



# QUARTERLY INVESTMENT REPORT

September 2023



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“ All life is an experiment. The more experiments you make the better. — Ralph Waldo Emerson ”

### 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

The third quarter proved turbulent for global financial markets, with the S&P 500 and Bloomberg US Aggregate both experiencing declines of -3.27% and -3.23%, respectively. Notably, the S&P 500's movements were influenced by the top 10 stocks within the index, which accounted for a substantial 96.5% of the year's total return. In economic news, the September jobs report surpassed expectations with an impressive addition of 336,000 jobs, well above the estimated 170,000. CPI inflation remains above the Fed's 2% target, having risen from 3.2% to 3.7% year-over-year in September on the back of rising oil prices. Another significant development in the third quarter was the housing market, where 30-year mortgage rates reached their highest level since 2000 at 7.9%, a notable increase from the 2.8% rates seen in 2020. The Federal Reserve, which had raised rates in July, has since halted further increases. This pause has an indefinite timeline, with most analysts speculating that the first rate cut may not occur until the second half of 2024. Additionally, the 10-year treasury yield rose by 75 basis points in the third quarter, ending September at 4.57%. Despite these challenges, the US market managed to slightly outperform the MSCI EAFE index, largely due to the strength of the US dollar. This trend persisted throughout the year, with the United States and Japan being the only two countries to achieve a 10% year-to-date increase. Excluding Japan, the Pacific region emerged as the worst-performing major region, with a 4% decline. In the emerging market sector, EMEA dropped 2.7% and Emerging Asia equities lost 1.9%. As we enter the final quarter of 2023, close monitoring of factors such as inflation, housing market conditions, and geopolitical turmoil will remain essential.

## Portfolio Performance Review

MERS' Total Portfolio returned -1.30% (net) for the third quarter, outperforming the Policy Benchmark by 204 bps, with portfolio diversification providing mixed results. The Global Equity Portfolio returned -3.06%, outperforming the Global Equity Policy Blend by 26 bps. The MERS U.S. Equity Portfolio underperformed the Russell 3000 benchmark by 81 bps. The underperformance was driven by the Small and Micro-Cap strategies. The MERS International Equity Portfolio outperformed its benchmark by 102 bps as MERS' overweight to Pacific equities and small cap added value. The MERS Emerging Market Equity Portfolio underperformed its benchmark by 32 bps. The Global Fixed Income Portfolio returned -1.46% in the quarter, beating the Global Fixed Policy Blend by 199 bps. An overweight to high yield and emerging market debt contributed to the outperformance, while an underweight to long-term bonds also added significant value. The Private Investments Portfolio delivered a return of 1.70%, with Private Equity returning 1.95% in the quarter. MERS' Defined Benefit (DB) portfolio assets are \$11.56 billion, and MERS' total assets are \$14.94 billion.

## Investment 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	-58.80%	
Europe Equity	-10.00%	
Asia Pacific Equity		39.10%
EM Equity		41.30%
US Treasury	-0.20%	
EMD	-0.80%	
US HY	-9.10%	

<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.

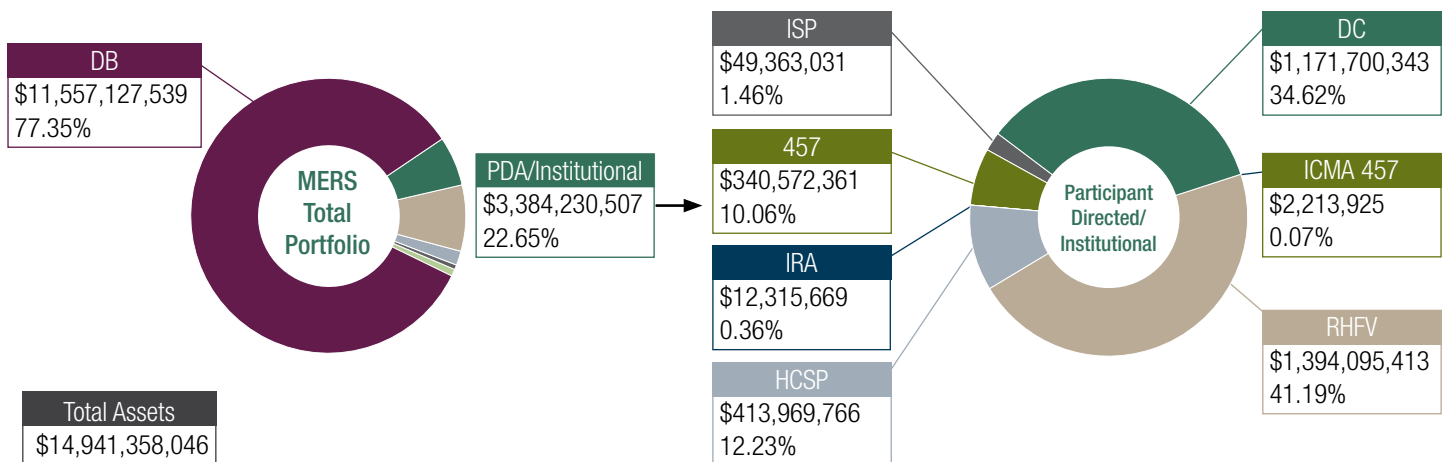
## Chart of the Quarter

### 30-Year Fixed Mortgage Rate



The 30-year fixed-rate mortgage has recently climbed back up to 7.9%, a level not seen since 2000. The rise in mortgage rates is being influenced by several factors including the recent increase in long term government bond yields and Federal Reserve policy. Despite this, home prices have remained high. In 2023, the median sale prices of existing homes are still near record highs, driven primarily by a tightening in housing supply.

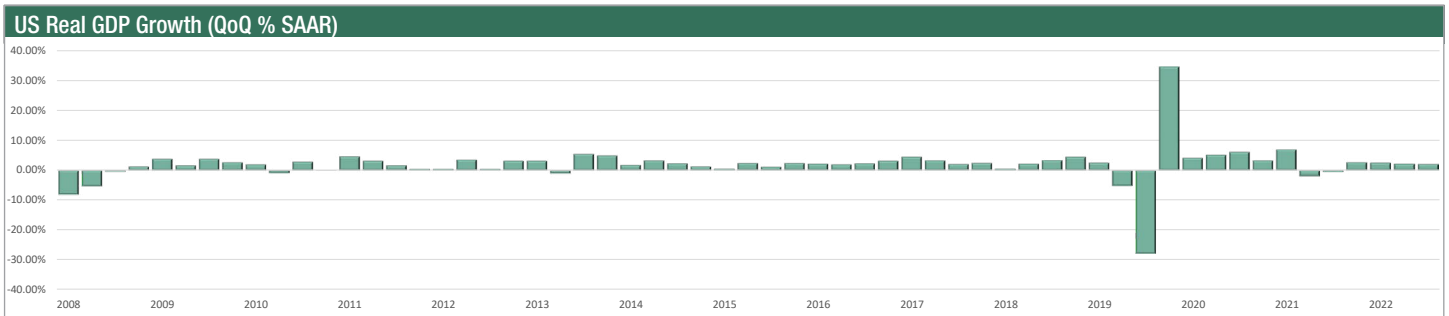
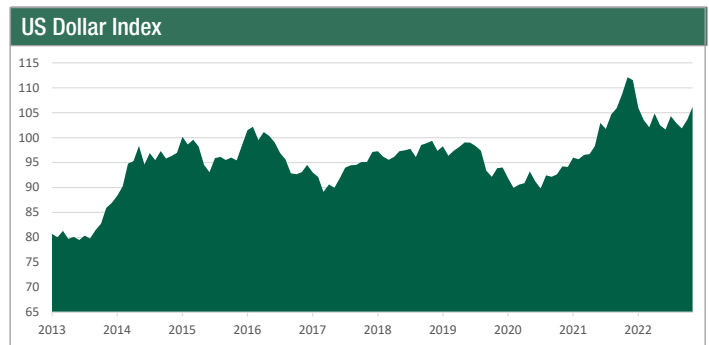
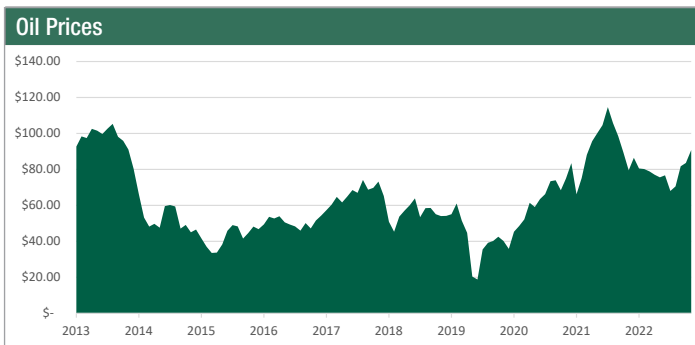
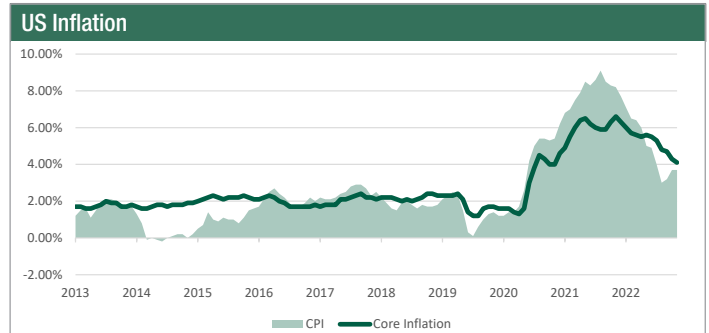
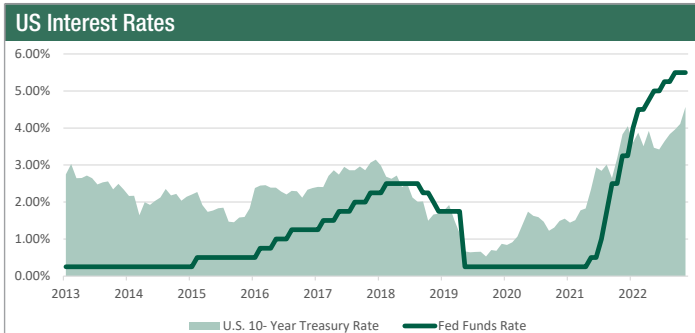
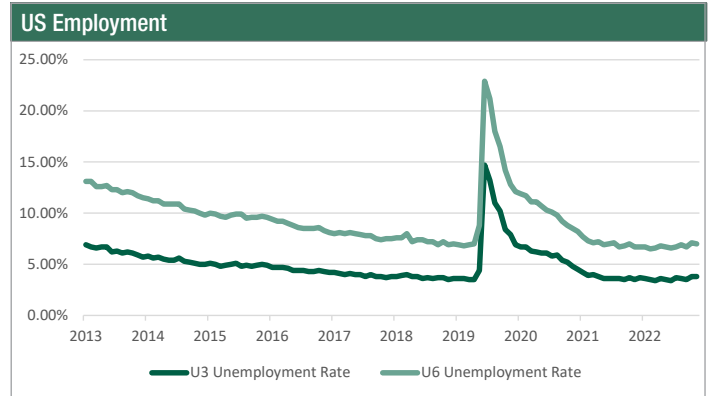
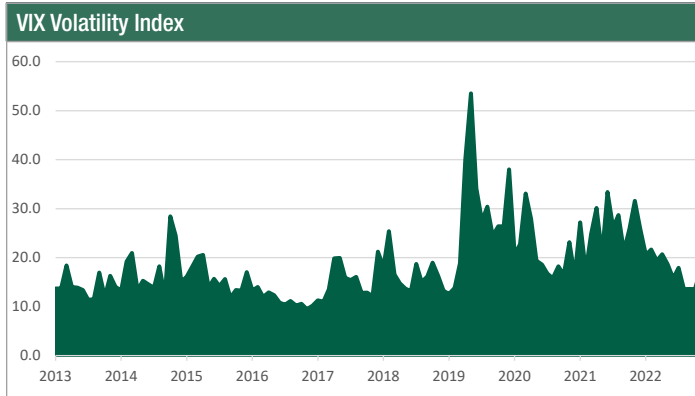
## Assets by Program



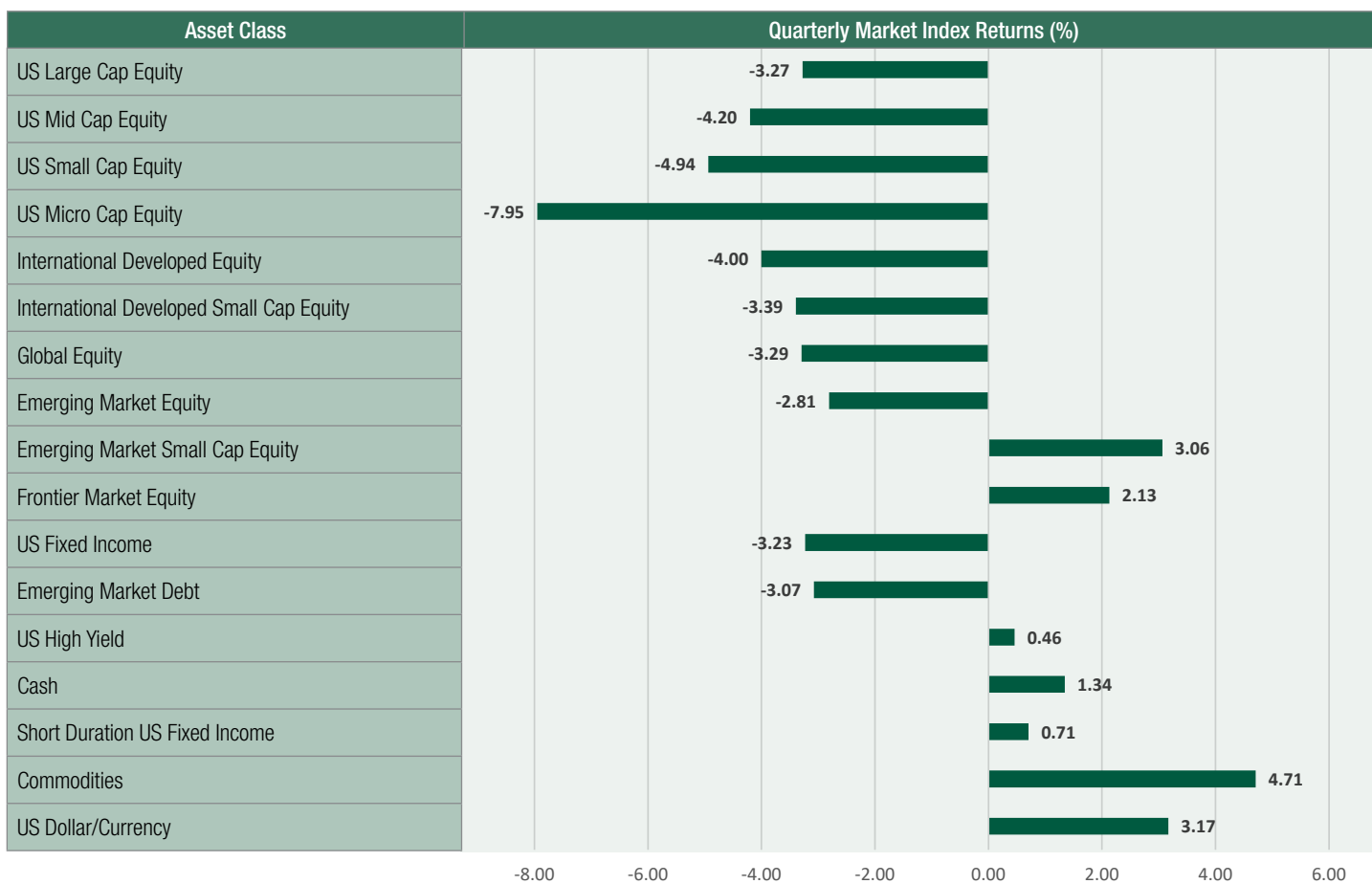
Market Indicators	Current	Prior Quarter
10 Year Treasury Yield	4.57%	3.84%
Fed Funds Rate	5.50%	5.25%
Crude Oil	\$90.8 /barrel	\$70.6 /barrel
Gold	\$1,848.6 /oz.	\$1,919.4 /oz.
30 Year Fixed Mortgage Rates	7.74%	7.15%
US Investment Grade Credit Spread	1.21%	1.23%
US High Yield Credit Spread	3.94%	3.90%
US Leading Economic Indicators	-7.80%	-7.80%

Economic Releases	Current	Prior Quarter
ISM Manufacturing	49.00	46.00
ISM Non-Manufacturing	53.60	53.90
U of M Consumer Sentiment	67.90	64.20
US Real GDP*	2.40%	1.70%
Eurozone Real GDP*	0.50%	1.20%
UK GDP*	0.60%	0.50%
Japan GDP*	1.60%	2.00%
China GDP*	6.30%	4.50%

\* All GDP data is lagged 1 quarter

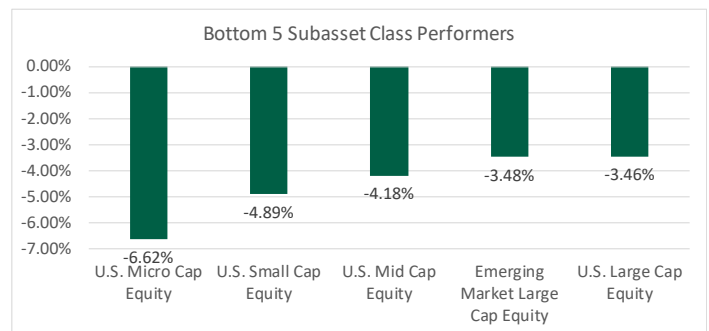
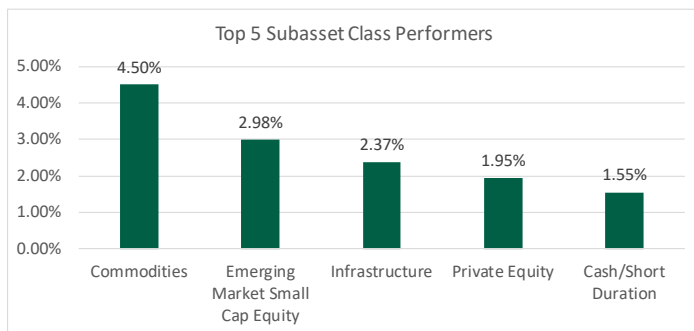
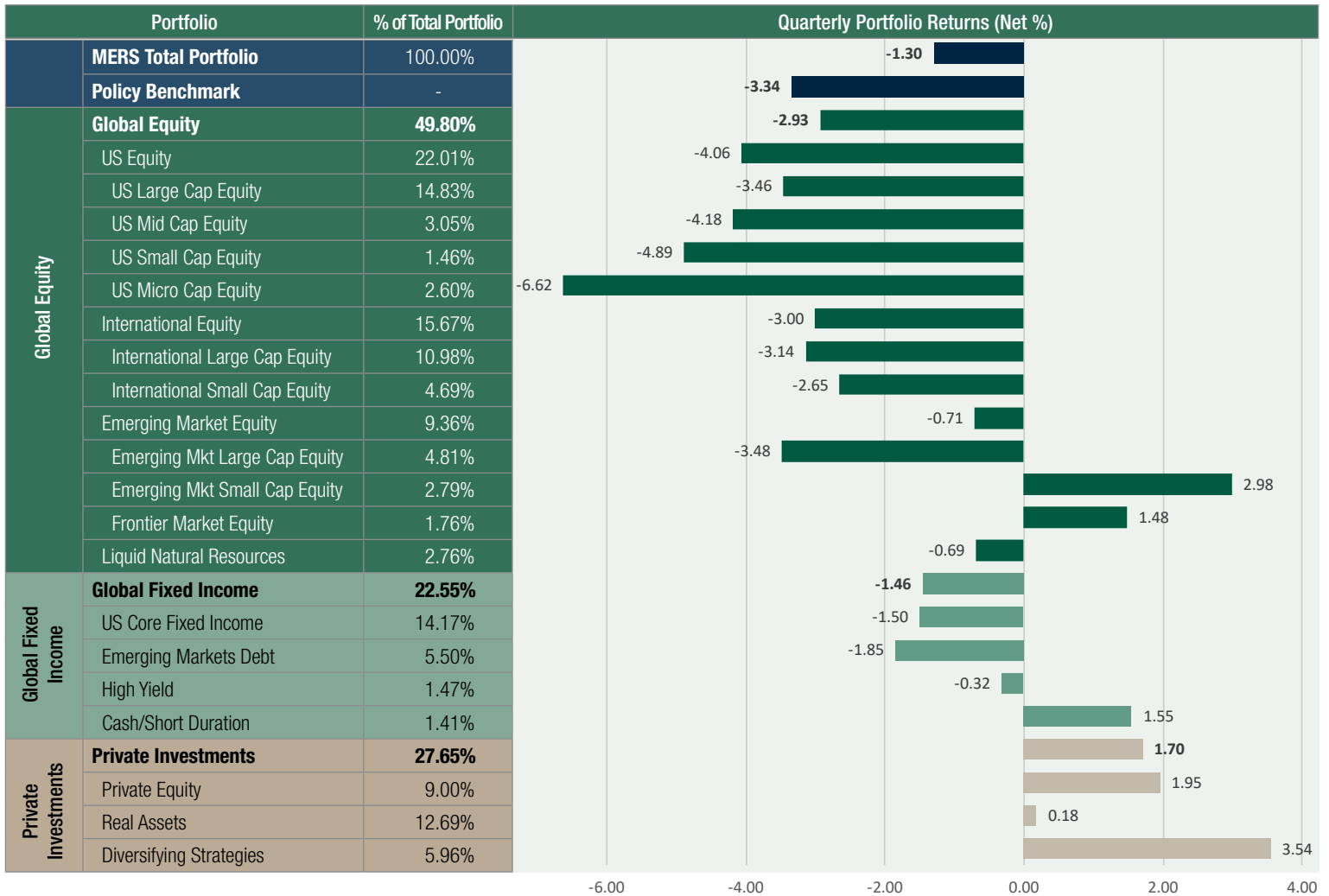


## Quarterly Market Performance Review



## 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	-3.27	13.06	21.59	10.13	9.90	12.22	11.90
S&P 400	US Mid Cap Equity	-4.20	4.24	15.46	12.01	6.03	8.74	8.92
S&P 600	US Small Cap Equity	-4.94	0.76	9.98	12.02	3.15	7.70	8.09
Russell Microcap	US Micro Cap Equity	-7.95	-5.87	-1.43	4.80	0.19	4.98	5.24
MSCI EAFE	International Developed Equity	-4.00	7.67	26.42	6.38	3.85	5.91	4.43
MSCI EAFE Small Cap	International Developed Small Cap Equity	-3.39	2.31	18.53	1.58	1.20	4.39	4.70
MSCI ACWI IMI	Global Equity	-3.29	9.83	20.78	7.39	6.64	8.88	7.97
MSCI Emerging Markets	Emerging Market Equity	-2.81	2.11	12.11	-1.38	0.90	3.58	2.44
MSCI Emerging Markets Small Cap	Emerging Market Small Cap Equity	3.06	14.07	23.50	10.99	6.80	6.32	4.85
MSCI Frontier Markets Index	Frontier Market Equity	2.13	7.56	6.73	1.93	1.78	3.41	2.29
Bloomberg U.S. Aggregate	US Fixed Income	-3.23	-1.21	0.64	-5.21	0.10	-0.09	1.13
JPMorgan EMBI Global Diversified Index	Emerging Market Debt	-3.07	0.69	9.02	-5.18	-0.80	-0.44	1.99
ICE BofA Merrill Lynch Global High Yield	US High Yield	0.46	5.86	10.28	1.76	2.96	3.80	4.24
91 Day Treasury Bill	Cash	1.34	3.70	4.62	1.75	1.71	1.53	1.09
Bloomberg 1-3 Year Treasury	Short Duration US Fixed Income	0.71	1.69	2.44	-0.92	1.03	0.77	0.79
Bloomberg Commodity Index Total Return	Commodities	4.71	-3.44	-1.30	16.23	6.13	4.68	-0.75
Bloomberg Dollar Spot Index	US Dollar/Currency	3.17	2.56	-5.30	13.09	2.22	1.53	2.84

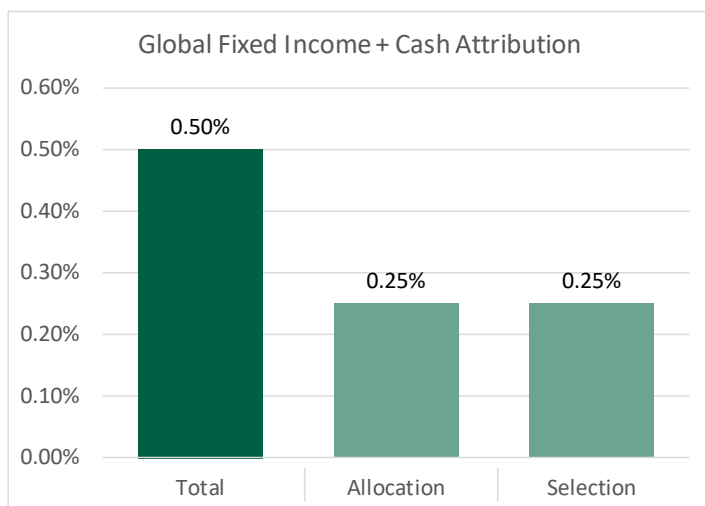
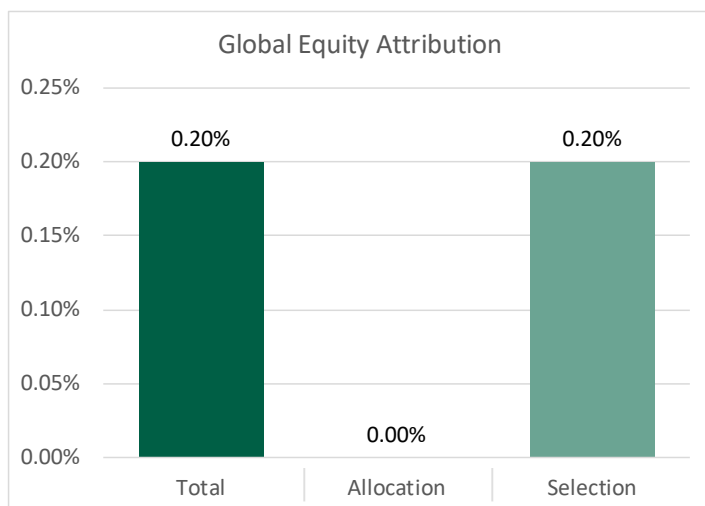
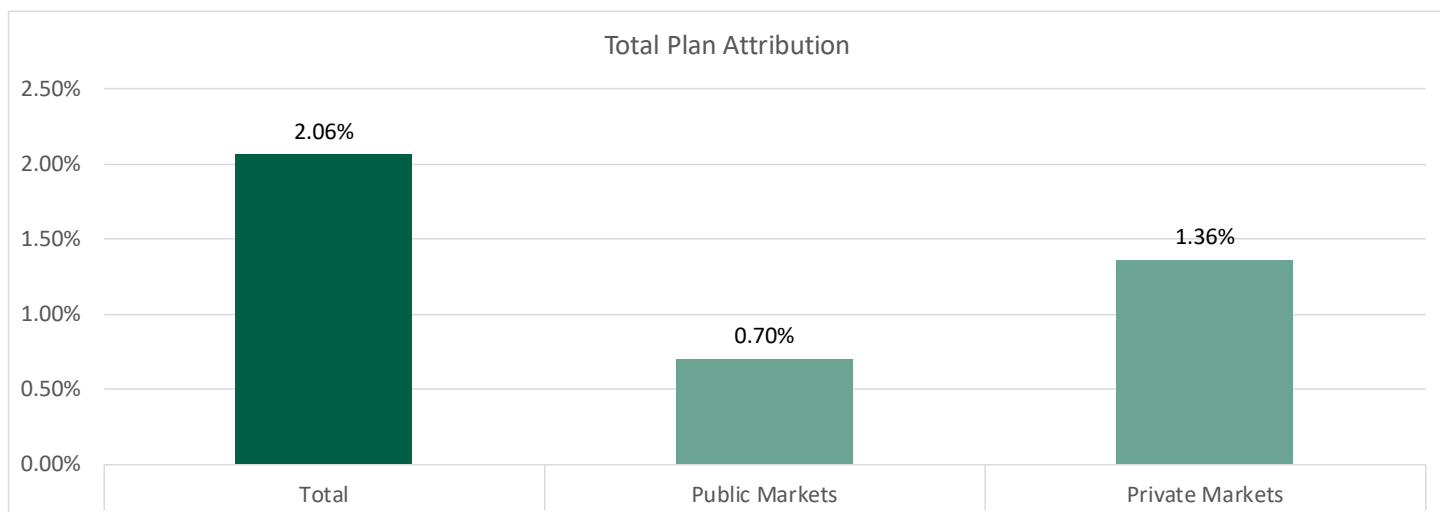


# QUARTERLY PORTFOLIO ATTRIBUTION SUMMARY

**2023**  
SEPTEMBER

	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>-1.29%</b>	<b>-3.35%</b>	<b>2.06%</b>	<b>0.26%</b>	<b>1.81%</b>	<b>2.06%</b>
<b>Public Markets</b>	<b>72.80%</b>	<b>100.00%</b>	<b>-27.20%</b>	<b>-2.40%</b>	<b>-3.35%</b>	<b>0.95%</b>	<b>0.25%</b>	<b>0.45%</b>	<b>0.70%</b>
<b>Global Equity</b>	<b>50.87%</b>	<b>65.00%</b>	<b>-14.13%</b>	<b>-2.92%</b>	<b>-3.33%</b>	<b>0.41%</b>	<b>0.00%</b>	<b>0.20%</b>	<b>0.20%</b>
U.S. Equity	22.10%	45.00%	-22.90%	-4.04%	-3.25%	-0.79%	-0.04%	-0.17%	-0.21%
International Equity	16.27%	15.00%	1.27%	-3.00%	-4.02%	1.02%	-0.01%	0.16%	0.15%
Emerging Market Equity	9.63%	5.00%	4.63%	-0.71%	-2.12%	1.41%	0.05%	0.13%	0.18%
Liquid Natural Resources	2.87%	0.00%	2.87%	-0.76%	-3.34%	2.58%	0.00%	0.07%	0.08%
<b>Global Fixed Income</b>	<b>19.80%</b>	<b>35.00%</b>	<b>-15.20%</b>	<b>-1.45%</b>	<b>-3.45%</b>	<b>2.00%</b>	<b>0.18%</b>	<b>0.25%</b>	<b>0.43%</b>
U.S. Core Fixed Income	12.69%	25.00%	-12.31%	-1.47%	-3.23%	1.76%	0.00%	0.24%	0.24%
Global Agg ex USD	0.00%	10.00%	-10.00%	0.00%	-4.00%	4.00%	0.07%	0.00%	0.07%
Emerging Markets Debt	5.64%	0.00%	5.64%	-1.85%	-2.23%	0.38%	0.06%	0.02%	0.08%
U.S. High Yield	1.48%	0.00%	1.48%	-0.32%	0.46%	-0.78%	0.06%	-0.01%	0.04%
<b>Cash</b>	<b>2.13%</b>	<b>0.00%</b>	<b>2.13%</b>	<b>1.52%</b>	<b>1.32%</b>	<b>0.20%</b>	<b>0.07%</b>	<b>0.00%</b>	<b>0.07%</b>
<b>Private Investments</b>	<b>27.20%</b>	<b>0.00%</b>	<b>27.20%</b>	<b>1.70%</b>	<b>-3.34%</b>	<b>5.04%</b>	<b>0.00%</b>	<b>1.36%</b>	<b>1.36%</b>

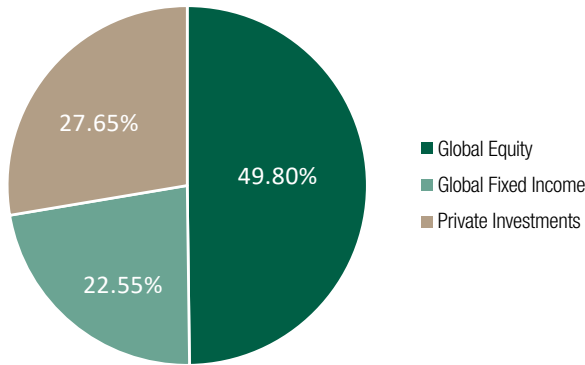
- Outperformance was driven by the Private Investments Portfolio (+136 bps) and the Public Markets Portfolio (+70 bps).
- The Global Equity portfolio added value (+20 bps), along with the Global Fixed Income portfolio which also added value (+43 bps).
- Selection within US Equity detracted value (-17 bps), while selection within International Equity added value (+16 bps).
- Selection within U.S. Core added value (+24 bps).



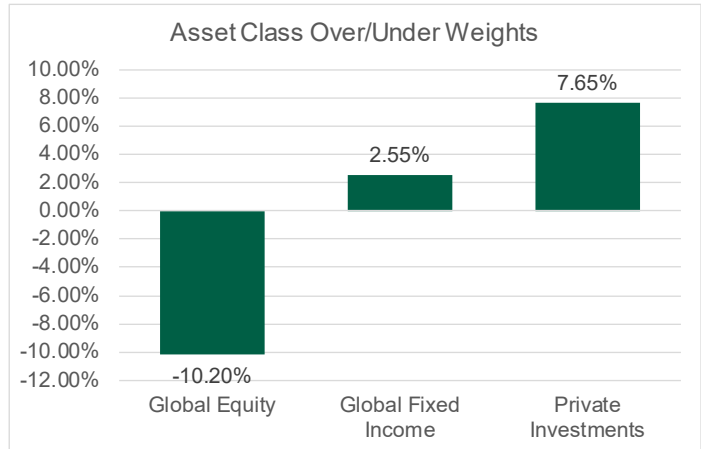


Asset Class	Market Value	% of Fund	Base Allocation	Over/Under Weight	Minimum Allocation	Maximum Allocation
Global Equity	\$6,495,573,167	49.80%	60.00%	-10.20%	30.00%	70.00%
Global Fixed Income	\$2,941,475,386	22.55%	20.00%	2.55%	10.00%	60.00%
Private Investments	\$3,606,696,017	27.65%	20.00%	7.65%	No Minimum	30.00%
<b>Total</b>	<b>\$13,043,744,570</b>	<b>100.00%</b>	<b>100.00%</b>			

## Asset Allocation

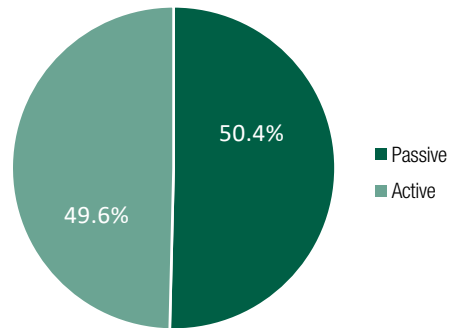


## Asset Class Over/Under Weights



Asset Class	MERS Public Markets <sup>1</sup>	Policy Benchmark <sup>2</sup>	Over/Under Weight
U.S. Equity	34.23%	45.00%	-10.77%
International Equity	20.82%	14.28%	6.54%
Emerging Market Equity	12.93%	5.72%	7.21%
U.S. Treasury	19.59%	21.09%	-1.50%
U.S. Investment Grade	0.03%	13.91%	-13.88%
U.S. High Yield	2.04%	0.00%	2.04%
Emerging Market Debt	7.61%	0.00%	7.61%
Cash/Short Duration	1.91%	0.00%	1.91%

## MERS Public Markets

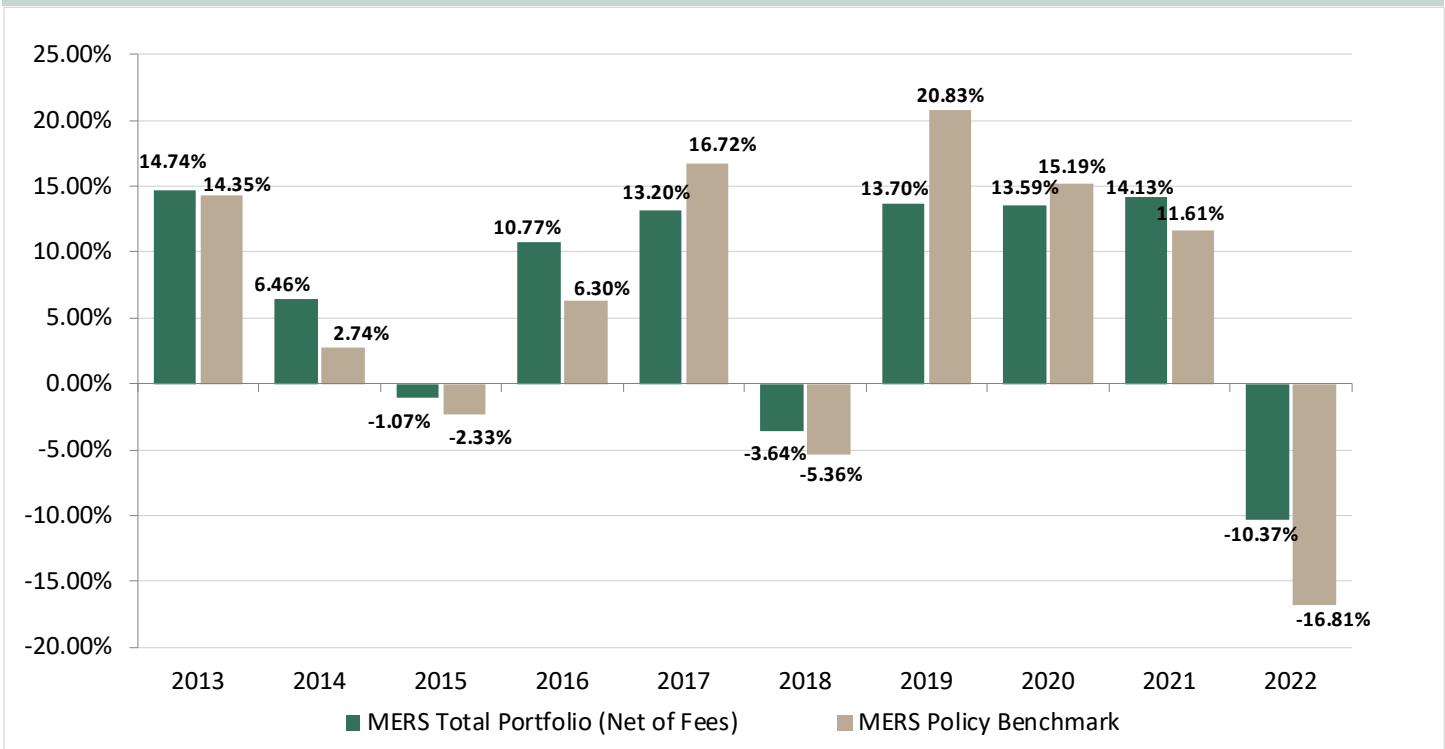


<sup>1</sup> MERS' Public Markets is made up of the Global Equity and Global Fixed Income Asset Classes

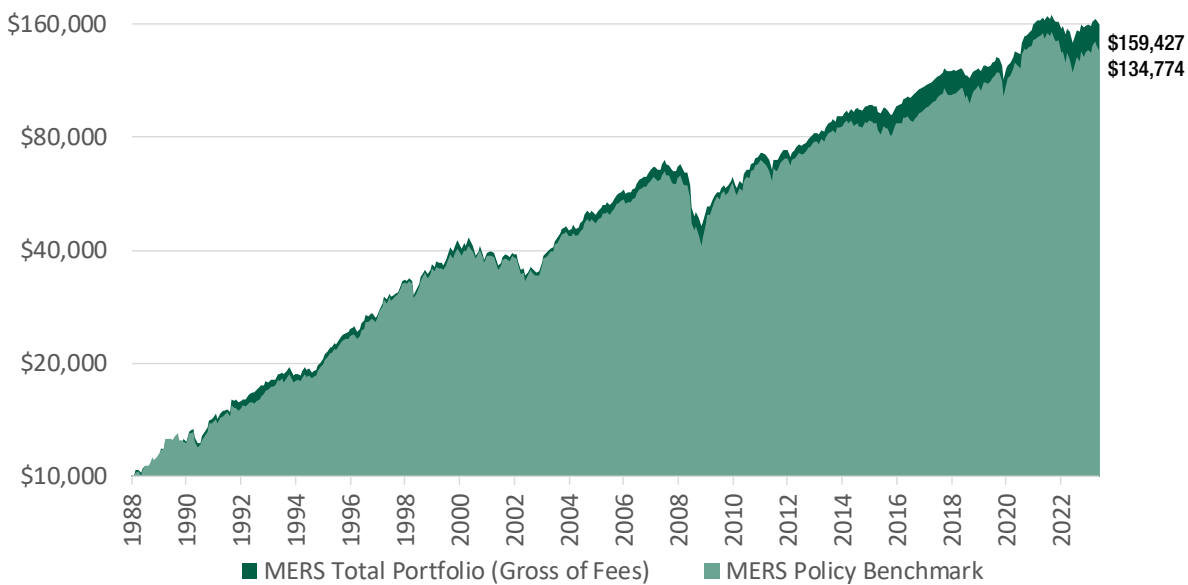
<sup>2</sup> 45% Russell 3000, 20% MSCI ACWI ex USA IMI (net), 25% Bloomberg Barclays US Aggregate, and 10% Bloomberg Barclays Global Aggregate ex U.S.

	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
MERS Total Portfolio - Gross of Fees (%)	-1.21	4.88	12.12	5.99	5.65	6.54	6.53
MERS Total Portfolio - Net of Fees (%)	-1.30	4.63	11.81	5.78	5.47	6.35	6.33
Policy Benchmark (%)	-3.34	5.93	13.67	2.87	4.63	5.83	5.35
<b>Excess (Net) (%)</b>	<b>2.04</b>	<b>-1.30</b>	<b>-1.86</b>	<b>2.91</b>	<b>0.84</b>	<b>0.52</b>	<b>0.98</b>

## Calendar Year Performance – Last 10 Years

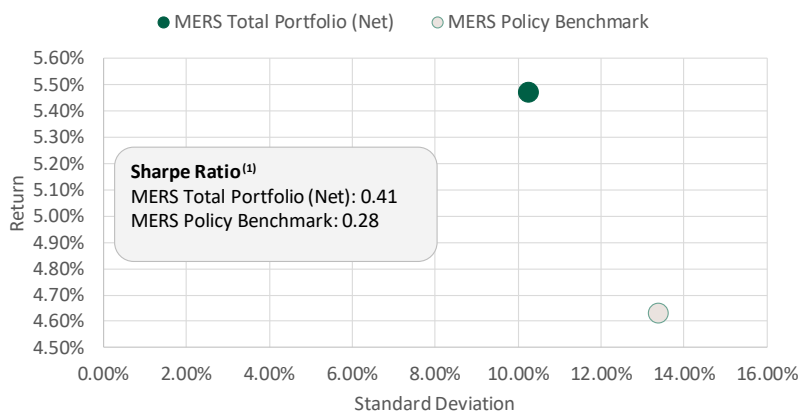


## Growth of \$10,000 Comparison



## 5-Year

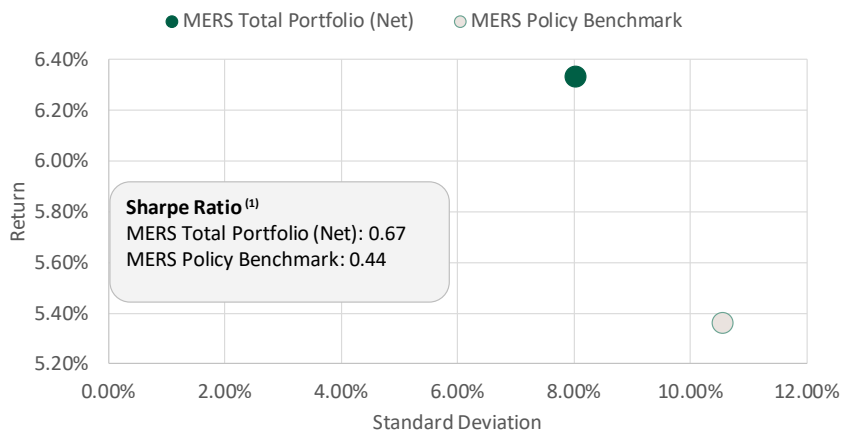
	Return	Standard Deviation	Downside Risk	Beta	R-Squared	Tracking Error
MERS Total Portfolio (Net)	5.47%	10.24%	7.50%	0.75	96.00	3.92%
MERS Policy Benchmark	4.63%	13.37%	9.88%	1.00	100.00	



	# of Months		Average Return		Up Capture	Down Capture
	Up	Down	Up	Down		
MERS Total Portfolio (Net)	37	23	2.33%	-2.48%	77.29%	74.20%
MERS Policy Benchmark	37	23	2.91%	-3.50%		

## 10-Year

	Return	Standard Deviation	Downside Risk	Beta	R-Squared	Tracking Error
MERS Total Portfolio (Net)	6.33%	8.02%	5.97%	0.73	93.00	3.52%
MERS Policy Benchmark	5.36%	10.56%	7.81%	1.00	100.00	

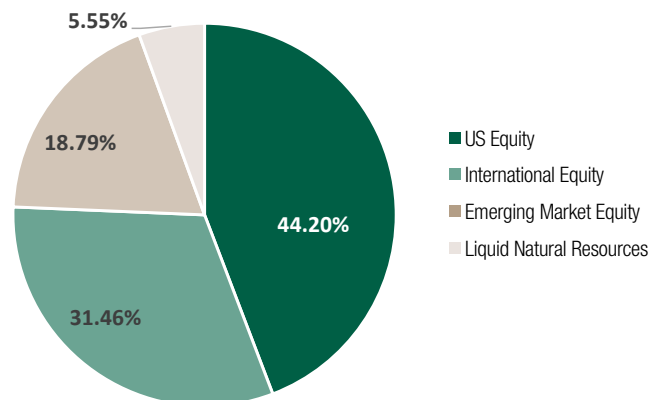


	# of Months		Average Return		Up Capture	Down Capture
	Up	Down	Up	Down		
MERS Total Portfolio (Net)	79	41	1.79%	-1.88%	79.02%	68.20%
MERS Policy Benchmark	77	43	2.22%	-2.62%		

<sup>1</sup> Calculated using the ICE BofAML US 3-Month Treasury Bill Index

Market Value	\$6,495,573,167
Assets – % of Portfolio	49.80%

Sub Asset Class	Market Value
US Equity	\$2,871,355,537
International Equity	\$2,043,565,386
Emerging Market Equity	\$1,220,300,422
Liquid Natural Resources	\$360,351,821
<b>Total</b>	<b>\$6,495,573,167</b>



## Performance (Net)

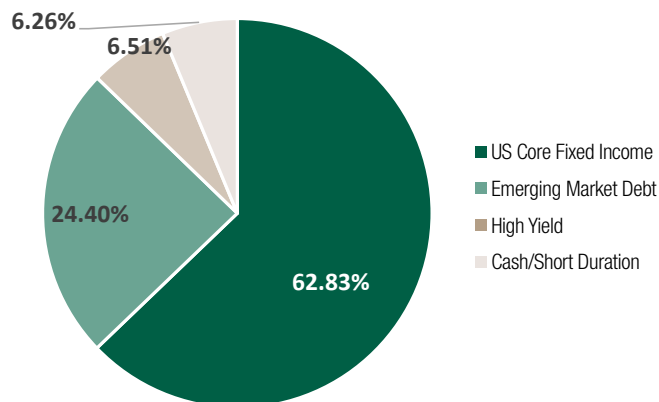
	Market Value	% OF PLAN	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
<b>Global Equity</b>	<b>\$6,495,573,167</b>	<b>49.80</b>	<b>-2.93</b>	<b>6.63</b>	<b>19.04</b>	<b>7.24</b>	<b>5.07</b>	<b>7.16</b>	<b>7.07</b>
<i>Global Equity Policy Blend <sup>1</sup></i>			-3.32	10.20	20.53	7.71	7.16	9.37	8.23
<i>MSCI ACWI</i>			-3.40	10.06	20.80	6.89	6.46	8.60	7.56
<b>US Equity</b>	<b>\$2,871,355,537</b>	<b>22.01</b>	<b>-4.06</b>	<b>8.70</b>	<b>18.20</b>	<b>11.19</b>			
<i>Russell 3000</i>			-3.15	13.01	21.19	9.53			
<b>US Large Cap Equity</b>	<b>\$1,934,882,618</b>	<b>14.83</b>	<b>-3.46</b>	<b>11.75</b>	<b>20.88</b>	<b>10.39</b>	<b>9.32</b>	<b>11.72</b>	<b>12.01</b>
<i>Russell 1000</i>			-3.27	13.07	21.62	10.15	9.92	12.24	11.91
<b>US Mid Cap Equity</b>	<b>\$397,750,607</b>	<b>3.05</b>	<b>-4.18</b>	<b>3.92</b>	<b>15.12</b>	<b>11.76</b>	<b>5.93</b>	<b>8.42</b>	<b>8.36</b>
<i>Russell Midcap</i>			-4.68	3.91	13.45	8.09	6.38	8.68	8.98
<b>US Small Cap Equity</b>	<b>\$190,164,829</b>	<b>1.46</b>	<b>-4.89</b>	<b>1.46</b>	<b>11.27</b>	<b>13.67</b>	<b>3.66</b>	<b>8.02</b>	<b>7.34</b>
<i>Russell 2000</i>			-5.13	2.54	8.93	7.16	2.40	6.62	6.65
<b>US Micro Cap Equity</b>	<b>\$338,825,109</b>	<b>2.60</b>	<b>-6.62</b>	<b>1.86</b>	<b>13.21</b>	<b>14.14</b>	<b>4.36</b>	<b>7.22</b>	<b>6.70</b>
<i>Russell Microcap</i>			-7.93	-5.80	-1.35	4.85	0.23	4.99	5.25
<b>International Equity</b>	<b>\$2,043,565,386</b>	<b>15.67</b>	<b>-3.00</b>	<b>4.98</b>	<b>20.74</b>	<b>4.02</b>			
<i>MSCI World ex USA IMI</i>			-4.02	6.02	23.03	5.45			
<b>International Large Cap Equity</b>	<b>\$1,431,895,783</b>	<b>10.98</b>	<b>-3.14</b>	<b>5.57</b>	<b>21.02</b>	<b>3.81</b>	<b>3.60</b>	<b>4.10</b>	
<i>MSCI World ex USA</i>			-4.10	6.73	24.00	6.07	3.44	5.38	
<b>International Small Cap Equity</b>	<b>\$611,669,603</b>	<b>4.69</b>	<b>-2.65</b>	<b>3.55</b>	<b>20.30</b>	<b>4.42</b>	<b>2.74</b>	<b>6.40</b>	<b>6.60</b>
<i>MSCI World ex USA Small Cap</i>			-3.48	1.83	17.32	1.85	1.28	4.13	4.13
<b>Emerging Market Equity</b>	<b>\$1,220,300,422</b>	<b>9.36</b>	<b>-0.71</b>	<b>7.20</b>	<b>18.65</b>	<b>3.34</b>	<b>2.66</b>	<b>4.20</b>	<b>3.26</b>
<i>MSCI Emerging Markets IMI</i>			-2.12	3.38	13.21	-0.29	1.28	3.57	2.39
<b>Emerging Market Large Cap Equity</b>	<b>\$627,237,683</b>	<b>4.81</b>	<b>-3.48</b>	<b>2.25</b>	<b>11.58</b>	<b>-2.63</b>	<b>0.12</b>	<b>2.19</b>	<b>1.44</b>
<i>MSCI Emerging Markets</i>			-2.93	1.82	11.70	-1.73	0.55	3.22	2.07
<b>Emerging Market Small Cap Equity</b>	<b>\$363,310,172</b>	<b>2.79</b>	<b>2.98</b>	<b>11.42</b>	<b>29.45</b>	<b>11.90</b>	<b>7.99</b>	<b>7.95</b>	
<i>MSCI Emerging Markets Small Cap</i>			2.93	13.74	23.06	10.61	6.45	6.01	
<b>Frontier Market Equity</b>	<b>\$229,752,568</b>	<b>1.76</b>	<b>1.48</b>	<b>12.53</b>	<b>21.68</b>	<b>8.94</b>	<b>2.57</b>	<b>4.06</b>	<b>3.10</b>
<i>MSCI Frontier Markets</i>			1.98	7.37	6.48	1.74	1.63	3.30	2.25
<b>Liquid Natural Resources</b>	<b>\$360,351,821</b>	<b>2.76</b>	<b>-0.69</b>	<b>-0.69</b>	<b>16.45</b>				
<i>Policy Benchmark <sup>2</sup></i>			-3.34	5.93	13.67				

<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	\$2,941,475,386
Assets – % of Portfolio	22.55%

Sub Asset Class	Market Value
US Core Fixed Income	\$1,848,055,637
Emerging Market Debt	\$717,635,337
High Yield	\$191,514,244
Cash/Short Duration	\$184,270,168
<b>Total</b>	<b>\$2,941,475,386</b>



## Performance (Net)

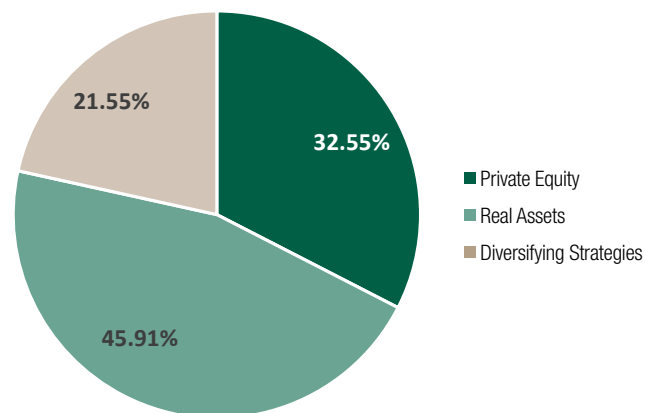
	Market Value	% OF PLAN	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
<b>Global Fixed Income ex Cash</b>	<b>\$2,757,205,218</b>	<b>21.14</b>	<b>-1.46</b>	<b>1.34</b>	<b>5.08</b>	<b>-3.91</b>	<b>1.71</b>	<b>1.62</b>	<b>2.55</b>
<i>Global Fixed Income Policy Blend <sup>1</sup></i>			-3.45	-1.77	1.44	-6.11	-0.80	-1.14	-0.09
<i>Bloomberg Barclays Global Aggregate</i>			-3.59	-2.21	2.24	-6.93	-1.62	-1.53	-0.44
<b>US Core Fixed Income</b>	<b>\$1,848,055,637</b>	<b>14.17</b>	<b>-1.50</b>	<b>-0.24</b>	<b>0.36</b>	<b>-4.55</b>	<b>0.30</b>	<b>0.13</b>	<b>1.29</b>
<i>Bloomberg Barclays U.S. Aggregate</i>			-3.23	-1.21	0.64	-5.21	0.10	-0.09	1.13
<b>Emerging Market Debt</b>	<b>\$717,635,337</b>	<b>5.50</b>	<b>-1.85</b>	<b>2.45</b>	<b>11.14</b>	<b>-4.01</b>	<b>0.00</b>	<b>0.87</b>	<b>2.39</b>
<i>JP Morgan EMBI Global Diversified</i>			-2.23	1.76	10.01	-4.56	-0.35	0.11	2.47
<b>High Yield</b>	<b>\$191,514,244</b>	<b>1.47</b>	<b>-0.32</b>	<b>4.20</b>	<b>9.22</b>	<b>1.19</b>			
<i>Bloomberg Barclays U.S. Corporate High Yield</i>			0.46	5.86	10.28	1.76			
<b>Cash/Short Duration <sup>2</sup></b>	<b>\$184,270,168</b>	<b>1.41</b>	<b>1.55</b>	<b>15.60</b>	<b>99.43</b>	<b>23.98</b>	<b>14.91</b>	<b>10.68</b>	<b>7.68</b>
<i>91 Day Treasury Bill</i>			1.32	3.62	4.50	1.71	1.72	1.55	1.12

<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	\$3,606,696,017
Assets – % of Portfolio	27.65%

Sub Asset Class	Market Value
Private Equity	\$1,174,073,803
Real Assets	\$1,655,882,778
Diversifying Strategies	\$777,219,030
Currency Hedge	(\$479,595)
<b>Total</b>	<b>\$3,606,696,017</b>



## Performance (Net)

	Market Value	% OF PLAN	QTD	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
<b>Private Investments</b>	<b>\$3,606,696,017</b>	<b>27.65</b>	<b>1.70</b>	<b>3.03</b>	<b>3.45</b>	<b>11.98</b>			
<i>Public Markets</i>			-2.41	5.26	15.33	3.90			
<i>Policy Benchmark<sup>1</sup></i>			-3.34	5.93	13.67	2.87			
<b>Private Equity</b>	<b>\$1,174,073,803</b>	<b>9.00</b>	<b>1.95</b>	<b>4.28</b>	<b>3.39</b>	<b>22.13</b>	<b>18.95</b>	<b>17.27</b>	<b>15.45</b>
<i>Private Equity Blend<sup>2</sup></i>			-4.31	2.29	13.66	4.28	1.73	5.47	5.64
<b>Real Assets</b>	<b>\$1,655,882,778</b>	<b>12.69</b>	<b>0.18</b>	<b>-2.37</b>	<b>-0.15</b>	<b>6.83</b>	<b>7.75</b>	<b>7.25</b>	<b>7.17</b>
<i>Real Assets Blend<sup>3</sup></i>									
<b>Diversified Real Assets</b>	<b>\$1,327,132,549</b>	<b>10.17</b>	<b>0.06</b>	<b>-2.98</b>	<b>-1.32</b>	<b>5.66</b>	<b>7.29</b>	<b>5.55</b>	
<i>Real Assets Blend</i>									
<b>Real Estate</b>	<b>\$328,750,229</b>	<b>2.52</b>	<b>0.73</b>	<b>0.11</b>	<b>4.77</b>	<b>12.52</b>	<b>9.22</b>	<b>10.17</b>	<b>11.76</b>
<i>Real Estate Blend<sup>4</sup></i>									
<b>Timber</b>	<b>\$37,450,624</b>	<b>0.29</b>	<b>0.09</b>	<b>2.72</b>	<b>2.72</b>	<b>7.69</b>	<b>5.58</b>	<b>9.05</b>	<b>7.44</b>
<i>S&amp;P Global Timber &amp; Forestry Index Net</i>			3.75	3.51	14.82	6.47	1.38	7.60	5.77
<b>Infrastructure</b>	<b>\$368,488,444</b>	<b>2.83</b>	<b>2.37</b>	<b>14.58</b>	<b>19.17</b>	<b>20.45</b>	<b>14.20</b>	<b>11.24</b>	<b>9.03</b>
<i>Private Infrastructure Blend<sup>5</sup></i>			-6.46	-4.32	2.34	-1.03	1.53	1.73	2.57
<b>Commodities</b>	<b>\$375,659,988</b>	<b>2.88</b>	<b>4.50</b>	<b>6.01</b>	<b>7.23</b>	<b>1.13</b>	<b>3.64</b>	<b>1.37</b>	<b>2.82</b>
<i>Bloomberg Commodity Index Total Return</i>			4.71	-3.44	-1.30	16.23	6.13	4.68	-0.75
<b>Agriculture &amp; Farmland</b>	<b>\$319,042,376</b>	<b>2.45</b>	<b>-1.34</b>	<b>-22.51</b>	<b>-21.17</b>	<b>-1.98</b>	<b>6.26</b>	<b>6.94</b>	<b>7.43</b>
<i>S&amp;P Global Agribusiness Equity Index TR</i>			0.28	-9.38	-2.12	11.19	6.19	7.16	
<b>Diversifying Strategies</b>	<b>\$777,219,030</b>	<b>5.96</b>	<b>3.54</b>	<b>12.72</b>	<b>12.63</b>	<b>11.48</b>	<b>6.82</b>	<b>6.54</b>	<b>6.30</b>
<i>Diversifying Strategies Blend<sup>6</sup></i>			-3.39	2.37	7.98	-1.28	2.23	3.21	3.19

<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	\$1,171,700,343	35,682	\$32,837	0.42%	Retirement Strategies
HCSP	\$413,969,766	39,100	\$10,587	0.39%	Retirement Strategies
457 Program	\$342,786,286	12,033	\$28,487	0.42%	Retirement Strategies
MERS IRA	\$12,315,669	975	\$12,631	0.41%	Retirement Strategies
<b>TOTAL</b>	<b>\$1,940,772,064</b>	<b>87,790</b>	<b>\$22,107</b>		

## Institutional Funds

Program	Assets	Municipalities	Average Account Size	Weighted Average Fee
RHFV	\$1,394,095,413	325	\$4,289,524	0.60%
ISP	\$49,363,031	5	\$9,872,606	0.60%
<b>TOTAL</b>	<b>\$1,443,458,443</b>	<b>330</b>	<b>\$4,374,116</b>	

## Investment Allocations

	PDA	Institutional Funds	Total
Retirement Strategies	\$1,445,791,114		\$1,445,791,114
Total Market Fund	\$41,307,243	\$1,442,363,245	\$1,483,670,488
Asset Allocation Portfolios	\$37,997,433	\$228,620	\$38,226,053
Asset Specific funds	\$380,317,187	\$866,578	\$381,183,764
Self-directed Brokerage	\$7,487,315		\$7,487,315
Other	\$22,497,610		\$22,497,610
<b>TOTAL</b>	<b>\$1,935,397,901</b>	<b>\$1,443,458,443</b>	<b>\$3,378,856,344</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	\$206,494,571	0.39%	7.41	0.02	2.95	3.90
LifePath 2025	\$202,012,450	0.40%	8.44	1.04	3.36	4.81
LifePath 2030	\$189,385,541	0.40%	10.99	2.45	4.11	5.53
LifePath 2035	\$194,048,402	0.40%	13.43	3.80	4.83	6.20
LifePath 2040	\$178,446,294	0.41%	15.82	5.05	5.46	6.79
LifePath 2045	\$152,473,034	0.41%	17.96	6.07	6.01	7.26
LifePath 2050	\$130,484,772	0.41%	19.27	6.65	6.33	7.51
LifePath 2055	\$105,408,364	0.41%	19.83	6.83	6.45	7.60
LifePath 2060	\$70,389,928	0.41%	19.84	6.82	6.44	
LifePath 2065	\$16,647,757	0.41%	19.04	6.55		
<b>TOTAL</b>	<b>\$1,445,791,114</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>	\$1,486,473,382	0.70%	11.51	5.47	5.11	5.96
<i>MERS Policy Benchmark</i>			13.67	2.87	4.63	5.35
<b>MERS Global Stock Portfolio (100/0)</b>	\$14,754,001	0.37%	20.69	6.77	4.70	7.48
<i>Blended Benchmark</i>			20.80	6.89	6.46	7.56
<b>MERS Established Market Portfolio (60/40)</b>	\$12,788,718	0.39%	13.10	2.62	3.19	5.21
<i>Blended Benchmark</i>			12.50	2.24	4.53	5.91
<b>MERS Diversified Bond Portfolio (0/100)</b>	\$10,683,334	0.41%	2.14	-3.92	0.05	1.09
<i>Bloomberg U.S. Aggregate Bond Index</i>			0.64	-5.21	0.10	1.13
<b>TOTAL</b>	<b>\$1,524,699,435</b>					



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

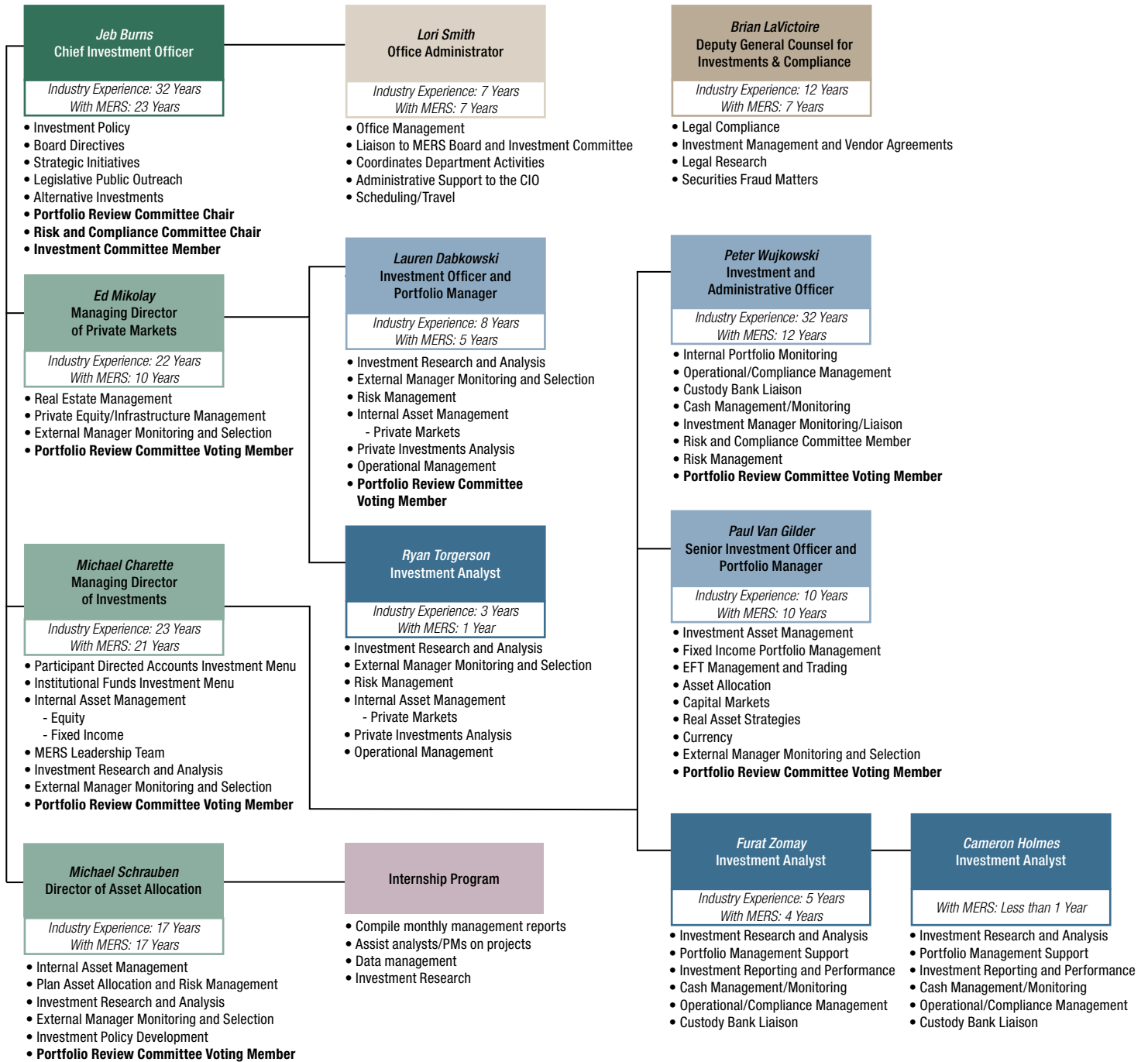
MERS Portfolio Options	Assets	Expense Ratio	1 Year	3 Year	5 Year	10 Year
<b>Large Cap Stock Index Fund</b>	\$189,213,792	0.36%	21.23	9.78	9.55	11.49
<i>S&amp;P 500 Index</i>			<i>21.62</i>	<i>10.15</i>	<i>9.92</i>	<i>11.91</i>
<b>Mid Cap Stock Index</b>	\$39,277,662	0.38%	15.06	11.63	5.74	8.69
<i>S&amp;P 400 Index</i>			<i>15.51</i>	<i>12.05</i>	<i>6.06</i>	<i>8.94</i>
<b>Small Cap Stock Index</b>	\$22,308,126	0.39%	8.94	12.03	3.15	
<i>S&amp;P 600 Index</i>			<i>10.08</i>	<i>12.10</i>	<i>3.21</i>	
<b>International Stock Index</b>	\$16,781,002	0.36%	26.23	4.92	2.56	3.33
<i>MSCI EAFE Net Dividend Index</i>			<i>25.65</i>	<i>5.75</i>	<i>3.24</i>	<i>3.82</i>
<b>Emerging Market Stock</b>	\$4,331,867	0.53%	14.11	-0.91	0.53	2.35
<i>Blended Benchmark</i>			<i>11.70</i>	<i>-1.73</i>	<i>0.73</i>	<i>2.14</i>
<b>Real Estate Stock</b>	\$5,316,684	0.38%	1.20	5.39	2.18	5.70
<i>Dow Jones U.S. Select REIT Index</i>			<i>2.61</i>	<i>6.12</i>	<i>1.56</i>	<i>5.28</i>
<b>Bond Index</b>	\$17,493,359	0.35%	0.08	-5.56	0.04	0.81
<i>Bloomberg U.S. Aggregate Bond Index</i>			<i>0.64</i>	<i>-5.21</i>	<i>0.10</i>	<i>1.13</i>
<b>High Yield Bond</b>	\$5,419,453	0.47%	9.86	0.87	2.15	3.44
<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>	\$18,975,071	0.38%	2.92	-0.28	1.21	0.77
<i>Bloomberg U.S. Treasury: 1-3 Year</i>			<i>2.44</i>	<i>-0.92</i>	<i>1.03</i>	<i>0.79</i>
<b>Stable Value</b>	\$62,066,748	0.85%	2.29	1.85	2.06	1.96
<i>ICE BofA US 3 Month Treasury Bill Index G001</i>			<i>4.50</i>	<i>1.71</i>	<i>1.72</i>	<i>1.12</i>
<b>TOTAL</b>	<b>\$381,183,764</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.*

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