

## Board of Trustees - Monthly Performance Report - December 31, 2018

All returns are annualized (for periods greater than one year), gross of fees (before fees) unless otherwise noted, and provided by Callan Associates, Inc.

	Market Values as of 12/31/2018*	(A)	(B)	(C)	(D)	(E)	(F)	(G)
		1 Month	3 Months	FYTD	CYTD	1 Year	3 Years	5 Years
<b>1 TOTAL FUND •</b>	<b>61,910,095,831</b>	<b>-2.81%</b>	<b>-5.20%</b>	<b>-3.19%</b>	<b>-1.10%</b>	<b>-1.10%</b>	<b>7.58%</b>	<b>6.27%</b>
<b>2 TOTAL FUND w/o FX Overlay •</b>		<b>-2.80%</b>	<b>-5.19%</b>	<b>-3.18%</b>	<b>-1.07%</b>	<b>-1.07%</b>	<b>7.59%</b>	<b>6.28%</b>
3 Passive Index Benchmark <sup>1</sup> •		-4.47%	-8.43%	-6.54%	-6.75%	-6.75%	5.02%	3.38%
4 Performance Benchmark <sup>2</sup> •		-2.70%	-4.97%	-2.44%	-1.54%	-1.54%	6.90%	5.26%
5 Total Fund Return Objective <sup>3</sup>		0.10%	0.77%	2.18%	6.91%	6.91%	7.03%	6.52%
<b>6 PUBLIC EQUITY</b>	<b>23,190,493,965</b>	<b>-7.67%</b>	<b>-13.65%</b>	<b>-10.90%</b>	<b>-11.07%</b>	<b>-11.07%</b>	<b>6.70%</b>	<b>3.82%</b>
<b>7 PUBLIC EQUITY w/o FX Overlay</b>	<b>23,183,667,673</b>	<b>-7.64%</b>	<b>-13.62%</b>	<b>-10.88%</b>	<b>-11.02%</b>	<b>-11.02%</b>	<b>6.72%</b>	<b>3.83%</b>
8 MSCI ACWI IMI		-7.24%	-13.28%	-9.92%	-10.08%	-10.08%	6.49%	4.17%
<b>9 INTERNATIONAL EQUITY</b>	<b>6,639,781,704</b>	<b>-4.31%</b>	<b>-11.20%</b>	<b>-11.76%</b>	<b>-15.42%</b>	<b>-15.42%</b>	<b>5.85%</b>	<b>1.25%</b>
10 MSCI ACWI IMI EX-US		-4.65%	-11.88%	-11.53%	-14.76%	-14.76%	4.39%	0.85%
<b>11 GLOBAL EQUITY</b>	<b>9,440,029,433</b>	<b>-7.85%</b>	<b>-13.57%</b>	<b>-9.98%</b>	<b>-9.41%</b>	<b>-9.41%</b>	<b>6.23%</b>	<b>4.35%</b>
12 MSCI ACWI IMI		-7.24%	-13.28%	-9.92%	-10.08%	-10.08%	6.49%	4.17%
<b>13 DOMESTIC EQUITY</b>	<b>7,103,468,137</b>	<b>-10.18%</b>	<b>-15.82%</b>	<b>-11.25%</b>	<b>-8.78%</b>	<b>-8.78%</b>	<b>7.78%</b>	<b>6.78%</b>
14 RUSSELL 3000 INDEX		-9.31%	-14.30%	-8.20%	-5.24%	-5.24%	8.97%	7.91%
<b>15 FIXED INCOME PLUS</b>	<b>14,692,207,531</b>	<b>0.00%</b>	<b>-0.79%</b>	<b>-0.15%</b>	<b>-1.77%</b>	<b>-1.77%</b>		
16 PUBLIC INCOME BENCHMARK <sup>4</sup>		0.10%	-0.67%	-0.32%	-1.76%	-1.76%		
<b>17 US FIXED INCOME AGGREGATE</b>	<b>4,052,237,882</b>	<b>1.67%</b>	<b>1.28%</b>	<b>1.49%</b>	<b>-0.35%</b>	<b>-0.35%</b>	<b>2.33%</b>	<b>2.61%</b>
18 BB AGGREGATE		1.84%	1.64%	1.65%	0.01%	0.01%	2.06%	2.52%
<b>19 US INVESTMENT GRADE CORPORATE</b>	<b>3,838,986,578</b>	<b>1.29%</b>	<b>-0.62%</b>	<b>0.57%</b>	<b>-2.99%</b>	<b>-2.99%</b>	<b>3.68%</b>	<b>3.79%</b>
20 BB CORPORATE		1.47%	-0.18%	0.79%	-2.51%	-2.51%	3.26%	3.28%
<b>21 NON US FIXED INCOME</b>	<b>1,509,963,576</b>	<b>1.15%</b>	<b>2.14%</b>	<b>2.00%</b>	<b>3.37%</b>	<b>3.37%</b>	<b>3.29%</b>	<b>4.02%</b>
22 BB GLOBAL TREASURY EX-US		1.34%	2.27%	1.91%	3.55%	3.55%	3.52%	4.25%
<b>23 GLOBAL HIGH YIELD</b>	<b>1,534,756,736</b>	<b>-2.35%</b>	<b>-4.77%</b>	<b>-2.39%</b>	<b>-2.15%</b>	<b>-2.15%</b>	<b>6.31%</b>	<b>3.30%</b>
24 BB US HIGH YIELD 2% ISSUER CAP		-2.14%	-4.54%	-2.24%	-2.08%	-2.08%	7.23%	3.84%
<b>25 EMERGING MARKET DEBT</b>	<b>973,371,035</b>	<b>1.27%</b>	<b>1.00%</b>	<b>0.67%</b>	<b>-5.20%</b>	<b>-5.20%</b>	<b>5.54%</b>	<b>2.01%</b>
26 EMD BENCHMARK <sup>5</sup>		1.33%	0.43%	0.67%	-5.15%	-5.15%	5.61%	1.95%
<b>27 TIPS</b>	<b>252,057,911</b>	<b>0.45%</b>	<b>-0.26%</b>	<b>-0.82%</b>	<b>-0.85%</b>	<b>-0.85%</b>	<b>2.07%</b>	<b>1.49%</b>
28 BB US TIPS		0.55%	-0.42%	-1.24%	-1.26%	-1.26%	2.11%	1.69%
<b>29 REITS</b>	<b>1,383,765,689</b>	<b>-5.80%</b>	<b>-5.42%</b>	<b>-5.11%</b>	<b>-4.29%</b>	<b>-4.29%</b>	<b>6.50%</b>	<b>6.21%</b>
30 S&P GLOBAL REIT		-5.93%	-5.79%	-5.85%	-5.93%	-5.93%	5.24%	5.28%
<b>31 LISTED INFRASTRUCTURE</b>	<b>692,359,113</b>	<b>-3.47%</b>	<b>-4.62%</b>	<b>-4.59%</b>	<b>-5.63%</b>	<b>-5.63%</b>	<b>7.51%</b>	<b>7.91%</b>
32 S&P GLOBAL LISTED INFRASTRUCTURE		-3.19%	-5.34%	-7.05%	-10.37%	-10.37%	5.95%	3.21%
<b>33 FIXED INCOME PLUS CASH</b>	<b>454,674,124</b>	<b>0.21%</b>	<b>0.53%</b>	<b>0.96%</b>	<b>1.79%</b>	<b>1.79%</b>		
34 90 DAY T-BILLS		0.18%	0.56%	1.06%	1.87%	1.87%		
<b>35 PRIVATE EQUITY &amp; SPECIAL OPPORTUNITIES •</b>	<b>8,197,315,367</b>	<b>N/A</b>	<b>6.71%</b>	<b>11.86%</b>	<b>30.80%</b>	<b>30.80%</b>	<b>20.43%</b>	<b>24.01%</b>
36 PRIVATE EQUITY •	<b>4,950,470,977</b>	<b>N/A</b>	<b>6.33%</b>	<b>13.12%</b>	<b>28.52%</b>	<b>28.52%</b>	<b>21.05%</b>	<b>20.95%</b>
37 PRIVATE EQUITY CUSTOM BENCHMARK <sup>6</sup> •		<b>N/A</b>	<b>3.37%</b>	<b>8.08%</b>	<b>16.77%</b>	<b>16.77%</b>	<b>14.43%</b>	<b>10.10%</b>
<b>38 SPECIAL OPPORTUNITIES •</b>	<b>3,246,844,390</b>	<b>N/A</b>	<b>7.28%</b>	<b>9.78%</b>	<b>33.89%</b>	<b>33.89%</b>	<b>20.40%</b>	
39 CAMBRIDGE PRIVATE EQUITY •		<b>N/A</b>	<b>3.37%</b>	<b>8.08%</b>	<b>16.77%</b>	<b>16.77%</b>	<b>14.10%</b>	
<b>40 REAL ESTATE •</b>	<b>3,973,707,465</b>	<b>N/A</b>	<b>0.24%</b>	<b>-2.05%</b>	<b>1.69%</b>	<b>1.69%</b>	<b>6.09%</b>	<b>8.50%</b>
41 NCREIF TOTAL INDEX •		<b>N/A</b>	<b>1.67%</b>	<b>3.51%</b>	<b>7.16%</b>	<b>7.16%</b>	<b>7.75%</b>	<b>9.57%</b>
<b>42 RE SEPARATE ACCTS &amp; DIRECT</b>	<b>3,927,597,424</b>	<b>N/A</b>	<b>0.13%</b>	<b>-2.28%</b>	<b>1.25%</b>	<b>1.25%</b>	<b>5.70%</b>	<b>8.21%</b>
43 RE FUNDS & CO-INVEST	<b>46,110,041</b>							
<b>44 INFRA. &amp; PRIVATE INCOME •</b>	<b>5,171,908,661</b>	<b>N/A</b>	<b>3.81%</b>	<b>6.83%</b>	<b>13.87%</b>	<b>13.87%</b>	<b>14.22%</b>	<b>12.52%</b>
45 INFRA. & INCOME OPPORTUNITIES <sup>7</sup> •		<b>N/A</b>	<b>2.53%</b>	<b>6.19%</b>	<b>4.78%</b>	<b>4.78%</b>	<b>9.61%</b>	<b>7.52%</b>
<b>46 INFRASTRUCTURE •</b>	<b>2,719,798,569</b>	<b>N/A</b>	<b>5.56%</b>	<b>9.75%</b>	<b>20.41%</b>	<b>20.41%</b>	<b>20.00%</b>	<b>17.58%</b>
47 PRIVATE CREDIT •	<b>1,453,167,885</b>	<b>N/A</b>	<b>2.29%</b>	<b>4.67%</b>	<b>7.81%</b>	<b>7.81%</b>	<b>7.46%</b>	<b>7.13%</b>
<b>48 PRIVATE INCOME •</b>	<b>998,942,207</b>	<b>N/A</b>	<b>1.20%</b>	<b>1.85%</b>	<b>-2.62%</b>	<b>-2.62%</b>	<b>8.52%</b>	
<b>49 ABSOLUTE RETURN</b>	<b>3,436,581,532</b>	<b>0.01%</b>	<b>-0.86%</b>	<b>-0.20%</b>	<b>1.54%</b>	<b>1.54%</b>	<b>3.75%</b>	<b>2.79%</b>
50 ABSOLUTE RETURN BENCHMARK <sup>8</sup>		-2.37%	-5.76%	-5.26%	-4.49%	-4.49%	2.98%	4.15%
<b>51 ASSET ALLOCATION</b>	<b>3,258,410,558</b>	<b>-1.70%</b>	<b>-4.91%</b>	<b>-4.44%</b>	<b>-5.63%</b>	<b>-5.63%</b>	<b>1.35%</b>	<b>1.35%</b>
52 ASSET ALLOCATION BENCHMARK <sup>9</sup>		-1.55%	-2.77%	-1.03%	-0.14%	-0.14%	5.80%	4.61%
53 APF FI LIQUIDITY								
<b>54 APF ASSET ALLOCATION CASH</b>	<b>1,693,831,042</b>	<b>0.18%</b>	<b>0.53%</b>	<b>1.00%</b>	<b>1.71%</b>	<b>1.71%</b>	<b>0.94%</b>	<b>0.57%</b>
55 90 DAY T-BILLS		0.18%	0.56%	1.06%	1.87%	1.87%	1.02%	0.63%
<b>56 ASSET ALLOCATION OVERLAY</b>	<b>1,115,640,950</b>	<b>-4.20%</b>	<b>-7.99%</b>	<b>-5.86%</b>				
57 Asset Allocation Overlay Benchmark <sup>10</sup>		-4.06%	-8.18%	-5.87%				
<b>58 LEGACY ECIOS</b>	<b>448,938,566</b>	<b>-1.59%</b>	<b>-8.26%</b>	<b>-9.29%</b>	<b>-10.73%</b>	<b>-10.73%</b>	<b>1.44%</b>	<b>2.58%</b>
59 Performance Benchmark •		-2.70%	-4.97%	-2.44%	-1.54%	-1.54%	6.90%	5.26%

<sup>1</sup> Passive Benchmark is a blended benchmark (60% MSCI All-Country World Index IMI; 20% BB Global Aggregate Index; 10% FTSE EPRA/NAREIT Rental Index; 10% US TIPS) from 9/30/2016 to date. Prior periods are described in Investment Policy.

<sup>2</sup> Performance Benchmark is a blended benchmark (39% MSCI ACWI IMI; 11% NCREIF Total Index (1Q Lagged); 12% Cambridge Private Equity (1Q Lagged); 6% BB US Corporate; 6% BB Aggregate; 5% HFRI Total HFOF Universe; 2% BB US High Yield 2% Issuer Cap; 3% BB US High Yield 2% Issuer Cap (1Q Lagged); 3% 90 Day T-Bills; 4% FTSE Developed Core Infrastructure TRI (1Q Lagged); 2% S&P Global REIT; 2% BB Global Treasury ex-US; 1% S&P Global Listed Infrastructure; 0.5% JPM EMBI Global Div; 0.5% JPM GBI-EM Global Div TRI; 1% BC US TIPS) from 6/30/2017 to date. Prior periods are described in Investment Policy.

<sup>3</sup> Total Fund Return Objective is the Consumer Price Index (All Urban Consumers, U.S. City Average, All Items, Unadjusted Index) plus 5%.

<sup>4</sup> Public Income Benchmark is a blended benchmark (25% BB Aggregate; 25% BB US Corporate; 10% S&P Global REIT; 10% BB US High Yield 2% Issuer Cap; 10% BB Global Treasury ex-US; 5% S&P Global Listed Infrastructure; 5% BB US TIPS; 5% 90 Day T-Bills; 2.5% JPM EMBI Global Div; 2.5% JPM GBI-EM Global Div TRI) from 9/30/2016 to date.

<sup>5</sup> EMD Benchmark is 50% JPM EMBI Global Diversified and 50% JPM GBI-EM Global Diversified.

<sup>6</sup> Private Equity Custom Benchmark is 60% Russell 3000 (1Q Lagged) and 40% MSCI EAFE (1Q Lagged) through 9/30/2016 then Cambridge Private Equity (1Q Lagged)

<sup>7</sup> Infra. & Income Opportunities Benchmark is a blended benchmark (60% FTSE Developed Core Infrastructure TRI (1Q Lagged); 40% BB US High Yield 2% Issuer Cap (1Q Lagged)) from 9/30/2016 to date.

<sup>8</sup> Absolute Return Benchmark is LIBOR + 4% through 6/30/2013, LIBOR + 6% from 7/1/2013 through 6/30/2015, LIBOR + 5% from 7/1/2015 through 9/30/2016, and HFRI Total HFOF Universe thereafter.

<sup>9</sup> Asset Allocation Benchmark is 100% Performance Benchmark from inception to 9/30/2016, 33.33% 90 Day T-Bills and 66.67% Performance Benchmark from 10/1/2016 through 6/30/2018, and 40% 90 Day T-Bills and 60% Performance Benchmark thereafter.

<sup>10</sup> Asset Allocation Overlay Benchmark is 65% MSCI ACWI IMI Net Unhedged and 35% BB US Agg

\* Reported market values represent total fund holdings, which consists of 99.16% APF and 0.84% AMH, and are consistent with the timing of the APF and AMH Financial

• For investments within Private Equity and Growth Opportunities, Real Estate, and Infrastructure, Private Credit, and Income Opportunities asset classes, returns are lagged one (1) quarter. Composites that incorporate these investments as well as associated benchmarks are also lagged one (1) quarter.

	Market Values as of 12/31/2018*	Returns as of 12/31/2018							
		(A) 1 Month	(B) 3 Months	(C) FYTD	(D) CYTD	(E) 1 Year	(F) 3 Years	(G) 5 Years	
60 PUBLIC EQUITY	23,190,493,965	-7.67%	-13.65%	-10.90%	-11.07%	-11.07%	6.70%	3.82%	
61 PUBLIC EQUITY w/o FX Overlay	23,183,667,673	-7.64%	-13.62%	-10.88%	-11.02%	-11.02%	6.72%	3.83%	
62 MSCI ACWI IMI		-7.24%	-13.28%	-9.92%	-10.08%	-10.08%	6.49%	4.17%	
63 INTERNATIONAL EQUITY	6,639,781,704	-4.31%	-11.20%	-11.76%	-15.42%	-15.42%	5.85%	1.25%	
64 MSCI ACWI IMI EX-US		-4.65%	-11.88%	-11.53%	-14.76%	-14.76%	4.39%	0.85%	
65 Macquarie Emerging Markets	174,050,541	-4.00%	-7.36%	-7.18%	-11.50%	-11.50%	12.52%	2.64%	
66 JP Morgan Emerging Markets	364,171,896	-2.60%	-4.94%	-6.10%	-10.93%	-10.93%	12.90%	4.54%	
67 Mondrian Investment Partners	496,176,552	-1.27%	-5.13%	-4.55%	-13.36%	-13.36%	6.64%	0.53%	
68 SSGA MSCI Emerging Markets	104,527,507	-2.65%	-7.37%	-8.27%	-14.32%	-14.32%	8.98%	1.67%	
69 William Blair Emerging Markets	348,432,402	-2.62%	-6.60%	-10.99%	-16.71%	-16.71%	7.38%	2.63%	
70 MEASA Fund	79,408,429	1.12%	-3.29%	-10.86%					
71 MSCI Emerging Markets Index		-2.66%	-7.47%	-8.49%	-14.58%	-14.58%	9.25%	1.65%	
72 DFA Emerging Markets Value	442,656,910	-1.84%	-7.30%	-5.08%	-10.98%	-10.98%	11.71%		
73 MSCI Emerging Markets Value Index		-2.26%	-6.75%	-3.54%	-10.74%	-10.74%	9.52%		
74 DFA Emerging Markets Small Cap	131,986,848	-1.56%	-6.31%	-10.77%	-18.71%	-18.71%	6.37%		
75 MSCI Emerging Markets Small Cap Index		-1.61%	-7.18%	-11.08%	-18.59%	-18.59%	3.68%		
76 Trustbridge Emerging Markets	206,841,261	-7.37%	-12.90%	-24.30%	-20.91%	-20.91%	11.03%		
77 MSCI All China Net Total Return Index		-4.95%	-11.20%	-17.66%	-26.65%	-26.65%	-4.95%		
78 Wells Capital	138,857,757	-4.32%	-10.99%	-16.88%	-18.40%	-18.40%			
79 MSCI All China Net Total Return Index		-4.95%	-11.20%	-17.66%	-26.65%	-26.65%			
80 Mellon MSCI World ex-USA	424,749,035	-5.09%	-12.64%	-11.42%	-13.67%	-13.67%	3.48%	0.66%	
81 DFA International Large Cap	432,939,993	-5.23%	-13.62%	-12.48%	-15.17%	-15.17%	3.99%	0.63%	
82 Int'l Passive/Quasi-Passive Custom <sup>1</sup>		-5.17%	-12.78%	-11.64%	-14.09%	-14.09%	3.11%	0.34%	
83 DFA International Small Cap Value	294,921,128	-6.63%	-17.48%	-18.25%	-22.70%	-22.70%	2.74%	1.63%	
84 MSCI World ex-USA Small Cap Value Index		-6.02%	-14.80%	-15.05%	-18.38%	-18.38%	4.05%	1.39%	
85 DFA International Small Company	307,518,624	-6.24%	-15.97%	-17.06%	-18.85%	-18.85%	4.19%	2.48%	
86 SSGA International Developed Small Cap	350,806,158	-6.35%	-16.00%	-16.69%	-17.72%	-17.72%	4.13%	2.56%	
87 MSCI World ex-USA Small Cap Index		-6.41%	-16.16%	-16.88%	-18.07%	-18.07%	3.85%	2.25%	
88 Acadian Asset Mgmt	478,733,738	-5.19%	-10.19%	-7.47%	-9.73%	-9.73%	7.92%	4.47%	
89 MSCI Custom Benchmark <sup>2</sup>		-5.25%	-12.05%	-11.03%	-15.06%	-15.06%	3.15%	0.36%	
90 LSV International Large Cap	493,314,038	-4.91%	-13.01%	-10.93%	-15.67%	-15.67%	5.21%		
91 Schroders International Large Cap	534,241,406	-4.70%	-12.48%	-11.18%	-14.63%	-14.63%	5.37%		
92 MSCI All Country World ex-USA Value Index		-4.48%	-10.71%	-9.17%	-13.97%	-13.97%	4.75%		
93 Johnston International Large Cap	343,460,667	-3.99%	-11.46%	-14.19%	-13.05%	-13.05%	7.52%		
94 JP Morgan International Large Cap	491,664,952	-5.17%	-13.86%	-14.81%	-16.12%	-16.12%	3.73%		
95 MSCI World ex-USA Growth Index		-5.09%	-13.48%	-12.22%	-13.14%	-13.14%	2.84%		
96 GLOBAL EQUITY	9,440,029,433	-7.85%	-13.57%	-9.98%	-9.41%	-9.41%	6.23%	4.35%	
97 MSCI ACWI IMI		-7.24%	-13.28%	-9.92%	-10.08%	-10.08%	6.49%	4.17%	
98 AQR Global Equity	1,344,042,575	-8.78%	-15.84%	-12.79%	-13.71%	-13.71%	5.37%	4.59%	
99 SSGA MSCI World	165,807,961	-7.56%	-13.31%	-8.92%	-8.39%	-8.39%	6.76%		
100 CDAM Global Equity	257,192,713	-8.22%	-16.91%	-12.52%	-16.65%				
101 MSCI World Index		-7.60%	-13.42%	-9.10%	-8.71%	-8.71%	6.30%	4.56%	
102 SSGA Russell Fundamental Developed Lrg Co	1,460,404,130	-7.62%	-13.42%	-9.72%	-10.39%	-10.39%	6.65%	3.98%	
103 Russell Fundamental Dvlpd Lrg Co Index		-7.62%	-13.38%	-9.64%	-10.26%	-10.26%	6.88%	4.13%	
104 Lazard Asset Management <sup>4</sup>	1,083,116,265	-7.11%	-12.49%	-9.02%	-9.58%	-9.58%	5.39%	4.06%	
105 McKinley Capital Management	364,362,912	-7.78%	-16.67%	-13.35%	-12.34%	-12.34%	4.17%	4.65%	
106 RBA Global Equity	273,501,062	-8.07%	-13.64%	-10.19%	-9.69%				
107 WCM Global Equity	392,048,476	-6.97%	-11.36%	-5.58%	-1.43%				
108 MSCI All-Country World Index		-7.04%	-12.75%	-9.02%	-9.42%	-9.42%	6.60%	4.26%	
109 APF Tactical Tilts	2,346,019,369	-8.24%	-13.59%	-11.49%	-11.40%	-11.40%	5.38%		
110 SSGA MSCI ACWI IMI	150,764,062	-7.14%	-13.14%	-9.69%	-9.72%	-9.72%			
111 APF Global Equities	93,160,879	-6.73%	-12.14%	-8.70%	-9.07%	-9.07%			
112 Arrowstreet Global Equity	745,956,899	-6.47%	-12.89%	-6.86%	-6.35%				
113 Longview Global Equity	763,650,759	-8.48%	-10.03%	-3.70%					
114 MSCI All-Country World IMI		-7.24%	-13.28%	-9.92%	-10.08%	-10.08%	6.49%		
115 DOMESTIC EQUITY	7,103,468,137	-10.18%	-15.82%	-11.25%	-8.78%	-8.78%	7.78%	6.78%	
116 RUSSELL 3000 INDEX		-9.31%	-14.30%	-8.20%	-5.24%	-5.24%	8.97%	7.91%	
117 Mellon S&P 500	901,809,036	-9.02%	-13.52%	-6.90%	-4.43%	-4.43%	9.08%	8.45%	
118 S&P 500 Index		-9.03%	-13.52%	-6.85%	-4.38%	-4.38%	9.26%	8.49%	
119 Mellon FTSE RAFI US Large Cap	632,014,183	-9.88%	-13.84%	-8.63%	-8.30%	-8.30%	7.88%	6.65%	
120 FTSE RAFI US 1000 Index		-9.90%	-13.83%	-8.59%	-8.26%	-8.26%	7.89%	6.70%	
121 AGI - Large Cap	685,994,750	-10.01%	-18.32%	-11.87%	-6.80%	-6.80%	8.27%	8.68%	
122 SSGA Large Cap	214,370,398	-8.85%	-14.80%	-7.59%	-1.95%	-1.95%	9.52%	9.45%	
123 DSM - Large Cap	644,583,364	-8.12%	-12.97%	-9.96%	-3.80%	-3.80%	9.81%	9.79%	
124 CastleArk - Large Cap	175,677,970	-8.71%	-19.06%	-13.20%	-3.47%	-3.47%	11.50%	8.87%	
125 APF SPDR Yield	351,109,729	-10.10%	-13.92%	-11.04%	-8.70%	-8.70%			
126 APF SPDR Momentum	354,866,983	-10.35%	-17.18%	-13.31%	-12.37%	-12.37%			
127 APF SPDR Low Vol	380,704,504	-8.85%	-11.53%	-6.82%	-5.29%	-5.29%			
128 Russell 1000 Growth Index		-8.60%	-15.89%	-8.17%	-1.51%	-1.51%	11.15%	10.40%	
129 Russell 1000 Index		-9.11%	-13.82%	-7.42%	-4.78%	-4.78%	9.09%	8.21%	
130 Lyrical - Large Cap	594,884,721	-11.84%	-17.22%	-14.89%	-21.05%	-21.05%	2.96%	3.42%	
131 SKBA - Large Cap	324,481,464	-9.34%	-14.58%	-10.72%	-10.27%	-10.27%	8.56%	6.15%	
132 LSV - Large Cap Value	826,636,734	-10.97%	-14.32%	-10.26%	-12.11%	-12.11%			
133 Russell 1000 Value Index		-9.60%	-11.72%	-6.69%	-8.27%	-8.27%	6.95%	5.95%	
134 Mellon S&P 400	81,674,321	-11.89%	-17.80%	-14.61%	-11.65%	-11.65%	7.44%	5.91%	
135 S&P 400 Index		-11.32%	-17.28%	-14.08%	-11.08%	-11.08%	7.66%	6.03%	
136 Jennison Associates LLC	243,715,809	-11.75%	-20.78%	-19.30%	-11.42%	-11.42%	5.77%	4.85%	
137 Russell 2000 Index		-11.88%	-20.20%	-17.35%	-11.01%	-11.01%	7.36%	4.41%	
138 RBC Asset Mgmt	104,567,849	-13.84%	-20.53%	-14.40%	-4.07%	-4.07%	7.43%	4.95%	
139 Eagle Asset Mgmt	108,759,885	-12.75%	-21.27%	-12.59%	-2.10%	-2.10%	10.53%	7.90%	
140 Russell 2000 Growth Index		-11.68%	-21.65%	-17.33%	-9.31%	-9.31%	7.24%	5.13%	
141 Russell 2000 Index		-11.88%	-20.20%	-17.35%	-11.01%	-11.01%	7.36%	4.41%	
142 T Rowe Price	160,006,395	-11.92%	-19.05%	-15.25%	-11.81%	-11.81%	9.80%	4.79%	
143 Pzena Investment Mgmt	161,476,344	-13.04%	-19.56%	-20.81%	-12.56%	-12.56%	6.31%	5.87%	
144 Russell 2000 Value Index		-12.09%	-18.67%	-17.36%	-12.86%	-12.86%	7.37%	3.61%	
145 Russell 2000 Index		-11.88%	-20.20%	-17.35%	-11.01%	-11.01%	7.36%	4.41%	
146 AGI Structured Alpha	156,133,700	-9.87%	-15.96%	-8.65%	-6.17%	-6.17%			
147 S&P 500 Index		-9.03%	-13.52%	-6.85%	-4.38%	-4.38%			

<sup>1</sup> Int'l Passive/Quasi-Passive Custom Benchmark is MSCI EAFE through 5/26/10 then MSCI World ex US thereafter.  
<sup>2</sup> MSCI Custom Blend benchmark is MSCI EAFE TRI through 2/28/11, MSCI World ex-USA TRI through 4/30/2016, then MSCI World ex-USA Value TRI thereafter.  
<sup>3</sup> MSCI World ex-USA/MSCI EAFE benchmark is MSCI EAFE TRI through 2/28/11 then MSCI World ex-USA TRI thereafter.  
<sup>4</sup> Lazard global equity accounts' annual fees do not include fees paid on imbedded mutual fund positions.  
\* Reported market values represent total fund holdings, which consists of 99.16% APF and 0.84% AMH, and are consistent with the timing of the APF and AMH Financial Statements.

	Market Values as of 12/31/2018*	Returns as of 12/31/2018							
		(A) 1 Month	(B) 3 Months	(C) FYTD	(D) CYTD	(E) 1 Year	(F) 3 Years	(G) 5 Years	
148	<b>FIXED INCOME PLUS</b>	<b>14,692,207,531</b>	<b>0.00%</b>	<b>-0.79%</b>	<b>-0.15%</b>	<b>-1.77%</b>	<b>-1.77%</b>		
149	PUBLIC INCOME BENCHMARK <sup>1</sup>		0.10%	-0.67%	-0.32%	-1.76%	-1.76%		
150	<b>US FIXED INCOME AGGREGATE</b>	<b>4,052,237,882</b>	<b>1.67%</b>	<b>1.28%</b>	<b>1.49%</b>	<b>-0.35%</b>	<b>-0.35%</b>	<b>2.33%</b>	<b>2.61%</b>
151	BB AGGREGATE		1.84%	1.64%	1.65%	0.01%	0.01%	2.06%	2.52%
152	APF Fixed Income - Aggregate	4,052,237,882	1.67%	1.28%	1.49%	-0.35%	-0.35%	2.33%	2.61%
153	<b>US INVESTMENT GRADE CORPORATE</b>	<b>3,838,986,578</b>	<b>1.29%</b>	<b>-0.62%</b>	<b>0.57%</b>	<b>-2.99%</b>	<b>-2.99%</b>	<b>3.68%</b>	<b>3.79%</b>
154	BB CORPORATE		1.47%	-0.18%	0.79%	-2.51%	-2.51%	3.26%	3.28%
155	APF Corporate Bonds	3,838,986,578	1.29%	-0.62%	0.57%	-2.99%	-2.99%	3.68%	3.79%
156	<b>NON US FIXED INCOME</b>	<b>1,509,963,576</b>	<b>1.15%</b>	<b>2.14%</b>	<b>2.00%</b>	<b>3.37%</b>	<b>3.37%</b>	<b>3.29%</b>	<b>4.02%</b>
157	BB GLOBAL TREASURY EX-US		1.34%	2.27%	1.91%	3.55%	3.55%	3.52%	4.25%
158	Rogge Global Partners	358,114,462	1.16%	1.93%	1.73%	3.16%	3.16%	3.42%	4.06%
159	APF Global Government Bonds	1,151,849,114	1.15%	2.20%	2.10%	3.55%	3.55%	3.29%	4.08%
160	<b>GLOBAL HIGH YIELD</b>	<b>1,534,756,736</b>	<b>-2.35%</b>	<b>-4.77%</b>	<b>-2.39%</b>	<b>-2.15%</b>	<b>-2.15%</b>	<b>6.31%</b>	<b>3.30%</b>
161	BB US HIGH YIELD 2% ISSUER CAP		-2.14%	-4.54%	-2.24%	-2.08%	-2.08%	7.23%	3.84%
162	Oaktree High Yield	567,723,485	-2.19%	-4.73%	-2.49%	-2.80%	-2.80%	5.46%	2.76%
163	APF High Yield	572,841,021	-1.96%	-3.89%	-1.40%	-1.68%	-1.68%		
164	BB US High Yield 2% Issuer Cap Index		-2.14%	-4.54%	-2.24%	-2.08%	-2.08%	7.23%	3.84%
165	HY Fixed Income Custom Blend <sup>1</sup>		-2.14%	-4.54%	-2.24%	-2.08%	-2.08%	6.83%	4.05%
166	Capital Guardian High Yield	394,192,230	-3.14%	-5.81%	-3.36%	-1.85%	-1.85%	8.26%	4.54%
167	Cap Guard Custom Blend <sup>2</sup>		-2.14%	-4.54%	-2.24%	-2.08%	-2.08%	6.75%	4.01%
168	<b>EMERGING MARKET DEBT</b>	<b>973,371,035</b>	<b>1.27%</b>	<b>1.00%</b>	<b>0.67%</b>	<b>-5.20%</b>	<b>-5.20%</b>	<b>5.54%</b>	<b>2.01%</b>
169	EMD BENCHMARK <sup>3</sup>		1.33%	0.43%	0.67%	-5.15%	-5.15%	5.61%	1.95%
170	Capital Guardian HY EM Gov't	630,723,561	1.14%	1.08%	0.47%	-5.11%	-5.11%	5.60%	2.04%
171	HY Emerging Markets Benchmark <sup>4</sup>		1.33%	0.43%	0.67%	-5.15%	-5.15%	5.65%	1.80%
172	APF Emerging Market Debt	342,647,474	1.50%	0.85%	1.06%	-6.35%	-6.35%		
173	BB EMD Hard Currency AGG		1.32%	-0.49%	0.91%	-3.02%	-3.02%		
174	<b>TIPS</b>	<b>252,057,911</b>	<b>0.45%</b>	<b>-0.26%</b>	<b>-0.82%</b>	<b>-0.85%</b>	<b>-0.85%</b>	<b>2.07%</b>	<b>1.49%</b>
175	BB US TIPS		0.55%	-0.42%	-1.24%	-1.26%	-1.26%	2.11%	1.69%
176	APF TIPS	125,271,222	0.53%	-0.46%	-1.20%	-1.20%	-1.20%	2.25%	1.73%
177	BB U.S. TIPS		0.55%	-0.42%	-1.24%	-1.26%	-1.26%	2.11%	1.69%
178	Alaska Permanent Capital Mgmt	126,786,689	0.38%	-0.07%	-0.45%	-0.18%	-0.18%	1.89%	1.24%
179	BB U.S. TIPS 1-10 Year Index		0.41%	-0.05%	-0.47%	-0.25%	-0.25%	1.87%	1.20%
180	<b>REITS</b>	<b>1,383,765,689</b>	<b>-5.80%</b>	<b>-5.42%</b>	<b>-5.11%</b>	<b>-4.29%</b>	<b>-4.29%</b>	<b>6.50%</b>	<b>6.21%</b>
181	S&P GLOBAL REIT		-5.93%	-5.79%	-5.85%	-5.93%	-5.93%	2.24%	5.28%
182	AEW Global RE Securities	510,485,789	-5.93%	-5.24%	-4.72%	-3.36%	-3.36%	3.90%	7.31%
183	American Homes 4 Rent	16,616,500	-4.46%	-9.09%	-10.05%	-8.20%	-8.20%	5.17%	4.14%
184	MSCI US REIT Index		-8.18%	-6.71%	-5.70%	-4.57%	-4.57%	2.88%	7.80%
185	REIT Benchmark <sup>5</sup>		-5.91%	-5.72%	-5.60%	-4.71%	-4.71%	3.30%	6.54%
186	SSGA REITS	856,663,400	-5.74%	-5.45%	-5.27%	-4.84%	-4.84%		
187	S&P GLOBAL REIT		-5.93%	-5.79%	-5.85%	-5.93%	-5.93%		
188	<b>LISTED INFRASTRUCTURE</b>	<b>692,359,113</b>	<b>-3.47%</b>	<b>-4.62%</b>	<b>-4.59%</b>	<b>-5.63%</b>	<b>-5.63%</b>	<b>7.51%</b>	<b>7.91%</b>
189	S&P GLOBAL LISTED INFRASTRUCTURE		-3.19%	-5.34%	-7.05%	-10.37%	-10.37%	5.95%	3.21%
190	Lazard Listed Infrastructure	187,125,678	-2.87%	-3.26%	-3.25%	-2.44%	-2.44%	10.11%	12.28%
191	FTSE Core Developed Infrastructure (Hedged)		-5.23%	-3.34%	-0.59%	1.84%	1.84%	9.54%	9.05%
192	Cohen & Steers Listed Infrastructure	140,775,752	-5.24%	-5.12%	-1.30%	-0.35%	-0.35%	9.89%	
193	FTSE Core Developed Infrastructure Custom		-4.95%	-3.68%	-0.67%	-0.96%	-0.96%	9.35%	
194	SSGA Listed Infrastructure	364,446,816	-3.07%	-5.12%	-6.53%	-9.41%	-9.41%		
195	S&P Global Listed Infrastructure		-3.19%	-5.34%	-7.05%	-10.37%	-10.37%		
196	<b>FIXED INCOME PLUS CASH</b>	<b>454,674,124</b>	<b>0.21%</b>	<b>0.53%</b>	<b>0.96%</b>	<b>1.79%</b>	<b>1.79%</b>		
197	90 DAY T-BILLS		0.18%	0.56%	1.06%	1.87%	1.87%		
198	APF Fixed Income Plus Cash	454,674,124	0.21%	0.53%	0.96%	1.79%	1.79%		
199	<b>ABSOLUTE RETURN</b>	<b>3,436,581,532</b>	<b>0.01%</b>	<b>-0.86%</b>	<b>-0.20%</b>	<b>1.54%</b>	<b>1.54%</b>	<b>3.75%</b>	<b>2.79%</b>
200	ABSOLUTE RETURN BENCHMARK		-2.37%	-5.76%	-5.26%	-4.49%	-4.49%	2.98%	4.15%
201	<b>ASSET ALLOCATION</b>	<b>3,258,410,558</b>	<b>-1.70%</b>	<b>-4.91%</b>	<b>-4.44%</b>	<b>-5.63%</b>	<b>-5.63%</b>	<b>1.35%</b>	<b>1.35%</b>
202	ASSET ALLOCATION BENCHMARK <sup>6</sup>		-1.55%	-2.77%	-1.03%	-0.14%	-0.14%	5.80%	4.61%
	APF FI LIQUIDITY	-							
203	APF ASSET ALLOCATION CASH	1,693,831,042	0.18%	0.53%	1.00%	1.71%	1.71%	0.94%	0.57%
204	90 DAY T-BILLS		0.18%	0.56%	1.06%	1.87%	1.87%	1.02%	0.63%
205	<b>ASSET ALLOCATION OVERLAY</b>	<b>1,115,640,950</b>	<b>-4.20%</b>	<b>-7.99%</b>	<b>-5.86%</b>				
206	Asset Allocation Overlay Benchmark <sup>7</sup>		-4.06%	-8.18%	-5.87%				
207	<b>LEGACY ECIOS</b>	<b>448,938,566</b>	<b>-1.59%</b>	<b>-8.26%</b>	<b>-9.29%</b>	<b>-10.73%</b>	<b>-10.73%</b>	<b>1.44%</b>	<b>2.58%</b>
208	Performance Benchmark •		-2.70%	-4.97%	-2.44%	-1.54%	-1.54%	6.90%	5.26%
209	Bridgewater	405,495,498	-1.64%	-4.19%	-4.76%	-2.92%	-2.92%	4.18%	4.31%
210	CPI + 5%		0.10%	0.77%	2.18%	6.91%	6.91%	7.03%	6.52%

<sup>1</sup> HY Fixed Income Custom Blend is BB Global High Yield Corporate Index through 7/31/2016 then BB US High Yield 2% Issuer Cap Index thereafter.

<sup>2</sup> Cap Guard Custom Blend is BB US HY 2% Issuer Cap through 12/31/2006, then BB Global HY Corporate Hedged through 3/31/2017, and BB US HY 2% Issuer Cap thereafter.

<sup>3</sup> Private Equity Custom Benchmark is 60% Russell 3000 (1Q Lagged) and 40% MSCI EAFE (1Q Lagged) through 9/30/2016 then Cambridge Private Equity (1Q Lagged) thereafter.

<sup>4</sup> HY Emerging Markets Benchmark is 50% JP Morgan Emerging Markets Bond Index Global and 50% JP Morgan Government Bond Index-Emerging Markets Global Diversified.

<sup>5</sup> REIT Benchmark is UBS Global Real Estate Investors Index through 12/31/2014 then FTSE EPRA/NAREIT Developed Rental Index thereafter.

<sup>6</sup> Absolute Return Benchmark is LIBOR + 4% through 6/30/2013, LIBOR + 6% from 7/1/2013 through 6/30/2015, LIBOR + 5% from 7/1/2015 through 9/30/2016, and HFRI Total HFOF Universe thereafter.

<sup>7</sup> Asset Allocation Overlay Benchmark is 65% MSCI ACWI IMI Net Unhedged and 35% BB US Agg

\* Reported market values represent total fund holdings, which consists of 99.16% APF and 0.84% AMH, and are consistent with the timing of the APF and AMH Financial Statements.

• For investments within Private Equity and Growth Opportunities, Real Estate, and Infrastructure, Private Credit, and Income Opportunities asset classes, returns are lagged one (1) quarter. Composites that incorporate these investments as well as associated benchmarks are also lagged one (1) quarter.

	Market Values as of 12/31/2018*	Returns as of 12/31/2018							
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	
		3 Months	FYTD	CYTD	1 Year	3 Years	5 Years		
211	<b>PRIVATE EQUITY &amp; SPECIAL OPPORTUNITIES ●</b>	8,197,315,367	6.58%	11.64%	30.18%	30.18%	19.74%	23.22%	
212	CAMBRIDGE PRIVATE EQUITY ●		3.37%	8.08%	16.77%	16.77%	14.10%	13.77%	
213	<b>PRIVATE EQUITY ●</b>	4,950,470,977	6.12%	12.77%	27.52%	27.52%	19.99%	19.84%	
214	PRIVATE EQUITY CUSTOM BENCHMARK ●		3.37%	8.08%	16.77%	16.77%	14.43%	10.10%	
215	Pathway Capital Mgmt - Direct PE	1,293,612,039	10.07%	19.51%	41.40%	41.40%	26.83%	22.38%	Various
216	HarbourVest Legacy	1,070,712,586	4.46%	11.01%	27.87%	27.87%	21.00%	21.77%	Net
217	Pathway Capital Mgmt - PE	2,289,247,883	6.21%	12.04%	25.15%	25.15%	17.49%	17.84%	Net
218	BlackRock Co-investment Funds	217,060,852	9.37%	21.94%	32.00%	32.00%	13.67%		Net
219	Rapid Partners LP	47,053,364	-31.51%	-39.15%	-44.60%	-44.60%	-5.01%		Net
220	Kelso Hammer LP	32,784,252	-3.30%	4.61%	10.77%	10.77%			
221	<b>SPECIAL OPPORTUNITIES ●</b>	3,246,844,390	7.28%	9.78%	33.89%	33.89%	20.26%		Net
222	CAMBRIDGE PRIVATE EQUITY ●		3.37%	8.08%	16.77%	16.77%	14.10%		
223	<b>REAL ESTATE ●</b>	3,973,707,465	0.11%	-2.29%	1.24%	1.24%	5.70%	8.21%	
224	NCREIF TOTAL INDEX ●		1.67%	3.51%	7.16%	7.16%	7.75%	9.57%	
225	<b>RE SEPARATE ACCTS &amp; DIRECT</b>	3,927,597,424	0.13%	-2.28%	1.25%	1.25%	5.70%	8.21%	Net
226	L&B Realty Advisors	2,086,207,204	-0.12%	1.01%	2.81%	2.81%	6.90%	10.15%	Net
227	Sentinel Real Estate	908,743,479	-1.45%	-12.08%	-8.63%	-8.63%	0.36%	4.52%	Net
228	LaSalle Investment Mgmt-United Kingdom	227,778,087	-1.26%	-7.35%	0.29%	0.29%	-15.38%		Net
229	Lincoln Industrial	99,196,816	4.61%	8.15%	18.73%	18.73%	15.20%		Net
230	CB Richard Ellis - Europe	149,708,594	2.09%	-1.33%	7.82%	7.82%	19.44%		Net
231	CS Capital	455,963,244	3.67%	5.72%	12.69%	12.69%			Net
232	<b>RE FUNDS &amp; CO-INVEST</b>	46,110,041							Net
233	HIG EUROPE RE II	20,430,418							Net
234	HEITMAN CAPITAL	20,000,000							Net
235	HARBERT EUROPE RE V	5,679,623							Net
236	<b>INFRA. &amp; PRIVATE INCOME ●</b>	5,171,908,661	3.80%	6.82%	13.86%	13.86%	14.21%	12.51%	
237	INFRA. & INCOME OPPORTUNITIES ●		2.53%	6.19%	4.78%	4.78%	9.61%	7.52%	
238	<b>INFRASTRUCTURE ●</b>	2,719,798,569	5.56%	9.75%	20.41%	20.41%	20.00%	17.58%	Net
239	FTSE DEVELOPED CORE INFRA. TRI ●		2.61%	8.03%	5.85%	5.85%	10.49%	8.76%	
240	GIP	199,104,885	7.03%	8.98%	13.98%	13.98%	34.92%	36.13%	Net
241	GIP II	406,904,240	4.45%	8.98%	16.27%	16.27%	17.68%	19.95%	Net
242	Gateway IFR	271,768,594	-2.38%	-6.59%	0.20%	0.20%	8.44%	-0.27%	Net
243	G Sachs	268,477,416	3.81%	8.70%	36.79%	36.79%	23.89%	21.90%	Net
244	EQT II	41,663,330	0.44%	3.90%	10.68%	10.68%	22.89%	14.08%	Net
245	GIP II Co-Invest 2	104,487,775	13.95%	15.32%	27.29%	27.29%	29.14%	22.93%	Net
246	ACTIS Energy 3	43,263,157	-3.66%	-8.54%	-6.12%	-6.12%	23.04%		Net
247	LS Power III	178,524,018	15.36%	28.69%	36.64%	36.64%	22.57%		Net
248	North Haven	240,516,050	2.39%	5.90%	10.66%	10.66%	14.26%		Net
249	GIP III	380,393,496	8.11%	17.11%	18.31%	18.31%			Net
250	GIP III Canary	125,975,407	9.99%	30.57%	42.59%	42.59%			Net
251	CIM Fund II	78,477,334	6.59%	9.50%	10.35%	10.35%			Net
252	IFR ACTIS Energy 4	33,281,602	4.55%	8.72%	9.05%	9.05%			Net
253	IFR Meridiam III	311,788	N/A	N/A					Net
254	IFR GIP III Zenith	100,978,018	-0.02%	-0.06%					Net
255	IFR ENCAP FM IV	6,024,594	-5.77%	-14.50%					Net
256	IFR INFRARED V	24,042,955	-2.99%	-3.28%					Net
257	IFR NHIP II Bison	53,112,742	4.50%						Net
258	IFR GIP III Stetson	60,385,818							Net
259	North Haven India	1,072,200							Net
260	IFR EFM Moda	37,649,207							Net
261	IFR LS Power IV	218,501							Net
262	IFR KKR Infrastructure III	13,165,441							Net
263	IFR KKR Starlight II	50,000,000							Net
264	FTSE Core Developed Infrastructure TRI		2.61%	8.03%	5.85%	5.85%	10.49%	8.76%	
265	<b>PRIVATE CREDIT ●</b>	1,453,167,885	2.29%	4.67%	7.81%	7.81%	7.46%	7.13%	Net
266	BB US HIGH YIELD 2% ISSUER CAP ●		2.40%	3.46%	3.05%	3.05%	8.15%	5.55%	
267	<b>PRIVATE INCOME ●</b>	998,942,207	1.19%	1.83%	-2.71%	-2.71%	8.33%		Net
268	American Homes 4 Rent II	154,223,117	-6.17%	-3.89%	-9.16%	-9.16%	5.99%		Net
269	Twin Creeks Timber	96,427,823	0.16%	0.14%	0.10%	0.10%			Net
270	Athyrium III	11,068,947	0.68%	1.90%	3.60%				Net
271	Generate Capital	93,050,824	9.64%	10.92%	10.31%				Net
272	Broadriver III	4,629,114	-14.16%	26.41%					Net
273	Generate Capital II	25,065,862	9.58%						Net
274	APF ADAC	595,026,520	2.24%						Net
275	Activate Capital	19,450,000							Net

\* Reported market values represent total fund holdings, which consists of 99.16% APF and 0.84% AMH, and are consistent with the timing of the APF and AMH Financial Statements.

- For investments within Private Equity and Growth Opportunities, Real Estate, and Infrastructure, Private Credit, and Income Opportunities asset classes, returns are lagged one (1) quarter. Composites that incorporate these investments as well as associated benchmarks are also lagged one (1) quarter.