capital	50,648,308	0.13%	51,202,306	0.13%
Dune II	28,264,391	0.07%	28,264,391	0.07%
Non-Core Real Estate Funds*	689,368,581	1.75%	671,750,821	1.74%
Non-Core Intl Real Estate Funds**	82,921,770	0.21%	81,827,400	0.21%
Rockwood Fund VIII	3,385,813	0.01%	3,385,813	0.01%
Almanac ARS V	7,098,452	0.02%	7,098,452	0.02%
TA Fund IX	8,635,964	0.02%	8,635,964	0.02%
Alternative Investments	\$1,359,120,968	3.46%	\$1,355,375,568	3.51%
Absolute Return				
Aurora	20,422,000	0.05%	22,099,754	0.06%
Private Equity				
Abbott	321,854,079	0.82%	322,118,754	0.83%
Muller & Monroe ILPEFF	502,514	0.00%	502,514	0.00%
Muller & Monroe MPEFF	8,719,281	0.02%	8,719,281	0.02%
Pantheon	215,980,761	0.55%	216,155,097	0.56%
Private Equity Fund - Domestic	492,921,609	1.25%	491,572,133	1.27%
Private Equity Fund - International	35,847,454	0.09%	35,319,944	0.09%
Agriculture		0.400/	10 1 05 1 5 5	0.455
Premiere Partners IV	188,239,531	0.48%	184,254,352	0.48%
Timberland				
Forest Investment Assoc.	74,633,739	0.19%	74,633,739	0.19%
Cash & Equivalents	\$247,185,895	0.63%	\$215,726,078	0.56%
Total Fund	\$39,302,075,277	100.0%	\$38,599,777,564	100.0%

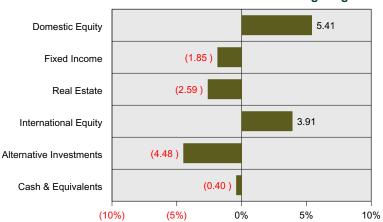
\* Non-Core Real Estate Funds funded since September 2011.

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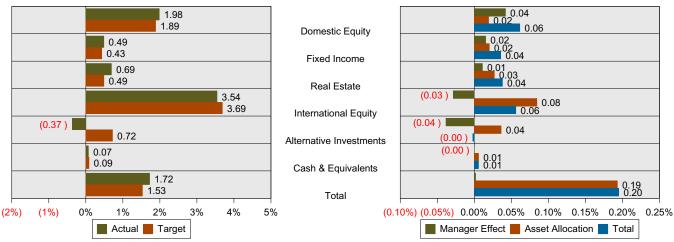
## Monthly Total Fund Relative Attribution - July 31, 2017

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



Asset Class Under or Overweighting

#### Actual vs Target Returns



#### Relative Attribution Effects for Month ended July 31, 2017

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	43%	38%	1.98%	1.89%	0.04%	0.02%	0.06%
Fixed Income	27%	29%	0.49%	0.43%	0.02%	0.02%	0.04%
Real Estate	5%	8%	0.69%	0.49%	0.01%	0.03%	0.04%
International Equity	20%	16%	3.54%	3.69%	(0.03%)	0.08%	0.06%
Alternative Investments		8%	(0.37%)	0.72%	(0.04%)	0.04%	(0.00%)
Cash & Equivalents	1%	1%	0.07%	0.09%	(0.00%)	0.01%	0.01%
Total			1.72% =	1.53%	+ 0.00% +	0.19%	0.20%

\* Current Month Target = 38.0% Russell 3000 Index, 29.0% Blmbg Aggregate, 16.0% MSCI ACWI ex US, 8.0% NCREIF NFI-ODCE Val Wt Nt, 8.0% 9% Annually and 1.0% 3-month Treasury Bill.

**Relative Attribution by Asset Class** 

## **Asset Class Returns**

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

#### **Returns for Periods Ended July 31, 2017**

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Domestic Equity	1.98%	3.89%	10.22%	18.13%	
Blended Benchmark**	1.89%	3.86%	10.99%	16.14%	
Domestic Equity - Net	1.97%	3.84%	10.10%	17.88%	
International Equity	3.54%	7.28%	18.85%	18.97%	
MSCI ACWI x US (Net)	3.69%	7.38%	18.30%	19.01%	
International Equity - Net	3.54%	7.26%	18.73%	18.64%	
Fixed Income	0.49%	1.31%	3.48%	1.61%	
Blmbg Aggregate Index	0.43%	1.10%	2.71%	(0.51%)	
Fixed Income - Net	0.48%	1.28%	3.40%	1.46%	
Real Estate	0.69%	2.41%	4.68%	8.56%	
Blended Benchmark***	0.49%	1.47%	3.54%	6.77%	
Real Estate - Net	0.69%	2.41%	4.68%	8.56%	
Alternative Investments	(0.37%)	3.35%	6.28%	11.55%	
Alternatives Custom Benchmark****	0.72%	2.18%	5.16%	9.00%	
Alternative Investments - Net	(0.37%)	3.31%	6.18%	11.30%	
Absolute Return	0.91%	13.64%	34.09%	41.40%	
HFR Fund-of-Funds Index	1.06%	1.28%	4.23%	5.95%	
Private Equity	(0.46%)	3.72%	7.82%	14.76%	
Alternatives Custom Benchmark****	0.72%	2.18%	5.16%	9.00%	
Agriculture	(0.01%)	0.58%	(0.58%)	(1.39%)	
Blended Benchmark***	0.49%	1.47%	3.54%	6.77%	
Timberland	(0.25%)	2.32%	0.76%	2.79%	
Blended Benchmark***	0.49%	1.47%	3.54%	6.77%	
Total Fund	1.72%	3.73%	9.42%	12.54%	
Total Fund - Net	1.72%	3.70%	9.32%	12.32%	
Total Fund Benchmark	1.53%	3.25%	8.48%	10.22%	

\* Current Month Target = 38.0% Russell 3000 Index, 29.0% Blmbg Aggregate, 16.0% MSCI ACWI ex US, 8.0% NCREIF NFI-ODCE Val Wt Nt, 8.0% 9% Annually and 1.0% 3-month Treasury Bill.
\*\* The Blended Benchmark is currently Russell 3000 Index. Returns prior to January 1, 2015, reflect those of the Dow Jones U.S. Total Stock Market Index.
\*\*\* The Blended Benchmark is currently ODCE Value Weighted Index. Returns between January 1, 2007 and December 31, 2012 reflect NPI+1%. Returns prior to January 1, 2007, reflect those of the Consumer Price Index +5%.
Given that ODCE returns are updated quarterly, an approximation of the Index is used in the monthly reports.
\*\*\*\* The Alternatives Custom Benchmark is based on an annualized rate of return of 9.0%. Prior to July 1, 2010 the Benchmark was based on an annual return of 12.0%. Prior to 2004, the Benchmark was based on an annual return of 13.0%.



## **Asset Class Returns**

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

#### **Returns for Periods Ended July 31, 2017**

	Last	Last	Last	
	36	60	120	Since
	Months	Months	Months	Inception
Domestic Equity	10.04%	14.97%	7.96%	11.63% (1/82)
Blended Benchmark**	10.49%	14.73%	7.90%	11.40% (1/82)
Domestic Equity - Net	9.79%	14.70%	7.69%	8.23% (1/05)
International Equity	3.93%	9.73%	2.45%	8.04% (9/86)
MSCI ACWI x US (Net)	2.37%	7.70%	1.52%	-
International Equity - Net	3.60%	9.38%	2.13%	5.96% (1/05)
Fixed Income	3.40%	3.15%	5.44%	8.47% (1/82)
Blmbg Aggregate Index	2.71%	2.02%	4.44%	7.93% (1/82)
Fixed Income - Net	3.25%	3.00%	5.29%	4.94% (1/05)
Real Estate - Net	10.59%	11.04%	4.91%	7.12% (1/05)
Blended Benchmark***	10.14%	10.84%	7.07%	7.71% (1/05)
Alternative Investments	7.84%	8.92%	5.89%	10.67% (2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.87%	12.94% (2/86)
Alternative Investments - Net	7.48%	8.58%	5.60%	7.91% (1/05)
Absolute Return	13.00%	10.58%	5.06%	6.40% (1/02)
HFR Fund-of-Funds Index	2.01%	3.92%	0.94%	3.46% (1/02)
Private Equity	9.65%	10.65%	7.96%	12.80% (2/86)
Alternatives Custom Benchmark****	9.00%	9.00%	9.87%	12.94% (2/86)
Agriculture	12.07%	15.68%	9.58%	8.38% (10/97)
Blended Benchmark***	10.14%	10.84%	7.07%	7.54% (10/97)
Timberland	2.29%	4.14%	4.53%	8.03% (10/92)
Blended Benchmark***	10.14%	10.84%	7.07%	7.55% (10/92)
Fotal Fund	6.76%	10.00%	6.57%	<b>10.00%</b> (1/82)
Total Fund - Net	6.52%	9.76%	6.34%	7.18% (1/05)
Total Fund Benchmark	6.82%	9.16%	6.36%	6.97% (1/05)

\* Current Month Target = 38.0% Russell 3000 Index, 29.0% Blmbg Aggregate, 16.0% MSCI ACWI ex US, 8.0% NCREIF NFI-ODCE Val Wt Nt, 8.0% 9% Annually and 1.0% 3-month Treasury Bill.
\*\* The Blended Benchmark is currently Russell 3000 Index. Returns prior to January 1, 2015, reflect those of the Dow Jones U.S. Total Stock Market Index.
\*\*\* The Blended Benchmark is currently ODCE Value Weighted Index. Returns between January 1, 2007 and December 31, 2012 reflect NPI+1%. Returns prior to January 1, 2007, reflect those of the Consumer Price Index +5%.
Given that ODCE returns are updated quarterly, an approximation of the Index is used in the monthly reports.
\*\*\*\* The Alternatives Custom Benchmark is based on an annualized rate of return of 9.0%. Prior to July 1, 2010 the Benchmark was based on an annual return of 12.0%. Prior to 2004, the Benchmark was based on an annual return of 13.0%.



## Large Cap Equity Returns

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

#### **Returns for Periods Ended July 31, 2017**

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Large Cap Equity	2.32%	4.49%	12.26%	18.25%	
Russell 1000 Index	1.98%	4.00%	11.44%	15.95%	
Large Cap Growth	3.43%	6.44%	20.61%	19.45%	
Holland	2.63%	5.53%	18.07%	17.95%	
LCG Blended Benchmark*	2.66%	5.05%	17.02%	18.05%	
Russell 1000 Growth Index	2.66%	5.05%	17.02%	18.05%	
Holland - Net	2.63%	5.53%	17.96%	17.71%	
NTGI S&P 500 Growth Idx	2.60%	5.09%	16.22%	16.96%	
S&P/Citi 500 Growth Index	2.61%	5.10%	16.29%	16.97%	
NTGI S&P 500 Growth Idx - Net	2.60%	5.09%	16.21%	16.95%	
Sands	5.02%	8.79%	28.43%	23.76%	
LCG Blended Benchmark*	2.66%	5.05%	17.02%	18.05%	
Russell 1000 Growth Index	2.66%	5.05%	17.02%	18.05%	
Sands - Net	5.02%	8.73%	28.29%	23.49%	
Sands - Net	5.02 /6	0.75%	20.2976	23.4970	
Large Cap Value	1.77%	3.45%	7.52%	18.51%	
Dodge & Cox	1.85%	3.39%	9.14%	24.17%	
LCV Blended Benchmark**	1.33%	2.88%	6.05%	13.76%	
Russell 1000 Value Index	1.33%	2.88%	6.05%	13.76%	
Dodge & Cox - Net	1.85%	3.34%	9.03%	23.91%	
ВМО	2.13%	4.25%	8.31%	17.69%	
LCV Blended Benchmark**	1.33%	2.88%	6.05%	13.76%	
Russell 1000 Value Index	1.33%	2.88%	6.05%	13.76%	
BMO - Net	2.13%	4.20%	8.19%	17.44%	
LSV	1.78%	3.24%	6.50%	18.44%	
LCV Blended Benchmark**	1.33%	2.88%	6.05%	13.76%	
Russell 1000 Value Index	1.33%	2.88%	6.05%	13.76%	
LSV - Net	1.72%	3.18%	6.32%	18.16%	
NTGI S&P 500 Value Idx	1.38%	2.99%	6.40%	14.59%	
S&P/Citi 500 Value Index	1.37%	2.97%	6.29%	14.34%	
NTGI S&P 500 Value Idx - Net	1.38%	2.99%	6.39%	14.58%	
Large Cap Passive Core	1.90%	3.90%	11.08%	16.25%	
NTGI MarketCap Idx	1.90%	3.90%	11.08%	16.25%	
•	1.89%	3.88%	11.04%	16.13%	
DJ U.S. Total Stock Market Index	1.09 /0	5.00 /0	11.04/0	10.13/0	

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



## Large Cap Equity Returns

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

#### **Returns for Periods Ended July 31, 2017**

	Last 36 Months	Last 60 Months	Last 120	Since	
			Months	Inceptio	n
arge Cap Equity	10.34%	15.18%	8.00%	11.23%	(1/82)
Russell 1000 Index	10.58%	14.85%	7.84%	11.59%	(1/82)
arge Cap Growth	11.16%	14.94%	9.40%	11.70%	(1/82)
Holland	11.12%	14.21%	9.70%	10.39%	(11/94)
LCG Blended Benchmark*	12.66%	15.60%	9.36%	9.91%	(11/94)
Russell 1000 Growth Index	12.66%	15.60%	9.36%	9.17%	(11/94)
Holland - Net	10.91%	13.96%	9.43%	8.37%	(1/05)
NTGI S&P 500 Growth Idx	12.45%	15.44%	9.51%	7.11%	(8/01)
S&P/Citi 500 Growth Index	12.46%	15.41%	9.49%	7.07%	(8/01)
NTGI S&P 500 Growth Idx - Net	12.45%	15.43%	9.50%	9.07%	(1/05)
Sands	9.78%	15.76%	11.94%	11.41%	(11/03)
LCG Blended Benchmark*	12.66%	15.60%	9.36%	9.07%	(11/03)
Russell 1000 Growth Index	12.66%	15.60%	9.36%	9.13%	(11/03)
Sands - Net	9.52%	15.51%	11.66%	10.20%	(1/05)
arge Cap Value	9.28%	15.67%	6.84%	10.46%	(10/82)
Dodge & Cox	9.88%	16.52%	7.03%	9.73%	(9/03)
LCV Blended Benchmark**	8.45%	14.00%	6.21%	8.50%	(9/03)
Russell 1000 Value Index	8.45%	14.00%	6.21%	8.69%	(9/03)
Dodge & Cox - Net	9.67%	16.28%	6.81%	7.89%	(1/05)
ВМО	9.19%	15.32%	7.26%	8.16%	(2/01)
LCV Blended Benchmark**	8.45%	14.00%	6.21%	5.57%	(2/01)
Russell 1000 Value Index	8.45%	14.00%	6.21%	6.70%	(2/01)
BMO - Net	8.95%	15.07%	7.01%	8.31%	(1/05)
LSV	9.27%	16.69%	7.51%	11.40%	(2/03)
LCV Blended Benchmark**	8.45%	14.00%	6.21%	9.55%	(2/03)
Russell 1000 Value Index	8.45%	14.00%	6.21%	9.56%	(2/03)
LSV - Net	8.99%	16.41%	7.22%	8.46%	(1/05)
NTGI S&P 500 Value Idx	8.94%	14.04%	5.88%	5.65%	(8/99)
S&P/Citi 500 Value Index	8.84%	13.94%	5.81%	5.62%	(8/99)
NTGI S&P 500 Value Idx - Net	8.93%	14.03%	5.87%	6.98%	(1/05)
arge Cap Passive Core	10.57%	14.81%	7.83%	11.14%	(1/85)
NTGI MarketCap Idx	10.57%	14.81%	7.84%	10.89%	(2/85)
DJ U.S. Total Stock Market Index	10.46%	14.70%	7.89%	10.84%	(2/85)
NTGI MarketCap Idx - Net	10.57%	14.81%	7.83%	8.27%	(1/05)
NT OF Marketoap lux - Net	10.07 /0	14.0170	1.0070	0.27 /0	(1/03)

\* 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 July 31, 2017**

	Last	Year	Last	
Last	3	to	12	
Month	Months	Date	Months	
0.82%	1.84%	3.69%	17.33%	
0.74%	2.11%	5.77%	18.45%	
1.26%	3.65%	7.66%	15.81%	
1.97%	5.77%	13.17%	20.34%	
1.85%	5.65%	12.76%	19.52%	
0.98%	2.85%	5.63%	13.92%	
0.85%	3.37%	10.91%	17.76%	
0.98%	2.72%	5.39%	13.39%	
0.58%	0.43%	0.76%	18.76%	
1.16%	0.68%	0.58%	17.03%	
0.63%	0.91%	1.18%	19.21%	
1.03%	0.55%	0.21%	16.45%	
0.80%	(0.14%)	(0.88%)	18.00%	
0.63%	0.91%	1.18%	19.21%	
0.80%	(0.26%)	(1.13%)	17.42%	
0.20%	1.06%	2.84%	20.22%	
0.20%	0.96%	2.65%	19.53%	
0.45%	1.74%	3.36%	17.19%	
0.15%	2.40%	6.15%	20.58%	
(0.56%)	2.21%	3.65%	20.58%	
0.85%	3.37%	10.91%	17.76%	
0.74%	2.11%	5.77%	18.45%	
(0.00%)	2.25%	5.66%	19.70%	
0.55%	1.37%	2.63%	20.29%	
0.63%	0.91%	1.18%	19.21%	
0.74%	2.11%	5.77%	18.45%	
0.55%	1.25%	2.38%	19.70%	
	Month           0.82%           0.74%           1.26%           1.97%           0.85%           1.85%           0.98%           0.98%           0.58%           1.16%           0.63%           1.03%           0.80%           0.63%           0.20%           0.45%           0.15%           0.55%           0.63%           0.74%	Last3 Month0.82%1.84% $0.74\%$ 1.26%3.65%1.97%5.77% $0.85\%$ $3.37\%$ $1.85\%$ 0.98%2.85% $0.85\%$ $0.85\%$ $0.98\%$ $2.72\%$ 0.58%0.43%1.16% $0.63\%$ $0.91\%$ $1.03\%$ 0.58%0.43%0.63% $0.91\%$ $0.63\%$ $0.91\%$ 0.80% $0.20\%$ 0.20% $0.20\%$ 1.06% $0.63\%$ $0.91\%$ $0.20\%$ 0.45% $0.15\%$ $0.20\%$ 0.45% $0.74\%$ $2.11\%$ $0.63\%$ $0.91\%$ 0.55% $0.74\%$ $0.13\%$ 0.55% $0.74\%$ 1.37% $0.63\%$ $0.91\%$ 0.55% $0.37\%$ 1.37% $0.63\%$ $0.91\%$ 0.55% $0.91\%$ 0.55% $0.91\%$ 0.55% $0.91\%$ 0.15% $0.74\%$ 1.37% $0.63\%$ $0.91\%$ 0.15% $0.74\%$ 1.37% $0.63\%$ $0.91\%$	Last         3         to           Month         Months         Date           0.82%         1.84%         3.69%           0.74%         2.11%         5.77%           1.26%         3.65%         7.66%           1.97%         5.77%         13.17%           0.85%         3.37%         10.91%           1.85%         5.65%         12.76%           0.98%         2.85%         5.63%           0.98%         2.85%         5.63%           0.98%         2.72%         5.39%           0.58%         0.43%         0.76%           1.16%         0.68%         0.58%           0.63%         0.91%         1.18%           1.03%         0.55%         0.21%           0.80%         (0.14%)         (0.88%)           0.63%         0.91%         1.18%           0.80%         (0.26%)         (1.13%)           0.20%         1.06%         2.84%           0.63%         0.91%         1.18%           0.20%         1.06%         2.65%           0.45%         3.37%         10.91%           0.20%         2.65%         5.66%	Last3to12MonthMonthsDateMonths $0.82\%$ $1.84\%$ $3.69\%$ $17.33\%$ $0.74\%$ $2.11\%$ $5.77\%$ $18.45\%$ $1.26\%$ $3.65\%$ $7.66\%$ $15.81\%$ $1.97\%$ $5.77\%$ $13.17\%$ $20.34\%$ $0.85\%$ $3.37\%$ $10.91\%$ $17.76\%$ $1.85\%$ $5.65\%$ $12.76\%$ $19.52\%$ $0.98\%$ $2.85\%$ $5.63\%$ $13.92\%$ $0.98\%$ $2.85\%$ $5.63\%$ $13.92\%$ $0.98\%$ $2.85\%$ $5.63\%$ $13.92\%$ $0.85\%$ $3.37\%$ $10.91\%$ $17.76\%$ $0.98\%$ $2.72\%$ $5.39\%$ $13.39\%$ $0.63\%$ $0.43\%$ $0.76\%$ $18.76\%$ $1.16\%$ $0.68\%$ $0.58\%$ $17.03\%$ $0.63\%$ $0.91\%$ $1.18\%$ $19.21\%$ $1.03\%$ $0.55\%$ $0.21\%$ $16.45\%$ $0.80\%$ $(0.26\%)$ $(1.13\%)$ $17.42\%$ $0.80\%$ $(0.26\%)$ $(1.13\%)$ $17.42\%$ $0.20\%$ $1.06\%$ $2.84\%$ $20.22\%$ $0.63\%$ $0.91\%$ $1.18\%$ $19.21\%$ $0.20\%$ $1.06\%$ $2.65\%$ $19.53\%$ $0.45\%$ $1.74\%$ $3.65\%$ $20.58\%$ $0.85\%$ $3.37\%$ $10.91\%$ $17.76\%$ $0.74\%$ $2.11\%$ $5.77\%$ $18.45\%$ $0.63\%$ $0.91\%$ $1.18\%$ $19.21\%$ $0.65\%$ $1.37\%$ $2.63\%$ $20.29\%$ $0.65\%$ $0.91\%$ $1.18\%$ <t< td=""></t<>

## **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 July	v 31. 2017
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	Last 36 Months	Last 60 Months	Last 120 Months	Since Inception	
Small Cap Equity	<b>9.09%</b>	<b>14.50%</b>	<b>8.50%</b>	<b>12.41%</b> (7/88)	
Russell 2000 Index	9.89%	14.19%	7.76%	9.59% (7/88)	
Small Cap Growth	9.93%	14.92%	8.68%	<b>13.05%</b> (7/88)	
Frontier	8.51%	14.11%	8.68%	12.99% (8/88)	
Russell 2000 Growth Index	10.22%	14.58%	8.49%	8.13% (8/88)	
Frontier - Net	7.88%	13.50%	6.56%	7.25% (1/05)	
FIAM	11.72%	16.16%	9.94%	13.76% (8/88)	
Russell 2000 Growth Index	10.22%	14.58%	8.49%	8.13% (8/88)	
FIAM - Net	11.05%	15.59%	9.33%	10.99% (1/05)	
Small Cap Value	9.68%	15.05%	8.24%	<b>12.21%</b> (9/89)	
Channing	9.91%	17.15%	-	12.52% (7/11)	
Russell 2000 Value Index	9.50%	13.76%	6.94%	10.73% (7/11)	
Channing - Net	9.41%	16.54%	-	11.88% (7/11)	
DFA Small Cap Value	8.69%	15.30%	8.08%	12.71% (2/96)	
Russell 2000 Value Index	9.50%	13.76%	6.94%	10.02% (2/96)	
DFA Small Cap Value - Net	8.20%	14.76%	7.54%	8.34% (1/05)	
Inv. Counselors of Maryland	11.90%	15.62%	8.70%	11.94% (5/99)	
Russell 2000 Value Index	9.50%	13.76%	6.94%	9.59% (5/99)	
Inv. Couns. of Maryland - Net	11.38%	15.12%	8.17%	8.92% (1/05)	
Micro Cap	6.35%	12.59%	6.50%	<b>11.87%</b> (7/84)	
Ativo Russell Microcap Index Russell 2000 Growth Index Russell 2000 Index Ativo - Net	11.67% 8.99% 10.22% 9.89% 10.90%	18.36% 13.96% 14.58% 14.19% 17.52%	6.18% 8.49% 7.76% -	14.75% (10/10) 13.08% (10/10) 13.67% (10/10) 13.07% (10/10) 13.91% (10/10)	
DFA Micro Cap	11.11%	15.92%	8.62%	11.44% (8/87)	
Russell 2000 Value Index	9.50%	13.76%	6.94%	10.20% (8/87)	
Russell 2000 Index	9.89%	14.19%	7.76%	8.95% (8/87)	
DFA Micro Cap - Net	10.55%	15.34%	8.09%	8.23% (1/05)	

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 July 31, 2017**

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Intl Large Cap Equity	3.36%	7.04%	18.19%	18.80%	
MSCI ACWI ex-US Index	3.69%	7.38%	18.30%	19.01%	
Intl Large Cap Growth	5.01%	9.29%	21.26%	21.51%	
EARNEST Partners	5.67%	10.27%	22.79%	26.13%	
MSCI ACWI ex-US Index	3.69%	7.38%	18.30%	19.01%	
MSCI ACWI ex-US Growth	3.47%	8.27%	21.77%	16.28%	
EARNEST Partners - Net	5.67%	10.27%	22.79%	26.07%	
William Blair	4.43%	8.41%	19.92%	17.61%	
MSCI ACWI ex-US Index	3.69%	7.38%	18.30%	19.01%	
MSCI ACWI ex-US Growth	3.47%	8.27%	21.77%	16.28%	
William Blair - Net	4.43%	8.41%	19.71%	17.29%	
Intl Large Cap Value	2.92%	5.40%	13.62%	15.89%	
Brandes	2.66%	5.10%	11.49%	17.62%	
MSCI ACWI ex-US Index	3.69%	7.38%	18.30%	19.01%	
MSCI ACWI ex-US Value	3.95%	6.88%	15.85%	22.93%	
Brandes - Net	2.66%	5.10%	11.32%	17.32%	
Mondrian	2.98%	5.35%	15.08%	14.48%	
MSCI ACWI ex-US Index	3.69%	7.38%	18.30%	19.01%	
MSCI ACWI ex-US Value	3.95%	6.88%	15.85%	22.93%	
Mondrian - Net	2.98%	5.35%	15.08%	14.19%	
Lazard	4.06%	7.23%	18.00%	14.06%	
MSCI ACWI ex-US Index	3.69%	7.38%	18.30%	19.01%	
MSCI ACWI ex-US Value	3.95%	6.88%	15.85%	22.93%	
Lazard - Net	4.06%	7.17%	17.86%	13.78%	

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 July 51, 2017				
	Last	Last	Last	
	36	60	120	Since
	Months	Months	Months	Inception
Intl Large Cap Equity	3.94%	9.95%	2.25%	<b>8.04%</b> (9/86)
MSCI ACWI ex-US Index	2.37%	7.70%	1.52%	-
Intl Large Cap Growth	4.26%	9.52%	2.43%	<b>9.10%</b> (9/02)
EARNEST Partners	3.72%	9.21%	4.58%	10.28% (10/04)
MSCI ACWI ex-US Index	2.37%	7.70%	1.52%	6.41% (10/04)
MSCI ACWI ex-US Growth	4.60%	8.76%	2.57%	7.21% (10/04)
EARNEST Partners - Net	3.54%	8.95%	4.20%	8.85% (1/05)
William Blair	4.75%	9.81%	3.12%	10.29% (10/02)
MSCI ACWI ex-US Index	2.37%	7.70%	1.52%	8.81% (10/02)
MSCI ACWI ex-US Growth	4.60%	8.76%	2.57%	8.99% (10/02)
William Blair - Net	4.37%	9.40%	2.73%	6.65% (1/05)
Intl Large Cap Value	2.62%	9.09%	1.34%	<b>9.22%</b> (10/95)
Brandes	2.59%	9.98%	1.63%	9.45% (1/96)
MSCI ACWI ex-US Index	2.37%	7.70%	1.52%	5.37% (1/96)
MSCI ACWI ex-US Value	1.02%	7.55%	1.35%	-
Brandes - Net	2.38%	9.73%	1.38%	4.63% (1/05)
Mondrian	2.70%	8.30%	-	6.47% (4/12)
MSCI ACWI ex-US Index	2.37%	7.70%	1.52%	5.90% (4/12)
MSCI ACWI ex-US Value	1.02%	7.55%	1.35%	5.71% (4/12)
Mondrian - Net	2.27%	7.80%	-	6.02% (4/12)
Lazard	2.99%	8.56%	-	7.50% (4/12)
MSCI ACWI ex-US Index	2.37%	7.70%	1.52%	5.90% (4/12)
MSCI ACWI ex-US Value	1.02%	7.55%	1.35%	5.71% (4/12)
Lazard - Net	2.47%	7.86%	-	6.85% (4/12)

#### **Returns for Periods Ended July 31, 2017**

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 July 31, 2017**

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Intl Large Cap Active Core	3.06%	7.12%	20.10%	19.56%	
Arrowstreet	3.31%	7.01%	19.51%	21.05%	
MSCI ACWI ex-US Index	3.69%	7.38%	18.30%	19.01%	
Arrowstreet - Net	3.31%	6.89%	19.24%	20.50%	
Brown	1.24%	5.37%	16.93%	13.35%	
MSCI ACWI ex-US Index	3.69%	7.38%	18.30%	19.01%	
Brown - Net	1.24%	5.31%	16.72%	11.94%	
GlobeFlex	5.13%	9.50%	23.84%	23.57%	
MSCI ACWI ex-US Index	3.69%	7.38%	18.30%	19.01%	
GlobeFlex - Net	5.13%	9.40%	23.61%	23.10%	
GIODEFIEX - INEL	5.13%	9.40%	23.01%	23.10%	
Progress Intl Equity	0.00%	4.14%	16.93%	14.87%	
Custom Benchmark	2.43%	6.25%	18.75%	18.84%	
MSCI ACWI ex-US Index	3.69%	7.38%	18.30%	19.01%	
Progress Intl Equity - Net	0.00%	4.01%	16.65%	14.30%	
ntl Large Cap Pass. Core	2.90%	6.60%	17.48%	18.28%	
NTGI MSCI EAFE Idx	2.90%	6.60%	17.48%	18.28%	
MSCI EAFE Index	2.88%	6.47%	17.09%	17.77%	
NTGI EAFE Idx - Net	2.90%	6.60%	17.48%	18.27%	
	2.3078	0.00 %	17.40%	10.27 /0	
nternational Small Cap	3.92%	8.02%	23.13%	19.52%	
	0.0270	0.0270	20.1070	10.0270	
Franklin Templeton	3.61%	7.85%	24.40%	23.67%	
ACWI Small Cap ex US	3.53%	6.79%	19.64%	18.00%	
Franklin Templeton - Net	3.61%	7.85%	24.19%	23.01%	
William Blair	4.17%	8.17%	22.08%	16.21%	
ACWI Small Cap ex US	3.53%	6.79%	19.64%	18.00%	
Intl SC Blended Benchmark	3.53%	6.79%	19.64%	18.00%	
William Blair - Net	4.17%	8.17%	21.62%	15.55%	
	4.17%	0.1770	21.02%	15.55%	
Emerging Markets	4.93%	8.99%	22.24%	20.12%	
Genesis	4.93%	8.99%	22.24%	20.12%	
MSCI Emerging Markets Index	6.04%	10.37%	25.77%	25.30%	
		8.99%			
Genesis - Net	4.93%	ö.99%	22.06%	19.64%	

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. 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 Ferro	us Ended July J	, 2017	
	Last	Last	Last	
	36	60	120	Since
	Months	Months	Months	Inception
Intl Large Cap Active Core	5.69%	11.55%	-	<b>5.08%</b> (2/08)
Arrowstreet	6.33%	12.07%	-	5.25% (3/08)
MSCI ACWI ex-US Index	2.37%	7.70%	1.52%	1.97% (3/08)
Arrowstreet - Net	5.84%	11.55%	-	4.77% (3/08)
Brown	4.66%	12.53%	4.17%	8.35% (10/04)
MSCI ACWI ex-US Index	2.37%	7.70%	1.52%	6.41% (10/04)
Brown - Net	3.45%	11.44%	3.48%	6.69% (1/05)
GlobeFlex	6.65%	11.26%	3.03%	5.60% (3/06)
MSCI ACWI ex-US Index	2.37%	7.70%	1.52%	3.89% (3/06)
GlobeFlex - Net	6.23%	10.81%	2.58%	5.14% (3/06)
Giobel lex - INEL	0.23%	10.0170	2.30%	<b>J. 14 70</b> (3/06)
Progress Intl Equity	3.29%	-	-	2.99% (7/14)
Custom Benchmark	3.21%	-	-	2.93% (7/14)
MSCI ACWI ex-US Index	2.37%	7.70%	1.52%	1.97% (7/14)
Progress Intl Equity - Net	2.86%	-	-	2.56% (7/14)
ntl Large Cap Pass. Core	3.18%	9.49%	1.89%	<b>3.49%</b> (1/00)
NTGI MSCI EAFE Idx	3.18%	9.49%	1.88%	3.89% (2/00)
MSCI EAFE Index	2.79%	9.06%	1.46%	3.50% (2/00)
NTGI EAFE ldx - Net	3.18%	9.48%	1.87%	5.22% (1/05)
	0.070/	44.000/	4 700/	5.07%
nternational Small Cap	6.87%	11.96%	1.73%	<b>5.27%</b> (12/05)
Franklin Templeton	6.35%	11.97%	-	7.69% (8/11)
ACWI Small Cap ex US	5.18%	10.66%	3.17%	5.70% (8/11)
Franklin Templeton - Net	5.63%	11.23%	-	6.97% (8/11)
William Blair	7.32%	11.96%	-	11.33% (9/10)
ACWI Small Cap ex US	5.18%	10.66%	3.17%	8.55% (9/10)
Intl SC Blended Benchmark	5.18%	10.66%	2.57%	9.03% (9/10)
William Blair - Net	6.49%	11.09%	-	10.49% (9/10)
	3.1070			
Emerging Markets	1.87%	5.94%	4.92%	<b>9.33%</b> (2/92)
Genesis	1.87%	5.94%	4.92%	12.03% (5/04)
MSCI Emerging Markets Index	2.76%	5.14%	2.32%	9.86% (5/04)
Genesis - Net	1.32%	5.38%	4.32%	9.88% (1/05)
	1.52 /0	0.0070	7.02/0	0.0070 (1/05)

#### **Returns for Periods Ended July 31, 2017**

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. 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 July 31, 2017

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Dom. Fixed Active Core	0.47%	1.21%	2.97%	0.22%	
EARNEST Partners	0.58%	1.44%	3.12%	(0.07%)	
Blmbg Aggregate Index	0.43%	1.10%	2.71%	(0.51%)	
EARNEST Partners - Net	0.54%	1.40%	2.99%	(0.23%)	
Piedmont	0.68%	1.25%	3.26%	1.02%	
Blmbg Aggregate Index	0.43%	1.10%	2.71%	(0.51%)	
Piedmont - Net	0.68%	1.25%	3.18%	0.90%	
Garcia Hamilton	0.12%	0.90%	2.47%	(0.32%)	
Blmbg Aggregate Index	0.43%	1.10%	2.71%	(0.51%)	
Garcia Hamilton	0.10%	0.87%	2.39%	(0.43%)	
Dom. Fixed Passive Core	0.44%	1.14%	2.79%	(0.49%)	
BlackRock US Debt	0.45%	1.15%	2.82%	(0.40%)	
Blmbg Aggregate Index	0.43%	1.10%	2.71%	(0.51%)	
BlackRock US Debt - Net	0.45%	1.15%	2.82%	(0.41%)	
NTGI Blmbg Agg. Index	0.44%	1.13%	2.77%	(0.55%)	
Blmbg Aggregate Index	0.43%	1.10%	2.71%	(0.51%)	
NTGI Blmbg Agg. Index - Net	0.44%	1.13%	2.76%	(0.56%)	

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 July 31, 2017

	Last	Last	Last			
	36	60	120	Since		
	Months	Months	Months	Inception		
Dom. Fixed Active Core	3.19%	2.67%	4.87%	<b>4.68%</b> (4/01)		
EARNEST Partners	3.30%	2.70%	4.98%	4.72% (5/05)		
Blmbg Aggregate Index	2.71%	2.02%	4.44%	4.25% (5/05)		
EARNEST Partners - Net	3.09%	2.50%	4.77%	4.51% (5/05)		
Piedmont	3.19%	2.72%	4.81%	4.52% (6/05)		
Blmbg Aggregate Index	2.71%	2.02%	4.44%	4.19% (6/05)		
Piedmont - Net	3.05%	2.56%	4.64%	4.33% (6/05)		
Garcia Hamilton	-	-	-	2.70% (6/15)		
Blmbg Aggregate Index	2.71%	2.02%	4.44%	2.26% (6/15)		
Garcia Hamilton	-	-	-	2.59% (6/15)		
Dom. Fixed Passive Core	2.79%	2.06%	4.39%	<b>6.10%</b> (1/90)		
BlackRock US Debt	2.84%	-	-	3.20% (10/13)		
Blmbg Aggregate Index	2.71%	2.02%	4.44%	3.04% (10/13)		
BlackRock US Debt - Net	2.83%	-	-	3.19% (10/13)		
NTGI Blmbg Agg. Index	2.75%	2.05%	4.38%	6.17% (2/90)		
Blmbg Aggregate Index	2.71%	2.02%	4.44%	6.16% (2/90)		
NTGI Blmbg Agg. Index - Net	2.74%	2.04%	4.38%	4.17% (1/05)		

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 July 31, 2017**

		Last	Year	Last	
	Last	3	to	12	
	Month	Months	Date	Months	
Domestic Fixed Core Plus	0.37%	1.26%	3.53%	1.37%	
Brandes Core Plus	0.47%	0.95%	3.02%	(0.28%)	
Blmbg Aggregate Index	0.43%	1.10%	2.71%	(0.51%)	
Brandes Core Plus - Net	0.47%	0.95%	3.02%	(0.28%)	
LM Capital	0.47%	1.18%	3.31%	0.93%	
Blmbg Aggregate Index	0.43%	1.10%	2.71%	(0.51%)	
LM Capital - Net	0.43%	1.14%	3.19%	0.77%	
Progress Fixed Income	0.00%	0.87%	2.92%	0.67%	
Blmbg Aggregate Index	0.43%	1.10%	2.71%	(0.51%)	
Progress Fixed Inc Net	0.00%	0.79%	2.75%	0.34%	
Taplin, Canida, Habacht	0.57%	1.30%	3.78%	2.95%	
Bimbg Aggregate Index	0.43%	1.10%	2.71%	(0.51%)	
Taplin, Canida, Hab Net	0.53%	1.27%	3.68%	2.79%	
Western	0.67%	2.13%	4.93%	2.66%	
Blmbg Aggregate Index	0.43%	1.10%	2.71%	(0.51%)	
Western - Net	0.67%	2.13%	4.89%	2.55%	
Bank Loans	0.88%	1.32%	3.22%	8.35%	
Barings Global Loan Fund	0.88%	1.32%	3.22%	8.35%	
Custom Benchmark	0.76%	1.18%	2.89%	6.92%	
Barings Global Loan Fund - Net	0.88%	1.23%	2.93%	7.79%	
Emerging Markets	1.71%	3.25%	10.85%	9.71%	
Standish	1.71%	3.25%	10.85%	9.71%	
Custom Benchmark	1.43%	2.97%	9.47%	6.71%	
Standish - Net	1.71%	3.17%	10.66%	9.33%	
Opportunistic Fixed Income	0.02%	0.76%	3.73%	8.68%	
Concernt	0.00%	0.70%	2 720/	0.00%	
Crescent Custom Benchmark	0.02% 0.92%	0.76% 1.59%	3.73% 4.36%	8.68% 8.93%	
Crescent - Net	0.02%	0.64%	3.38%	8.00%	
oreatent - Net	0.02 /0	0.04 /0	5.50%	0.00 /0	
High Yield	1.18%	2.25%	5.73%	10.65%	
MacKay Shields	1.17%	2.24%	5.75%	11.06%	
ML High Yield Cash Pay Index	1.15%	2.18%	6.14%	11.23%	
MacKay Shields - Net	1.17%	2.15%	5.56%	10.68%	

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

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



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 July 31, 2017**

	Last	Last	Last			
	36	60	120	Since		
	Months	Months	Months	Inception	<u>ו</u>	
Domestic Fixed Core Plus	3.49%	3.16%	5.25%	8.31%	(1/82)	
Brandes Core Plus	-	-	-	2.04%	(3/16)	
Blmbg Aggregate Index	2.71%	2.02%	4.44%	2.30%	(3/16)	
Brandes Core Plus - Net	-	-	-	2.04%	(3/16)	
LM Capital	3.40%	2.95%	5.32%	5.11%	(5/05)	
Blmbg Aggregate Index	2.71%	2.02%	4.44%	4.25%	(5/05)	
LM Capital - Net	3.23%	2.78%	5.15%	4.94%	(5/05)	
Progress Fixed Income	3.07%	2.88%	5.12%	5.06%	(1/06)	
Blmbg Aggregate Index	2.71%	2.02%	4.44%	4.36%	(1/06)	
Progress Fixed Inc Net	2.76%	2.55%	4.76%	4.72%	(1/06)	
Taplin, Canida, Habacht	3.74%	3.64%	5.53%	5.20%	(5/05)	
Blmbg Aggregate Index	2.71%	2.02%	4.44%	4.25%	(5/05)	
Taplin, Canida, Hab Net	3.60%	3.51%	5.39%	5.06%	(5/05)	
Western	4.28%	3.77%	5.53%	5.66%	(11/01)	
Blmbg Aggregate Index	2.71%	2.02%	4.44%	4.40%	(11/01)	
Western - Net	4.15%	3.64%	5.39%	5.10%	(1/05)	
Bank Loans	4.80%	-	-	4.80%	(8/14)	
Barings Global Loan Fund	4.80%	-	-	4.80%	(8/14)	
Custom Benchmark	3.98%	-	-	3.98%	(8/14)	
Barings Global Loan Fund - Net	4.21%	-	-	4.21%	(8/14)	
Emerging Markets	2.99%	-	-	2.99%	(8/14)	
	0.00%			0.00%		
Standish	2.99%	-	-	2.99%	(8/14)	
Custom Benchmark Standish - Net	1.62% 2.67%	2.05%	5.63%	1.62% 2.67%	(8/14) (8/14)	
Stanuish - Net	2.07 %	-	-	2.07%	(8/14)	
Opportunistic Fixed Income	3.56%	-	-	3.56%	(8/14)	
Crescent	3.56%	-	-	3.37%	(9/14)	
Custom Benchmark	4.48%	5.63%	6.47%	4.32%	(9/14)	
Crescent - Net	3.16%	-	-	2.96%	(9/14)	
High Yield	6.07%	7.06%	8.23%	9.81%	(4/86)	
MacKay Shields	6.40%	7.19%	7.90%	9.25%	(11/00)	
ML High Yield Cash Pay Index	5.35%	6.71%	7.94%	7.95%	(11/00)	
MacKay Shields - Net	6.02%	6.80%	7.52%	7.22%	(1/05)	

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

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



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

Manager	Year-to-Date Outperformance	Since Inception Outperformance	
	(in % points)	(in % points)	
Sands	11.41	2.34	10/31/2003
Franklin	4.75	1.99	07/31/2011
Earnest Int'l Equity	4.48	3.88	09/30/2004
Dodge & Cox	3.10	1.23	08/31/2003
William Blair Int'l SC	2.44	2.78	08/31/2010

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

Manager	Year-to-Date Underperformance	Since Inception Underperformance	
	(in % points)	(in % points)	
Brandes	-6.82	4.07	12/31/1995
Pyramis SCG	-5.27	5.63	07/31/1988
Ativo	-4.76	1.07	09/30/2010
Genesis	-3.53	2.17	04/30/2004
Mondrian	-3.22	0.58	03/31/2012

#### Five Highest Returning Portfolios

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
Sands	28.43	11.41	10/31/2003
Franklin	24.40	7.69	07/31/2011
GlobeFlex	23.84	5.56	02/28/2006
Earnest Int'l Equity	22.79	10.28	09/30/2004
Genesis	22.24	12.03	04/30/2004

#### Five Lowest Returning Portfolios

Manager	Year-to-Date Return	Since Inception Return	
	(in % points)	(in % points)	
DFA SCV	-0.88	12.71	01/31/1996
Channing	0.58	12.52	06/30/2011
DFA Micro Cap	2.63	11.44	07/31/1987
NTGI BC Agg	2.77	6.17	01/31/1990
Blackrock US Debt	2.83	3.16	09/01/2013

Returns are shown gross of investment management fees.

Excludes Real Estate and Alternative Investments portfolios.