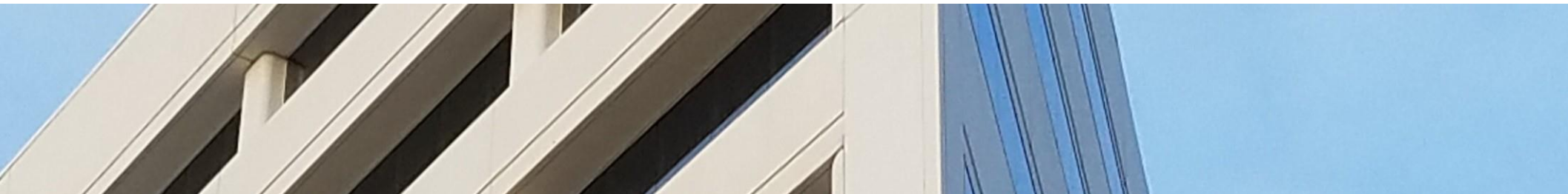




# WILSHIRE ASSOCIATES

Wilshire Consulting



Second Quarter 2020 Quarterly Performance Report

*As of June 30, 2020*

# IMRF Performance Highlights

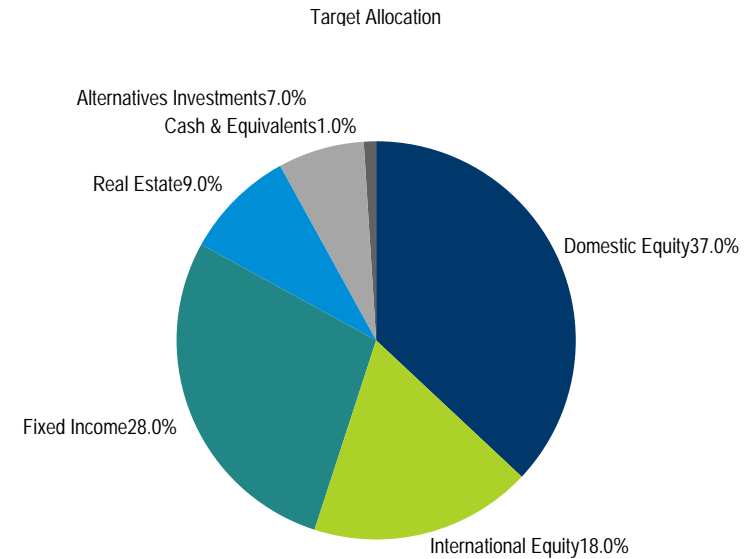
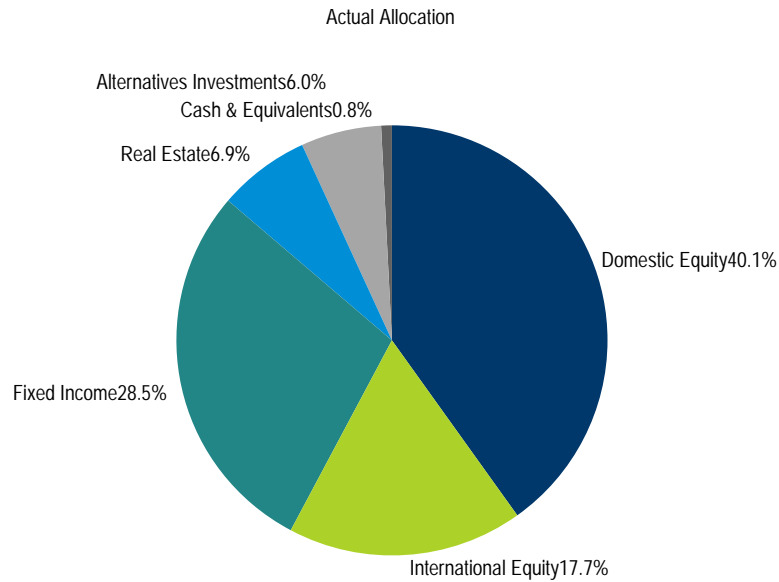
As of June 30, 2020

- The Illinois Municipal Retirement Fund (“IMRF”) ended June 2020 with a market value of \$43.1 billion, up for the quarter by approximately \$4.6 billion.
- For the quarter, IMRF outperformed its benchmark +12.61% (Net of Fees) versus +11.65%. The Fund’s 2<sup>nd</sup> Quarter return ranks at the 17<sup>th</sup> percentile relative to peers and remains near or above the top quartile over longer time horizons.
  - The Fund’s 10-year return of 8.83% (Net of Fees) ranks at the 21<sup>st</sup> percentile relative to peers
- The Domestic Equity composite (+24.00%, Net of Fees) outperformed the Russell 3000 benchmark (+22.03%) for the quarter. The source of outperformance was driven by strong investment manager performance and the portfolio’s small cap tilt.
  - Domestic Equity composite ranked in the top quartile (19<sup>th</sup> percentile) during the quarter
- The International Equity composite (+17.09%, Net of Fees) outperformed the MSCI ACWI ex-US benchmark (+16.12%) for the quarter. Investment manager outperformance and the portfolio’s allocation to small cap added relative value during the quarter.
  - International Equity composite ranked just below median (62<sup>nd</sup> percentile) during the quarter
- Fixed Income composite (+4.72, Net of Fees) benefited from a strong credit environment during the quarter and outperformed the Bloomberg Barclays U.S. Aggregate Index during the quarter (+2.90%). The composite’s overweight to credit sectors provided a tailwind to relative performance as credit spreads tightened during the quarter.
  - Fixed Income composite ranked around median (58<sup>th</sup> percentile) during the quartile
- The asset class allocations are within the rebalancing range of +/- 4%.

# Wilshire Consulting

## Asset Allocation

Total Fund  
Periods Ended As of June 30, 2020



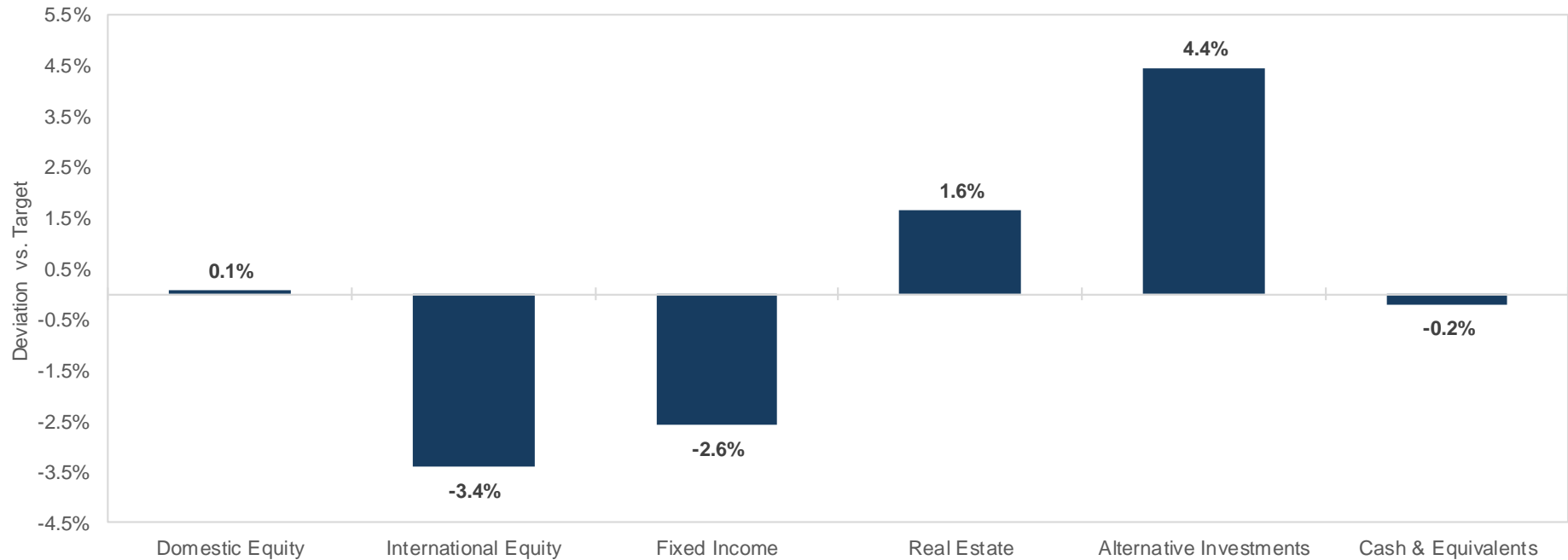
■ Domestic Equity    
 ■ International Equity    
 ■ Fixed Income    
 ■ Real Estate    
 ■ Alternatives Investments    
 ■ Cash & Equivalents

	Actual Allocation \$Millions	Actual Allocation %	Target Allocation %	Differences %	Differences \$Millions
Total Fund	43,107	100.0	100.0	0.0	
Domestic Equity	17,296	40.1	37.0	3.1	1,346
International Equity	7,610	17.7	18.0	-0.3	-150
Fixed Income	12,279	28.5	28.0	0.5	209
Real Estate	2,973	6.9	9.0	-2.1	-906
Alternatives Investments	2,603	6.0	7.0	-1.0	-415
Cash & Equivalents	347	0.8	1.0	-0.2	-84

# Projected Deviation From Benchmark

Period Ending June 30, 2020

Projected Asset Allocation Differences vs. Target



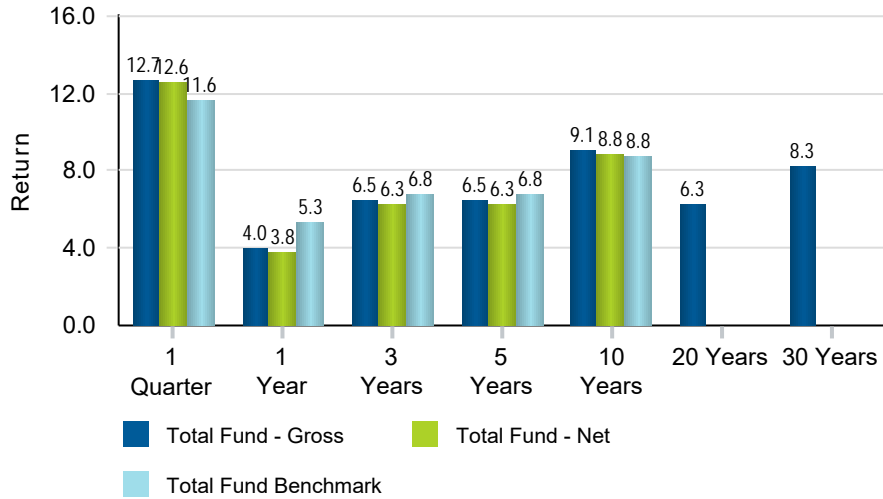
- Includes committed, but unfunded amounts for real estate (\$1,612.9 million) and alternatives (\$2,326.6 million). Assumes real estate and alternatives allocations are fully funded as of quarter end.
- Assumes that outstanding commitments are funded equally from the public markets asset classes (one-third from U.S. Equity, one-third from International Equity, and one-third from Fixed Income).

# Composite Performance Summary

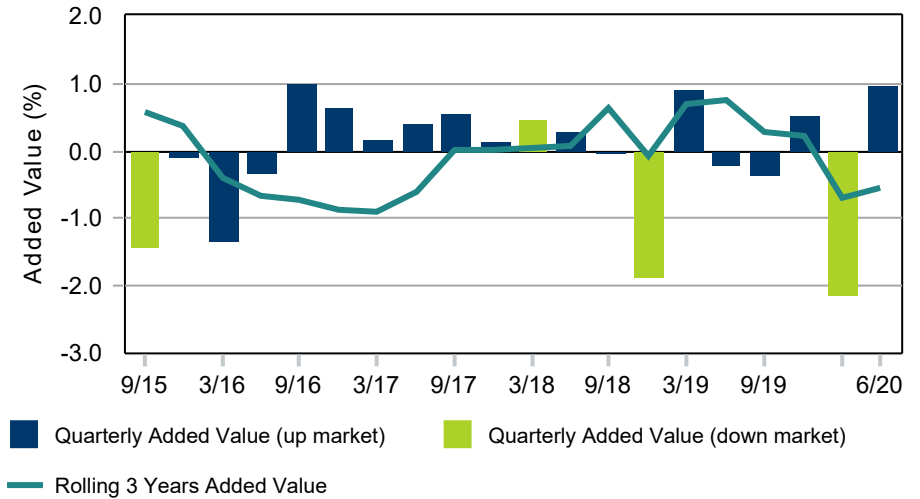
Total Fund

Periods Ended June 30, 2020

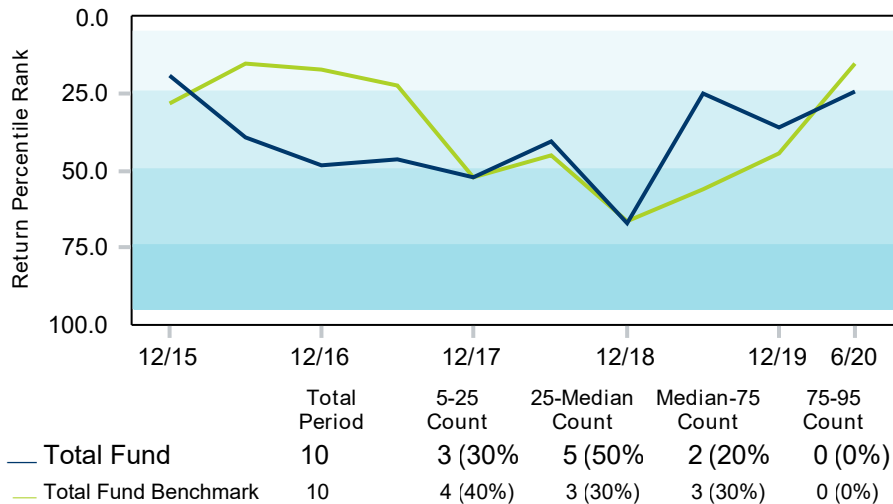
Comparative Performance



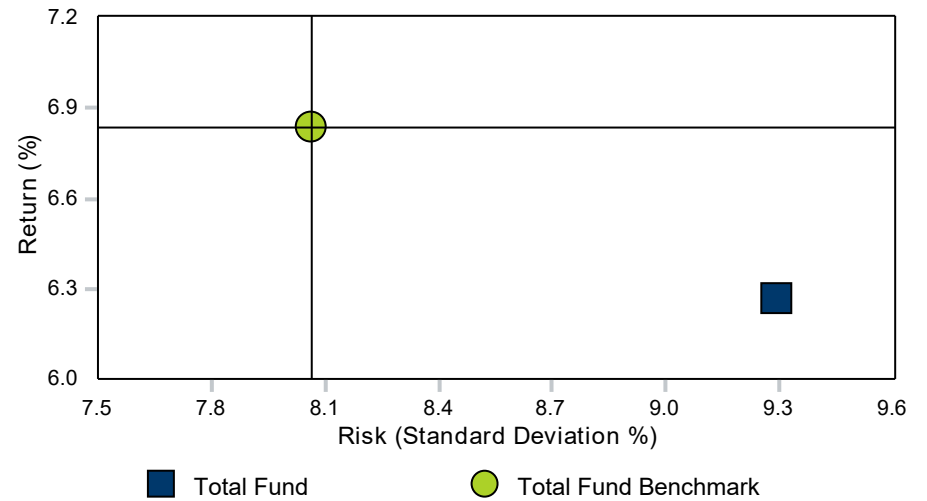
Added Value History



Rolling Percentile Rank : All Public Plans > \$1B - Total Fund



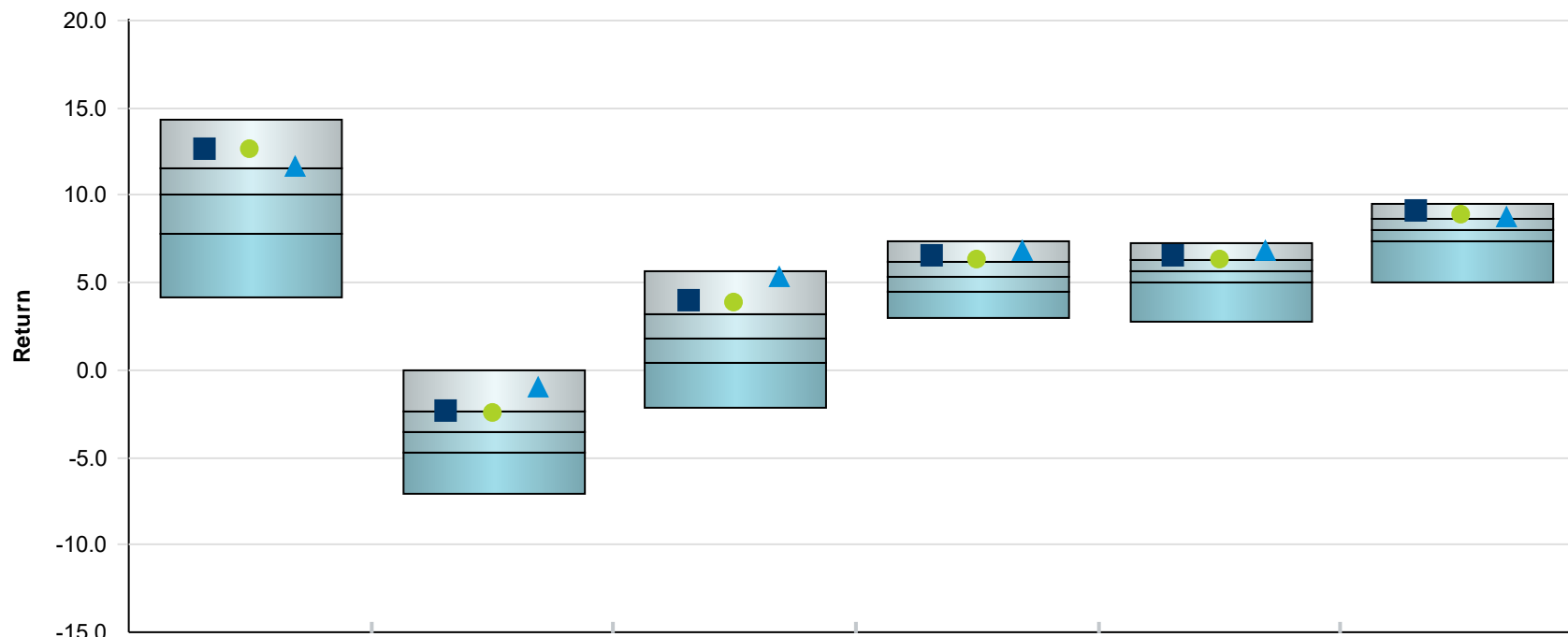
Risk and Return 07/1/15 - 06/30/20



# Plan Sponsor Peer Group Analysis

Total Fund vs All Public Plans > \$1B-Total Fund(Gross)

Periods Ended June 30, 2020



	<b>QTD</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
■ Total Fund	12.66 (17)	-2.42 (26)	3.98 (16)	6.47 (20)	6.48 (19)	9.06 (15)
● Total Fund - Net	12.61 (17)	-2.51 (26)	3.80 (18)	6.28 (24)	6.27 (28)	8.83 (21)
▲ Total Fund Benchmark	11.65 (25)	-0.94 (9)	5.32 (6)	6.82 (15)	6.84 (14)	8.79 (22)
5th Percentile	14.32	0.01	5.63	7.37	7.24	9.51
1st Quartile	11.56	-2.40	3.24	6.19	6.32	8.69
Median	10.07	-3.58	1.77	5.30	5.67	8.02
3rd Quartile	7.83	-4.69	0.38	4.43	5.05	7.42
95th Percentile	4.15	-7.03	-2.18	2.95	2.80	4.99
Population	156	155	155	153	151	141

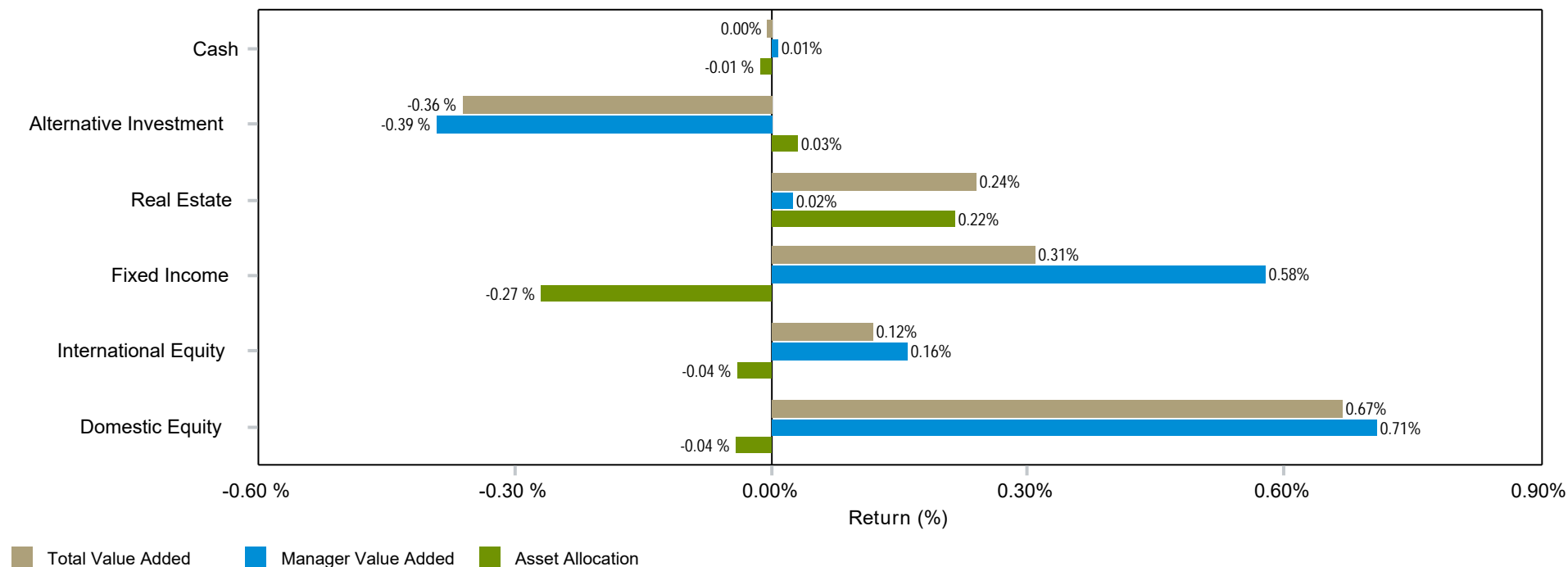
Total Fund Benchmark = 37.0% Russell 3000 Index, 28.0% Blmbg Aggregate, 18.0% MSCI ACWI ex US, 9.0% NCREIF NFI-ODCE Val Wt Nt, 7.0% 9% Annually and 1.0% 3-month Treasury Bill.

# Total Fund Attribution

Total Fund

1 Quarter Ending June 30, 2020

Relative Attribution by Asset Class



Relative Attribution Effects

	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	38.0	37.0	24.00	22.03	0.71	-0.04	0.67
International Equity	17.0	18.0	17.09	16.12	0.16	-0.04	0.12
Fixed Income	30.2	28.0	4.72	2.90	0.58	-0.27	0.31
Real Estate	7.4	9.0	-1.38	-1.75	0.02	0.22	0.24
Alternative Investment	6.5	7.0	-3.43	2.18	-0.39	0.03	-0.36
Cash	1.0	1.0	0.85	0.02	0.01	-0.01	0.00
<b>Total Fund</b>	<b>100.0</b>	<b>100.0</b>	<b>12.61</b>	<b>11.65</b>	<b>1.09</b>	<b>-0.12</b>	<b>0.97</b>

Total Fund Benchmark = 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.

# Wilshire Consulting

## Asset Class Returns

Periods Ended June 30, 2020

	Performance (%)									
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date
<b>Total Fund</b>	<b>12.66</b>	<b>-2.42</b>	<b>3.98</b>	<b>6.47</b>	<b>6.48</b>	<b>9.06</b>	<b>6.26</b>	<b>8.28</b>	<b>9.69</b>	<b>1/1/1982</b>
Total Fund - Net	12.61	-2.51	3.80	6.28	6.27	8.83				
Total Fund Benchmark	11.65	-0.94	5.32	6.82	6.84	8.79				
<b>Domestic Equity</b>	<b>24.05</b>	<b>-4.22</b>	<b>4.65</b>	<b>8.83</b>	<b>8.73</b>	<b>13.31</b>	<b>6.42</b>	<b>10.17</b>	<b>11.38</b>	<b>1/1/1982</b>
Domestic Equity - Net	24.00	-4.31	4.46	8.63	8.50	13.05				
Blended Benchmark (U.S. Equity)	22.03	-3.48	6.53	10.04	10.03	13.71	6.24	9.80		
U.S. Equity IMRF Custom Benchmark	21.41	-5.74	3.46	7.86	8.49					
<b>International Equity</b>	<b>17.20</b>	<b>-10.86</b>	<b>-3.73</b>	<b>1.82</b>	<b>3.15</b>	<b>6.49</b>	<b>4.85</b>	<b>6.34</b>	<b>7.38</b>	<b>9/1/1986</b>
International Equity - Net	17.09	-11.02	-4.06	1.48	2.80	6.16				
MSCI AC World ex USA (Net)	16.12	-11.00	-4.80	1.13	2.26	4.97	3.40			
International Equity IMRF Custom Benchmark	16.46	-11.02	-4.63	1.06	2.30					
<b>Fixed Income</b>	<b>4.74</b>	<b>4.51</b>	<b>7.31</b>	<b>5.13</b>	<b>4.59</b>	<b>4.65</b>	<b>5.64</b>	<b>6.66</b>	<b>8.21</b>	<b>1/1/1982</b>
Fixed Income - Net	4.72	4.46	7.19	4.99	4.45	4.50				
BImbg. Barc. U.S. Aggregate	2.90	6.14	8.74	5.32	4.30	3.82	5.14	6.02	7.73	
Fixed Income IMRF Custom Benchmark	3.70	4.84	7.55	5.06	4.30					
<b>Real Estate</b>	<b>-1.38</b>	<b>0.65</b>	<b>5.24</b>	<b>8.20</b>	<b>9.15</b>	<b>10.82</b>	<b>7.81</b>	<b>4.95</b>	<b>5.50</b>	<b>5/1/1985</b>
Blended Benchmark (Real Estate)	-1.75	-1.01	1.33	4.72	6.35	9.88	7.13	7.35	7.55	
<b>Alternatives Investments</b>	<b>-3.43</b>	<b>-1.70</b>	<b>3.80</b>	<b>9.88</b>	<b>9.01</b>	<b>8.96</b>	<b>6.00</b>	<b>11.44</b>	<b>10.64</b>	<b>2/1/1986</b>
Alternatives Investments - Net	-3.43	-1.71	3.77	9.77	8.81	8.71				
Alternatives Custom Benchmark	2.18	4.40	9.00	9.00	9.00	9.00	10.90	12.25	12.60	
<b>Private Equity</b>	<b>-2.53</b>	<b>-1.04</b>	<b>5.76</b>	<b>12.76</b>	<b>11.67</b>	<b>11.60</b>	<b>7.36</b>	<b>14.03</b>	<b>12.85</b>	<b>2/1/1986</b>
Alternatives Custom Benchmark	2.18	4.40	9.00	9.00	9.00	9.00	10.90	12.25	12.60	
<b>Agriculture</b>	<b>-0.49</b>	<b>4.19</b>	<b>0.51</b>	<b>-1.89</b>	<b>2.44</b>	<b>8.97</b>	<b>7.33</b>		<b>7.00</b>	<b>10/1/1997</b>
NCREIF Farmland Index	0.61	0.50	3.85	5.35	6.44	10.86	12.17		11.56	
<b>Timberland</b>	<b>0.57</b>	<b>4.13</b>	<b>4.73</b>	<b>1.66</b>	<b>1.00</b>	<b>2.96</b>	<b>3.25</b>		<b>7.36</b>	<b>10/1/1992</b>
NCREIF Timberland Index	0.08	0.19	0.34	2.28	2.71	4.39	5.75		8.46	

Benchmark definitions on pages 12-13.

Real Estate, Private Equity, Agriculture, Timberland, Unlisted Infrastructure returns shown are gross of fees.



# Asset Class Returns

Periods Ended June 30, 2020

	Performance (%)									
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date
Unlisted Infrastruct Alternatives Custom Benchmark	-1.09 2.18	-1.43 4.40	4.73 9.00						7.18 9.00	4/1/2018
Cash 90 Day US Treasury Bill	0.85 0.02	1.64 0.60	3.59 1.63	2.83 1.77	2.02 1.17	1.10 0.62	1.91 1.62	3.25 2.76	3.81 3.26	7/1/1986

Benchmark definitions on pages 12-13.

Real Estate, Private Equity, Agriculture, Timberland, Unlisted Infrastructure returns shown are gross of fees.

# Wilshire Consulting

## Asset Class Returns

Periods Ended June 30, 2020

	Performance (%)										
	YTD	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
<b>Total Fund</b>	<b>-2.42</b>	<b>19.77</b>	<b>-4.23</b>	<b>16.02</b>	<b>8.01</b>	<b>0.53</b>	<b>6.15</b>	<b>20.20</b>	<b>13.84</b>	<b>-0.29</b>	<b>13.61</b>
Total Fund - Net	-2.51	19.57	-4.40	15.78	7.77	0.29	5.90	19.94	13.58	-0.50	13.37
Total Fund Benchmark	-0.94	18.68	-3.12	14.37	7.89	1.37	7.33	15.84	12.19	1.47	12.72
<b>Domestic Equity</b>	<b>-4.22</b>	<b>29.23</b>	<b>-6.08</b>	<b>19.83</b>	<b>12.62</b>	<b>0.04</b>	<b>9.81</b>	<b>37.65</b>	<b>17.39</b>	<b>-0.74</b>	<b>18.92</b>
Domestic Equity - Net	-4.31	29.00	-6.25	19.59	12.35	-0.22	9.54	37.32	17.09	-0.99	18.62
Blended Benchmark (U.S. Equity)	-3.48	31.02	-5.24	21.13	12.74	0.48	12.47	33.47	16.38	1.08	17.49
<b>International Equity</b>	<b>-10.86</b>	<b>23.76</b>	<b>-14.13</b>	<b>27.95</b>	<b>3.56</b>	<b>-1.90</b>	<b>-2.80</b>	<b>20.24</b>	<b>19.11</b>	<b>-12.27</b>	<b>12.98</b>
International Equity - Net	-11.02	23.39	-14.41	27.52	3.21	-2.23	-3.10	19.87	18.70	-12.50	12.68
MSCI AC World ex USA (Net)	-11.00	21.51	-14.20	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71	11.15
<b>Fixed Income</b>	<b>4.51</b>	<b>9.50</b>	<b>-0.24</b>	<b>4.82</b>	<b>4.87</b>	<b>0.25</b>	<b>5.97</b>	<b>-0.59</b>	<b>7.41</b>	<b>7.60</b>	<b>8.59</b>
Fixed Income - Net	4.46	9.37	-0.39	4.66	4.71	0.10	5.81	-0.75	7.24	7.44	8.43
Blmbg. Barc. U.S. Aggregate	6.14	8.72	0.01	3.54	2.65	0.55	5.97	-2.02	4.21	7.84	6.54
<b>Real Estate</b>	<b>0.65</b>	<b>9.81</b>	<b>8.36</b>	<b>10.03</b>	<b>8.97</b>	<b>12.54</b>	<b>13.02</b>	<b>10.82</b>	<b>12.85</b>	<b>12.29</b>	<b>6.56</b>
Real Estate - Net	0.65	9.76	8.36	10.03	8.97	12.46	13.02	10.82	12.85	12.29	6.56
Blended Benchmark (Real Estate)	-1.01	4.39	7.36	6.66	7.79	13.95	11.46	12.90	11.54	15.26	14.11
<b>Alternatives Investments</b>	<b>-1.70</b>	<b>9.48</b>	<b>17.32</b>	<b>12.09</b>	<b>5.32</b>	<b>6.90</b>	<b>11.63</b>	<b>12.11</b>	<b>6.24</b>	<b>5.05</b>	<b>9.76</b>
Alternative Investments - Net	-1.71	9.43	17.14	11.91	5.00	6.47	11.16	11.86	6.00	4.84	9.50
Alternatives Custom Benchmark	4.40	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	10.49
<b>Private Equity</b>	<b>-1.04</b>	<b>11.78</b>	<b>21.46</b>	<b>15.61</b>	<b>8.60</b>	<b>8.41</b>	<b>13.72</b>	<b>14.13</b>	<b>5.61</b>	<b>12.33</b>	<b>15.24</b>
Alternatives Custom Benchmark	4.40	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	10.49
<b>Agriculture</b>	<b>4.19</b>	<b>-5.82</b>	<b>0.28</b>	<b>-4.58</b>	<b>-0.47</b>	<b>20.18</b>	<b>24.73</b>	<b>25.68</b>	<b>13.55</b>	<b>9.70</b>	<b>2.68</b>
NCREIF Farmland Index	0.50	4.81	6.74	6.19	7.09	10.35	12.63	20.91	18.58	15.16	8.81
<b>Timberland</b>	<b>4.13</b>	<b>1.00</b>	<b>-3.62</b>	<b>4.68</b>	<b>-4.58</b>	<b>4.99</b>	<b>12.83</b>	<b>9.14</b>	<b>-3.59</b>	<b>3.20</b>	<b>3.21</b>
NCREIF Timberland Index	0.19	1.30	3.21	3.63	2.59	4.97	10.48	9.69	7.75	1.57	-0.15
<b>Unlisted Infrastruct</b>	<b>-1.43</b>	<b>9.65</b>									
Alternatives Custom Benchmark	4.40	9.00									

Benchmark definitions on pages 12-13.

Private Equity, Agriculture, Timberland, Unlisted Infrastructure returns shown are gross of fees.

# Asset Class Returns

Periods Ended June 30, 2020

	Performance (%)										
	YTD	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Cash	1.64	3.59	2.36	1.67	0.63	0.29	0.17	0.11	0.23	0.24	0.26
90 Day US Treasury Bill	0.60	2.28	1.87	0.86	0.25	0.03	0.04	0.05	0.08	0.08	0.13

# Benchmark Definitions

Account Name	From Date	To Date	Benchmark
Domestic Equity Blended	1/1/2015	Present	100% Russell 3000 Index
Benchmark	1/1/1982	12/31/2014	100% Dow Jones US Total Stock Market Index
Real Estate Blended	1/1/2013	Present	100% NCREIF Fund Index-ODCE (VW) (Net)** 100%
Benchmark	1/1/2007	12/31/2012	100% NPI + 1%
	1/1/2005	12/31/2016	100% Consumer Price Index + 5%
Alternatives Custom	7/1/2010	Present	100% Annualized rate of 9.0%
Benchmark	1/1/2004	6/30/2010	100% Annualized rate of 12.0%
	1/1/2003	12/31/2003	100% Annualized rate of 13.0%
	2/1/1986	12/31/2002	100% Annualized rate of 15.0%
U.S. Equity IMRF Custom Benchmark			Blend of the U.S. Equity Style benchmarks returns, dollar weighted by the actual allocation at pervious month end.
International Equity IMRF Custom Benchmark			Blend of the the International Equity Style benchmarks returns, dollar weighted by the actual allocation at previous month end.
Fixed Income IMRF Custom Benchmark			Blend of the the Fixed Income Style benchmarks returns, dollar weighted by the actual allocation at previous month end.

\*\*ODCE returns are updated quarterly.

# Benchmark Definitions

Account Name	From Date	To Date	Benchmark
Total Fund Benchmark			<p>The total fund benchmark is a blend of the asset class benchmark returns weighted by the target allocation for each asset class, currently:</p> <p>37% Russell 3000 Index, 28% Blmbg. Barc. U.S. Aggregate, 18% MSCI AC World ex USA (Net), 9% NCREIF Fund Index-ODCE (VW) (Net), 7% Alternatives Custom Benchmark, 1% 90 Day US Treasury Bill.</p>

# Investment Manager Asset Allocation

Periods Ended June 30, 2020

	Mar-2020		Jun-2020	
	\$	%	\$	%
Domestic Equity	13,668,971,433	35.47	17,295,813,978	40.12
Large Cap Growth	5,126,742,469	13.30	6,948,567,457	16.12
NTGI S&P 500 Growth	2,069,459,350	5.37	2,611,124,948	6.06
Sands Capital	1,908,113,528	4.95	2,808,741,818	6.52
Xponance Russell 1000 G	1,149,169,592	2.98	1,528,700,691	3.55
Large Cap Value	3,914,838,799	10.16	4,541,830,303	10.54
Dodge & Cox	1,034,356,532	2.68	1,226,748,297	2.85
BMO	629,528,118	1.63	735,567,463	1.71
LSV Asset	1,071,499,412	2.78	1,243,365,023	2.88
NTGI S&P 500 Value	1,179,454,737	3.06	1,336,149,521	3.10
Large Cap Pass. Core	2,125,275,576	5.52	2,593,851,075	6.02
NTGI MarketCap Idx.	2,125,275,576	5.52	2,593,851,075	6.02
Quantitative Factor Strategies	201,705,914	0.52	240,593,860	0.56
Quantitative US Equity - SciBeta	201,705,914	0.52	240,593,860	0.56
Small Cap Growth	551,266,738	1.43	757,859,352	1.76
Frontier Capital	422,410,674	1.10	596,999,920	1.38
FIAM Small Cap	128,856,063	0.33	160,859,433	0.37
Small Cap Value	1,001,994,074	2.60	1,222,700,615	2.84
Channing	160,808,344	0.42	202,452,804	0.47
DFA Small Cap Val.	365,385,230	0.95	450,036,277	1.04
Inv. Couns. Maryland	475,800,500	1.23	570,211,534	1.32
Micro Cap	299,383,019	0.78	367,815,935	0.85
DFA Micro Cap (9-10)	299,383,019	0.78	367,815,935	0.85

# Investment Manager Asset Allocation

Periods Ended June 30, 2020

	Mar-2020		Jun-2020	
	\$	%	\$	%
Public Real Assets	447,764,844	1.16	622,595,379	1.44
Brookfield Public Global Infrastru	130,924,720	0.34	147,206,133	0.34
Cohen & St Public Global Infrastru	316,840,124	0.82	475,389,246	1.10
International Equity	6,375,234,549	16.55	7,609,681,490	17.65
Intl Large Cap Growth	1,031,781,339	2.68	1,253,702,405	2.91
EARNEST Part. Intl	354,457,282	0.92	407,303,824	0.94
William Blair	677,324,057	1.76	846,398,582	1.96
Intl Large Cap Value	979,722,803	2.54	1,097,036,344	2.54
Brandes Investment	451,974,911	1.17	507,521,852	1.18
Mondrian	434,126,577	1.13	481,825,341	1.12
Lazard	93,621,315	0.24	107,689,151	0.25
Intl Large Cap Core	3,084,412,715	8.00	3,546,187,057	8.23
Arrowstreet Capital	591,454,419	1.53	705,733,947	1.64
Brown Capital	324,641,242	0.84	386,180,068	0.90
GlobeFlex Capital	428,804,486	1.11	496,889,120	1.15
NTGI MSCI EAFE	1,558,649,283	4.05	1,955,291,758	4.54
Progress Intl Equity	179,132,662	0.46	1,699,147	0.00
Transition Account	1,730,624	0.00	393,017	0.00
Intl All Cap Developed	110,830,271	0.29	129,082,958	0.30
Ativo International	110,830,271	0.29	129,082,958	0.30
International Small Cap	381,551,018	0.99	482,798,494	1.12
Franklin Templeton	143,489,095	0.37	176,156,559	0.41

# Investment Manager Asset Allocation

Periods Ended June 30, 2020

	Mar-2020		Jun-2020	
	\$	%	\$	%
William Blair IntSC	238,061,923	0.62	306,641,935	0.71
Emerging Mkt Equity	786,936,404	2.04	1,100,874,231	2.55
Genesis Asset Mngrs.	786,936,404	2.04	1,100,874,231	2.55



# Investment Manager Asset Allocation

Periods Ended June 30, 2020

	Mar-2020		Jun-2020	
	\$	%	\$	%
Fixed Income	12,413,453,584	32.22	12,278,611,553	28.48
Domestic Fixed Core	3,525,397,122	9.15	3,765,383,854	8.73
Brandes FI Core	377,137,787	0.98	384,176,382	0.89
EARNEST Partners	1,011,853,792	2.63	1,042,449,118	2.42
Xponance Yield Advantage Agg.	1,063,148,984	2.76	1,108,936,180	2.57
Garcia Hamilton	1,073,256,558	2.79	1,116,618,903	2.59
Ramirez Asset Management		0.00	113,203,271	0.26
Domestic Fixed Passive Core	3,657,764,463	9.49	3,763,446,071	8.73
NTGI Blmbg Agg.	1,868,813,612	4.85	1,921,193,764	4.46
BlackRock US Debt I	1,788,950,851	4.64	1,842,252,307	4.27
Domestic Fixed Core Plus	3,859,782,439	10.02	3,248,578,176	7.54
LM Capital Group FI	923,331,973	2.40	960,889,804	2.23
Progress Inv. FI	893,976,306	2.32	46,812	0.00
BMO - TCH	948,560,486	2.46	986,366,335	2.29
Western Asset	1,093,913,675	2.84	1,122,831,517	2.60
Longfellow Core Plus		0.00	178,443,709	0.41
Bank Loans	485,469,967	1.26	525,326,297	1.22
Barings Global Loan Fund	485,469,967	1.26	525,326,297	1.22
Emerging Markets Debt	191,012,507	0.50	213,407,036	0.50
Standish-Mellon EMD	191,012,507	0.50	213,407,036	0.50
High Yield	694,027,085	1.80	762,470,118	1.77
MacKay Shields	693,700,141	1.80	762,150,466	1.77
FIAM High Yield	326,945	0.00	319,652	0.00

# Investment Manager Asset Allocation

Periods Ended June 30, 2020

	Mar-2020		Jun-2020	
	\$	%	\$	%
Real Estate	2,980,393,027	7.73	2,973,376,487	6.90
Real Estate Core Cmp	1,587,706,425	4.12	1,598,039,573	3.71
TA Assoc. Buckhead	617,321,318	1.60	617,951,573	1.43
Barings Core Property		0.00		0.00
Barings Euro Core Property	124,049,875	0.32	130,566,748	0.30
Blackstone Property Euro	131,817,239	0.34	135,897,797	0.32
INVESCO Core Real Estate	214,400,464	0.56	214,079,432	0.50
INVESCO European real estate	56,317,714	0.15	57,349,823	0.13
AEW Core Property Tr	239,175,523	0.62	234,536,661	0.54
CBRE Core Partners	204,624,292	0.53	207,657,540	0.48
RE Non-Core Cmp	1,392,686,602	3.61	1,375,336,913	3.19
Artemis MWBE Spruce	257,005,249	0.67	218,177,200	0.51
Franklin T. EMREFF	7,808,708	0.02	7,860,669	0.02
Security Capital	54,509,302	0.14	49,800,323	0.12
Dune II	22,643,881	0.06	20,456,881	0.05
Non-Core Real Estate Funds	913,649,465	2.37	933,925,379	2.17
Non-Core Intl Real Estate	136,861,187	0.36	144,972,599	0.34
Rockwood Fund VIII	156,152	0.00	1	0.00
Almanac ARS V	52,658	0.00	143,862	0.00
TA Assoc. - Fund IX		0.00		0.00
Alternatives Investments	2,635,896,790	6.84	2,602,977,223	6.04
Absolute Return	459,321	0.00	327,113	0.00
Aurora Investment	459,321	0.00	327,113	0.00

# Investment Manager Asset Allocation

Periods Ended June 30, 2020

	Mar-2020		Jun-2020	
	\$	%	\$	%
Private Equity	2,128,227,619	5.52	2,131,821,562	4.95
Abbott S/A Comp.	356,110,535	0.92	352,787,433	0.82
Muller Monroe MPEFF	4,808,888	0.01	4,969,587	0.01
Pantheon S/A Comp.	258,119,053	0.67	269,573,636	0.63
Private Equity Fund - Domestic	1,160,630,657	3.01	1,165,530,329	2.70
Private Equity Fund - International	337,060,844	0.87	323,952,227	0.75
Oakbrook Opportunities Fund	11,497,642	0.03	15,008,349	0.03
Private Credit	165,703,962	0.43	130,898,261	0.30
Private Credit Fund - Domestic	165,703,962	0.43	130,898,261	0.30
Agriculture	217,875,894	0.57	216,305,455	0.50
Premiere Partners IV	217,875,894	0.57	216,305,455	0.50
Timberland	76,516,130	0.20	76,355,317	0.18
Forest Investment	76,516,130	0.20	76,355,317	0.18
Unlisted Infrastructure	47,113,864	0.12	47,269,515	0.11
Unlisted Infrastructure Funds	47,113,864	0.12	47,269,515	0.11
Cash & Equivalents	458,659,217	1.19	346,847,746	0.80
Total Fund	38,532,608,600	100.00	43,107,308,477	100.00

# Wilshire Consulting Performance

Domestic Equity  
Periods Ended June 30, 2020

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Domestic Equity</b>	<b>17,295,813,978</b>	<b>24.05 (19)</b>	<b>-4.22 (33)</b>	<b>4.65 (33)</b>	<b>8.83 (42)</b>	<b>8.73 (49)</b>	<b>13.31 (33)</b>	<b>11.38</b>	<b>1/1/1982</b>
Domestic Equity - Net		24.00 (19)	-4.31 (35)	4.46 (35)	8.63 (48)	8.50 (58)	13.05 (46)		
Blended Benchmark (U.S. Equity)		22.03 (45)	-3.48 (24)	6.53 (19)	10.04 (19)	10.03 (20)	13.71 (23)		
Russell 3000 Index		22.03 (45)	-3.48 (24)	6.53 (19)	10.04 (19)	10.03 (20)	13.72 (23)	11.33	
<b>Large Cap Equity</b>	<b>14,084,248,836</b>	<b>24.36 (5)</b>	<b>-1.12 (9)</b>	<b>8.37 (13)</b>	<b>10.79 (13)</b>	<b>10.33 (24)</b>	<b>14.07 (7)</b>	<b>11.16 (37)</b>	<b>1/1/1982</b>
Large Cap Equity - Net		24.34 (5)	-1.17 (10)	8.29 (14)	10.68 (18)	10.21 (27)	13.93 (12)		
Russell 1000 Index		21.82 (22)	-2.81 (22)	7.48 (22)	10.64 (20)	10.47 (19)	13.97 (10)	11.49 (28)	
<b>Large Cap Growth</b>	<b>6,948,567,457</b>	<b>31.34 (17)</b>	<b>14.87 (15)</b>	<b>24.20 (20)</b>	<b>20.47 (18)</b>	<b>16.12 (19)</b>	<b>17.19 (21)</b>	<b>12.29 (17)</b>	<b>1/1/1982</b>
Large Cap Growth - Net		31.32 (18)	14.82 (16)	24.10 (20)	20.35 (19)	15.99 (21)	17.02 (23)		
LCG Blended Benchmark*		27.84 (39)	9.81 (43)	23.28 (23)	18.99 (31)	15.89 (22)	17.23 (20)		
Russell 1000 Growth Index		27.84 (39)	9.81 (43)	23.28 (23)	18.99 (31)	15.89 (22)	17.23 (20)	11.44 (39)	
<b>NTGI S&amp;P 500 Growth</b>	<b>2,611,124,948</b>	<b>26.17 (57)</b>	<b>7.83 (57)</b>	<b>17.67 (59)</b>	<b>16.70 (50)</b>	<b>14.59 (39)</b>	<b>16.62 (30)</b>	<b>8.46 (33)</b>	<b>8/1/2001</b>
NTGI S&P 500 Growth - Net		26.17 (57)	7.82 (57)	17.66 (59)	16.69 (50)	14.59 (39)	16.61 (30)		
S&P 500 Growth		26.23 (56)	7.93 (56)	17.75 (59)	16.75 (50)	14.63 (39)	16.62 (30)	8.44 (34)	
<b>Xponance Russell 1000 G</b>	<b>1,528,700,691</b>	<b>27.82 (39)</b>	<b>9.81 (43)</b>	<b>23.25 (24)</b>				<b>14.09 (32)</b>	<b>10/1/2018</b>
Xponance Russell 1000 G - Net		27.82 (40)	9.80 (43)	23.23 (24)				14.07 (32)	
Russell 1000 Growth Index		27.84 (39)	9.81 (43)	23.28 (23)				14.11 (32)	
<b>Sands Capital</b>	<b>2,808,741,818</b>	<b>38.21 (6)</b>	<b>25.39 (4)</b>	<b>31.48 (8)</b>	<b>25.75 (4)</b>	<b>18.41 (6)</b>	<b>20.35 (3)</b>	<b>13.59 (2)</b>	<b>11/1/2003</b>
Sands Capital - Net		38.15 (6)	25.26 (4)	31.20 (8)	25.48 (4)	18.14 (7)	20.08 (3)		
LCG Blended Benchmark*		27.84 (39)	9.81 (43)	23.28 (23)	18.99 (31)	15.89 (22)	17.23 (20)	10.67 (29)	
Russell 1000 Growth Index		27.84 (39)	9.81 (43)	23.28 (23)	18.99 (31)	15.89 (22)	17.23 (20)	10.72 (27)	
<b>Large Cap Value</b>	<b>4,541,830,303</b>	<b>16.21 (39)</b>	<b>-16.63 (66)</b>	<b>-7.74 (47)</b>	<b>2.23 (46)</b>	<b>4.90 (40)</b>	<b>11.22 (14)</b>	<b>9.75 (79)</b>	<b>10/1/1982</b>
Large Cap Value - Net		16.17 (39)	-16.69 (66)	-7.87 (48)	2.07 (47)	4.73 (43)	11.04 (18)		
LCV Blended Benchmark**		14.29 (65)	-16.26 (62)	-8.84 (61)	1.82 (53)	4.64 (46)	10.41 (33)		
Russell 1000 Value Index		14.29 (65)	-16.26 (62)	-8.84 (61)	1.82 (53)	4.64 (46)	10.41 (33)	11.24 (2)	

\* 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.

\*\*\* Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

# Wilshire Consulting

## Performance

Domestic Equity  
Periods Ended June 30, 2020

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Dodge & Cox	1,226,748,297	18.80 (15)	-14.67 (40)	-5.95 (32)	3.10 (32)	6.15 (20)	11.97 (4)	8.45 (10)	9/1/2003
Dodge & Cox - Net		18.73 (15)	-14.76 (41)	-6.15 (33)	2.88 (35)	5.92 (23)	11.73 (6)		
LCV Blended Benchmark**		14.29 (65)	-16.26 (62)	-8.84 (61)	1.82 (53)	4.64 (46)	10.41 (33)	7.24 (41)	
Russell 1000 Value Index		14.29 (65)	-16.26 (62)	-8.84 (61)	1.82 (53)	4.64 (46)	10.41 (33)	7.39 (36)	
BMO	735,567,463	17.11 (28)	-15.38 (50)	-9.78 (69)	1.34 (61)	3.67 (66)	10.99 (19)	6.99 (10)	2/1/2001
BMO - Net		17.09 (28)	-15.40 (50)	-9.91 (70)	1.14 (64)	3.46 (69)	10.76 (24)		
LCV Blended Benchmark**		14.29 (65)	-16.26 (62)	-8.84 (61)	1.82 (53)	4.64 (46)	10.41 (33)	4.94 (69)	
Russell 1000 Value Index		14.29 (65)	-16.26 (62)	-8.84 (61)	1.82 (53)	4.64 (46)	10.41 (33)	5.89 (37)	
LSV Asset	1,243,365,023	16.42 (37)	-20.59 (94)	-11.32 (82)	0.51 (73)	3.84 (63)	11.01 (19)	9.39 (6)	2/1/2003
LSV Asset - Net		16.34 (38)	-20.69 (94)	-11.53 (84)	0.28 (76)	3.60 (67)	10.74 (24)		
LCV Blended Benchmark**		14.29 (65)	-16.26 (62)	-8.84 (61)	1.82 (53)	4.64 (46)	10.41 (33)	8.14 (36)	
Russell 1000 Value Index		14.29 (65)	-16.26 (62)	-8.84 (61)	1.82 (53)	4.64 (46)	10.41 (33)	8.15 (36)	
NTGI S&P 500 Value	1,336,149,521	13.29 (79)	-15.31 (49)	-4.29 (18)	3.85 (23)	6.10 (20)	10.98 (19)	5.34 (60)	8/1/1999
NTGI S&P 500 Value - Net		13.28 (79)	-15.32 (49)	-4.29 (18)	3.85 (23)	6.09 (20)	10.98 (19)		
S&P 500 Value		13.15 (81)	-15.52 (52)	-4.50 (19)	3.74 (24)	5.98 (22)	10.88 (21)	5.30 (61)	
<b>Large Cap Pass. Core</b>	<b>2,593,851,075</b>	<b>22.05 (22)</b>	<b>-3.51 (49)</b>	<b>6.44 (49)</b>	<b>10.02 (51)</b>	<b>10.05 (49)</b>	<b>13.74 (46)</b>	<b>11.01 (71)</b>	<b>1/1/1985</b>
Large Cap Pass. Core - Net		22.05 (22)	-3.51 (49)	6.43 (49)	10.01 (52)	10.04 (49)	13.73 (46)		
Dow Jones US Total Stock Market Index		22.09 (21)	-3.50 (49)	6.41 (49)	9.97 (52)	9.97 (52)	13.68 (47)		
NTGI MarketCap Idx.	2,593,851,075	22.05 (22)	-3.51 (49)	6.44 (49)	10.02 (51)	10.05 (49)	13.75 (45)	10.79 (71)	2/1/1985
NTGI MarketCap Idx. - Net		22.05 (22)	-3.51 (49)	6.43 (49)	10.01 (52)	10.04 (49)	13.74 (46)		
Dow Jones US Total Stock Market Index		22.09 (21)	-3.50 (49)	6.41 (49)	9.97 (52)	9.97 (52)	13.68 (47)		
<b>Quantitative Factor Strategies</b>	<b>240,593,860</b>	<b>19.28</b>	<b>-8.75</b>					<b>-3.60</b>	<b>9/17/2019</b>
Quantitative US Equity - SciBeta	240,593,860	19.28	-8.75					-3.60	9/17/2019
Quantitative US Equity - SciBeta - Net		19.12	-8.99					-3.86	
SciBeta US Hi-Fctr-Intst Div Multi-Beta Multi-Strat Index		18.06	-9.54					-4.77	

\* The LCV 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.

\*\*\* Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

# Wilshire Consulting Performance

Domestic Equity  
Periods Ended June 30, 2020

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Small Cap</b>	<b>2,348,375,902</b>	<b>26.76 (39)</b>	<b>-17.19 (59)</b>	<b>-10.26 (54)</b>	<b>0.81 (51)</b>	<b>2.75 (65)</b>	<b>10.43 (59)</b>	<b>11.27 (56)</b>	<b>7/1/1988</b>
Small Cap Composite - Net		26.62 (40)	-17.48 (60)	-10.82 (57)	0.28 (56)	2.19 (69)	9.83 (68)		
Russell 2000 Index		25.42 (46)	-12.98 (43)	-6.63 (43)	2.01 (46)	4.29 (51)	10.50 (57)	8.86 (94)	
<b>Small Cap Growth</b>	<b>757,859,352</b>	<b>37.48 (20)</b>	<b>-5.80 (70)</b>	<b>3.96 (51)</b>	<b>8.79 (55)</b>	<b>6.71 (68)</b>	<b>13.10 (53)</b>	<b>12.63 (4)</b>	<b>7/1/1988</b>
Small Cap Growth - Net		37.33 (20)	-6.40 (71)	3.04 (56)	8.16 (59)	6.07 (75)	12.46 (68)		
Russell 2000 Growth Index		30.58 (55)	-3.06 (57)	3.48 (54)	7.86 (62)	6.86 (67)	12.92 (58)	8.02 (100)	
Frontier Capital	596,999,920	41.33 (9)	-3.35 (59)	7.06 (38)	13.51 (32)	8.76 (46)	13.51 (47)	13.01 (4)	8/1/1988
Frontier Capital - Net		41.14 (9)	-4.16 (63)	5.92 (42)	12.62 (36)	8.00 (56)	12.80 (61)		
Russell 2000 Growth Index		30.58 (55)	-3.06 (57)	3.48 (54)	7.86 (62)	6.86 (67)	12.92 (58)	8.10 (99)	
FIAM Small Cap	160,859,433	24.84 (87)	-13.88 (93)	-6.14 (89)	3.99 (82)	4.59 (84)	12.60 (65)	12.81 (4)	8/1/1988
FIAM Small Cap - Net		24.81 (87)	-13.90 (93)	-6.37 (90)	3.69 (84)	4.14 (88)	12.07 (74)		
Russell 2000 Index		25.42 (85)	-12.98 (91)	-6.63 (90)	2.01 (92)	4.29 (87)	10.50 (89)	8.91 (85)	
Russell 2000 Growth Index		30.58 (55)	-3.06 (57)	3.48 (54)	7.86 (62)	6.86 (67)	12.92 (58)	8.10 (99)	
<b>Small Cap Value</b>	<b>1,222,700,615</b>	<b>22.03 (41)</b>	<b>-22.26 (36)</b>	<b>-16.36 (31)</b>	<b>-3.21 (21)</b>	<b>1.66 (21)</b>	<b>9.16 (7)</b>	<b>10.62 (1)</b>	<b>9/1/1989</b>
Small Cap Value - Net		21.89 (42)	-22.44 (38)	-16.79 (36)	-3.72 (27)	1.13 (29)	8.62 (15)		
Russell 2000 Value Index		18.91 (75)	-23.50 (53)	-17.48 (44)	-4.35 (36)	1.26 (27)	7.82 (39)	8.92 (58)	
Channing	202,452,804	25.90 (15)	-16.43 (6)	-11.43 (10)	-1.62 (10)	2.22 (16)		7.58 (4)	7/1/2011
Channing - Net		25.73 (16)	-16.65 (6)	-11.89 (12)	-2.12 (13)	1.70 (21)		7.00 (8)	
Russell 2000 Value Index		18.91 (75)	-23.50 (53)	-17.48 (44)	-4.35 (36)	1.26 (27)		5.48 (32)	
DFA Small Cap Val.	450,036,277	23.17 (29)	-25.35 (77)	-19.49 (72)	-6.03 (71)	-0.72 (65)	8.54 (17)	10.23 (4)	2/1/1996
DFA Small Cap Val. - Net		23.04 (31)	-25.53 (78)	-19.89 (76)	-6.51 (78)	-1.23 (75)	8.02 (31)		
Russell 2000 Value Index		18.91 (75)	-23.50 (53)	-17.48 (44)	-4.35 (36)	1.26 (27)	7.82 (39)	8.15 (65)	
Inv. Couns. Maryland	570,211,534	19.84 (62)	-21.63 (31)	-15.43 (25)	-1.32 (9)	4.13 (3)	10.03 (1)	10.00 (5)	5/1/1999
Inv. Couns. Maryland - Net		19.71 (64)	-21.80 (31)	-15.88 (28)	-1.84 (11)	3.59 (5)	9.51 (4)		
Russell 2000 Value Index		18.91 (75)	-23.50 (53)	-17.48 (44)	-4.35 (36)	1.26 (27)	7.82 (39)	7.50 (70)	

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\*\* 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.

\*\*\* Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

# Wilshire Consulting Performance

Domestic Equity  
Periods Ended June 30, 2020

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Micro Cap	367,815,935	22.86 (62)	-19.79 (69)	-13.70 (70)	-2.45 (73)	-0.50 (94)	8.73 (85)	10.62 (90)	7/1/1984
Micro Cap - Net		22.73 (63)	-19.99 (70)	-14.13 (71)	-2.96 (77)	-1.08 (96)	8.05 (92)		
Russell Microcap Index		30.54 (21)	-11.21 (37)	-4.77 (37)	0.85 (51)	2.86 (64)	9.93 (66)		
DFA Micro Cap (9-10)	367,815,935	22.86 (62)	-19.79 (69)	-13.70 (70)	-1.49 (67)	3.08 (62)	10.41 (59)	10.20 (64)	8/1/1987
DFA Micro Cap (9-10) - Net		22.73 (63)	-19.99 (70)	-14.13 (71)	-1.98 (70)	2.57 (66)	9.87 (68)		
Russell 2000 Index		25.42 (46)	-12.98 (43)	-6.63 (43)	2.01 (46)	4.29 (51)	10.50 (57)	8.29 (89)	
Russell 2000 Value Index		18.91 (87)	-23.50 (86)	-17.48 (86)	-4.35 (88)	1.26 (80)	7.82 (94)	8.80 (87)	
Public Real Assets	622,595,379	10.25	-12.32	-6.73				3.30	8/1/2017
Public Real Assets - Net		10.15	-12.50	-7.13				2.87	
Public Real Assets Benchmark***		11.29	-13.64	-8.62				1.24	
Brookfield	147,206,133	12.44	-16.49	-12.07				-0.54	8/1/2017
Brookfield - Net		12.27	-16.72	-12.54				-1.03	
Dow Jones Brookfield Global Infrastructure Composi		13.32	-14.39	-9.89				-0.43	
Cohen & Steers	475,389,246	9.40	-10.37	-4.21				5.14	8/1/2017
Cohen & Steers - Net		9.31	-10.54	-4.59				4.73	
FTSE GLOBAL CORE INFRASTRUCTURE 50/50 INDEX (Net)		10.27	-13.30	-8.02				2.05	

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

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

\*\*\* Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

# Wilshire Consulting Performance

International Equity  
Periods Ended June 30, 2020

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>International Equity</b>	<b>7,609,681,490</b>	<b>17.20 (61)</b>	<b>-10.86 (56)</b>	<b>-3.73 (56)</b>	<b>1.82 (59)</b>	<b>3.15 (53)</b>	<b>6.49 (43)</b>	<b>7.38</b>	<b>9/1/1986</b>
International Equity - Net		17.09 (62)	-11.02 (60)	-4.06 (58)	1.48 (69)	2.80 (67)	6.16 (60)		
MSCI AC World ex USA (Net)		16.12 (77)	-11.00 (60)	-4.80 (66)	1.13 (76)	2.26 (84)	4.97 (94)		
<b>Intl Large Cap Equity</b>	<b>5,896,925,807</b>	<b>16.19 (67)</b>	<b>-11.05 (66)</b>	<b>-4.32 (65)</b>	<b>1.45 (62)</b>	<b>2.86 (55)</b>	<b>6.46 (61)</b>	<b>7.36 (85)</b>	<b>9/1/1986</b>
Intl LargeCap Equity - Net		16.11 (68)	-11.18 (69)	-4.58 (66)	1.18 (65)	2.58 (58)	6.19 (68)		
MSCI AC World ex USA (Net)		16.12 (68)	-11.00 (65)	-4.80 (68)	1.13 (66)	2.26 (62)	4.97 (86)		
<b>Intl Large Cap Grwth</b>	<b>1,253,702,405</b>	<b>21.51 (35)</b>	<b>-6.73 (70)</b>	<b>1.26 (68)</b>	<b>3.74 (72)</b>	<b>4.26 (71)</b>	<b>7.00 (79)</b>	<b>7.93 (59)</b>	<b>9/1/2002</b>
Intl Large Cap Grwth - Net		21.41 (35)	-6.88 (72)	0.98 (68)	3.48 (76)	3.98 (74)	6.66 (85)		
MSCI AC World ex USA (Net)		16.12 (84)	-11.00 (91)	-4.80 (90)	1.13 (90)	2.26 (89)	4.97 (100)	6.59 (100)	
<b>EARNEST Part. Intl</b>	<b>407,303,824</b>	<b>14.92 (93)</b>	<b>-19.14 (100)</b>	<b>-13.44 (100)</b>	<b>-2.63 (100)</b>	<b>0.88 (99)</b>	<b>4.63 (100)</b>	<b>7.38 (50)</b>	<b>10/1/2004</b>
EARNEST Part. Intl - Net		14.85 (95)	-19.24 (100)	-13.58 (100)	-2.80 (100)	0.70 (100)	4.35 (100)		
MSCI AC World ex USA (Net)		16.12 (84)	-11.00 (91)	-4.80 (90)	1.13 (90)	2.26 (89)	4.97 (100)	5.17 (100)	
MSCI AC World ex USA Growth (Net)		19.11 (57)	-2.62 (47)	5.80 (44)	6.07 (52)	5.61 (49)	7.04 (79)	6.51 (74)	
<b>William Blair</b>	<b>846,398,582</b>	<b>24.96 (16)</b>	<b>1.06 (19)</b>	<b>10.94 (15)</b>	<b>8.04 (28)</b>	<b>6.35 (39)</b>	<b>8.86 (42)</b>	<b>9.69 (28)</b>	<b>10/1/2002</b>
William Blair - Net		24.85 (17)	0.88 (21)	10.55 (18)	7.66 (39)	5.97 (46)	8.46 (51)		
MSCI AC World ex USA (Net)		16.12 (84)	-11.00 (91)	-4.80 (90)	1.13 (90)	2.26 (89)	4.97 (100)	7.29 (98)	
MSCI AC World ex USA Growth (Net)		19.11 (57)	-2.62 (47)	5.80 (44)	6.07 (52)	5.61 (49)	7.04 (79)	8.02 (77)	
<b>Intl Large Cap Val.</b>	<b>1,097,036,344</b>	<b>11.97 (85)</b>	<b>-18.92 (78)</b>	<b>-12.70 (83)</b>	<b>-2.27 (64)</b>	<b>0.02 (74)</b>	<b>4.32 (83)</b>	<b>7.67 (38)</b>	<b>10/1/1995</b>
Intl Large Cap Val. - Net		11.88 (87)	-19.05 (79)	-12.97 (84)	-2.59 (69)	-0.33 (81)	3.97 (89)		
MSCI AC World ex USA (Net)		16.12 (44)	-11.00 (29)	-4.80 (35)	1.13 (30)	2.26 (34)	4.97 (72)		
<b>Brandes Investment</b>	<b>507,521,852</b>	<b>12.29 (83)</b>	<b>-21.55 (93)</b>	<b>-15.04 (93)</b>	<b>-3.84 (86)</b>	<b>-1.09 (90)</b>	<b>4.14 (88)</b>	<b>7.64 (40)</b>	<b>1/1/1996</b>
Brandes Investment - Net		12.22 (84)	-21.64 (93)	-15.23 (93)	-4.05 (88)	-1.31 (96)	3.90 (90)		
MSCI AC World ex USA (Net)		16.12 (44)	-11.00 (29)	-4.80 (35)	1.13 (30)	2.26 (34)	4.97 (72)		
MSCI AC World ex USA Value		12.99 (78)	-19.15 (79)	-14.78 (93)	-3.38 (80)	-0.67 (85)	3.37 (95)		

\* Custom benchmark is calculated as a weighted average of each funds respective benchmark until 12/2017. After 12/2017 the benchmark is MSCI ACWI ex US - Net.

\*\* Genesis is NOF NAV commingled fund.



# Wilshire Consulting Performance

International Equity  
Periods Ended June 30, 2020

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Mondrian</b>	<b>481,825,341</b>	<b>10.99 (91)</b>	<b>-17.26 (64)</b>	<b>-11.11 (75)</b>	<b>-1.18 (50)</b>	<b>0.91 (55)</b>		<b>3.35 (75)</b>	<b>4/1/2012</b>
Mondrian - Net		10.86 (91)	-17.44 (67)	-11.48 (78)	-1.65 (55)	0.42 (66)		2.86 (85)	
MSCI AC World ex USA (Net)		16.12 (44)	-11.00 (29)	-4.80 (35)	1.13 (30)	2.26 (34)		3.75 (68)	
MSCI AC World ex USA Value		12.99 (78)	-19.15 (79)	-14.78 (93)	-3.38 (80)	-0.67 (85)		1.89 (96)	
<b>Lazard</b>	<b>107,689,151</b>	<b>15.03 (54)</b>	<b>-12.95 (39)</b>	<b>-8.13 (50)</b>	<b>1.04 (31)</b>	<b>1.80 (39)</b>		<b>4.67 (43)</b>	<b>4/1/2012</b>
Lazard - Net		14.95 (54)	-13.06 (40)	-8.37 (51)	0.78 (31)	1.46 (42)		4.17 (53)	
MSCI AC World ex USA (Net)		16.12 (44)	-11.00 (29)	-4.80 (35)	1.13 (30)	2.26 (34)		3.75 (68)	
MSCI AC World ex USA Value		12.99 (78)	-19.15 (79)	-14.78 (93)	-3.38 (80)	-0.67 (85)		1.89 (96)	
<b>Intl Large Cap Active Core</b>	<b>1,590,895,299</b>	<b>16.44 (56)</b>	<b>-8.98 (37)</b>	<b>-2.27 (44)</b>	<b>2.57 (39)</b>	<b>4.27 (26)</b>	<b>7.94 (16)</b>	<b>4.25 (11)</b>	<b>2/1/2008</b>
Intl Large Cap Active Core - Net		16.30 (59)	-9.23 (40)	-2.77 (47)	2.10 (46)	3.73 (33)	7.41 (36)		
MSCI AC World ex USA (Net)		16.12 (64)	-11.00 (61)	-4.80 (65)	1.13 (59)	2.26 (59)	4.97 (96)	1.70 (91)	
<b>Arrowstreet Capital</b>	<b>705,733,947</b>	<b>19.32 (20)</b>	<b>-6.97 (23)</b>	<b>0.50 (24)</b>	<b>3.94 (23)</b>	<b>4.97 (18)</b>	<b>8.47 (10)</b>	<b>4.69 (4)</b>	<b>3/1/2008</b>
Arrowstreet Capital - Net		19.18 (20)	-7.20 (24)	0.03 (30)	3.45 (26)	4.48 (23)	7.96 (16)	4.20 (10)	
MSCI AC World ex USA (Net)		16.12 (64)	-11.00 (61)	-4.80 (65)	1.13 (59)	2.26 (59)	4.97 (96)	1.48 (93)	
<b>Brown Capital</b>	<b>386,180,068</b>	<b>18.96 (24)</b>	<b>2.16 (1)</b>	<b>8.14 (6)</b>	<b>6.66 (11)</b>	<b>6.24 (11)</b>	<b>9.07 (4)</b>	<b>7.99 (1)</b>	<b>10/1/2004</b>
Brown Capital - Net		18.88 (24)	2.03 (1)	7.84 (6)	6.18 (12)	5.44 (15)	8.29 (11)		
MSCI AC World ex USA (Net)		16.12 (64)	-11.00 (61)	-4.80 (65)	1.13 (59)	2.26 (59)	4.97 (96)	5.17 (87)	
<b>GlobeFlex Capital</b>	<b>496,889,120</b>	<b>15.88 (69)</b>	<b>-14.33 (95)</b>	<b>-9.35 (96)</b>	<b>-1.36 (86)</b>	<b>2.42 (56)</b>	<b>6.98 (53)</b>	<b>3.77 (67)</b>	<b>3/1/2006</b>
GlobeFlex Capital - Net		15.74 (70)	-14.52 (96)	-9.75 (96)	-1.76 (91)	2.01 (65)	6.54 (60)	3.33 (80)	
MSCI AC World ex USA (Net)		16.12 (64)	-11.00 (61)	-4.80 (65)	1.13 (59)	2.26 (59)	4.97 (96)	3.07 (90)	
<b>Progress Intl Equity*</b>	<b>1,699,147</b>								
Progress Intl Equity - Net									
<b>Intl Large Cap Passive Core</b>	<b>1,955,291,758</b>	<b>14.96 (83)</b>	<b>-10.89 (60)</b>	<b>-4.63 (63)</b>	<b>1.21 (59)</b>	<b>2.46 (63)</b>	<b>6.14 (62)</b>	<b>3.03 (89)</b>	<b>1/1/2000</b>
Intl Large Cap Passive Core - Net		14.96 (83)	-10.89 (60)	-4.64 (63)	1.21 (59)	2.45 (63)	6.13 (62)		
MSCI EAFE Index (Net)		14.88 (84)	-11.34 (64)	-5.13 (66)	0.81 (64)	2.05 (71)	5.73 (69)	2.63 (92)	

\* Custom benchmark is calculated as a weighted average of each funds respective benchmark until 12/2017. After 12/2017 the benchmark is MSCI ACWI ex US - Net.

\*\* Genesis is NOF NAV commingled fund.

Wilshire Consulting  
Performance



International Equity  
Periods Ended June 30, 2020

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
NTGI MSCI EAFE	1,955,291,758	14.96 (75)	-10.89 (57)	-4.63 (63)	1.21 (59)	2.46 (55)	6.14 (77)	3.36 (98)	2/1/2000
NTGI MSCI EAFE - Net		14.96 (75)	-10.89 (57)	-4.64 (63)	1.21 (59)	2.45 (55)	6.13 (77)		
MSCI EAFE Index (Net)		14.88 (76)	-11.34 (66)	-5.13 (67)	0.81 (64)	2.05 (64)	5.73 (91)	2.97 (99)	
<b>Intl All Cap Developed</b>	<b>129,082,958</b>	<b>16.47 (62)</b>	<b>-13.16 (70)</b>	<b>-7.48 (75)</b>				<b>0.03 (63)</b>	<b>2/1/2019</b>
Intl All Cap Developed - Net		16.31 (64)	-13.39 (71)	-7.95 (78)				-0.39 (66)	
MSCI EAFE + Canada (Net)		15.34 (73)	-11.49 (60)	-5.42 (66)				0.84 (59)	
Ativo International	129,082,958	16.47 (62)	-13.16 (70)	-7.48 (75)				0.03 (63)	2/1/2019
Ativo International - Net		16.31 (64)	-13.39 (71)	-7.95 (78)				-0.39 (66)	
MSCI EAFE + Canada (Net)		15.34 (73)	-11.49 (60)	-5.42 (66)				0.84 (59)	
<b>Intl Small Cap Eqty</b>	<b>482,798,494</b>	<b>26.54 (23)</b>	<b>-7.35 (28)</b>	<b>2.93 (26)</b>	<b>2.85 (42)</b>	<b>4.73 (46)</b>	<b>8.60 (61)</b>	<b>4.53 (100)</b>	<b>12/1/2005</b>
Intl Small Cap Eqty - Net		26.29 (23)	-7.72 (31)	2.14 (27)	2.07 (45)	3.94 (54)	7.80 (73)		
MSCI AC World ex USA Small Cap (Net)		22.83 (43)	-12.80 (62)	-4.34 (59)	-0.17 (61)	2.50 (70)	6.05 (93)	5.11 (94)	
Custom Benchmark (Intl Small Cap)		22.83 (43)	-12.80 (62)	-4.34 (59)	-0.17 (61)	2.50 (70)	6.25 (92)	4.42 (100)	
Franklin Templeton	176,156,559	22.77 (43)	-14.83 (72)	-8.12 (80)	-0.64 (64)	2.23 (77)		4.49 (80)	8/1/2011
Franklin Templeton - Net		22.53 (44)	-15.17 (75)	-8.81 (85)	-1.38 (76)	1.48 (84)		3.74 (92)	
MSCI AC World ex USA Small Cap (Net)		22.83 (43)	-12.80 (62)	-4.34 (59)	-0.17 (61)	2.50 (70)		3.34 (95)	
William Blair IntSC	306,641,935	28.81 (13)	-2.42 (20)	10.56 (12)	5.11 (24)	6.42 (28)		9.04 (46)	9/1/2010
William Blair IntSC - Net		28.56 (13)	-2.82 (20)	9.70 (13)	4.31 (35)	5.60 (37)		8.21 (62)	
MSCI AC World ex USA Small Cap (Net)		22.83 (43)	-12.80 (62)	-4.34 (59)	-0.17 (61)	2.50 (70)		5.51 (94)	
Custom Benchmark (Intl Small Cap)		22.83 (43)	-12.80 (62)	-4.34 (59)	-0.17 (61)	2.50 (70)		5.80 (93)	
<b>Emerging Mkt Equity</b>	<b>1,100,874,231</b>	<b>19.46 (61)</b>	<b>-11.02 (63)</b>	<b>-2.50 (52)</b>	<b>4.31 (36)</b>	<b>4.71 (38)</b>	<b>5.42 (41)</b>	<b>8.64 (40)</b>	<b>2/1/1992</b>
Emerging Mkt Equity - Net		19.24 (63)	-11.34 (66)	-3.10 (57)	3.70 (40)	4.09 (47)	4.80 (51)		
MSCI Emerging Markets Index		18.18 (75)	-9.67 (55)	-3.05 (56)	2.27 (49)	3.24 (57)	3.63 (73)	6.68 (98)	
Genesis Asset Mngrs.**	1,100,874,231	19.46 (61)	-11.02 (63)	-2.50 (52)	4.31 (36)	4.71 (38)	5.42 (41)	10.30 (20)	5/1/2004
Genesis Asset Mngrs. - Net		19.24 (63)	-11.34 (66)	-3.10 (57)	3.70 (40)	4.09 (47)	4.80 (51)		
MSCI Emerging Markets Index		18.18 (75)	-9.67 (55)	-3.05 (56)	2.27 (49)	3.24 (57)	3.63 (73)	8.07 (76)	

\* Custom benchmark is calculated as a weighted average of each funds respective benchmark until 12/2017. After 12/2017 the benchmark is MSCI ACWI ex US - Net.

\*\* Genesis is NOF NAV commingled fund.

# Wilshire Consulting Performance

## Fixed Income

Periods Ended June 30, 2020

	Market Value \$	Performance (%)							Inception Date
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>Fixed Income</b>	<b>12,278,611,553</b>	<b>4.74 (57)</b>	<b>4.51 (62)</b>	<b>7.31 (62)</b>	<b>5.13 (52)</b>	<b>4.59 (53)</b>	<b>4.65 (55)</b>	<b>8.21</b>	<b>1/1/1982</b>
Fixed Income - Net		4.72 (58)	4.46 (62)	7.19 (64)	4.99 (63)	4.45 (64)	4.50 (60)		
Blmbg. Barc. U.S. Aggregate		2.90 (89)	6.14 (30)	8.74 (27)	5.32 (44)	4.30 (76)	3.82 (92)	7.73	
<b>Active Fixed Core</b>	<b>3,765,383,854</b>	<b>3.84 (66)</b>	<b>6.08 (63)</b>	<b>8.33 (75)</b>	<b>5.32 (84)</b>	<b>4.46 (73)</b>	<b>4.36 (49)</b>	<b>4.78 (96)</b>	<b>4/1/2001</b>
Active Fixed Core - Net		3.82 (66)	6.02 (64)	8.22 (78)	5.22 (89)	4.34 (85)	4.20 (67)		
Blmbg. Barc. U.S. Aggregate		2.90 (90)	6.14 (60)	8.74 (68)	5.32 (84)	4.30 (90)	3.82 (96)	4.79 (94)	
<b>Brandes FI Core</b>	<b>384,176,382</b>	<b>1.94 (98)</b>	<b>6.37 (46)</b>	<b>8.25 (78)</b>	<b>4.91 (98)</b>			<b>3.95 (99)</b>	<b>3/1/2016</b>
Brandes FI Core - Net		1.94 (98)	6.37 (46)	8.25 (78)	4.91 (98)			3.95 (99)	
Blmbg. Barc. U.S. Aggregate		2.90 (90)	6.14 (60)	8.74 (68)	5.32 (84)			4.32 (90)	
<b>EARNEST Partners</b>	<b>1,042,449,118</b>	<b>3.30 (80)</b>	<b>5.53 (73)</b>	<b>7.72 (88)</b>	<b>5.30 (85)</b>	<b>4.42 (75)</b>	<b>4.34 (51)</b>	<b>4.82 (59)</b>	<b>5/1/2005</b>
EARNEST Partners - Net		3.27 (80)	5.46 (76)	7.58 (88)	5.16 (91)	4.25 (93)	4.15 (70)	4.62 (81)	
Blmbg. Barc. U.S. Aggregate		2.90 (90)	6.14 (60)	8.74 (68)	5.32 (84)	4.30 (90)	3.82 (96)	4.46 (93)	
<b>Xponance Yield Advantage Agg.</b>	<b>1,108,936,180</b>	<b>4.57 (44)</b>	<b>5.63 (70)</b>	<b>7.85 (86)</b>	<b>5.01 (95)</b>	<b>4.31 (90)</b>	<b>4.25 (58)</b>	<b>4.60 (80)</b>	<b>6/1/2005</b>
Xponance Yield Advantage Agg. - Net		4.54 (46)	5.56 (73)	7.71 (88)	4.87 (98)	4.16 (96)	4.08 (75)	4.41 (92)	
Blmbg. Barc. U.S. Aggregate		2.90 (90)	6.14 (60)	8.74 (68)	5.32 (84)	4.30 (90)	3.82 (96)	4.41 (93)	
<b>Garcia Hamilton</b>	<b>1,116,618,903</b>	<b>4.09 (58)</b>	<b>6.73 (33)</b>	<b>9.27 (36)</b>	<b>5.63 (47)</b>	<b>4.80 (38)</b>		<b>4.44 (46)</b>	<b>6/1/2015</b>
Garcia Hamilton - Net		4.07 (59)	6.69 (35)	9.18 (40)	5.54 (54)	4.71 (49)		4.35 (56)	
Blmbg. Barc. U.S. Aggregate		2.90 (90)	6.14 (60)	8.74 (68)	5.32 (84)	4.30 (90)		4.01 (91)	
<b>Ramirez Asset Management</b>	<b>113,203,271</b>								<b>5/1/2020</b>
Ramirez Asset Management - Net									
Blmbg. Barc. U.S. Aggregate									
<b>Pass. Core Fixed Income</b>	<b>3,763,446,071</b>	<b>2.89 (90)</b>	<b>6.21 (54)</b>	<b>8.82 (63)</b>	<b>5.39 (72)</b>	<b>4.37 (80)</b>	<b>3.86 (88)</b>	<b>6.04 (97)</b>	<b>1/1/1990</b>
Pass. Core Fixed Income - Net		2.89 (91)	6.20 (54)	8.81 (64)	5.38 (76)	4.36 (81)	3.86 (88)		
Blmbg. Barc. U.S. Aggregate		2.90 (90)	6.14 (60)	8.74 (68)	5.32 (84)	4.30 (90)	3.82 (96)	6.02 (98)	

Taplin, Canada, Habacht switched from core to core plus effective 10/01/2010.

\* Custom Benchmark is 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.

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

# Wilshire Consulting Performance

Fixed Income  
Periods Ended June 30, 2020

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
BlackRock US Debt I	1,842,252,307	2.98 (87)	6.22 (53)	8.84 (59)	5.42 (65)	4.41 (77)		4.15 (77)	10/1/2013
BlackRock US Debt I - Net		2.98 (87)	6.22 (53)	8.84 (59)	5.42 (67)	4.40 (77)		4.15 (78)	
Blmbg. Barc. U.S. Aggregate		2.90 (90)	6.14 (60)	8.74 (68)	5.32 (84)	4.30 (90)		4.02 (91)	
NTGI Blmbg Agg.	1,921,193,764	2.80 (92)	6.19 (56)	8.79 (65)	5.36 (78)	4.33 (86)	3.85 (91)	6.09 (97)	2/1/1990
NTGI Blmbg Agg. - Net		2.80 (92)	6.19 (57)	8.79 (65)	5.36 (79)	4.32 (89)	3.84 (93)		
Blmbg. Barc. U.S. Aggregate		2.90 (90)	6.14 (60)	8.74 (68)	5.32 (84)	4.30 (90)	3.82 (96)	6.08 (97)	
<b>Core Plus Fixed Income</b>	<b>3,248,578,176</b>	<b>5.45 (60)</b>	<b>5.56 (44)</b>	<b>8.63 (44)</b>	<b>5.51 (49)</b>	<b>4.89 (46)</b>	<b>4.84 (53)</b>	<b>8.10 (100)</b>	<b>1/1/1982</b>
Core Plus Fixed Income - Net		5.39 (63)	5.45 (46)	8.43 (48)	5.32 (62)	4.70 (57)	4.66 (65)		
Blmbg. Barc. U.S. Aggregate		2.90 (99)	6.14 (26)	8.74 (38)	5.32 (62)	4.30 (81)	3.82 (96)	7.73 (100)	
LM Capital Group FI	960,889,804	4.26 (86)	6.23 (25)	8.94 (30)	5.28 (63)	4.66 (62)	4.58 (71)	5.14 (67)	5/1/2005
LM Capital Group FI - Net		4.22 (86)	6.14 (26)	8.77 (36)	5.11 (71)	4.49 (72)	4.42 (79)	4.97 (81)	
Blmbg. Barc. U.S. Aggregate		2.90 (99)	6.14 (26)	8.74 (38)	5.32 (62)	4.30 (81)	3.82 (96)	4.46 (97)	
Progress Inv. FI	46,812								
Progress Inv. FI - Net									
BMO - TCH	986,366,335	4.16 (87)	5.68 (41)	8.31 (49)	5.53 (48)	5.12 (29)	5.09 (36)	5.25 (55)	5/1/2005
BMO - TCH - Net		4.12 (87)	5.61 (43)	8.17 (51)	5.39 (57)	4.99 (35)	4.95 (47)	5.12 (68)	
Blmbg. Barc. U.S. Aggregate		2.90 (99)	6.14 (26)	8.74 (38)	5.32 (62)	4.30 (81)	3.82 (96)	4.46 (97)	
Western Asset	1,122,831,517	7.52 (22)	4.67 (61)	8.64 (43)	5.73 (38)	5.37 (17)	5.33 (22)	5.67 (36)	11/1/2001
Western Asset - Net		7.49 (23)	4.60 (64)	8.53 (46)	5.61 (45)	5.23 (22)	5.19 (31)		
Blmbg. Barc. U.S. Aggregate		2.90 (99)	6.14 (26)	8.74 (38)	5.32 (62)	4.30 (81)	3.82 (96)	4.55 (99)	
Longfellow Core Plus	178,443,709								5/1/2020
Longfellow Core Plus - Net									
Blmbg. Barc. U.S. Aggregate									
<b>Bank Loans</b>	<b>525,326,297</b>	<b>9.69 (10)</b>	<b>-6.36 (89)</b>	<b>-3.37 (83)</b>	<b>1.73 (79)</b>	<b>3.05 (46)</b>		<b>3.14 (34)</b>	<b>8/1/2014</b>
Bank Loans - Net		9.69 (10)	-6.36 (89)	-3.40 (83)	1.39 (88)	2.61 (83)		2.68 (81)	
Barings Custom Benchmark		10.25 (8)	-4.36 (37)	-1.68 (54)	2.45 (38)	3.21 (32)		3.12 (36)	

Taplin, Canada, Habacht switched from core to core plus effective 10/01/2010.

\* Custom Benchmark is 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.

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

# Wilshire Consulting Performance

Fixed Income  
Periods Ended June 30, 2020

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Barings Global Loan Fund	525,326,297	9.69 (10)	-6.36 (89)	-3.37 (83)	1.73 (79)	3.05 (46)		3.14 (34)	8/1/2014
Barings Global Loan Fund - Net		9.69 (10)	-6.36 (89)	-3.40 (83)	1.39 (88)	2.61 (83)		2.68 (81)	
Barings Custom Benchmark*		10.25 (8)	-4.36 (37)	-1.68 (54)	2.45 (38)	3.21 (32)		3.12 (36)	
<b>Emerging Markets Debt</b>	<b>213,407,036</b>	<b>11.74 (76)</b>	<b>-5.41 (70)</b>	<b>-1.57 (67)</b>	<b>2.05 (71)</b>	<b>3.61 (68)</b>		<b>2.26 (62)</b>	<b>8/1/2014</b>
Emerging Markets Debt - Net		11.74 (76)	-5.49 (70)	-1.83 (70)	1.73 (74)	3.26 (74)		1.94 (66)	
Custom Benchmark (EMD)		10.70 (86)	-3.77 (51)	0.17 (43)	2.73 (56)	3.91 (65)		1.95 (65)	
Standish-Mellon EMD	213,407,036	11.74 (76)	-5.41 (70)	-1.57 (67)	2.05 (71)	3.61 (68)		2.26 (62)	8/1/2014
Standish EM MRK - Net		11.74 (76)	-5.49 (70)	-1.83 (70)	1.73 (74)	3.26 (74)		1.94 (66)	
Custom Benchmark**		10.70 (86)	-3.77 (51)	0.17 (43)	2.73 (56)	3.91 (65)		1.95 (65)	
<b>High Yield</b>	<b>762,470,118</b>	<b>10.39 (29)</b>	<b>-1.96 (12)</b>	<b>2.04 (11)</b>	<b>4.84 (4)</b>	<b>5.86 (4)</b>	<b>7.23 (16)</b>	<b>9.35 (4)</b>	<b>4/1/1986</b>
High Yield - Net		10.39 (29)	-2.04 (12)	1.79 (13)	4.51 (7)	5.52 (7)	6.86 (35)		
ICE BofAML US High Yield, Cash Pay Index		9.58 (46)	-4.73 (58)	-1.07 (64)	2.95 (65)	4.58 (45)	6.46 (66)	8.04 (56)	
MacKay Shields	762,150,466	10.40 (29)	-1.96 (12)	2.05 (11)	4.81 (5)	6.07 (3)	7.34 (8)	8.54 (5)	11/1/2000
MacKay Shields - Net		10.40 (29)	-2.04 (12)	1.80 (13)	4.49 (7)	5.72 (5)	6.97 (25)		
ICE BofAML US High Yield, Cash Pay Index		9.58 (46)	-4.73 (58)	-1.07 (64)	2.95 (65)	4.58 (45)	6.46 (66)	7.14 (62)	

Taplin, Canada, Habacht switched from core to core plus effective 10/01/2010.

\* Custom Benchmark is 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.

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# Asset Allocation & Performance

## Real Estate

Periods Ended June 30, 2020

	Market Value \$	Performance (%)							Inception Date
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>Real Estate</b>	<b>2,973,376,487</b>	<b>-1.38</b>	<b>0.65</b>	<b>5.24</b>	<b>8.20</b>	<b>9.15</b>	<b>10.82</b>	<b>5.50</b>	<b>5/1/1985</b>
Real Estate - Net		-1.38	0.65	5.20	8.18	9.12	10.81		
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72	6.35	9.88	7.55	
<b>Real Estate Core Cmp</b>	<b>1,598,039,573</b>	<b>1.21</b>	<b>2.91</b>	<b>7.91</b>	<b>9.28</b>	<b>9.70</b>	<b>10.82</b>	<b>7.42</b>	<b>4/1/1999</b>
<b>TA Assoc. Buckhead</b>	<b>617,951,573</b>	<b>0.93</b>	<b>3.96</b>	<b>12.44</b>	<b>12.79</b>	<b>12.24</b>	<b>12.09</b>	<b>10.74</b>	<b>8/1/1995</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72	6.35	9.88	7.20	
<b>Barings Euro Core Property</b>	<b>130,566,748</b>	<b>5.25</b>	<b>2.83</b>	<b>6.56</b>	<b>15.30</b>			<b>16.92</b>	<b>3/1/2017</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72			4.86	
<b>Blackstone Property Euro</b>	<b>135,897,797</b>	<b>3.10</b>	<b>3.99</b>	<b>6.84</b>				<b>5.32</b>	<b>12/1/2017</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33				4.35	
<b>INVESCO Core Real Estate</b>	<b>214,079,432</b>	<b>0.54</b>	<b>2.64</b>	<b>5.37</b>	<b>5.97</b>	<b>8.02</b>		<b>9.15</b>	<b>4/1/2011</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72	6.35		9.27	
<b>INVESCO European real estate</b>	<b>57,349,823</b>	<b>1.83</b>	<b>0.75</b>	<b>0.33</b>				<b>-1.67</b>	<b>4/1/2018</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33				3.82	
<b>AEW Core Property Tr</b>	<b>234,536,661</b>	<b>-1.03</b>	<b>-0.08</b>	<b>2.76</b>	<b>5.46</b>	<b>6.72</b>		<b>7.74</b>	<b>10/1/2013</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72	6.35		7.87	
<b>CBRE Core Partners</b>	<b>207,657,540</b>	<b>1.48</b>	<b>3.45</b>	<b>7.29</b>	<b>8.45</b>	<b>8.41</b>		<b>9.45</b>	<b>12/1/2013</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72	6.35		7.76	
<b>RE Non-Core Cmp</b>	<b>1,375,336,913</b>	<b>-4.22</b>	<b>-1.84</b>	<b>2.33</b>	<b>7.01</b>	<b>8.54</b>	<b>10.98</b>	<b>10.96</b>	<b>1/1/2010</b>
<b>Artemis MWBE Spruce</b>	<b>218,177,200</b>	<b>1.67</b>	<b>5.74</b>	<b>10.32</b>	<b>6.68</b>			<b>3.69</b>	<b>6/1/2016</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72			5.31	
<b>Franklin T. EMREFF</b>	<b>7,860,669</b>								

Returns are time-weighted and are reported net of fee for all real estate managers.

The Blended Benchmark (Real Estate) is currently the NCREIF ODCE VW Net Index. Prior to January 1, 2013, it was the NCREIF Property Index + 1%. Returns prior to January, 2007, reflect those of the Consumer Price Index + 5%.

# Asset Allocation & Performance

## Real Estate

Periods Ended June 30, 2020

	Market Value \$	Performance (%)							Inception Date
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>Security Capital</b>	<b>49,800,323</b>	<b>-7.69</b>	<b>-10.61</b>	<b>-4.72</b>	<b>4.98</b>	<b>4.66</b>	<b>6.30</b>	<b>10.49</b>	<b>11/1/1997</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72	6.35	9.88	7.17	
<b>Dune II</b>	<b>20,456,881</b>	<b>-9.66</b>	<b>-6.94</b>	<b>-6.19</b>	<b>3.75</b>	<b>6.82</b>	<b>12.38</b>	<b>5.53</b>	<b>2/1/2009</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72	6.35	9.88	7.62	
<b>Non-Core Real Estate Funds</b>	<b>933,925,379</b>	<b>-5.89</b>	<b>-3.07</b>	<b>1.54</b>	<b>7.77</b>	<b>9.64</b>		<b>10.07</b>	<b>10/1/2011</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72	6.35		8.88	
<b>Rockwood Fund VIII</b>	<b>1</b>								
<b>Almanac ARS V</b>	<b>143,862</b>								
<b>Non-Core Intl Real Estate</b>	<b>144,972,599</b>	<b>-1.53</b>	<b>-0.44</b>	<b>0.59</b>	<b>2.78</b>	<b>-1.14</b>		<b>-2.60</b>	<b>8/1/2014</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72	6.35		7.42	

Returns are time-weighted and are reported net of fee for all real estate managers.

The Blended Benchmark (Real Estate) is currently the NCREIF ODCE VW Net Index. Prior to January 1, 2013, it was the NCREIF Property Index + 1%. Returns prior to January, 2007, reflect those of the Consumer Price Index + 5%.

# Asset Allocation & Performance

Alternatives Investments  
Periods Ended June 30, 2020

	Allocation	Performance (%)							
	Market Value \$	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Alternatives Investments</b>	<b>2,602,977,223</b>	<b>-3.43</b>	<b>-1.70</b>	<b>3.80</b>	<b>9.88</b>	<b>9.01</b>	<b>8.96</b>	<b>10.64</b>	<b>2/1/1986</b>
Alternatives Custom Benchmark		2.18	4.40	9.00	9.00	9.00	9.00	12.60	
<b>Absolute Return</b>	<b>327,113</b>	<b>-26.76</b>	<b>-30.59</b>	<b>-30.02</b>	<b>-16.54</b>	<b>-4.63</b>	<b>-0.01</b>	<b>2.27</b>	<b>1/1/2002</b>
<b>Aurora Investment</b>	<b>327,113</b>								<b>11/1/2001</b>
<b>Private Equity</b>	<b>2,131,821,562</b>	<b>-2.53</b>	<b>-1.04</b>	<b>5.76</b>	<b>12.76</b>	<b>11.67</b>	<b>11.60</b>	<b>12.85</b>	<b>2/1/1986</b>
Alternatives Custom Benchmark		2.18	4.40	9.00	9.00	9.00	9.00	12.60	
<b>Abbott S/A Comp.</b>	<b>352,787,433</b>	<b>-1.12</b>	<b>-0.36</b>	<b>10.39</b>	<b>13.26</b>	<b>11.81</b>	<b>11.63</b>	<b>13.61</b>	<b>6/1/1987</b>
<b>Muller Monroe MPEFF</b>	<b>4,969,587</b>	<b>3.34</b>	<b>2.99</b>	<b>4.29</b>	<b>5.33</b>	<b>5.87</b>	<b>9.02</b>	<b>5.45</b>	<b>5/1/2008</b>
<b>Pantheon S/A Comp.</b>	<b>269,573,636</b>	<b>4.56</b>	<b>5.68</b>	<b>15.64</b>	<b>15.38</b>	<b>12.88</b>	<b>12.54</b>	<b>10.10</b>	<b>10/1/2000</b>
<b>Private Equity Fund - Domestic</b>	<b>1,165,530,329</b>	<b>-4.17</b>	<b>0.70</b>	<b>6.09</b>	<b>13.69</b>	<b>13.31</b>		<b>11.05</b>	<b>6/1/2012</b>
<b>Private Equity Fund - International</b>	<b>323,952,227</b>	<b>-3.73</b>	<b>-11.29</b>	<b>-6.84</b>	<b>10.32</b>	<b>-11.55</b>		<b>-11.55</b>	<b>7/1/2015</b>
<b>Oakbrook Opportunities Fund</b>	<b>15,008,349</b>	<b>-6.36</b>	<b>-7.58</b>	<b>-17.77</b>				<b>-16.53</b>	<b>6/1/2019</b>
<b>Private Credit</b>	<b>130,898,261</b>	<b>-21.18</b>	<b>-20.54</b>					<b>-18.85</b>	<b>10/1/2019</b>
<b>Private Credit Fund - Domestic</b>	<b>130,898,261</b>	<b>-21.18</b>	<b>-20.54</b>					<b>-18.85</b>	<b>10/1/2019</b>
<b>Agriculture</b>	<b>216,305,455</b>	<b>-0.49</b>	<b>4.19</b>	<b>0.51</b>	<b>-1.89</b>	<b>2.44</b>	<b>8.97</b>	<b>7.00</b>	<b>10/1/1997</b>
NCREIF Farmland Index		0.61	0.50	3.85	5.35	6.44	10.86	11.56	
<b>Premiere Partners IV</b>	<b>216,305,455</b>	<b>-0.49</b>	<b>4.19</b>	<b>0.51</b>	<b>-1.89</b>	<b>2.44</b>		<b>2.23</b>	<b>3/1/2015</b>
<b>Timberland</b>	<b>76,355,317</b>	<b>0.57</b>	<b>4.13</b>	<b>4.73</b>	<b>1.66</b>	<b>1.00</b>	<b>2.96</b>	<b>7.36</b>	<b>10/1/1992</b>
Blended Benchmark (Real Estate)		-1.75	-1.01	1.33	4.72	6.35	9.88	7.25	

Returns are time-weighted and are reported net of fee for all real estate managers. The Alternatives Custom Benchmark is based on an annualized return of 9%. Prior to July 1, 2010, it was based on an annual return of 12%. Prior to 2004, it was based on an annualized return of 13%. Prior to 2003, it was based on an annual return of 15%.



# Asset Allocation & Performance

Alternatives Investments  
 Periods Ended June 30, 2020

	Allocation	Performance (%)							
	Market Value \$	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Forest Investment</b>	<b>76,355,317</b>	<b>0.57</b>	<b>4.13</b>	<b>4.73</b>	<b>1.66</b>	<b>1.00</b>	<b>3.37</b>	<b>7.52</b>	<b>10/1/1992</b>
Alternatives Custom Benchmark (Timberland)		0.08	0.19	0.34	2.28	2.71	6.76		
<b>Unlisted Infrastructure</b>	<b>47,269,515</b>	<b>-1.09</b>	<b>-1.43</b>	<b>4.73</b>				<b>7.18</b>	<b>4/1/2018</b>
Alternatives Custom Benchmark		2.18	4.40	9.00				9.00	
<b>Unlisted Infrastructure Funds</b>	<b>47,269,515</b>	<b>-1.09</b>	<b>-1.43</b>	<b>4.73</b>				<b>7.18</b>	<b>4/1/2018</b>
Alternatives Custom Benchmark		2.18	4.40	9.00				9.00	

Returns are time-weighted and are reported net of fee for all real estate managers. The Alternatives Custom Benchmark is based on an annualized return of 9%. Prior to July 1, 2010, it was based on an annual return of 12%. Prior to 2004, it was based on an annualized return of 13%. Prior to 2003, it was based on an annual return of 15%.

Wilshire Consulting

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