



# 3Q 2023 QUARTERLY PERFORMANCE REPORT EXECUTIVE SUMMARY

**DECEMBER 14, 2023**

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# TOTAL FUND PERFORMANCE SUMMARY – NET RETURNS AS OF SEPTEMBER 30, 2023

COMPARED TO ASSET ALLOCATION BENCHMARK

	Market Value (\$)	1 Yr (%)	5 Yrs (%)
<b>Total Fund, Net of Fees</b>	<b>37,215,699,769</b>	<b>10.15</b>	<b>5.51</b>
Actual Allocation Benchmark		9.03	4.15
Over/Under		1.12	1.36

- **For the one-year period ended September 30, 2023, the Trust Fund returned 10.15%, exceeding the Asset Allocation Benchmark by 1.12%.**
  - Core and Non-Core Fixed Income, Real Estate, and Hedge Funds exceeded their respective benchmarks, while Global Equity, Other Public and Private Markets, and Private Equity trailed.
- **For the five-year ended September 30, 2023, the Trust Fund returned 5.51%, exceeding the Asset Allocation Benchmark by 1.36%.**
  - Core and Non-Core Fixed Income, Other Public and Private Markets, Real Estate, Hedge Funds, and Private Equity exceeded their respective benchmarks, while Global Equity trailed.



# TOTAL FUND PERFORMANCE SUMMARY – NET RETURNS AS OF SEPTEMBER 30, 2023

COMPARED TO OTHER PUBLIC PENSION PLANS GREATER THAN \$10  
BILLION IN ASSETS

	1 Yr (%)	Quartile Rank	5 Yrs (%)	Quartile Rank
<b>Total Fund, Net of Fees</b>	<b>10.15</b>	<b>2<sup>nd</sup></b>	<b>5.51</b>	<b>4<sup>th</sup></b>
Actual Allocation Benchmark	9.03	4 <sup>th</sup>	4.15	4 <sup>th</sup>
Strategic Target Allocation Index	10.16	2 <sup>nd</sup>	5.14	4 <sup>th</sup>
<i>InvMetrics Public DB &gt; \$10 Billion Median</i>	<i>9.75</i>		<i>6.36</i>	

- For the one-year ended September 30, 2023, the Trust Fund returned 10.15% and ranked in the second quartile among other Public Defined Benefit Plans greater than \$10 billion in assets.
- For the five-years ended September 30, 2023, the Trust Fund returned 5.51% and ranked in the fourth quartile among other Public Defined Benefit Plans greater than \$10 billion in assets.

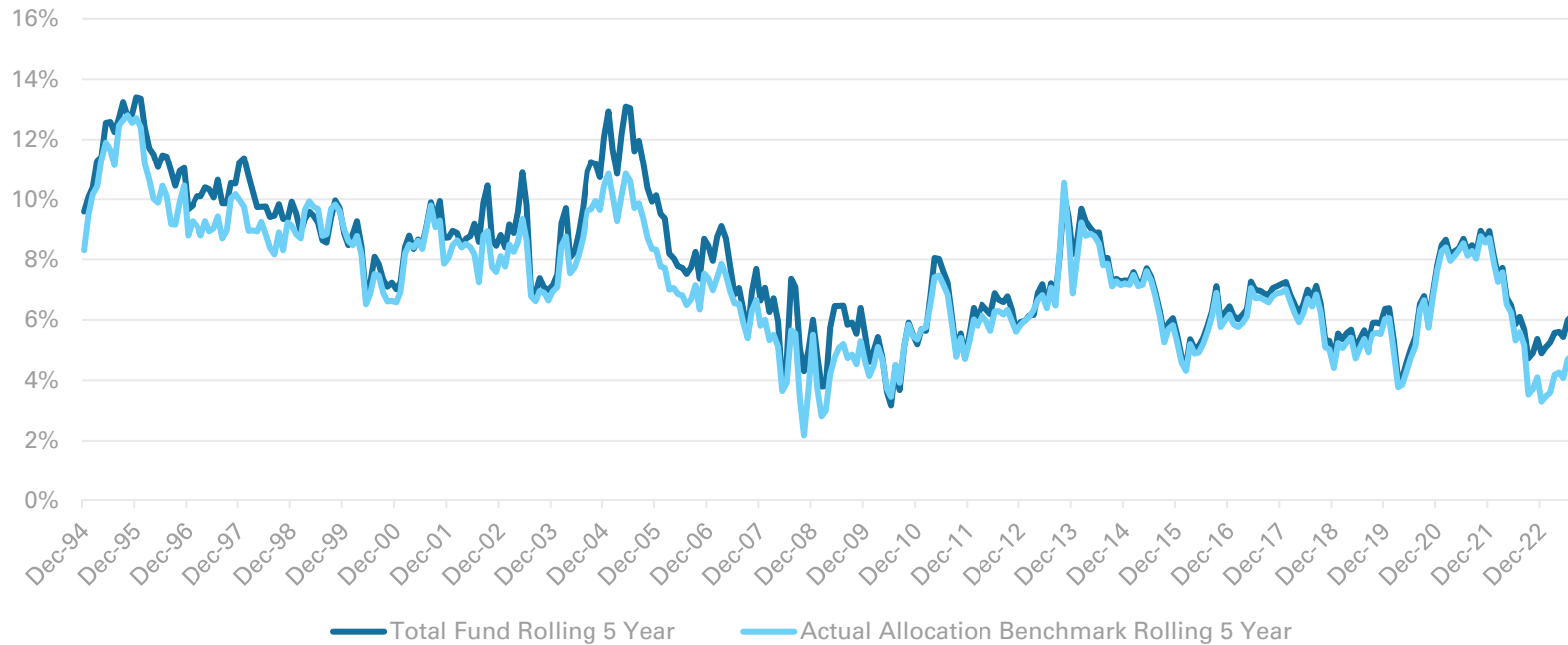


# TOTAL FUND PERFORMANCE AS OF SEPTEMBER 30, 2023

## VERSUS ACTUAL ALLOCATION BENCHMARK

- **The Trust Fund performance expectation is to exceed the Actual Allocation Benchmark over rolling five-year periods.**
- **In the five-year period ended September 30, 2023, TMRS outperformed the Actual Allocation Benchmark by 1.36%, net of fees.**

Rolling 5 Year Total Fund Performance vs. Actual Allocation Benchmark

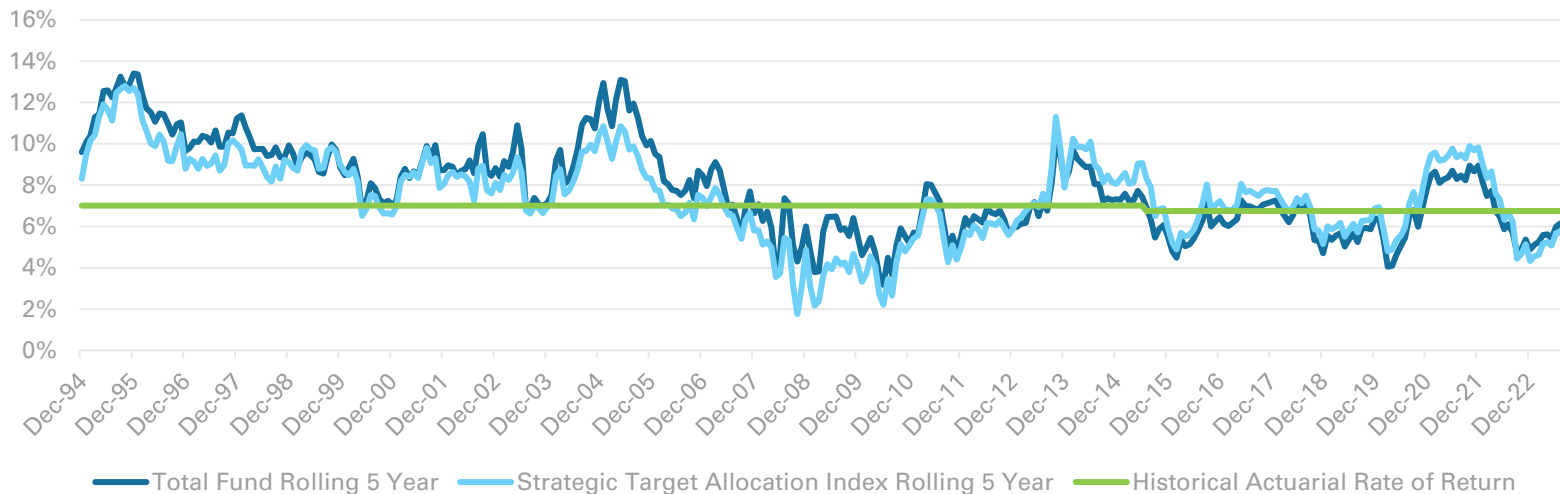


# TOTAL FUND PERFORMANCE AS OF SEPTEMBER 30, 2023

## VERSUS STRATEGIC TARGET ALLOCATION INDEX AND ASSUMED RATE OF RETURN

- For the five-year period ended September 30, 2023, the Trust Fund's net return of 5.51% trailed the Board's Assumed Long-Term Rate of Return of 6.75%.
- The five-year return for the Strategic Target Allocation Index was 5.14%, as of September 30, 2023.

Rolling 5 Year Total Fund Performance vs. Strategic Target Allocation Index vs. Historical Actuarial Rate of Return



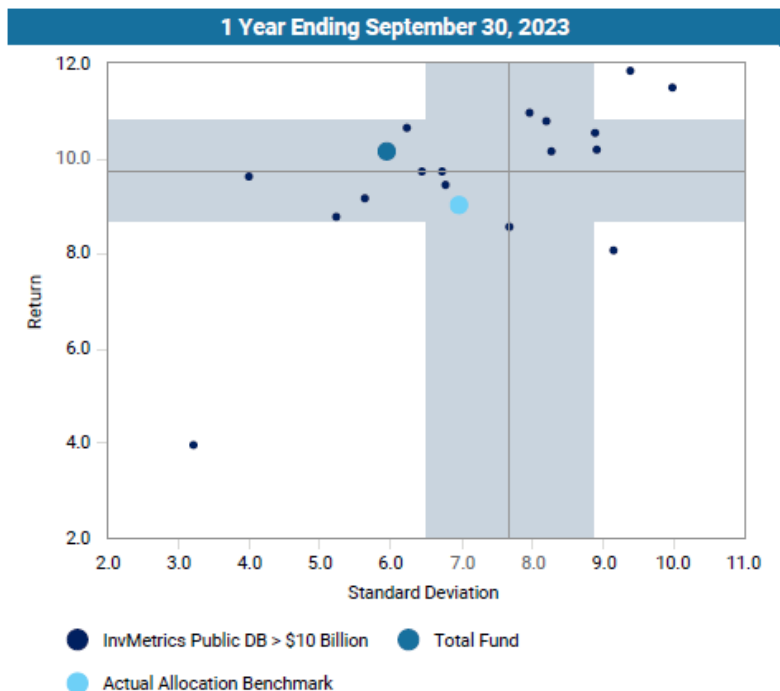
# ASSET ALLOCATION COMPLIANCE AS OF SEPTEMBER 30, 2023

## ACTUAL ASSET ALLOCATION VS. INVESTMENT POLICY ALLOCATION

	Current (\$)	Current (%)	Policy (%)	Differences* (%)	Policy Range (%)	Within Range
■ Global Equity	13,177,688,668	35.4	35.0	0.4	25.0 - 45.0	Yes
■ Non-Core Fixed Income	7,349,165,327	19.7	20.0	-0.3	15.0 - 25.0	Yes
■ Real Estate	4,830,679,528	13.0	12.0	1.0	7.0 - 17.0	Yes
■ Private Equity	4,333,931,529	11.6	10.0	1.6	5.0 - 15.0	Yes
■ Core Fixed Income	2,182,034,593	5.9	6.0	-0.1	1.0 - 11.0	Yes
■ Other Public and Private Markets	3,075,922,608	8.3	12.0	-3.7	7.0 - 17.0	Yes
■ Hedge Funds	2,036,224,928	5.5	5.0	0.5	0.0 - 10.0	Yes
■ Cash Composite	230,052,587	0.6	0.0	0.6	0.0 - 3.0	Yes
<b>Total Fund</b>	<b>37,215,699,769</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>		

- Actual asset class allocations are in compliance with Investment Policy ranges as of September 30, 2023.

# TOTAL FUND RISK VS. NET RETURN: ONE YEAR AS OF SEPTEMBER 30, 2023

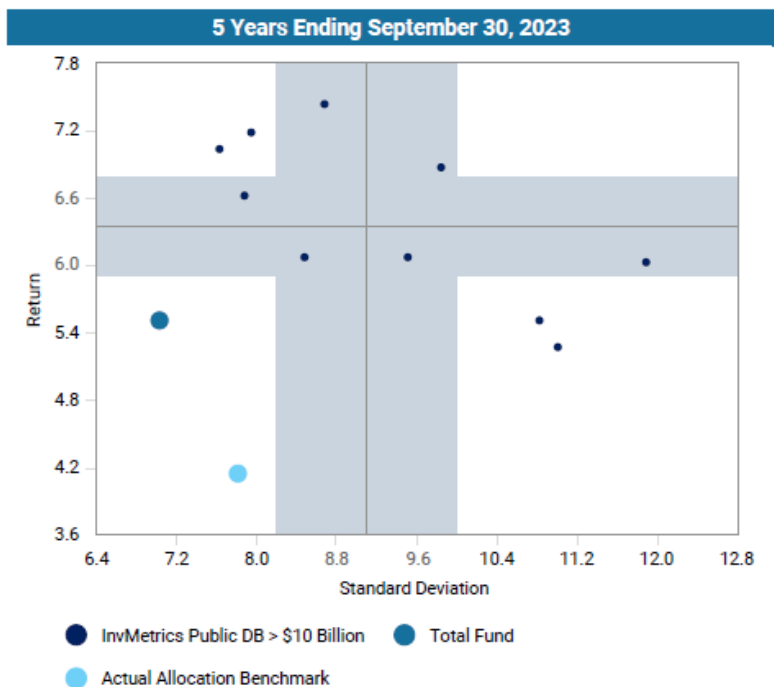


The Trust Fund generated a second quartile net investment return with lower risk, as measured by standard deviation, among other Public Defined Benefit Plans with more than \$10 billion in assets for the 1-year period ended September 30, 2023.

1 Year Ending September 30, 2023						
	Risk	Quartile Rank	Return	Quartile Rank	Sharpe Ratio	Quartile Rank
<b>Total Fund</b>	<b>5.94</b>	<b>1<sup>st</sup></b>	<b>10.15</b>	<b>2<sup>nd</sup></b>	<b>0.91</b>	<b>1<sup>st</sup></b>
<i>Actual Allocation Benchmark</i>	<i>6.97</i>	<i>2<sup>nd</sup></i>	<i>9.03</i>	<i>4<sup>th</sup></i>	<i>0.64</i>	<i>4<sup>th</sup></i>
<i>InvMetrics Public DB &gt; \$10 Billion Median</i>	<i>7.68</i>		<i>9.75</i>		<i>0.75</i>	

- The Standard Deviation interquartile range is defined as the lowest Standard Deviation measuring in the first quartile.
- InvMetrics Public DB > \$10B Median includes 17 observations.

# TOTAL FUND RISK VS. NET RETURN: FIVE YEARS AS OF SEPTEMBER 30, 2023



The Trust Fund underperformed in its peer universe due to having the least amount of risk as measured by standard deviation in the 5-year period, among other Public Defined Benefit Plans with more than \$10 billion in assets.

5 Year Ending September 30, 2023						
	Risk	Quartile Rank	Return	Quartile Rank	Sharpe Ratio	Quartile Rank
<b>Total Fund</b>	<b>7.03</b>	<b>1<sup>st</sup></b>	<b>5.51</b>	<b>4<sup>th</sup></b>	<b>0.55</b>	<b>2<sup>nd</sup></b>
<i>Actual Allocation Benchmark</i>	<i>7.81</i>	<i>1<sup>st</sup></i>	<i>4.15</i>	<i>4<sup>th</sup></i>	<i>0.34</i>	<i>4<sup>th</sup></i>
<i>InvMetrics Public DB &gt; \$10 Billion Median</i>	<i>9.09</i>		<i>6.36</i>		<i>0.54</i>	

- The Standard Deviation interquartile range is defined as the lowest Standard Deviation measuring in the first quartile.
- InvMetrics Public DB > \$10B Median includes 10 observations.





# PERFORMANCE DETAIL AS OF SEPTEMBER 30, 2023

	Allocation		Performance (%)								
	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund</b>	<b>37,215,699,769</b>	<b>100.0</b>	<b>-0.44</b>	<b>5.86</b>	<b>10.15</b>	<b>6.32</b>	<b>5.51</b>	<b>6.31</b>	<b>6.01</b>	<b>8.08</b>	<b>Jan-89</b>
<i>Actual Allocation Benchmark</i>			<u>-0.72</u>	<u>6.98</u>	<u>9.03</u>	<u>4.03</u>	<u>4.15</u>	<u>5.19</u>	<u>5.19</u>	<u>7.41</u>	
Over/Under			0.28	-1.12	1.12	2.29	1.36	1.12	0.82	0.67	
<i>Strategic Target Allocation Index</i>			<u>-0.52</u>	<u>7.57</u>	<u>10.16</u>	<u>5.03</u>	<u>5.14</u>	<u>6.18</u>	<u>6.03</u>	<u>7.68</u>	
Over/Under			0.08	-1.71	-0.01	1.29	0.37	0.13	-0.02	0.40	
<b>Global Equity</b>	<b>13,177,688,668</b>	<b>35.4</b>	<b>-3.32</b>	<b>9.43</b>	<b>20.13</b>	<b>6.31</b>	<b>5.40</b>	<b>7.90</b>	<b>7.43</b>	<b>5.58</b>	<b>Jan-08</b>
<i>Total Equity Index</i>			<u>-3.40</u>	<u>9.39</u>	<u>20.16</u>	<u>6.88</u>	<u>6.11</u>	<u>8.48</u>	<u>7.77</u>	<u>5.76</u>	
Over/Under			0.08	0.04	-0.03	-0.57	-0.71	-0.58	-0.34	-0.18	
<b>Core Fixed Income</b>	<b>2,182,034,593</b>	<b>5.9</b>	<b>-3.08</b>	<b>-1.09</b>	<b>1.15</b>	<b>-5.06</b>	<b>0.37</b>	<b>0.19</b>	<b>1.31</b>	<b>6.38</b>	<b>Jan-89</b>
<i>Fixed Income Benchmark</i>			<u>-3.23</u>	<u>-1.21</u>	<u>0.64</u>	<u>-5.21</u>	<u>0.10</u>	<u>-0.09</u>	<u>1.13</u>	<u>5.89</u>	
Over/Under			0.15	0.12	0.51	0.15	0.27	0.28	0.18	0.49	
<b>Non-Core Fixed Income</b>	<b>7,349,165,327</b>	<b>19.7</b>	<b>2.62</b>	<b>6.92</b>	<b>7.44</b>	<b>4.69</b>	<b>4.51</b>	<b>4.83</b>		<b>4.32</b>	<b>Oct-14</b>
<i>Total Non-Core Fixed Income Weighted Index</i>			<u>-1.09</u>	<u>2.81</u>	<u>0.74</u>	<u>-0.33</u>	<u>1.28</u>	<u>2.27</u>		<u>2.15</u>	
Over/Under			3.71	4.11	6.70	5.02	3.23	2.56		2.17	
<b>Other Public and Private Markets</b>	<b>3,075,922,608</b>	<b>8.3</b>	<b>2.22</b>	<b>11.76</b>	<b>17.74</b>	<b>7.94</b>	<b>6.00</b>	<b>5.02</b>	<b>4.26</b>	<b>4.41</b>	<b>Feb-11</b>
<i>Total Real Return Index</i>			<u>5.87</u>	<u>22.85</u>	<u>22.90</u>	<u>4.84</u>	<u>3.87</u>	<u>3.61</u>	<u>3.40</u>	<u>3.65</u>	
Over/Under			-3.65	-11.09	-5.16	3.10	2.13	1.41	0.86	0.76	
<b>Real Estate</b>	<b>4,830,679,528</b>	<b>13.0</b>	<b>-0.91</b>	<b>-3.49</b>	<b>-1.51</b>	<b>11.18</b>	<b>8.28</b>	<b>8.92</b>	<b>10.49</b>	<b>9.92</b>	<b>Nov-11</b>
<i>Real Estate Benchmark</i>			<u>-2.88</u>	<u>-11.01</u>	<u>-10.73</u>	<u>7.27</u>	<u>6.07</u>	<u>6.66</u>	<u>8.52</u>	<u>9.21</u>	
Over/Under			1.97	7.52	9.22	3.91	2.21	2.26	1.97	0.71	
<b>Hedge Funds</b>	<b>2,036,224,928</b>	<b>5.5</b>	<b>2.32</b>	<b>5.29</b>	<b>6.33</b>	<b>4.97</b>	<b>4.54</b>	<b>5.45</b>		<b>4.47</b>	<b>Aug-14</b>
<i>Hedge Funds Benchmark</i>			<u>2.06</u>	<u>2.57</u>	<u>0.35</u>	<u>5.38</u>	<u>4.41</u>	<u>4.50</u>		<u>3.47</u>	
Over/Under			0.26	2.72	5.98	-0.41	0.13	0.95		1.00	
<b>Private Equity</b>	<b>4,333,931,529</b>	<b>11.6</b>	<b>2.05</b>	<b>3.31</b>	<b>1.98</b>	<b>23.37</b>	<b>18.29</b>	<b>18.30</b>		<b>15.88</b>	<b>Dec-15</b>
<i>Private Equity Index</i>			<u>5.89</u>	<u>24.39</u>	<u>16.14</u>	<u>13.39</u>	<u>12.45</u>	<u>14.10</u>		<u>12.20</u>	
Over/Under			-3.84	-21.08	-14.16	9.98	5.84	4.20		3.68	
<b>Cash Composite</b>	<b>230,052,587</b>	<b>0.6</b>	<b>1.36</b>	<b>4.10</b>	<b>4.98</b>	<b>1.95</b>	<b>1.80</b>	<b>1.56</b>	<b>1.25</b>	<b>0.91</b>	<b>Jun-08</b>
<i>FTSE 1 Month US T-Bill index</i>			<u>1.36</u>	<u>3.70</u>	<u>4.61</u>	<u>1.74</u>	<u>1.68</u>	<u>1.50</u>	<u>1.07</u>	<u>0.76</u>	
Over/Under			0.00	0.40	0.37	0.21	0.12	0.06	0.18	0.15	

# COMPOSITE BENCHMARK DEFINITIONS AS OF SEPTEMBER 30, 2023

## Composite Benchmark Comments

The Actual Allocation Benchmark is calculated monthly using beginning of month asset class weights applied to each corresponding benchmark return and currently consists of the following:

- Total Equity Benchmark
- Fixed Income Benchmark
- Non-Core Fixed Income Benchmark
- OPPM Benchmark
- Real Estate Benchmark
- Hedge Funds Benchmark
- Private Equity Benchmark
- FTSE 30 Day T-Bill Index

The Strategic Target Allocation Index represents asset allocation targets adopted historically and currently consists of the following:

- 35.0% Total Equity Benchmark
- 6.0% Fixed Income Benchmark
- 20.0% Non-Core Fixed Income Benchmark
- 12.0% OPPM Benchmark
- 12.0% Real Estate Benchmark
- 5.0% Hedge Funds Benchmark
- 10.0% Private Equity Benchmark

## Asset Class Composite Benchmarks:

The Total Equity Benchmark is calculated monthly and consists of 50% Russell 3000 Index and 50% MSCI EAFE Index (USD) (Net) through 07/31/2010; a blend of the Russell 3000 Index, MSCI ACW Ex US IM Index (USD) (Net) and MSCI EAFE Index (USD) (Net) at beginning of month investment weights through 11/30/2012; and a blend of the Russell 3000 Index and MSCI ACW Ex US IM Index (USD) (Net) at beginning of the month weights through 12/31/2018; and MSCI ACW IM Index (USD) (Net) thereafter.

The Fixed Income Benchmark is calculated monthly and consists of the Bloomberg US Gov't Crdt Lng Trm Bond Index through 06/30/2009; Bloomberg US Agg Bond Index thereafter.

The Non-Core Fixed Income Benchmark is calculated monthly using beginning of the month sub-asset class weights within the Non-Core Fixed Income Composite applied to each sub-asset class primary benchmark return through 6/30/2021, and the Bloomberg US Agg Bond Index + 1.5% on an unlagged, month lagged, or quarter lagged basis in proportion of the managers in the composite on an unlagged, month lagged, or quarter lagged basis.

The OPPM Benchmark is calculated monthly using beginning of the month sub-asset class weights within the OPPM Composite applied to each sub-asset class primary benchmark return through 6/30/2021, and the MSCI ACW IM Index (USD) (Net) on an unlagged, month lagged, or quarter lagged basis in proportion of the managers in the composite on an unlagged, month lagged, or quarter lagged basis.

The Real Estate Benchmark is the NCREIF ODCE Index (Gross), one quarter lag through 06/30/2021, and NCREIF ODCE Index (Net), one quarter lag thereafter.

The Hedge Funds Benchmark is calculated monthly and consists of the HFRI FOF: Dv'd Index (1 Mo Lag) through 6/30/2021, and HFRI Asset Weighted Composite Index (1 Mo Lag) thereafter.

The Private Equity Benchmark is set equal to the Composite return through 6/30/2021, and MSCI ACW IM Index (USD) (Net), one quarter lag thereafter.