



# QUARTERLY INVESTMENT REPORT

June 2023



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*Life is very short and anxious for those who forget the past, neglect the present, and fear the future.*  
— Seneca

### MERS' Portfolio Characteristics

- Disciplined asset allocation
- Globally diversified
- May lag in periods of extended bull markets
- Valuation focused investors
- Focus on risk-adjusted returns

### MERS' Office of Investments Goals

- Maintain adequate liquidity
- Exceed the actuarial rate assumption on a long-term basis
- Minimize costs
- Exceed the Policy Benchmark <sup>(1)</sup> on a long-term basis

## Economic and Market Summary

In the second quarter of 2023, we witnessed a significant rally in the equity market, with the Nasdaq Composite returning 12.8% and the S&P 500 returning 8.3%. A key quarter highlight was the surge in stocks related to artificial intelligence (AI) following mentions of AI in earnings calls. Nvidia, for example, rose over 50% during the quarter, contributing to a \$4 trillion market rally. Economic indicators have generally met expectations, with core inflation dropping to 4.8%, surpassing forecasts. Although jobless claims increased, unemployment remained stable at 3.6%. However, there was a significant decline in payrolls, with the official number at 209,000 compared to the estimated 230,000. The Federal Reserve opted to raise rates in May, with a "hawkish pause" in June. Although the Fed expressed intentions to cut rates in late 2023, Wall Street views such a scenario as highly unlikely, estimating that rate cuts might not come until early 2024. Additionally, the 10-year treasury crossed 4%. Internationally, the second half of the quarter saw a surge in Japan's equity market, with the Nikkei 225 Index up 18.36% in local currency. The Bank of Japan maintained a dovish stance on interest rates. However, developed international equities underperformed compared to the previous quarter, as the MSCI EAFE Index returned only 1.87% versus 8.65%. The MSCI Europe Index returned 2.64% this quarter, compared to 10.4% in the prior quarter. The surge in AI will continue to be debated, as there are mixed opinions on whether it constitutes a great opportunity or another bubble. Finally, inflation, labor market conditions, and other financial factors will continue to be closely monitored in the latter half of 2023.

## Portfolio Performance Review

MERS' Total Portfolio returned 1.81% (net) for the second quarter, underperforming the Policy Benchmark by 198 bps, with portfolio diversification providing mixed results. The Global Equity Portfolio returned 4.77%, underperforming the Global Equity Policy Blend by 176 bps primarily due to its underweight to large-cap equities. The MERS U.S. Equity Portfolio underperformed the Russell 3000 benchmark by 126 bps. Being overweight to U.S. Mid, Small, and Micro Cap equities detracted value to the portfolio while selection within Micro Cap added value. The MERS International Equity Portfolio outperformed its benchmark by 7 bps. The MERS Emerging Market Equity Portfolio outperformed its benchmark by 8 bps. The Global Fixed Income Portfolio returned 0.3% in the quarter, beating the Global Fixed Policy Blend by 66 bps. An overweight to high yield and emerging market debt contributed to the outperformance. The Private Investments Portfolio delivered a return of -0.99%. The performance of private market investments typically lags, resulting in underperformance during up markets. MERS' Defined Benefit (DB) portfolio assets are \$11.34 billion, and MERS' total assets are \$14.77 billion.

## Risks and Trends

### Economic Risks

- Monetary policy mistakes
- Corporate/government debt levels
- Higher refinancing costs
- Eurozone instability
- Fiscal policy implementation
- Supply-chain disruptions

### Medium-Term Trends

- Rise of populism
- Investment industry consolidation
- Rise of active investing
- Amplification of country and regional investment risks
- In-sourcing | Supply chain realignment

### Long-Term Trends

- Aging population/workforce
- Rising taxes | Entitlement costs
- Aging infrastructure
- Deglobalization | Competition for resources
- Geopolitical instability
- Rise of ESG | Under investment in traditional energy sector

## Projects and Initiatives

- Incorporating ETFs into the asset allocation program and internal strategies
- Researching the role of active management in sub-asset classes
- Private markets restructure
- Enhancing internal equity portfolio models
- Internal fixed income portfolio development

<sup>1</sup> The Policy Benchmark consists of: 45% Russell 3000, 20% MSCI ACWI ex USA IMI (net), 25% Bloomberg US Aggregate, and 10% Bloomberg Global Aggregate ex U.S.

## Asset Class Valuation Summary

Value/Price Discrepancy<sup>1</sup>

Asset Class	Overvalued	Undervalued
US Equity	-49.56%	
Europe Equity	-18.83%	
Asia Pacific Equity		48.95%
EM Equity		43.28%
US Treasury	-4.92%	
EMD	-1.36%	
US HY	-9.61%	

<sup>1</sup> The value/price discrepancy is a ratio that compares the estimated fair value of an asset relative to its current market price. Overvalued assets have prices above estimated fair value and are expressed as a negative percentage and undervalued assets have prices below estimated fair value and are expressed as a positive percentage.

## Equity Market Outlook

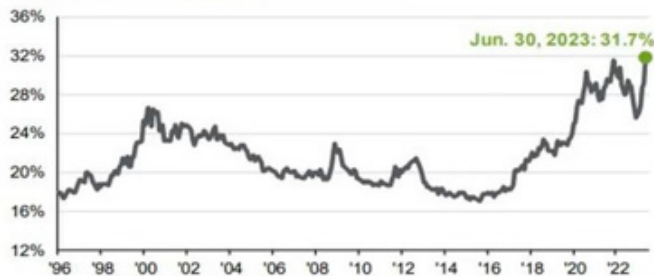
- Valuation multiples are still historically elevated in the U.S., and current earnings remain above estimated trend earnings contributing to that market's overvaluation.
- Valuation multiples and earnings are expected to revert to long-term averages resulting in lower expected returns for US equities.
- Valuations are more favorable in Asia Pacific and Emerging Markets.
- Asia Pacific earnings are currently below trend, which is expected to drive higher returns in the future as earnings recover to long-term cyclically-adjusted levels.
- In Emerging Markets, recovery from current below-trend earnings and strong trend earnings growth is expected to provide positive support going forward.

## Fixed Income Market Outlook

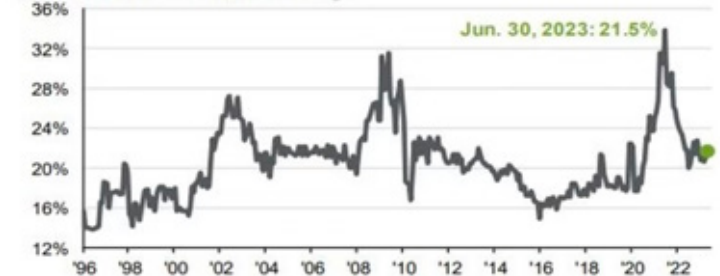
- All fixed income asset classes are currently overvalued on MERS valuation models
- Rising cash rates throughout 2022 has increased discount rates for longer duration assets such as US Treasuries and EM Debt.
- EM Debt is the most attractively priced fixed income segment, with spreads above long term averages.
- US high yield credit is overvalued due to spreads that are below historical averages, and the absence of a meaningful risk premium being priced into that market as of year-end.

## Chart of the Quarter J.P. Morgan Asset Management

**Weight of the top 10 stocks in the S&P 500**  
% of market capitalization of the S&P 500

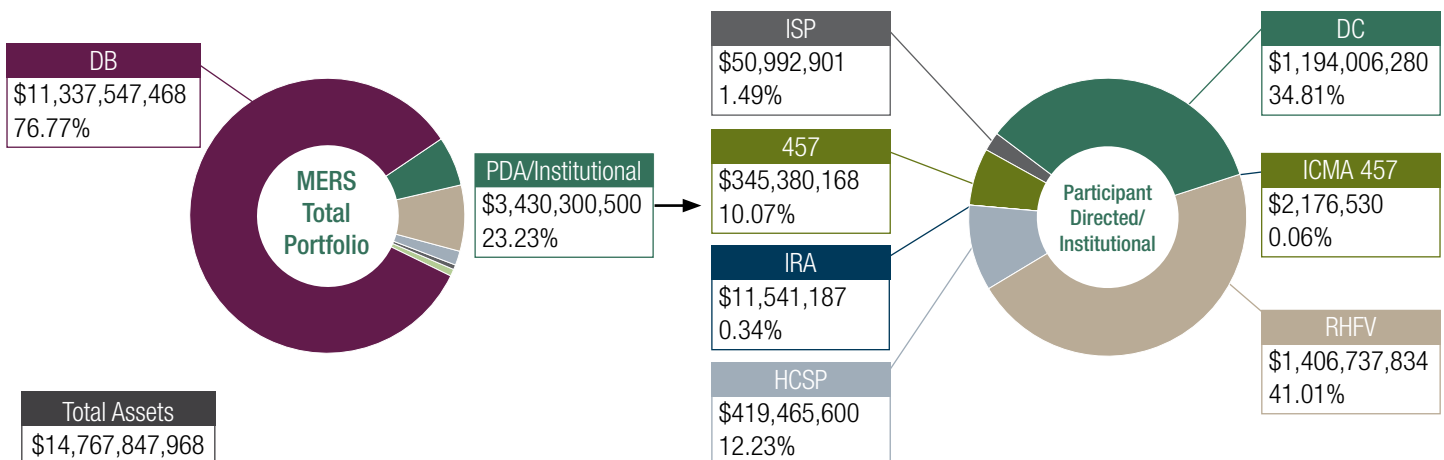


**Earnings contribution of the top 10 in the S&P 500**  
Based on last 12 months' earnings



Towards the end of the second quarter in 2023, the S&P 500 witnessed an unforeseen event as the weight of the top 10 stocks reached its highest recorded level. Apple led the pack, with a 7.7% weight as of June 30th, followed by Microsoft at 6.8% and Amazon at 3.1%. However, concerns develop regarding earnings despite this all-time high in weight distribution. Throughout the second quarter, the earnings contributed by these top 10 stocks amounted to only 21.5% of the overall earnings of the S&P 500. Following the surge caused by the COVID pandemic, a sharp decline in earnings from the highest-weighted stocks was observed, hitting a low point of 20% in 2022. Although there has been a slow recovery, the pace remains sluggish. Have these earnings bottomed out, or is there still room to fall?

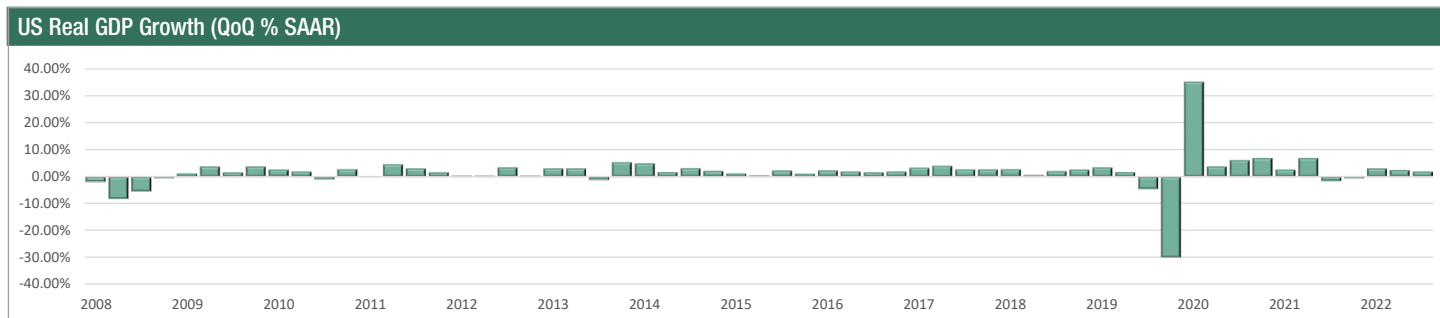
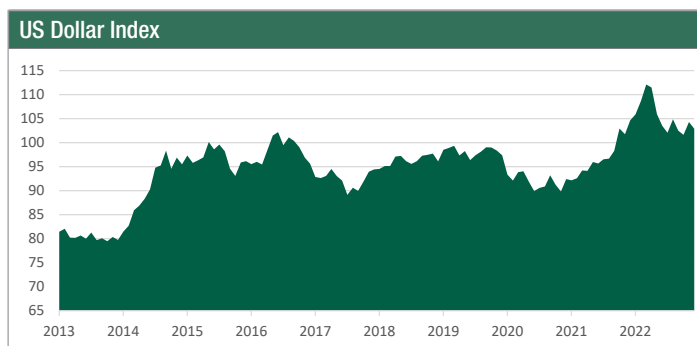
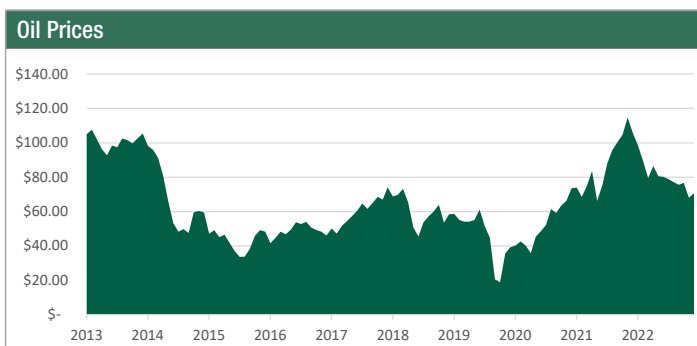
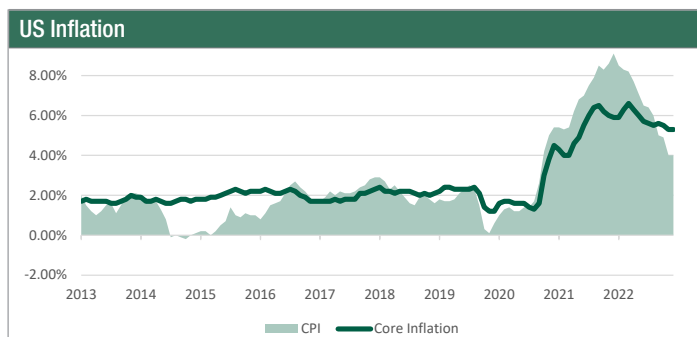
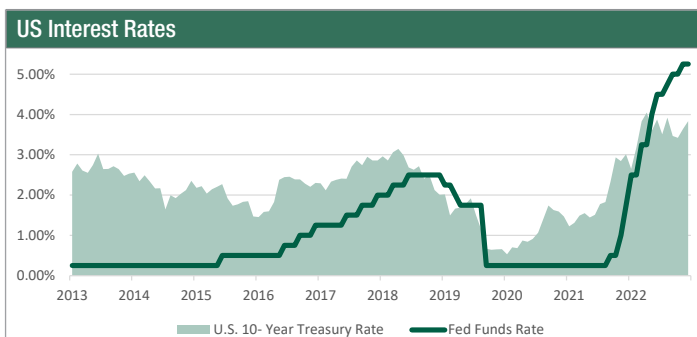
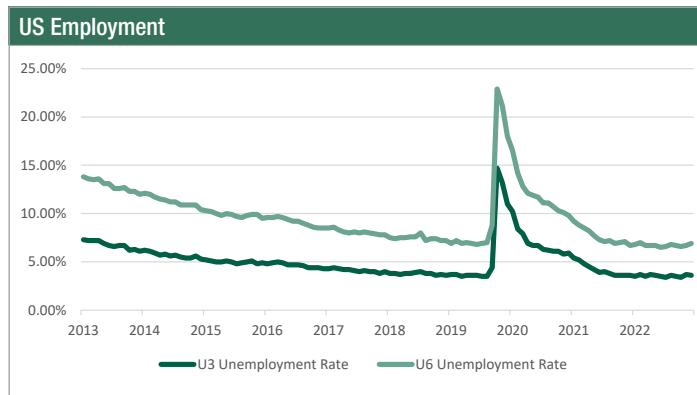
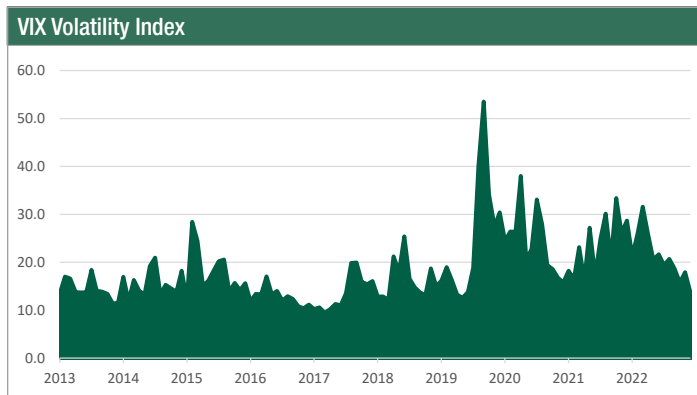
## Assets by Program



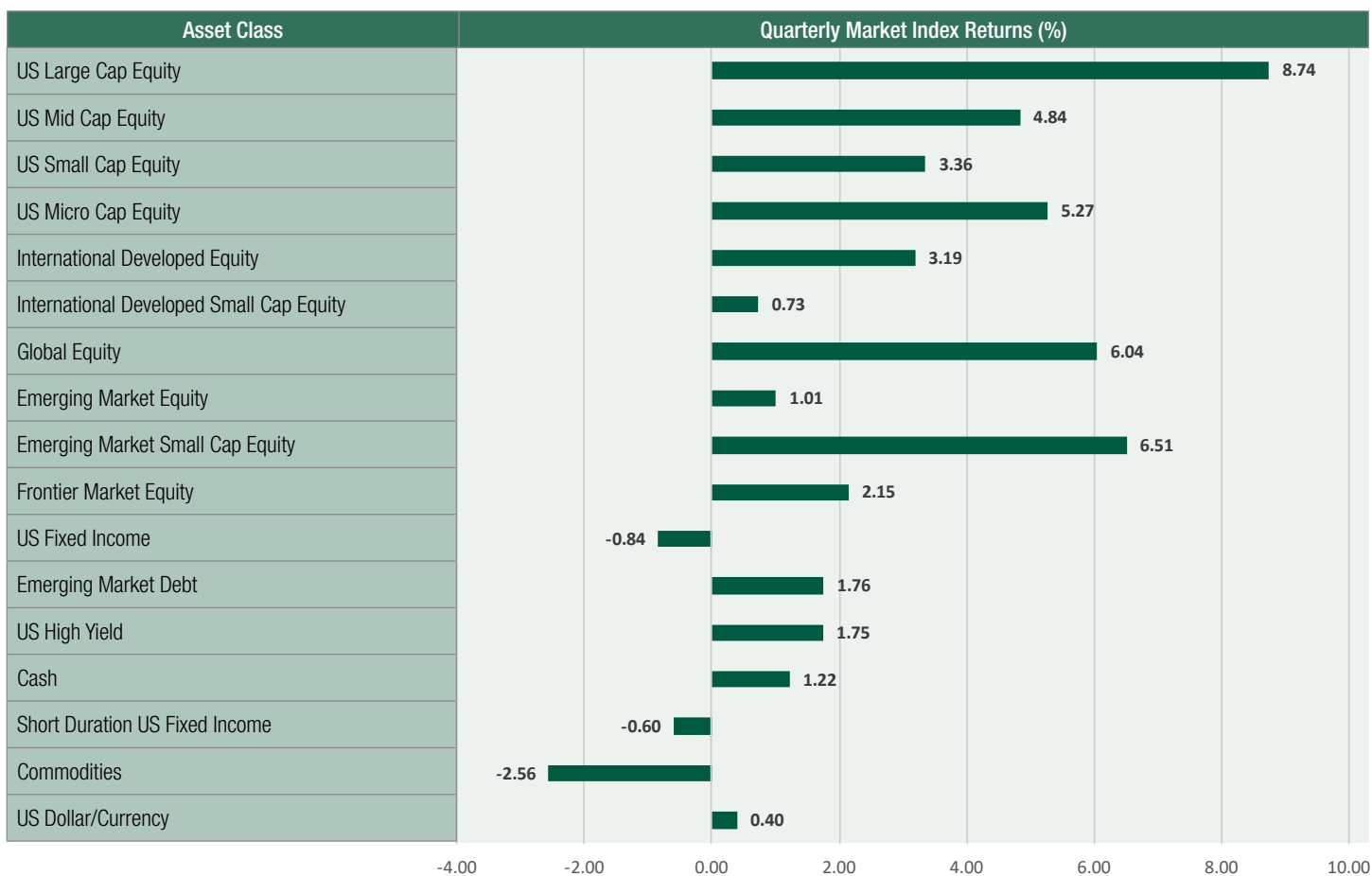
Market Indicators	Current	Prior Quarter
10 Year Treasury Yield	3.84%	3.47%
Fed Funds Rate	5.25%	5.00%
Crude Oil	\$70.6 /barrel	\$75.7 /barrel
Gold	\$1,919.4 /oz.	\$1,969.3 /oz.
30 Year Fixed Mortgage Rates	7.15%	6.81%
US Investment Grade Credit Spread	1.23%	1.38%
US High Yield Credit Spread	3.90%	4.55%
US Leading Economic Indicators	-7.90%	-8.00%

Economic Releases	Current	Prior Quarter
ISM Manufacturing	46.00	46.30
ISM Non-Manufacturing	53.90	51.20
U of M Consumer Sentiment	64.40	62.00
US Real GDP*	1.80%	0.90%
Eurozone Real GDP*	1.00%	1.80%
UK GDP*	0.20%	0.60%
Japan GDP*	1.90%	0.40%
China GDP*	4.50%	2.90%

\* All GDP data is lagged 1 quarter

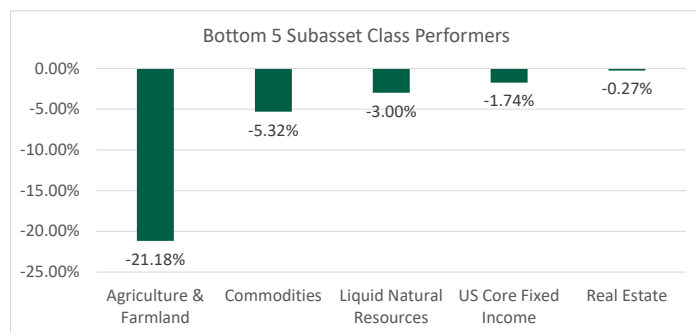
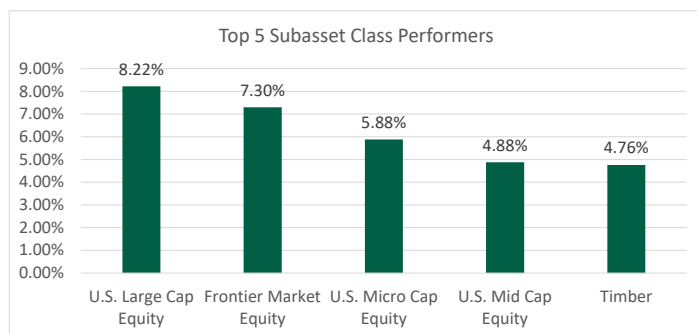
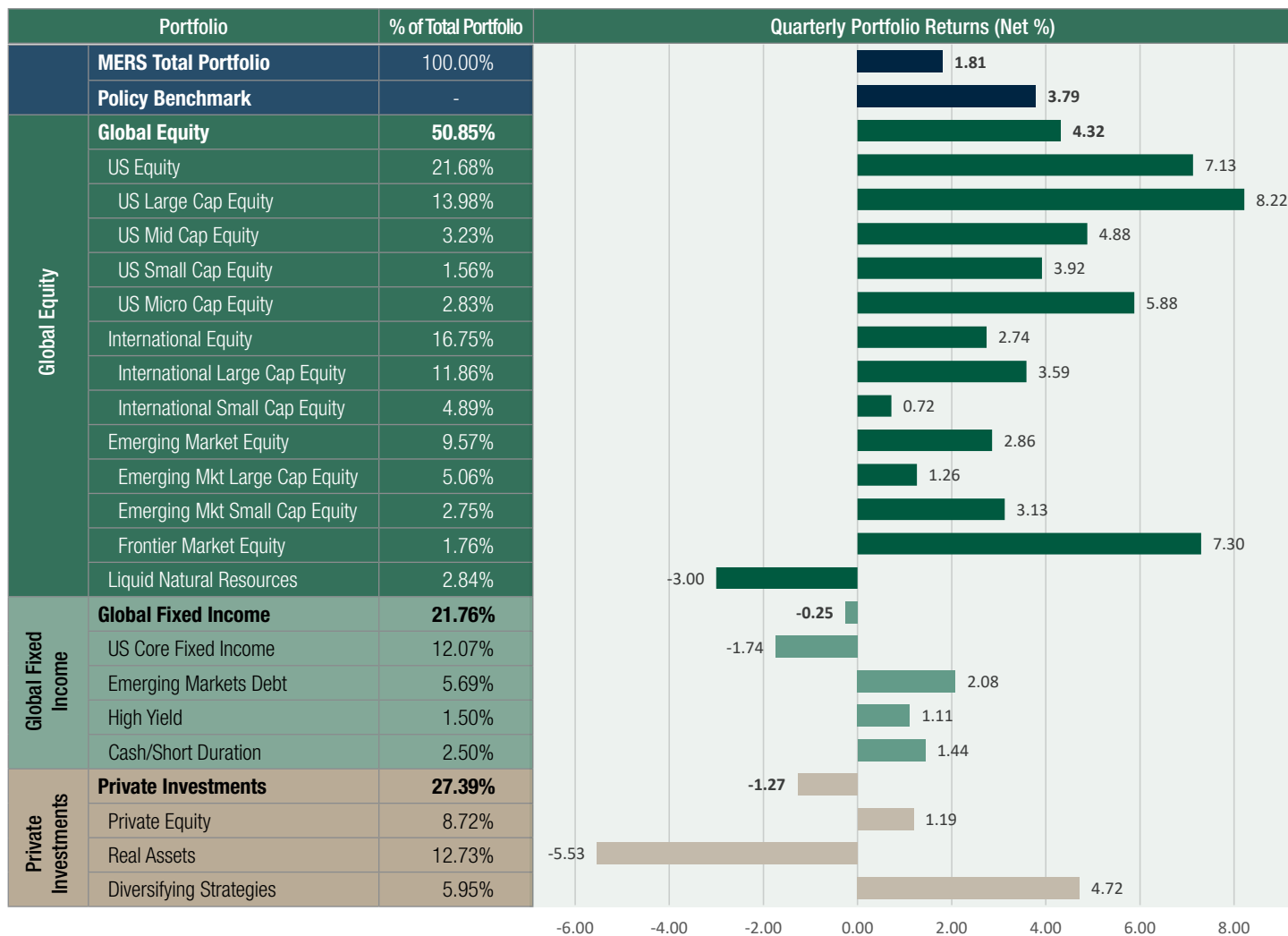


## Quarterly Market Performance Review



## Market Index Returns

Market Index	Asset Class	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
S&P 500	US Large Cap Equity	8.74	16.88	19.56	14.58	12.29	13.37	12.85
S&P 400	US Mid Cap Equity	4.84	8.81	17.53	15.40	7.76	10.05	10.19
S&P 600	US Small Cap Equity	3.36	5.99	9.67	15.12	5.17	9.56	9.76
Russell Microcap	US Micro Cap Equity	5.27	2.26	6.56	9.05	2.03	7.86	7.28
MSCI EAFE	International Developed Equity	3.19	12.16	19.54	9.58	5.00	7.49	6.02
MSCI EAFE Small Cap	International Developed Small Cap Equity	0.73	5.90	10.75	6.19	1.74	6.17	6.59
MSCI ACWI IMI	Global Equity	6.04	13.58	16.76	11.50	8.20	10.28	9.21
MSCI Emerging Markets	Emerging Market Equity	1.01	5.06	2.16	2.67	1.28	5.34	3.32
MSCI Emerging Markets Small Cap	Emerging Market Small Cap Equity	6.51	10.67	13.76	14.10	5.27	6.99	4.91
MSCI Frontier Markets Index	Frontier Market Equity	2.15	5.31	-2.13	3.98	0.96	3.50	2.70
Bloomberg U.S. Aggregate	US Fixed Income	-0.84	2.09	-0.94	-3.96	0.77	0.44	1.52
JPMorgan EMBI Global Diversified Index	Emerging Market Debt	1.76	3.88	7.40	-3.50	0.24	0.50	2.42
ICE BofA Merrill Lynch Global High Yield	US High Yield	1.75	5.38	9.06	3.13	3.36	4.53	4.43
91 Day Treasury Bill	Cash	1.22	2.33	3.73	1.31	1.53	1.34	0.96
Bloomberg 1-3 Year Treasury	Short Duration US Fixed Income	-0.60	0.98	0.15	-1.12	0.93	0.65	0.75
Bloomberg Commodity Index Total Return	Commodities	-2.56	-7.79	-9.61	17.82	4.73	3.41	-0.99
Bloomberg Dollar Spot Index	US Dollar/Currency	0.40	-0.59	-1.69	5.67	1.73	0.98	2.16

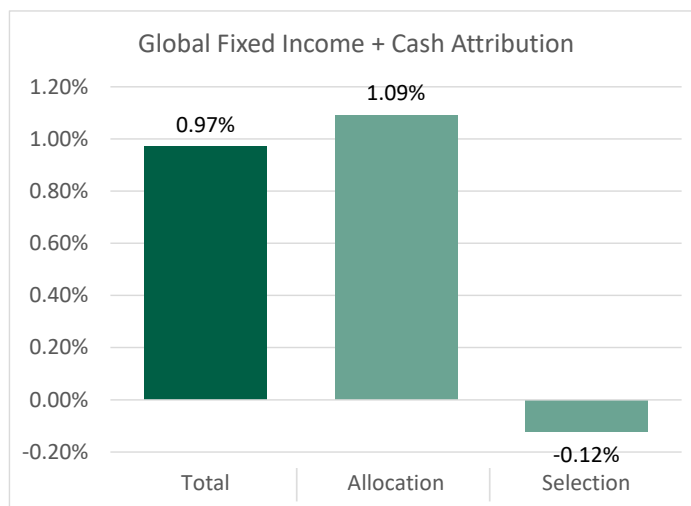
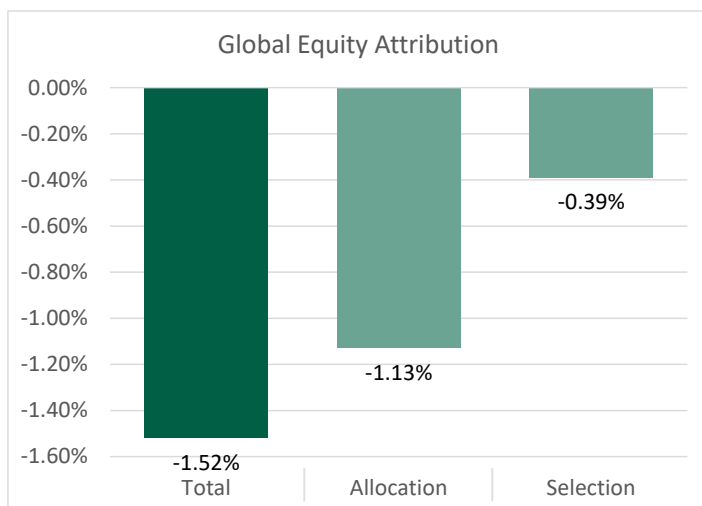
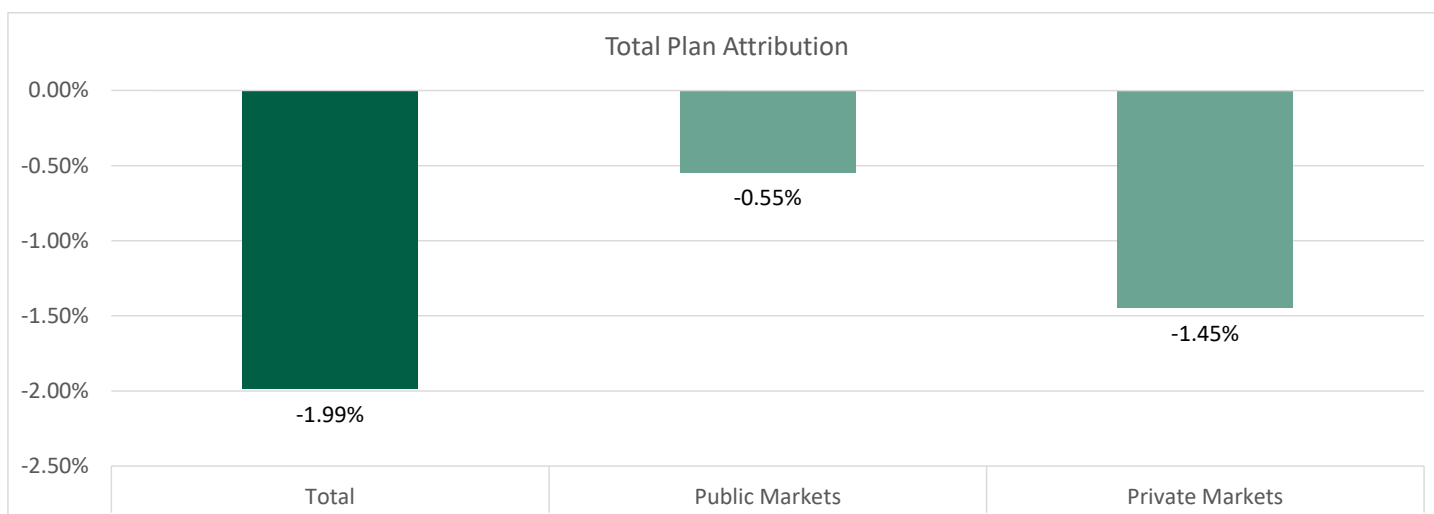


# QUARTERLY PORTFOLIO ATTRIBUTION SUMMARY

2023  
JUNE

	Avg Weight			Return (Net)			Attribution Totals		
	Portfolio	Benchmark	Difference	Portfolio	Benchmark	Difference	Allocation	Selection	Total
<b>Total Plan</b>	<b>100.00%</b>	<b>100.00%</b>	<b>0.00%</b>	<b>1.81%</b>	<b>3.80%</b>	<b>-1.99%</b>	<b>-0.05%</b>	<b>-1.95%</b>	<b>-2.00%</b>
<b>Public Markets</b>	<b>71.97%</b>	<b>100.00%</b>	<b>-28.03%</b>	<b>3.03%</b>	<b>3.80%</b>	<b>-0.77%</b>	<b>-0.05%</b>	<b>-0.51%</b>	<b>-0.55%</b>
<b>Global Equity</b>	<b>51.48%</b>	<b>65.00%</b>	<b>-13.52%</b>	<b>4.27%</b>	<b>6.54%</b>	<b>-2.27%</b>	<b>-1.13%</b>	<b>-0.39%</b>	<b>-1.52%</b>
U.S. Equity	22.48%	45.00%	-22.52%	7.00%	8.39%	-1.39%	-1.01%	-0.30%	-1.31%
International Equity	16.79%	15.00%	1.79%	2.73%	2.68%	0.05%	-0.03%	0.00%	-0.02%
Emerging Market Equity	9.26%	5.00%	4.26%	2.89%	1.62%	1.27%	-0.09%	0.12%	0.03%
Liquid Natural Resources	2.95%	0.00%	2.95%	-3.15%	3.79%	-6.94%	0.00%	-0.21%	-0.21%
<b>Global Fixed Income</b>	<b>18.43%</b>	<b>35.00%</b>	<b>-16.57%</b>	<b>-0.29%</b>	<b>-1.22%</b>	<b>0.93%</b>	<b>1.14%</b>	<b>-0.13%</b>	<b>1.01%</b>
U.S. Core Fixed Income	10.51%	25.00%	-14.49%	-1.84%	-0.84%	-1.00%	0.67%	-0.11%	0.56%
Global Agg ex USD	0.00%	10.00%	-10.00%	0.00%	-2.16%	2.16%	0.60%	0.00%	0.60%
Emerging Markets Debt	5.96%	0.00%	5.96%	2.06%	2.19%	-0.13%	-0.10%	-0.01%	-0.10%
U.S. High Yield	1.96%	0.00%	1.96%	1.07%	1.75%	-0.68%	-0.04%	-0.01%	-0.05%
<b>Cash</b>	<b>2.06%</b>	<b>0.00%</b>	<b>2.06%</b>	<b>1.43%</b>	<b>1.18%</b>	<b>0.25%</b>	<b>-0.05%</b>	<b>0.01%</b>	<b>-0.04%</b>
<b>Private Investments</b>	<b>28.03%</b>	<b>0.00%</b>	<b>28.03%</b>	<b>-1.34%</b>	<b>3.79%</b>	<b>-5.13%</b>	<b>0.00%</b>	<b>-1.44%</b>	<b>-1.45%</b>

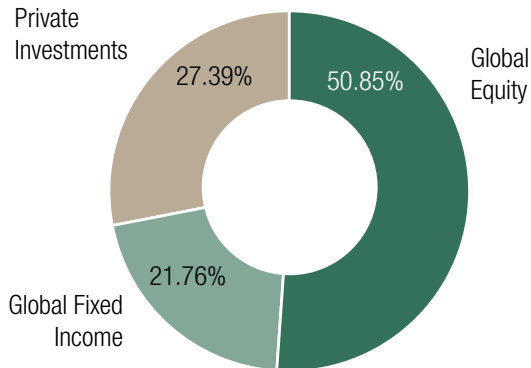
- Underperformance was partially driven by the Private Investments Portfolio (-145bps) due to a lag in mark to market gains.
- The Global Equity portfolio detracted value (-152bps), while the Global Fixed Income portfolio added value (+101%).
- Selection in the U.S. Equity was the largest detractor at the sub-asset class level (-101bps).
- Underweights in the U.S. Core and Global Agg fixed income portfolios added value (+67bps & +60bps).



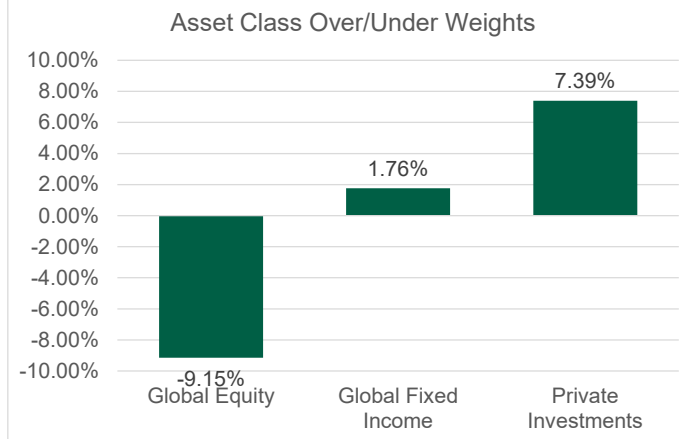


Asset Class	Market Value	% of Fund	Base Allocation	Over/Under Weight	Minimum Allocation	Maximum Allocation
Global Equity	\$6,528,782,070	50.85%	60.00%	-9.15%	30.00%	70.00%
Global Fixed Income	\$2,794,391,650	21.76%	20.00%	1.76%	10.00%	60.00%
Private Investments	\$3,516,702,531	27.39%	20.00%	7.39%	No Minimum	30.00%
<b>Total</b>	<b>\$12,839,876,252</b>	<b>100.00%</b>	<b>100.00%</b>			

## Asset Allocation

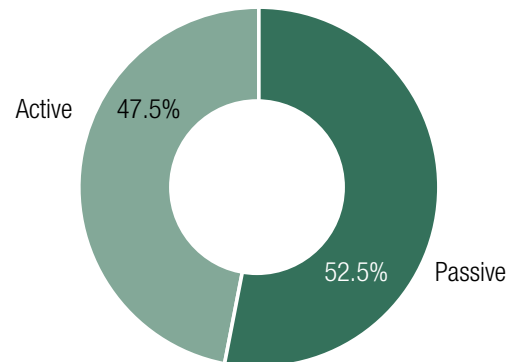


## Asset Class Over/Under Weights



Asset Class	MERS Public Markets <sup>1</sup>	Policy Benchmark <sup>2</sup>	Over/Under Weight
U.S. Equity	33.76%	45.00%	-11.24%
International Equity	22.19%	14.40%	7.79%
Emerging Market Equity	13.18%	5.60%	7.58%
U.S. Treasury	16.63%	20.77%	-4.14%
U.S. Investment Grade	0.03%	14.23%	-14.20%
U.S. High Yield	2.07%	0.00%	2.07%
Emerging Market Debt	7.85%	0.00%	7.85%
Cash/Short Duration	3.40%	0.00%	3.40%

## MERS Public Markets

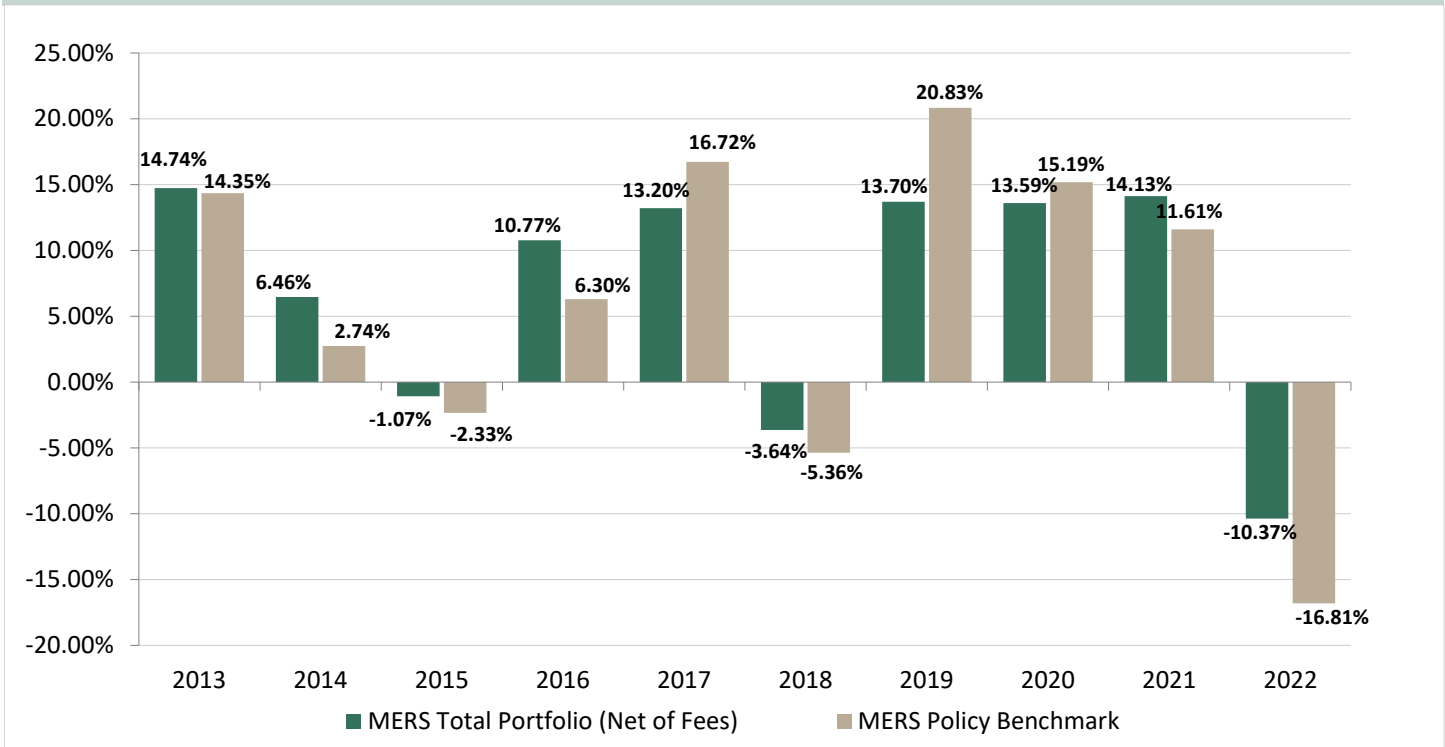


<sup>1</sup> MERS' Public Markets is made up of the Global Equity and Global Fixed Income Asset Classes

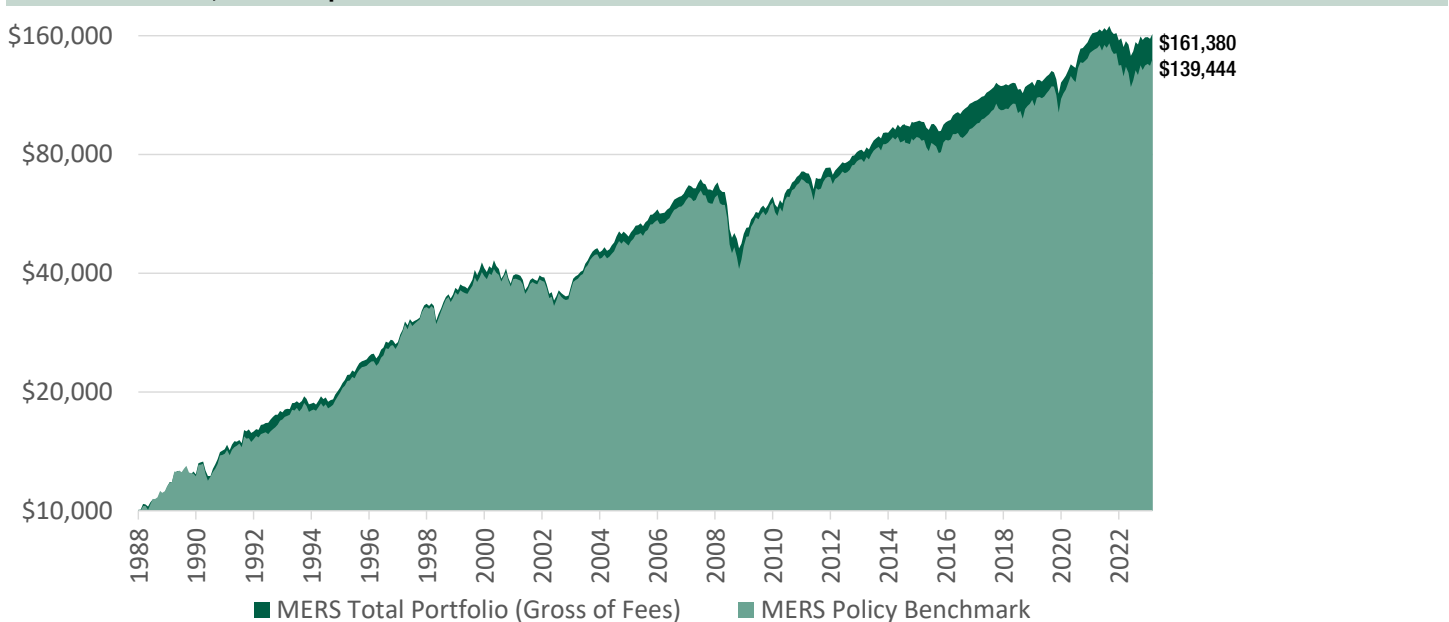
<sup>2</sup> 45% Russell 3000, 20% MSCI ACWI ex USA IMI (net), 25% Bloomberg Barclays US Aggregate, and 10% Bloomberg Barclays Global Aggregate ex U.S.

	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
MERS Total Portfolio - Gross of Fees (%)	1.89	6.16	7.77	8.44	6.17	7.41	7.13
MERS Total Portfolio - Net of Fees (%)	1.81	6.00	7.53	8.24	6.00	7.22	6.93
Policy Benchmark (%)	3.79	9.60	10.58	6.12	5.98	6.93	6.19
<b>Excess (Net) (%)</b>	<b>-1.98</b>	<b>-3.60</b>	<b>-3.05</b>	<b>2.12</b>	<b>0.02</b>	<b>0.29</b>	<b>0.74</b>

## Calendar Year Performance – Last 10 Years

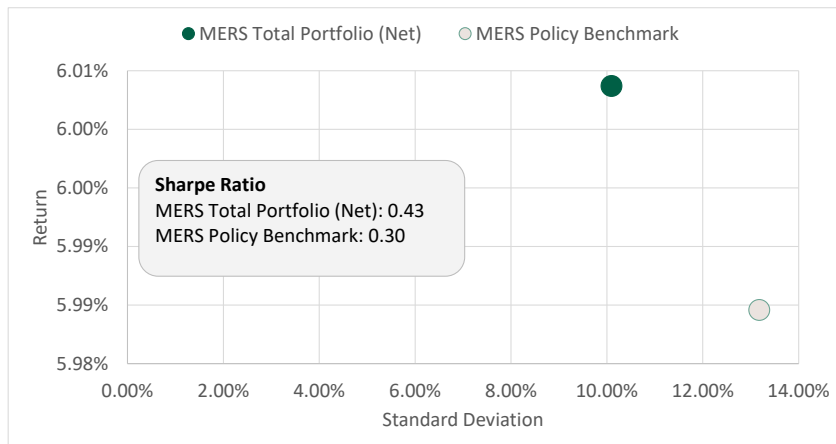


## Growth of \$10,000 Comparison



## 5-Year

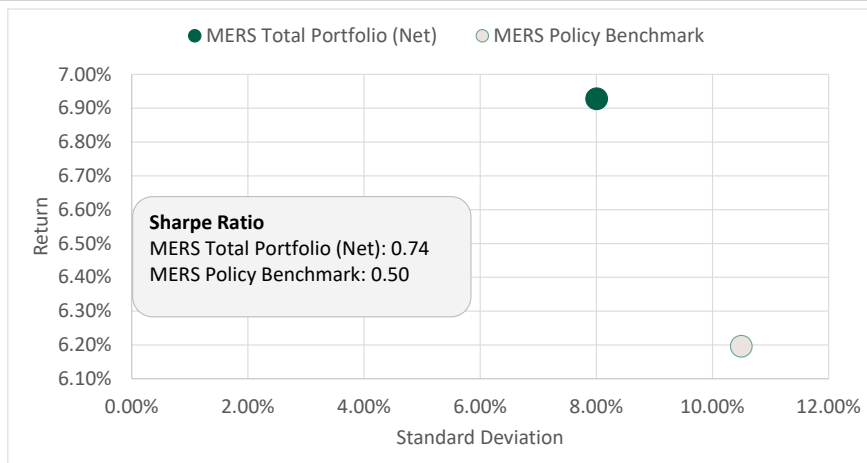
	Return	Standard Deviation	Downside Risk	Beta	R-Squared	Tracking Error
MERS Total Portfolio (Net)	6.00%	10.09%	7.50%	0.75	95.82	3.89%
MERS Policy Benchmark	5.98%	13.17%	9.88%	1.00	100	



	# of Months		Average Return		Up Capture	Down Capture
	Up	Down	Up	Down		
MERS Total Portfolio (Net)	38	22	2.25%	-2.44%	75.90%	74.90%
MERS Policy Benchmark	38	22	2.85%	-3.40%		

## 10-Year

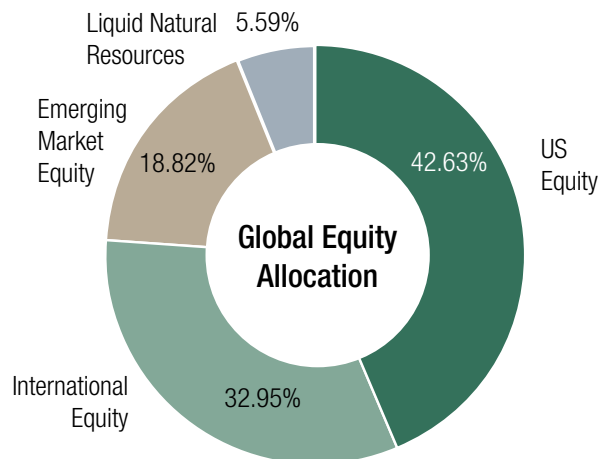
	Return	Standard Deviation	Downside Risk	Beta	R-Squared	Tracking Error
MERS Total Portfolio (Net)	6.93%	8.00%	5.97%	0.74	93.04	3.49%
MERS Policy Benchmark	6.20%	10.49%	7.81%	1.00	100.00	



	# of Months		Average Return		Up Capture	Down Capture
	Up	Down	Up	Down		
MERS Total Portfolio (Net)	80	40	1.81%	-1.86%	79.30%	68.50%
MERS Policy Benchmark	78	42	2.23%	-2.58%		

<b>Market Value</b>	<b>\$6,528,782,070</b>
<b>Assets – % of Portfolio</b>	<b>50.85%</b>

Sub Asset Class	Market Value
US Equity	\$2,783,466,772
International Equity	\$2,151,224,659
Emerging Market Equity	\$1,228,819,299
Liquid Natural Resources	\$365,271,341
<b>Total</b>	<b>\$6,528,782,070</b>



## Performance (Net)

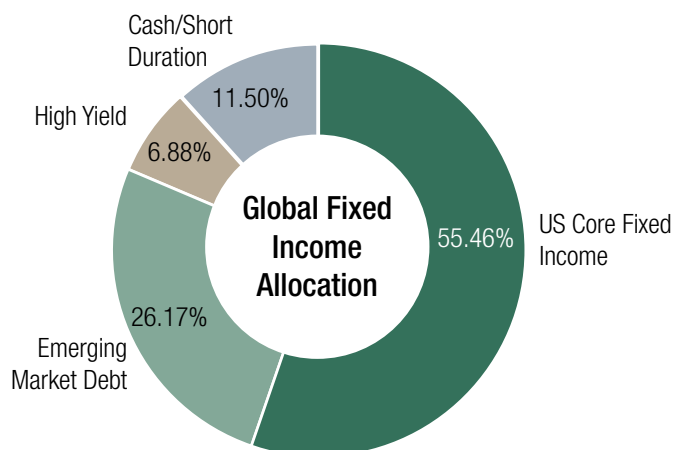
	Market Value	% OF PLAN	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
<b>Global Equity</b>	<b>\$6,528,782,070</b>	<b>50.85</b>	<b>4.32</b>	<b>9.85</b>	<b>14.38</b>	<b>11.02</b>	<b>5.90</b>	<b>8.40</b>	<b>8.14</b>
<i>Global Equity Policy Blend <sup>1</sup></i>			<i>6.53</i>	<i>13.98</i>	<i>17.09</i>	<i>11.92</i>	<i>8.95</i>	<i>10.75</i>	<i>9.46</i>
<i>MSCI ACWI</i>			<i>6.18</i>	<i>13.93</i>	<i>16.53</i>	<i>10.99</i>	<i>8.10</i>	<i>9.94</i>	<i>8.75</i>
<b>US Equity</b>	<b>\$2,783,466,772</b>	<b>21.68</b>	<b>7.13</b>	<b>13.30</b>	<b>17.84</b>	<b>15.70</b>			
<i>Russell 3000</i>			<i>8.58</i>	<i>16.68</i>	<i>19.36</i>	<i>14.09</i>			
<b>US Large Cap Equity</b>	<b>\$1,795,190,321</b>	<b>13.98</b>	<b>8.22</b>	<b>15.76</b>	<b>18.96</b>	<b>14.93</b>	<b>11.70</b>	<b>12.81</b>	<b>13.03</b>
<i>Russell 1000</i>			<i>8.74</i>	<i>16.89</i>	<i>19.59</i>	<i>14.60</i>	<i>12.31</i>	<i>13.38</i>	<i>12.86</i>
<b>US Mid Cap Equity</b>	<b>\$415,200,455</b>	<b>3.23</b>	<b>4.88</b>	<b>8.45</b>	<b>16.94</b>	<b>15.11</b>	<b>7.66</b>	<b>9.74</b>	<b>9.79</b>
<i>Russell Midcap</i>			<i>4.76</i>	<i>9.01</i>	<i>14.92</i>	<i>12.50</i>	<i>8.46</i>	<i>10.12</i>	<i>10.32</i>
<b>US Small Cap Equity</b>	<b>\$199,933,341</b>	<b>1.56</b>	<b>3.92</b>	<b>6.67</b>	<b>11.57</b>	<b>16.83</b>	<b>5.59</b>	<b>9.91</b>	<b>8.69</b>
<i>Russell 2000</i>			<i>5.21</i>	<i>8.09</i>	<i>12.31</i>	<i>10.82</i>	<i>4.21</i>	<i>8.76</i>	<i>8.26</i>
<b>US Micro Cap Equity</b>	<b>\$363,044,093</b>	<b>2.83</b>	<b>5.88</b>	<b>9.08</b>	<b>18.64</b>	<b>20.00</b>	<b>6.09</b>	<b>9.67</b>	<b>8.56</b>
<i>Russell Microcap</i>			<i>5.29</i>	<i>2.32</i>	<i>6.63</i>	<i>9.09</i>	<i>2.07</i>	<i>7.87</i>	<i>7.29</i>
<b>International Equity</b>	<b>\$2,151,224,659</b>	<b>16.75</b>	<b>2.74</b>	<b>8.23</b>	<b>14.00</b>	<b>7.43</b>			
<i>MSCI World ex USA IMI</i>			<i>2.67</i>	<i>10.46</i>	<i>16.35</i>	<i>8.87</i>			
<b>International Large Cap Equity</b>	<b>\$1,523,264,808</b>	<b>11.86</b>	<b>3.59</b>	<b>8.99</b>	<b>14.68</b>	<b>6.84</b>	<b>3.78</b>	<b>4.53</b>	
<i>MSCI World ex USA</i>			<i>3.03</i>	<i>11.29</i>	<i>17.41</i>	<i>9.30</i>	<i>4.58</i>	<i>6.94</i>	
<b>International Small Cap Equity</b>	<b>\$627,959,851</b>	<b>4.89</b>	<b>0.72</b>	<b>6.37</b>	<b>12.40</b>	<b>8.85</b>	<b>3.17</b>	<b>8.23</b>	<b>8.17</b>
<i>MSCI World ex USA Small Cap</i>			<i>0.49</i>	<i>5.50</i>	<i>10.05</i>	<i>6.42</i>	<i>1.83</i>	<i>5.81</i>	<i>5.97</i>
<b>Emerging Market Equity</b>	<b>\$1,228,819,299</b>	<b>9.57</b>	<b>2.86</b>	<b>7.97</b>	<b>6.90</b>	<b>6.47</b>	<b>1.94</b>	<b>5.52</b>	<b>4.04</b>
<i>MSCI Emerging Markets IMI</i>			<i>1.62</i>	<i>5.63</i>	<i>3.19</i>	<i>3.60</i>	<i>1.42</i>	<i>5.16</i>	<i>3.16</i>
<b>Emerging Market Large Cap Equity</b>	<b>\$649,624,657</b>	<b>5.06</b>	<b>1.26</b>	<b>5.94</b>	<b>1.18</b>	<b>1.58</b>	<b>0.67</b>	<b>3.95</b>	<b>2.57</b>
<i>MSCI Emerging Markets</i>			<i>0.90</i>	<i>4.89</i>	<i>1.75</i>	<i>2.32</i>	<i>0.93</i>	<i>4.95</i>	<i>2.95</i>
<b>Emerging Market Small Cap Equity</b>	<b>\$352,791,218</b>	<b>2.75</b>	<b>3.13</b>	<b>8.20</b>	<b>13.15</b>	<b>13.25</b>	<b>5.42</b>	<b>9.04</b>	
<i>MSCI Emerging Markets Small Cap</i>			<i>6.39</i>	<i>10.50</i>	<i>13.28</i>	<i>13.72</i>	<i>4.93</i>	<i>6.68</i>	
<b>Frontier Market Equity</b>	<b>\$226,403,424</b>	<b>1.76</b>	<b>7.30</b>	<b>10.89</b>	<b>14.38</b>	<b>11.41</b>	<b>0.96</b>	<b>4.75</b>	<b>3.51</b>
<i>MSCI Frontier Markets</i>			<i>2.13</i>	<i>5.29</i>	<i>-2.34</i>	<i>3.79</i>	<i>0.83</i>	<i>3.40</i>	<i>2.67</i>
<b>Liquid Natural Resources</b>	<b>\$365,271,341</b>	<b>2.84</b>	<b>-3.00</b>	<b>0.00</b>	<b>15.99</b>				
<i>Policy Benchmark <sup>2</sup></i>			<i>3.79</i>	<i>9.60</i>	<i>10.58</i>				

<sup>1</sup> 70% Russell 3000, 30% MSCI ACWI ex USA IMI (net)

<sup>2</sup> 45% Russell 3000, 20% MSCI ACWI ex USA IMI (net), 25% Bloomberg Barclays US Aggregate, and 10% Bloomberg Barclays Global Aggregate ex U.S.

Market Value	\$2,794,391,650
Assets – % of Portfolio	21.76%

Sub Asset Class	Market Value
US Core Fixed Income	\$1,549,783,588
Emerging Market Debt	\$731,167,445
High Yield	\$192,135,437
Cash/Short Duration	\$321,305,180
<b>Total</b>	<b>\$2,794,391,650</b>



## Performance (Net)

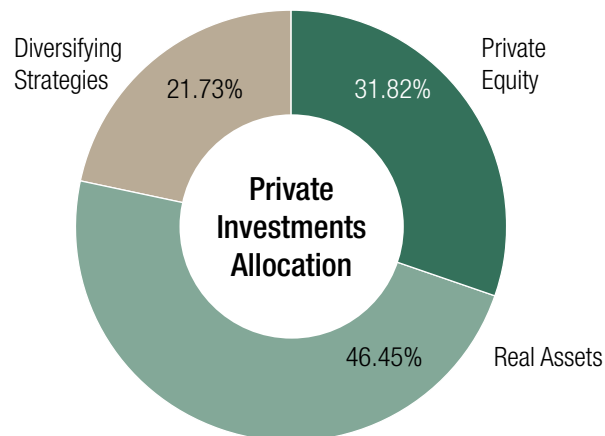
	Market Value	% OF PLAN	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
<b>Global Fixed Income ex Cash</b>	<b>\$2,473,086,470</b>	<b>19.26</b>	<b>-0.25</b>	<b>2.85</b>	<b>2.22</b>	<b>-3.14</b>	<b>2.17</b>	<b>2.05</b>	<b>2.76</b>
<i>Global Fixed Income Policy Blend<sup>1</sup></i>			-1.22	1.74	-1.17	-4.49	-0.20	-0.52	0.34
<i>Bloomberg Barclays Global Aggregate</i>			-1.53	1.43	-1.32	-4.96	-1.09	-0.90	0.20
<b>US Core Fixed Income</b>	<b>\$1,549,783,588</b>	<b>12.07</b>	<b>-1.74</b>	<b>1.28</b>	<b>-2.29</b>	<b>-4.00</b>	<b>0.66</b>	<b>0.44</b>	<b>1.51</b>
<i>Bloomberg Barclays U.S. Aggregate</i>			-0.84	2.09	-0.94	-3.96	0.77	0.44	1.52
<b>Emerging Market Debt</b>	<b>\$731,167,445</b>	<b>5.69</b>	<b>2.08</b>	<b>4.38</b>	<b>7.91</b>	<b>-2.67</b>	<b>1.04</b>	<b>1.91</b>	<b>2.43</b>
<i>JP Morgan EMBI Global Diversified</i>			2.19	4.09	7.39	-3.10	0.55	1.01	2.83
<b>High Yield</b>	<b>\$192,135,437</b>	<b>1.50</b>	<b>1.11</b>	<b>4.54</b>	<b>7.97</b>				
<i>Bloomberg Barclays U.S. Corporate High Yield</i>			1.75	5.38	9.06				
<b>Cash/Short Duration<sup>2</sup></b>	<b>\$321,305,180</b>	<b>2.50</b>	<b>1.44</b>	<b>13.84</b>	<b>86.13</b>	<b>23.41</b>	<b>14.78</b>	<b>10.45</b>	<b>7.53</b>
<i>91 Day Treasury Bill</i>			1.18	2.27	3.62	1.28	1.56	1.38	0.99

<sup>1</sup> 70% Bloomberg Barclays U.S. Aggregate, 30% Bloomberg Barclays Global Aggregate ex U.S.

<sup>2</sup> Cash/Short Duration market value reflects collateral for futures positions

Market Value	\$3,516,702,531
Assets – % of Portfolio	27.39%

Sub Asset Class	Market Value
Private Equity	\$1,119,360,438
Real Assets	\$1,633,903,368
Diversifying Strategies	\$764,314,245
Currency Hedge	(\$875,521)
<b>Total</b>	<b>\$3,516,702,531</b>



## Performance (Net)

	Market Value	% OF PLAN	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
<b>Private Investments</b>	<b>\$3,516,702,531</b>	<b>27.39</b>	<b>-1.27</b>	<b>1.31</b>	<b>-0.77</b>	<b>13.76</b>			
<i>Public Markets</i>			3.00	7.86	10.92	6.63			
<i>Policy Benchmark<sup>1</sup></i>			3.79	9.60	10.58	6.12			
<b>Private Equity</b>	<b>\$1,119,360,438</b>	<b>8.72</b>	<b>1.19</b>	<b>2.29</b>	<b>0.37</b>	<b>24.30</b>	<b>18.97</b>	<b>17.26</b>	<b>15.46</b>
<i>Private Equity Blend<sup>2</sup></i>			2.93	6.90	11.59	8.43	2.91	7.43	7.40
<b>Real Assets</b>	<b>\$1,633,903,368</b>	<b>12.73</b>	<b>-5.53</b>	<b>-2.55</b>	<b>-2.45</b>	<b>7.88</b>	<b>8.20</b>	<b>8.29</b>	<b>7.34</b>
<i>Real Assets Blend<sup>3</sup></i>			1.80	4.26	5.97	8.78	6.84	6.05	5.08
<b>Diversified Real Assets</b>	<b>\$1,309,855,009</b>	<b>10.20</b>	<b>-6.77</b>	<b>-3.04</b>	<b>-4.10</b>	<b>7.13</b>	<b>7.27</b>	<b>6.24</b>	
<i>Real Assets Blend</i>			1.80	4.26	5.97	8.78	6.84		
<b>Real Estate</b>	<b>\$323,950,557</b>	<b>2.52</b>	<b>-0.27</b>	<b>-0.61</b>	<b>4.79</b>	<b>12.41</b>	<b>9.87</b>	<b>11.16</b>	<b>12.09</b>
<i>Real Estate Blend<sup>4</sup></i>			-2.68	-5.76	-9.97	7.99	7.38	6.22	7.77
<b>Timber</b>	<b>\$37,515,714</b>	<b>0.29</b>	<b>4.76</b>	<b>2.62</b>	<b>-0.64</b>	<b>11.66</b>	<b>7.13</b>	<b>9.06</b>	<b>7.42</b>
<i>S&amp;P Global Timber &amp; Forestry Index Net</i>			1.58	-0.24	-2.14	10.80	-0.08	8.49	6.44
<b>Infrastructure</b>	<b>\$373,809,493</b>	<b>2.91</b>	<b>2.81</b>	<b>11.93</b>	<b>19.01</b>	<b>20.98</b>	<b>13.67</b>	<b>11.11</b>	<b>9.06</b>
<i>Private Infrastructure Blend<sup>5</sup></i>			-1.25	2.29	-1.98	1.54	2.73	2.86	3.37
<b>Commodities</b>	<b>\$355,836,037</b>	<b>2.77</b>	<b>-5.32</b>	<b>1.44</b>	<b>0.61</b>	<b>3.68</b>	<b>3.42</b>	<b>3.93</b>	<b>2.54</b>
<i>Bloomberg Commodity Index Total Return</i>			-2.56	-7.79	-9.61	17.82	4.73	3.41	-0.99
<b>Agriculture &amp; Farmland</b>	<b>\$323,361,780</b>	<b>2.52</b>	<b>-21.18</b>	<b>-21.46</b>	<b>-27.12</b>	<b>-1.53</b>	<b>6.53</b>	<b>7.42</b>	<b>7.38</b>
<i>S&amp;P Global Agribusiness Equity Index TR</i>			-7.32	-9.64	-6.88	15.66	6.93	7.75	
<b>Diversifying Strategies</b>	<b>\$764,314,245</b>	<b>5.95</b>	<b>4.72</b>	<b>8.87</b>	<b>1.92</b>	<b>14.17</b>	<b>6.53</b>	<b>6.60</b>	<b>6.37</b>
<i>Diversifying Strategies Blend<sup>6</sup></i>			1.50	5.96	5.13	1.21	3.24	4.09	3.74

<sup>1</sup> 45% Russell 3000, 20% MSCI ACWI ex USA IMI (net), 25% Bloomberg Barclays US Aggregate, and 10% Bloomberg Barclays Global Aggregate ex U.S.

<sup>2</sup> 50% Russell 2000, 50% MSCI EAFE Small Cap (net)

<sup>3</sup> 100% CPI + 3%

<sup>4</sup> 100% NCREIF ODCE Value Weighted

<sup>5</sup> 50% DJ Brookfield Global Infrastructure Index, 50% Bloomberg Barclays Global Inflation-Linked

<sup>6</sup> 25% Russell 3000, 10% MSCI ACWI ex U.S. IMI (net), 45% Bloomberg Barclays U.S. Aggregate, 20% Bloomberg Barclays Global Aggregate ex U.S.

## PDA Funds

Program	Assets	Participants	Average Account Size	Weighted Average Fee	Default Option
DC/Hybrid Plan	\$1,194,006,280	34,732	\$34,378	0.42%	Retirement Strategies
HCSP	\$419,465,600	38,218	\$10,976	0.39%	Retirement Strategies
457 Program	\$347,556,697	11,705	\$29,693	0.42%	Retirement Strategies
MERS IRA	\$11,541,187	942	\$12,252	0.42%	Retirement Strategies
<b>TOTAL</b>	<b>\$1,972,569,765</b>	<b>85,597</b>	<b>\$23,045</b>		

## Institutional Funds

Program	Assets	Municipalities	Average Account Size	Weighted Average Fee
RHFV	\$1,406,737,834	324	\$4,341,783	0.60%
ISP	\$50,992,901	5	\$10,198,580	0.60%
<b>TOTAL</b>	<b>\$1,457,730,735</b>	<b>329</b>	<b>\$4,430,793</b>	

## Investment Allocations

	PDA	Institutional Funds	Total
Retirement Strategies	\$1,465,691,005		\$1,465,691,005
Total Market Fund	\$42,914,708	\$1,456,610,103	\$1,499,524,812
Asset Allocation Portfolios	\$39,207,373	\$219,263	\$39,426,636
Asset Specific funds	\$391,690,387	\$901,368	\$392,591,756
Self-directed Brokerage	\$10,467,366		\$10,467,366
Other	\$21,678,451		\$21,678,451
<b>TOTAL</b>	<b>\$1,971,649,289</b>	<b>\$1,457,730,735</b>	<b>\$3,429,380,024</b>

### Program Highlights

- Simplified investment menu (June 2021)
- RHFV conducted a full plan reset (June 2021)
- Completed Record Keeper RFP (December 2021)
- Completed Target Date Funds RFP (October 2022)
- Completed Transition to BlackRock Target Date Funds (May 2023)

### Current Research

- Review investment menu and design
- RFP for Stable Value Fund
- Review options for Managed Account Solution

## Retirement Strategies for PDA Accounts

MERS Retirement Strategies	Assets	Expense Ratio	1 Year	3 Year	5 Year	10 Year
LifePath Retirement	\$214,365,944	0.39%	5.02	2.42	3.99	4.56
LifePath 2025	\$209,897,555	0.39%	5.93	3.84	4.58	5.65
LifePath 2030	\$191,342,568	0.39%	8.14	5.63	5.46	6.43
LifePath 2035	\$196,415,054	0.39%	10.18	7.32	6.27	7.15
LifePath 2040	\$180,710,197	0.39%	12.20	8.87	6.99	7.80
LifePath 2045	\$153,344,553	0.39%	14.03	10.14	7.60	8.30
LifePath 2050	\$130,891,325	0.39%	15.18	10.81	7.93	8.58
LifePath 2055	\$104,851,413	0.39%	15.51	10.94	8.01	8.68
LifePath 2060	\$69,091,562	0.39%	15.52	10.93	8.00	
LifePath 2065	\$14,780,835	0.39%	15.55	10.91		
<b>TOTAL</b>	<b>\$1,465,691,005</b>					

## Premium Select Options – Portfolios Built for You

MERS Portfolio Options	Assets	Expense Ratio	1 Year	3 Year	5 Year	10 Year
<b>MERS Total Market Portfolio</b>	\$1,500,445,288	0.70%	7.16	7.80	5.59	6.52
<i>MERS Policy Benchmark</i>			10.58	6.12	5.98	6.19
<b>MERS Global Stock Portfolio (100/0)</b>	\$15,131,478	0.37%	15.31	10.80	6.27	8.60
<i>Blended Benchmark</i>			16.53	10.99	8.10	8.75
<b>MERS Established Market Portfolio (60/40)</b>	\$13,103,363	0.39%	9.35	5.29	4.34	6.09
<i>Blended Benchmark</i>			9.44	5.23	5.86	6.74
<b>MERS Diversified Bond Portfolio (0/100)</b>	\$11,191,795	0.41%	0.43	-2.84	0.65	1.39
<i>Bloomberg U.S. Aggregate Bond Index</i>			-0.94	-3.96	0.77	1.52
<b>TOTAL</b>	<b>\$1,539,871,924</b>					



**Premium Select Options – Funds to Build Your Own Portfolio**

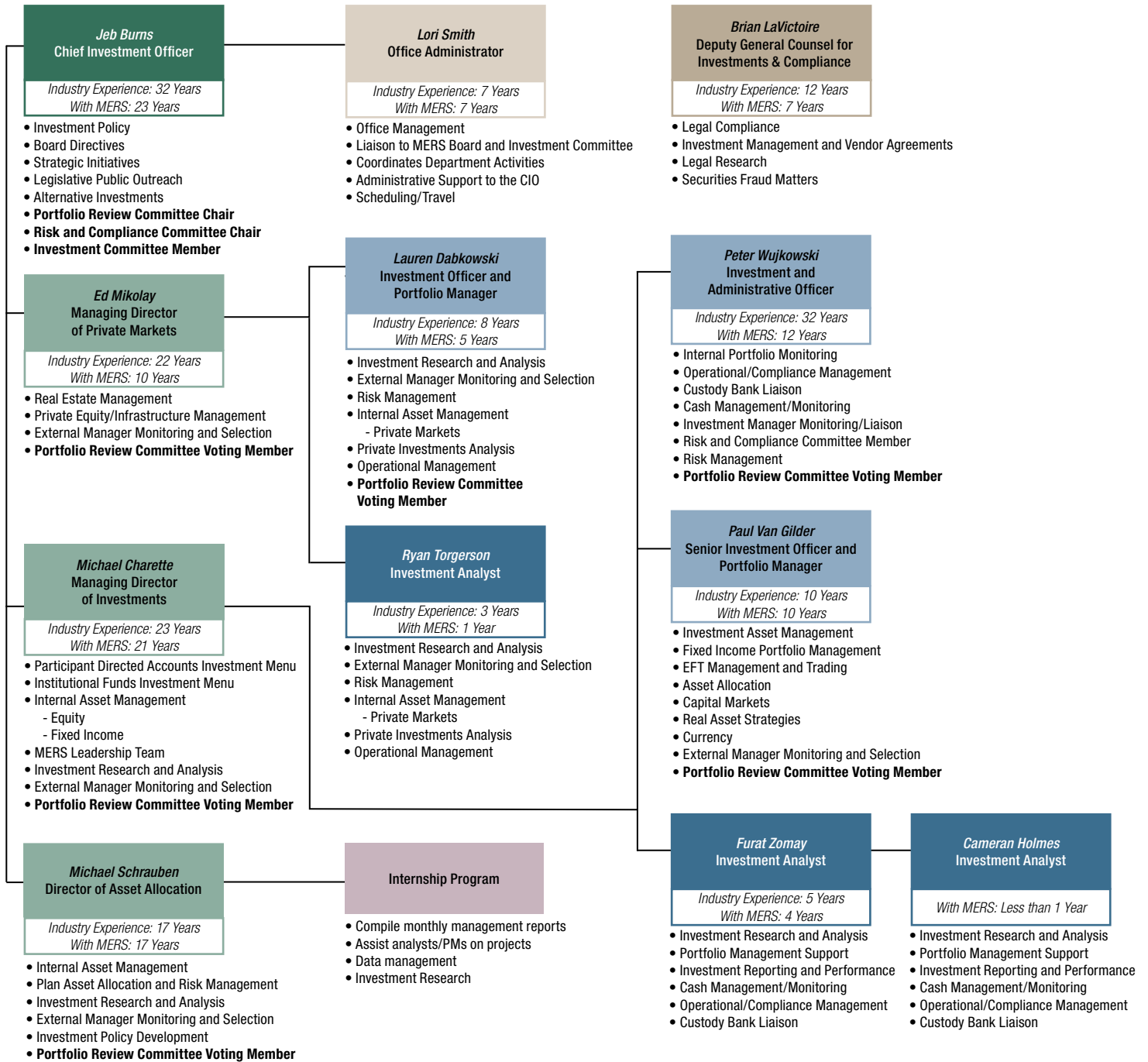
MERS Portfolio Options	Assets	Expense Ratio	1 Year	3 Year	5 Year	10 Year
<b>Large Cap Stock Index Fund</b>	\$194,454,148	0.36%	19.11	14.19	11.92	12.43
<i>S&amp;P 500 Index</i>			<i>19.59</i>	<i>14.60</i>	<i>12.31</i>	<i>12.86</i>
<b>Mid Cap Stock Index</b>	\$40,930,664	0.38%	17.09	14.99	7.47	9.93
<i>S&amp;P 400 Index</i>			<i>17.61</i>	<i>15.44</i>	<i>7.79</i>	<i>10.21</i>
<b>Small Cap Stock Index</b>	\$23,549,676	0.39%	9.18	15.27	5.17	
<i>S&amp;P 600 Index</i>			<i>9.75</i>	<i>15.19</i>	<i>5.22</i>	
<b>International Stock Index</b>	\$17,388,554	0.36%	18.60	8.04	3.70	4.88
<i>MSCI EAFE Net Dividend Index</i>			<i>18.77</i>	<i>8.93</i>	<i>4.39</i>	<i>5.41</i>
<b>Emerging Market Stock</b>	\$4,396,549	0.53%	2.73	2.77	0.08	2.50
<i>Blended Benchmark</i>			<i>1.75</i>	<i>2.32</i>	<i>1.06</i>	<i>3.03</i>
<b>Real Estate Stock</b>	\$5,849,611	0.38%	-0.63	8.94	4.52	6.40
<i>Dow Jones U.S. Select REIT Index</i>			<i>-0.69</i>	<i>9.17</i>	<i>3.28</i>	<i>5.75</i>
<b>Bond Index</b>	\$18,044,563	0.35%	-1.20	-4.25	0.75	1.21
<i>Bloomberg U.S. Aggregate Bond Index</i>			<i>-0.94</i>	<i>-3.96</i>	<i>0.77</i>	<i>1.52</i>
<b>High Yield Bond</b>	\$5,241,620	0.47%	8.60	2.32	2.63	3.62
<i>Bloomberg U.S. High Yield Net Return Index</i>			<i>-13.60</i>	<i>-0.70</i>	<i>1.49</i>	<i>3.61</i>
<b>Short-Term Income</b>	\$18,918,561	0.38%	0.82	-0.43	1.16	0.75
<i>Bloomberg U.S. Treasury: 1-3 Year</i>			<i>0.15</i>	<i>-1.12</i>	<i>0.93</i>	<i>0.75</i>
<b>Stable Value</b>	\$63,817,811	0.85%	2.06	1.79	2.02	1.94
<i>ICE BofA US 3 Month Treasury Bill Index G001</i>			<i>3.62</i>	<i>1.28</i>	<i>1.56</i>	<i>0.99</i>
<b>TOTAL</b>	<b>\$392,591,756</b>					

# APPENDIX

## Investment Decision Making Roles and Responsibilities

<p><b>MERS BOARD</b></p>	<ul style="list-style-type: none"> <li>• Is the System's fiduciary;</li> <li>• Appoints public members with investment expertise to serve on the Investment Committee;</li> <li>• Appoints one Board member for two years to observe Investment Committee meetings (observer does not have voting privileges);</li> <li>• Monitors activity of the Investment Committee;</li> <li>• Approves investment governance documents (Investment Guidelines, Defined Benefit Investment Policy Statement, and Participant Directed Accounts &amp; Institutional Funds Investment Policy Statement);</li> <li>• Sets the Portfolio's asset class allocation ranges;</li> <li>• Establishes the long-term actuarial investment return assumption; and</li> <li>• Approves the Portfolio's Policy Benchmark.</li> </ul>
<p><b>INVESTMENT COMMITTEE</b></p>	<ul style="list-style-type: none"> <li>• Contains three voting Board members, including two public members with investment expertise;</li> <li>• Includes CEO and CIO (both non-voting members);</li> <li>• Serves as the Board's investment policy development arm;</li> <li>• Monitors investment management activity and policy recommendations developed by the Office of Investments;</li> <li>• Approves PRC investment recommendations to hire/terminate investment managers;</li> <li>• Approves investments above PRC discretionary size limits;</li> <li>• Provides advice on investment activities including: industry best practices, fiduciary duties, and Portfolio risk expectations of the Board; and</li> <li>• Monitors Portfolio risk, asset allocation, and investment performance.</li> </ul>
<p><b>PORTFOLIO REVIEW COMMITTEE</b></p>	<ul style="list-style-type: none"> <li>• Office of Investment's decision-making body chaired by the CIO and consisting of Office staff;</li> <li>• Voting members are appointed by the CIO;</li> <li>• Reports decisions and provides recommendations to the Investment Committee;</li> <li>• Determines and implements the Portfolio's asset allocation within Board-approved allocation ranges;</li> <li>• Approves and implements investments up to discretionary size limits provided in this Policy; and</li> <li>• Develops and maintains PRC operating guidelines.</li> </ul>
<p><b>OFFICE OF INVESTMENTS</b></p>	<ul style="list-style-type: none"> <li>• Carries out all investment activity on behalf of the System; including policy documentation for Board approval;</li> <li>• Hires/terminates investment consultants, vendors, and the custodial bank with CEO approval;</li> <li>• Provides a quarterly report on the Portfolio's investment activities, allocation, and performance;</li> <li>• Reports any material changes within the Portfolio to the Investment Committee and the Board;</li> <li>• Internally manages a portion of the Portfolio across both Public and Private Investments;</li> <li>• Monitors performance and determines courses of action for external investment managers;</li> <li>• Monitors compliance with statutory, regulatory, and policy limitations;</li> <li>• Trade execution, settlement, and daily cash movements as needed; and</li> <li>• Conducts its affairs in a manner that reflects the highest standards of ethical conduct, and complies with CFA Institute Code of Ethics and Standards of Professional Conduct (Appendix).</li> </ul>
<p><b>MERS' INVESTMENT MANAGEMENT RISK AND COMPLIANCE COMMITTEE</b></p>	<ul style="list-style-type: none"> <li>• Provides investment and compliance oversight outside of the Office of Investments;</li> <li>• Monitors operational, market, and regulatory issues that may materially impact portfolio performance or put MERS at risk of regulatory sanctions;</li> <li>• Promotes cross-office discussion regarding varying potential risks including prevention and solutions; and</li> <li>• Consists of CEO, CIO, Financial Officer, Deputy General Counsel for Investments and Compliance, Internal Auditor, Investment and Administrative Officer, and Analysts from the Office of Investments.</li> </ul>

## Organizational Chart



## Guiding Principles

- Collaborative team environment
- Robust collegial debate and cognitive diversity is critical
- Progressive and willing to deviate from conventional wisdom
- Commitment to continuous improvement and efficiency gains
- Relentless pursuit of fiduciary excellence

*This publication is designed to provide descriptive information only. Investors should research all possible investment choices. Please make independent investment decisions carefully and seek the assistance of independent experts where appropriate. We recommend investors define their goals, risk tolerance, time horizon, and investment objectives to determine whether this fund is appropriate for you.*

*Investors should read the fund summary sheets and carefully consider the investment objective, risks, and fees of the fund before investing. The fund summary sheets may be found on the MERS website at [www.mersofmich.com](http://www.mersofmich.com). To request the fund summary sheets, please contact the MERS Service Center at 800.767.6377.*

*This publication contains a summary description of MERS benefits, policies or procedures. MERS has made every effort to ensure that the information provided is accurate and up to date as of 06/30/2023. If this publication conflicts with the relevant provisions of the Plan Document, the Plan Document Controls. MERS, as a governmental plan, is exempted by state and federal law from registration with the SEC. However, it employs registered investment advisors to manage the trust fund in compliance with Michigan Public Employee Retirement System Investment Act. Past performance is not a guarantee of future returns. Please make independent investment decisions carefully and seek the assistance of independent experts when appropriate.*

