



City of Burlington Employees Retirement System

Monthly Performance Update - October 2022

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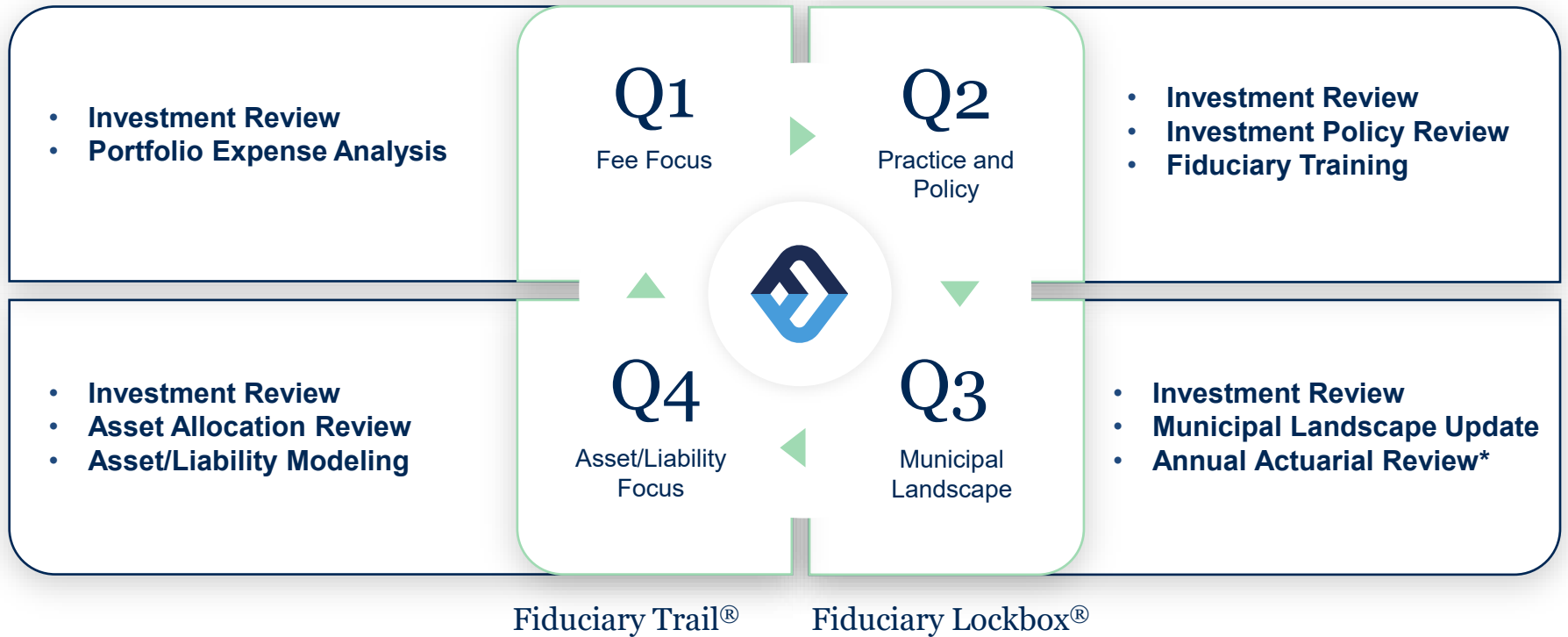
Section 1	Fiduciary Governance Calendar
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Fiduciary Governance Calendar



Fiduciary Governance Calendar

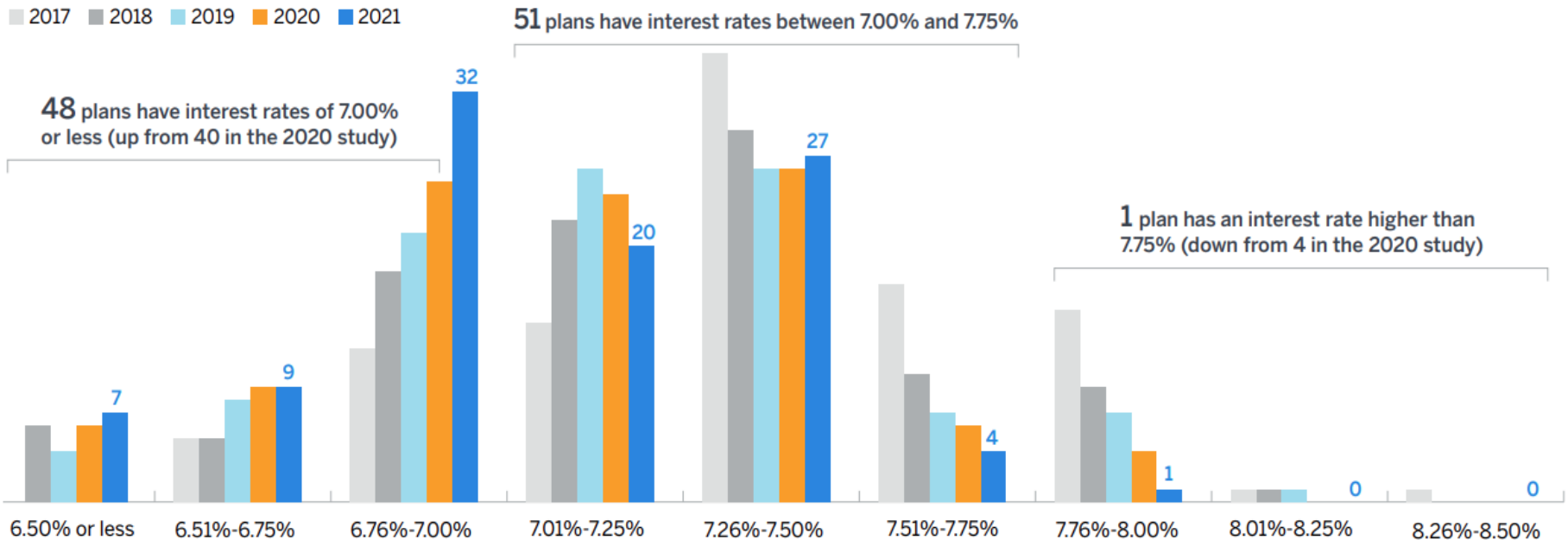


*Timing of actuarial review is dependent on client's individual plan and/or fiscal year and actuarial input.



Trends in Investment Return Assumptions

- The Milliman Public Pension Funding Study illustrates the investment return assumptions for the 100 largest U.S. public pension plans as of FY 2021 and the study points a continued trend of public plans setting the assumed rate of return at lower, more achievable targets.
- We believe plans will likely pause in setting lower assumed rates of return on a go forward basis due to higher bond yields and lackluster investment returns in FY 2022 which will negatively impact funded ratios.

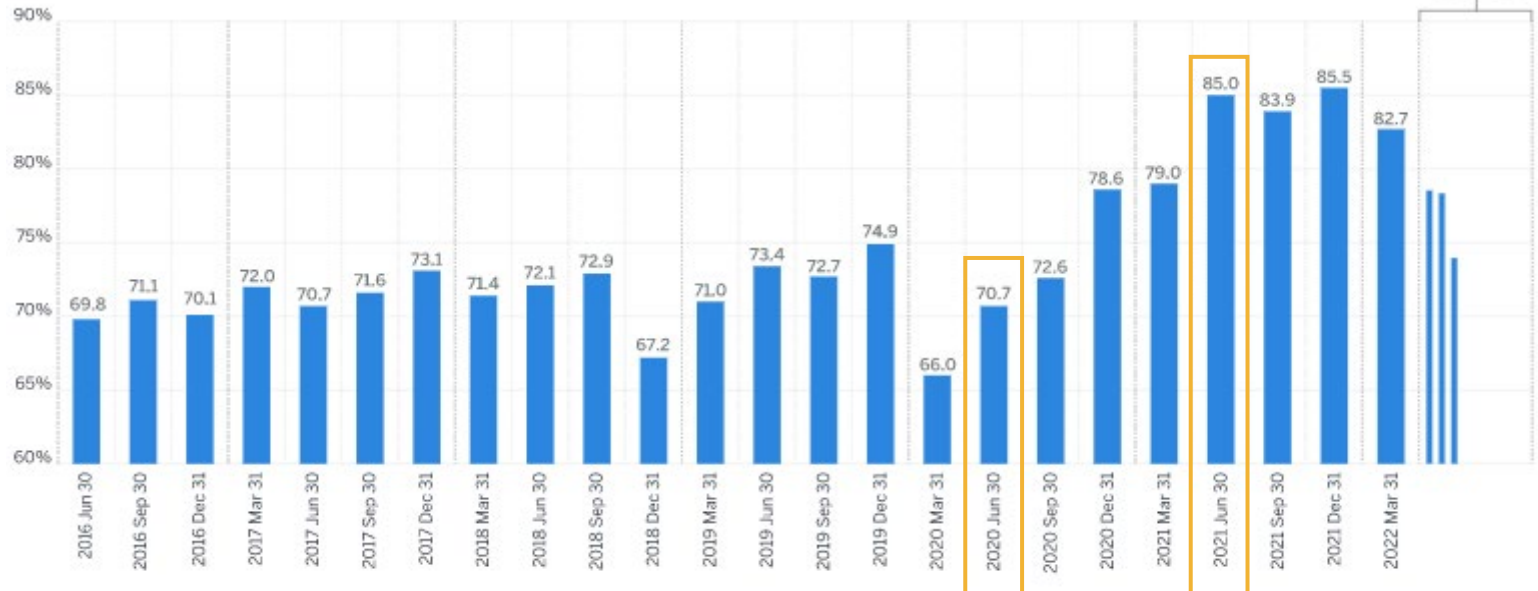


¹Milliman Public Pension Funding Index Q2 2021



Trends in Funded Status

- The Milliman Public Pension Funding Index for the 100 largest U.S. public pension plans showed meaningfully improvement in FY 2021 funded ratio following outsized investment returns. The average funded ratio stood at 85.0% as of FY 2021 versus an average funded ratio of 70.7% for FY 2020.
- FY 2022's sub par investment performance has had a negative impact on funded ratios for these plans
 - The Milliman Public Pension Funding Index showed the estimated funding ratio falling from 85.0% at year end 2021 to 74.0% as of June 30, 2022, as most major asset classes experienced negative returns.

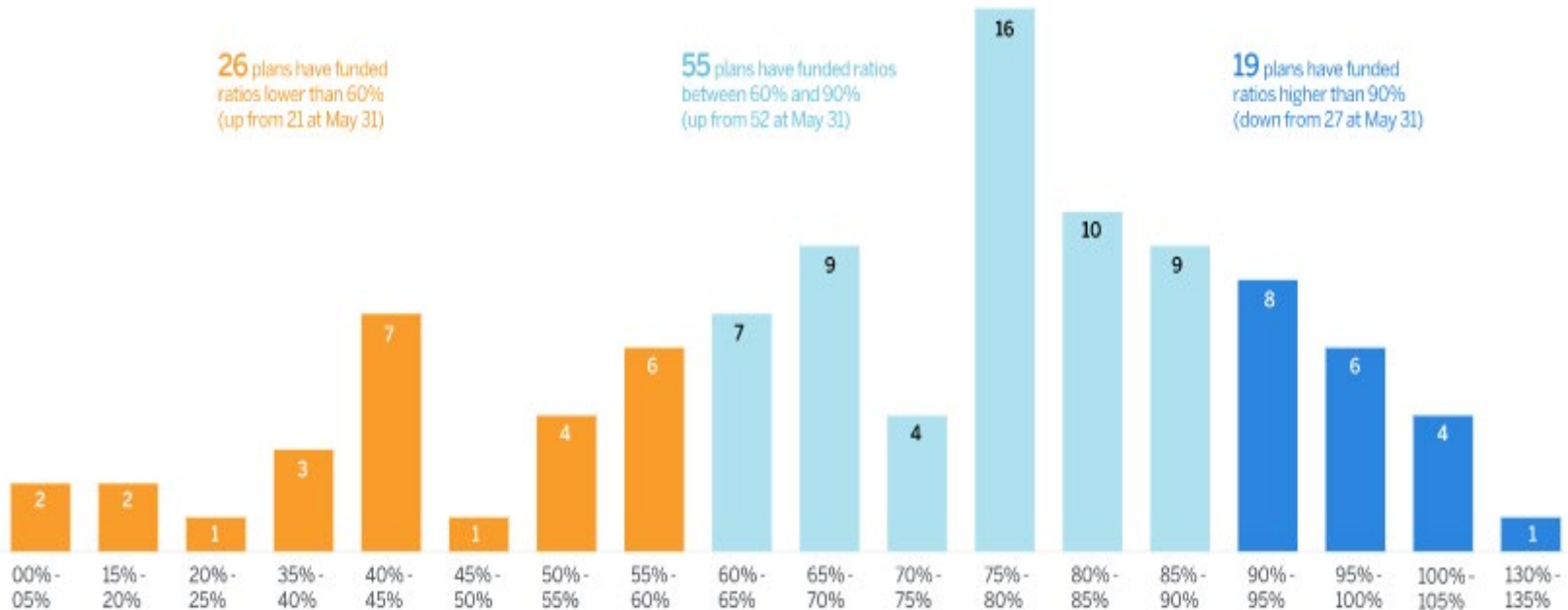


¹Milliman Public Pension Funding Index Q2 2022



Trends in Funded Status

- The Milliman Public Pension Funding Index for the 100 largest public pension plans reported that the market decline pushed eight plans below the 90% funded mark as of June 30, 2022; now just 19 plans still stand above this benchmark compared to 27 on May 31, 2022, and 46 at the close of 2021.
- Milliman reported that at the lower end of the spectrum, five additional plans fell below 60% funded as of June 30, 2022, bringing the total number of plans within the index to 26 up from 21 on May 31, 2022, and 18 at the close of 2021.



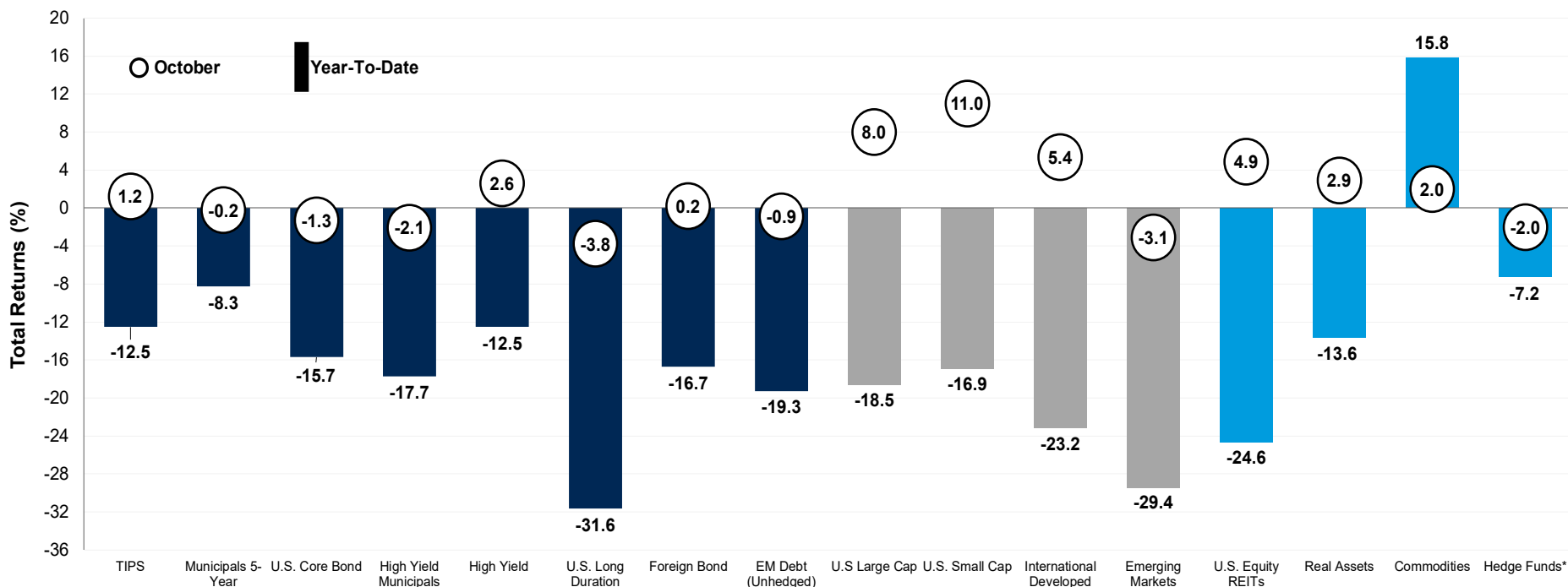
¹Milliman Public Pension Funding Index Q2 2022



Capital Markets Overview



Asset Class Performance



Source: Morningstar Direct. As of October 31, 2022. *Hedge fund returns are as of September 30, 2022.

Fixed Income (October)

- October brought more pain for investors interest rates moved higher and the yield curve remained inverted.
- + An upside inflation surprise led to higher breakevens and positive returns for TIPS.
- + High yield bonds benefited from falling spreads over the month with low issuance and a risk-on sentiment from investors over the month.

Equity (October)

- + Domestic and developed markets equities delivered strong returns in October as data revealing a slowdown gave investors hope for a Fed pause.
- + Clarity around political leadership in Italy and the UK benefited developed market equities after heightened uncertainty in recent months.
- While most emerging markets countries were strong in October, confirmation of President Xi's record third term in China dragged EM down.

Real Asset / Alternatives (October)

- + Positive equity momentum helped REITs as well, which saw a broad-based rally.
- + Commodities and real assets also gained in October, although disparities persisted among constituents of the indices.

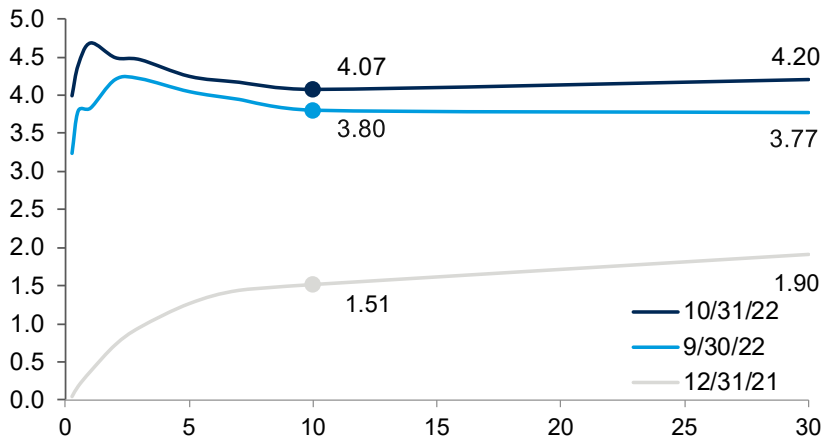
See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss. Indices cannot be invested in directly.



Fixed Income Market Update

U.S. Treasury Yield Curve

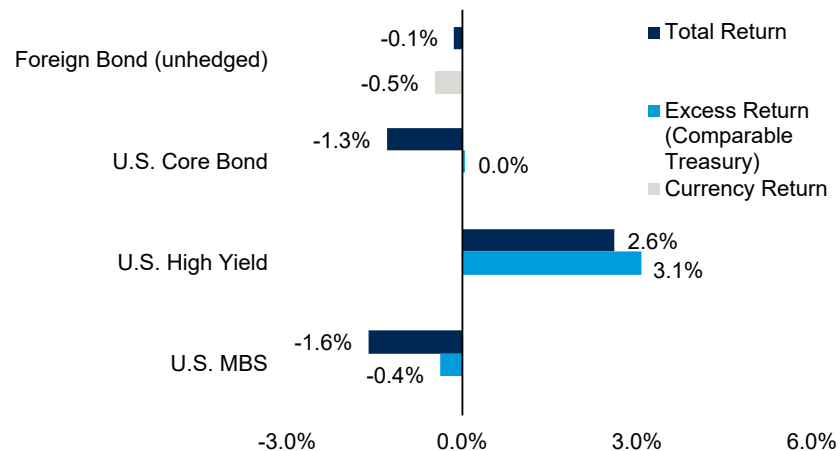
While rates continue to trudge higher, the pace of upward moves has slowed in recent months as markets have started to solidify forecasts for terminal rates for this hiking cycle. The yield curve remains inverted.



Source: FactSet. As of October 31, 2022.

Index Performance Attribution (October 2022)

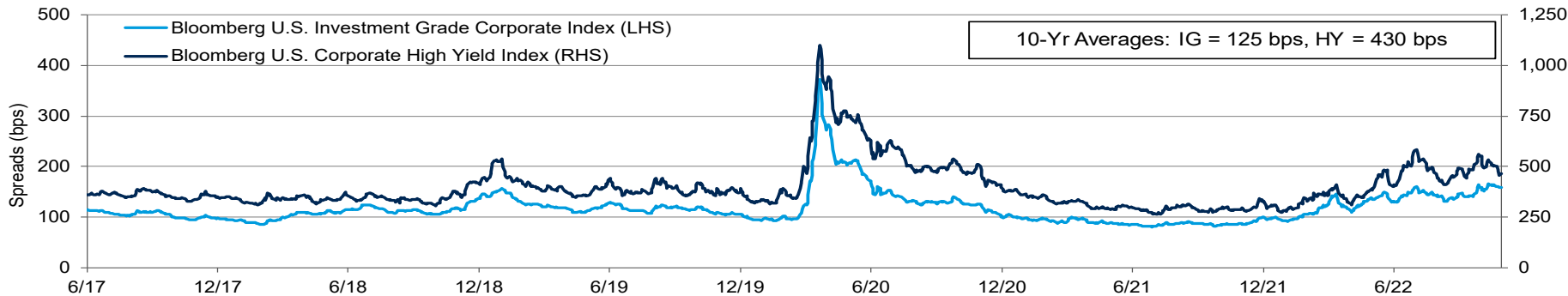
High yield bonds benefited from low issuance and tightening spreads, while other fixed income markets were broadly lower during the month as rates continued to rise.



Source: FactSet. As of October 31, 2022.

Credit Market Spreads – Trailing 5 Years

October saw investment grade spreads essentially unchanged, ending the month 1 basis point lower than the previous month's level. On the other hand, high yield spreads were 88 basis points tighter during the month. Spreads in both markets, however, remain elevated relative to their 10-year averages.



Source: FactSet. As of October 31, 2022.

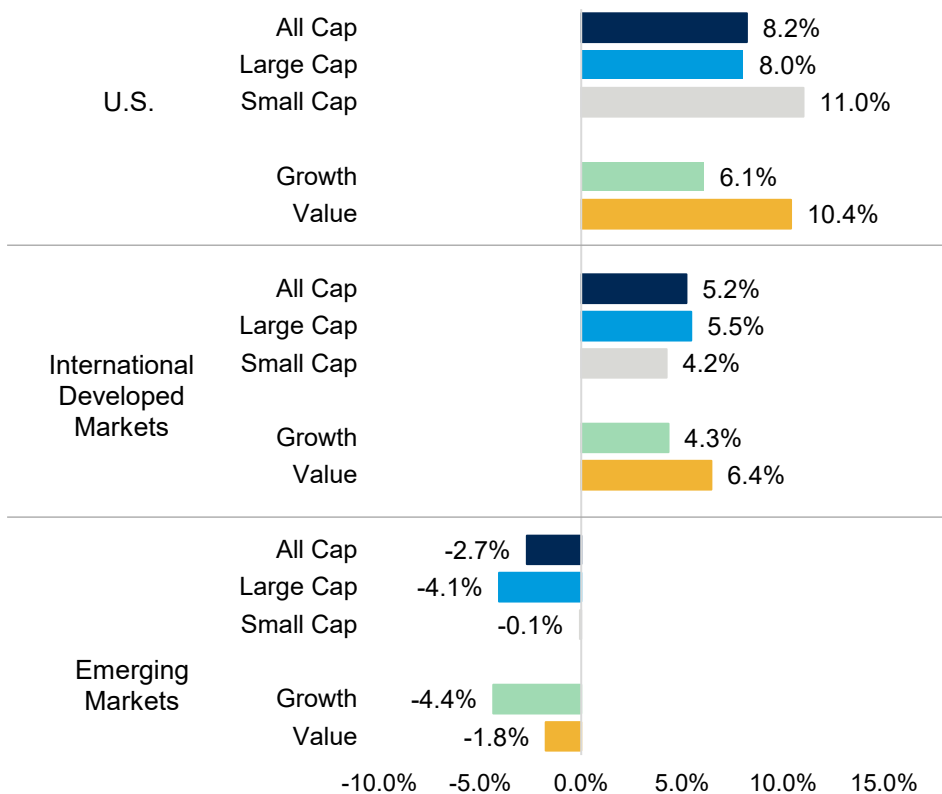
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Equity Market Update

Market Capitalization & Style Performance (October 2022)

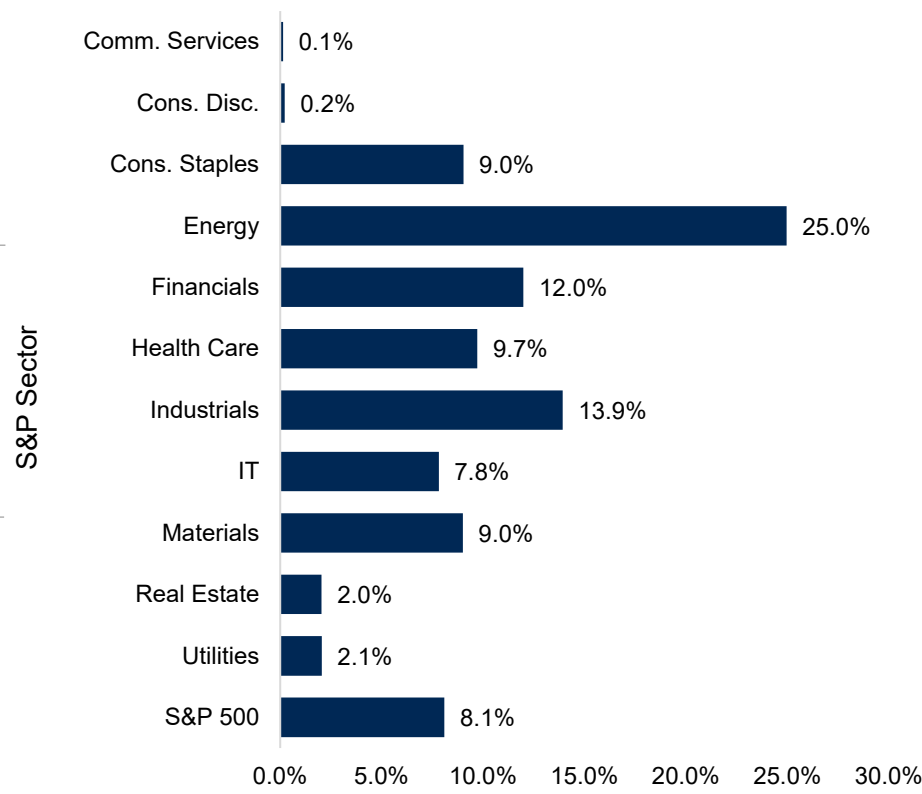
Value maintained its leadership over growth across geographies. US and developed international markets saw a relief rally after September's weakness, while emerging markets were dragged lower by China as President Xi firmed his grasp over the world's second-largest economy.



Source: Morningstar Direct. As of October 31, 2022.

U.S. Equities – Returns by Sector (October 2022)

All sectors of the S&P 500 gained in October despite weak earnings for the third-quarter. Energy continues its record run, benefiting from high crude prices, while industrials and financials also rallied during the month.



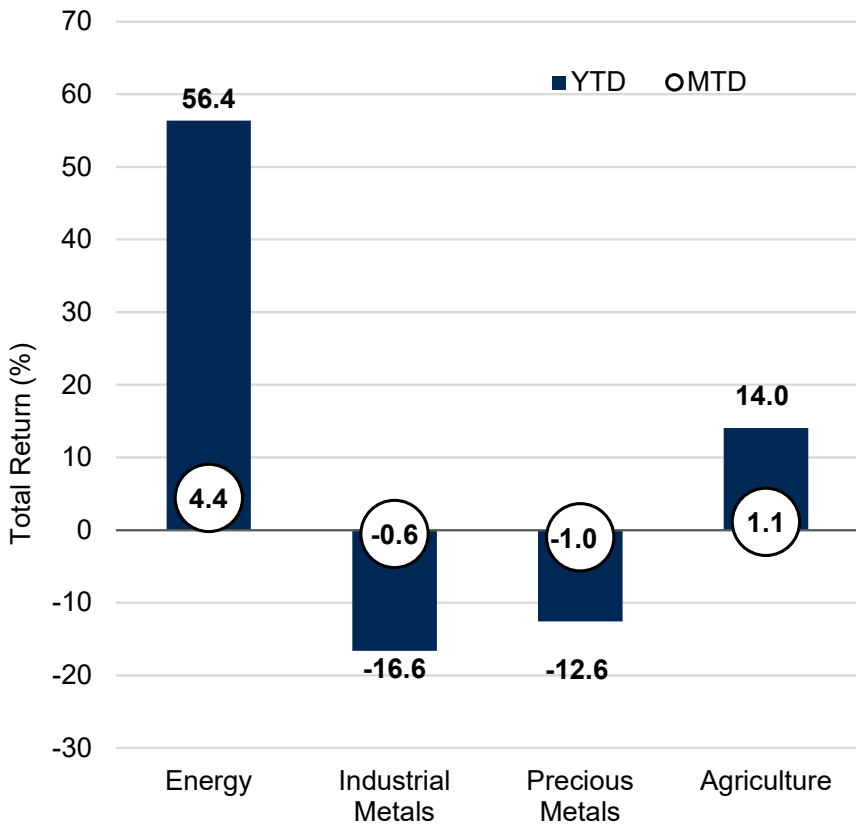
Source: Morningstar Direct. As of October 31, 2022.



Real Asset Market Update

Real Assets Performance (October 2022)

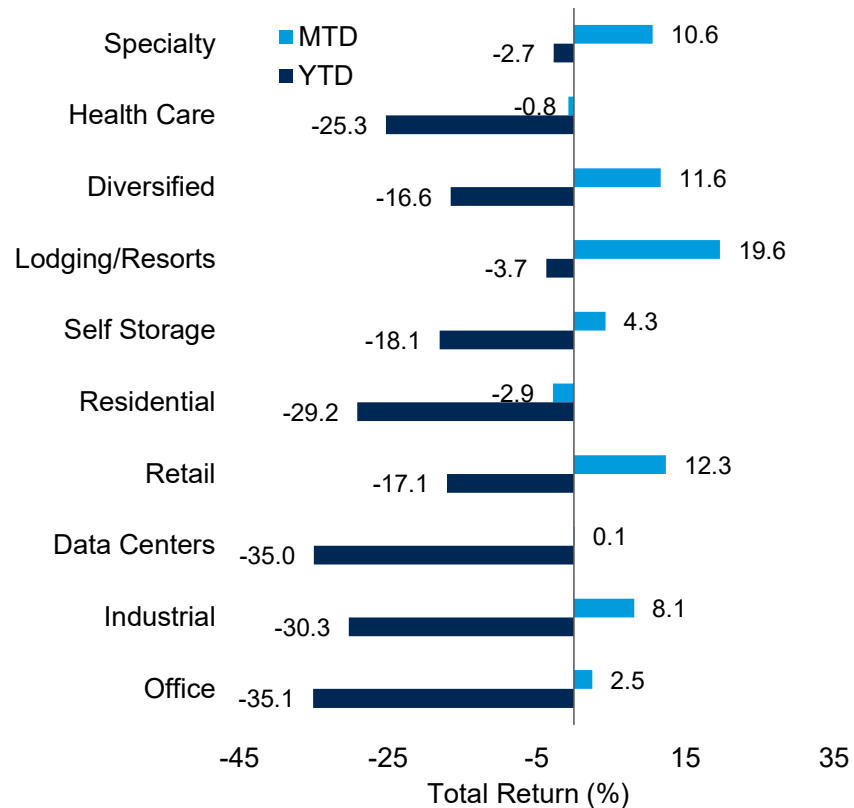
Real assets delivered mix results in October, with the primary headline being supply cuts announced by OPEC nations early in the month, which pushed oil prices higher. Evidence of an economic slowdown weighed on industrial and precious metals.



Source: FactSet. As of October 31, 2022.

REIT Sector Performance (October 2022)

REITs exhibited strength in October. The Lodging/Resorts sector benefited from continued strength in travel demand and the Retail sector was buoyed by consumer spending. Residential, however, was weaker as house prices fell from the previous month.



Source: FactSet. As of October 31, 2022.



Financial Markets Performance

Financial Markets Performance

Total Return as of October 31, 2022

Periods greater than one year are annualized

All returns are in U.S. dollar terms

Global Fixed Income Markets	MTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Bloomberg 1-3-Month T-Bill	0.2%	0.8%	0.9%	0.6%	1.1%	0.9%	0.7%	0.6%
Bloomberg U.S. TIPS	1.2%	-12.5%	-11.5%	1.1%	2.2%	2.4%	1.0%	3.3%
Bloomberg Municipal Bond (5 Year)	-0.2%	-8.3%	-8.0%	-1.2%	0.4%	0.8%	1.2%	2.6%
Bloomberg High Yield Municipal Bond	-2.1%	-17.7%	-16.5%	-2.2%	1.8%	2.9%	3.1%	3.8%
Bloomberg U.S. Aggregate	-1.3%	-15.7%	-15.7%	-3.8%	-0.5%	0.4%	0.7%	2.6%
Bloomberg U.S. Corporate High Yield	2.6%	-12.5%	-11.8%	0.3%	2.0%	4.1%	4.1%	5.8%
Bloomberg Global Aggregate ex-U.S. Hedged	0.5%	-9.5%	-9.0%	-2.6%	0.7%	1.5%	2.2%	3.1%
Bloomberg Global Aggregate ex-U.S. Unhedged	-0.1%	-24.0%	-24.6%	-8.1%	-3.9%	-1.8%	-2.4%	0.2%
Bloomberg U.S. Long Gov / Credit	-3.8%	-31.6%	-31.3%	-8.5%	-2.0%	0.4%	0.8%	4.1%
JPMorgan GBI-EM Global Diversified	-0.9%	-19.3%	-20.3%	-8.2%	-3.5%	-0.4%	-2.6%	0.8%
Global Equity Markets	MTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
S&P 500	8.1%	-17.7%	-14.6%	10.2%	10.4%	11.4%	12.8%	8.5%
Dow Jones Industrial Average	14.1%	-8.4%	-6.7%	8.8%	9.3%	11.7%	12.2%	8.5%
NASDAQ Composite	3.9%	-29.3%	-28.6%	10.7%	11.3%	12.8%	15.2%	10.5%
Russell 3000	8.2%	-18.4%	-16.5%	9.8%	9.9%	10.9%	12.5%	8.4%
Russell 1000	8.0%	-18.5%	-16.4%	10.0%	10.2%	11.1%	12.7%	8.5%
Russell 1000 Growth	5.8%	-26.6%	-24.6%	11.7%	12.6%	13.3%	14.7%	10.3%
Russell 1000 Value	10.3%	-9.3%	-7.0%	7.3%	7.2%	8.5%	10.3%	6.4%
Russell Mid Cap	8.9%	-17.5%	-17.2%	7.8%	8.0%	9.2%	11.4%	8.0%
Russell Mid Cap Growth	7.9%	-26.1%	-28.9%	6.3%	8.7%	9.8%	12.0%	8.4%
Russell Mid Cap Value	9.4%	-12.8%	-10.2%	7.5%	6.5%	8.1%	10.4%	7.4%
Russell 2000	11.0%	-16.9%	-18.5%	7.0%	5.6%	8.3%	9.9%	6.9%
Russell 2000 Growth	9.5%	-22.6%	-26.0%	5.1%	5.2%	7.7%	10.1%	7.2%
Russell 2000 Value	12.6%	-11.2%	-10.7%	8.1%	5.3%	8.4%	9.4%	6.5%
MSCI ACWI	6.0%	-21.1%	-20.0%	4.8%	5.2%	7.2%	8.0%	4.2%
MSCI ACWI ex. U.S.	3.0%	-24.3%	-24.7%	-1.7%	-0.6%	2.7%	3.3%	0.4%
MSCI EAFE	5.4%	-23.2%	-23.0%	-1.3%	-0.1%	2.5%	4.1%	0.7%
MSCI EAFE Growth	4.3%	-30.1%	-29.6%	-1.3%	1.1%	3.4%	5.1%	1.7%
MSCI EAFE Value	6.4%	-16.0%	-16.3%	-1.9%	-1.7%	1.3%	2.9%	-0.4%
MSCI EAFE Small Cap	4.2%	-29.2%	-30.3%	-2.3%	-1.3%	3.0%	5.6%	2.3%
MSCI Emerging Markets	-3.1%	-29.4%	-31.0%	-4.4%	-3.1%	2.4%	0.8%	-0.6%
Alternatives	MTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Consumer Price Index*	0.4%	5.9%	8.2%	5.0%	3.8%	3.2%	2.5%	2.4%
FTSE NAREIT Equity REITs	4.9%	-24.6%	-18.5%	-0.9%	4.1%	4.7%	6.9%	5.1%
S&P Real Assets	2.9%	-13.6%	-12.1%	0.9%	2.7%	3.8%	3.2%	3.5%
FTSE EPRA NAREIT Developed	3.0%	-27.3%	-24.3%	-5.5%	0.8%	2.0%	4.0%	1.8%
FTSE EPRA NAREIT Developed ex U.S.	0.3%	-30.8%	-31.7%	-10.5%	-3.1%	-0.7%	1.1%	-0.9%
Bloomberg Commodity Total Return	2.0%	15.8%	11.2%	13.4%	6.9%	4.8%	-1.6%	-2.5%
HFRI Fund of Funds Composite*	-2.0%	-7.2%	-6.8%	4.0%	3.0%	3.1%	3.4%	1.7%
HFRI Fund Weighted Composite*	-2.4%	-6.3%	-5.9%	6.1%	4.5%	4.9%	4.6%	3.5%
Alerian MLP	14.3%	35.9%	30.2%	11.6%	5.6%	3.2%	2.0%	5.4%

Sources: Morningstar, FactSet. As of October 31, 2022. *Consumer Price Index and HFRI indexes as of September 30, 2022.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.



Portfolio and Manager Review



Asset Allocation

Total Plan

As of October 31, 2022

	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
Total Plan	201,646,201	100.0	100.0	0.0
Prepaid Pension Benefits	-2,543,229	-1.3	0.0	-1.3
Total Invested Assets	204,189,429	101.3	100.0	1.3
Short Term Liquidity	3,570,687	1.8	0.0	1.8
Key Bank Cash Portfolio	3,532,282	1.8	0.0	1.8
First American Govt Oblig Fund Z	38,405	0.0	0.0	0.0
Fixed Income	46,223,625	22.9	25.0	-2.1
JIC Core Bond Fund I	33,417,802	16.6	17.5	-0.9
BlackRock Strategic Income Opportunities K	12,805,823	6.4	7.5	-1.1
Equity	142,030,457	70.4	68.0	2.4
Domestic Equity	84,877,596	42.1	40.0	2.1
Mellon Large Cap Core	64,872,673	32.2	31.0	1.2
Mellon Smid Cap Core	20,004,923	9.9	9.0	0.9
International Equity	56,317,140	27.9	27.5	0.4
Mellon EAFE Fund	42,417,725	21.0	20.5	0.5
Mellon Emerging Markets	13,899,415	6.9	7.0	-0.1
Private Equity	835,721	0.4	0.5	-0.1
Hamilton Lane II	23,945	0.0	-	-
Hamilton Lane VII A	570,403	0.3	-	-
Hamilton Lane VII B	241,373	0.1	-	-
Real Assets	12,364,660	6.1	7.0	-0.9
UBS Trumbull Property Fund	12,042,489	6.0	6.0	0.0
Molpus SWF II	322,171	0.2	1.0	-0.8

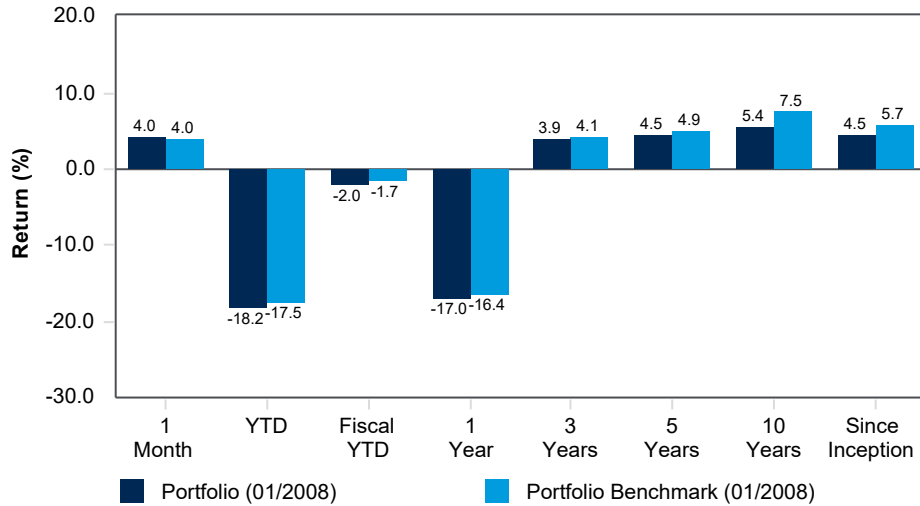


Portfolio Dashboard

Total Invested Assets

As of October 31, 2022

Historical Performance



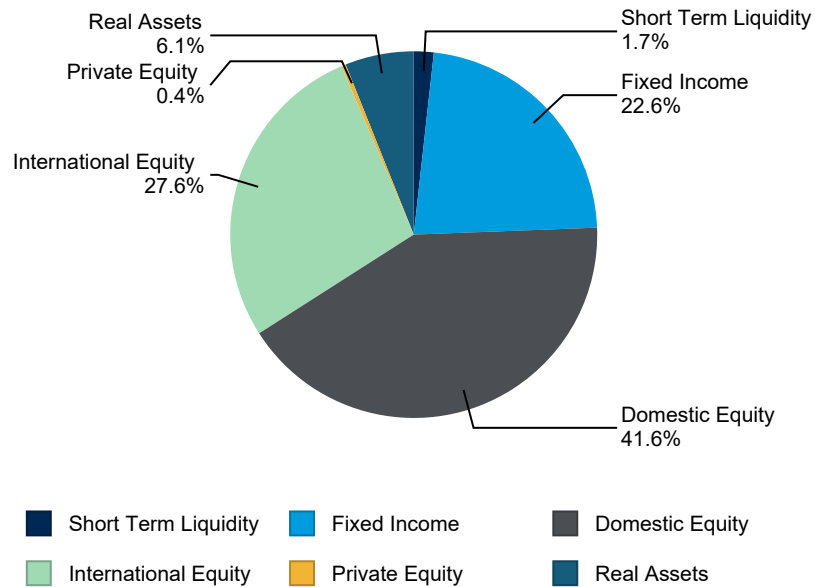
Summary of Cash Flows

	1 Month	YTD	Fiscal YTD	1 Year
Total Invested Assets				
Beginning Market Value	196,190,500	256,267,482	213,971,670	253,333,123
Net Contributions	68,665	-5,712,730	-5,712,730	-6,256,241
Gain/Loss	7,930,265	-46,365,322	-4,069,511	-42,887,453
Ending Market Value	204,189,429	204,189,429	204,189,429	204,189,429

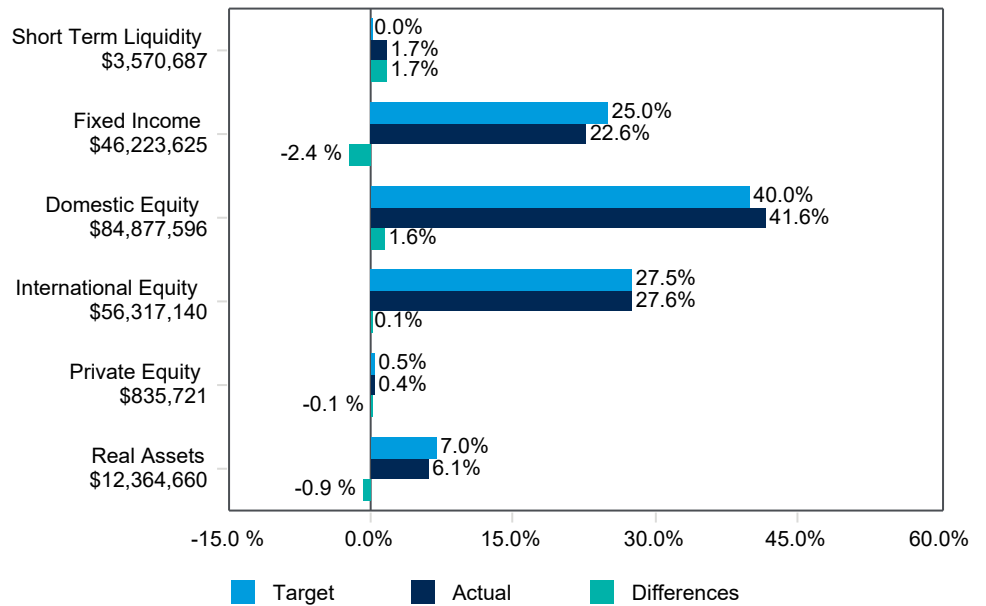
Current Benchmark Composition

From Date	To Date	Composition
09/2022	Present	25.00% Blmbg. U.S. Aggregate, 31.50% S&P 500, 9.00% Russell 2500 Index, 20.50% MSCI EAFE (Net), 7.00% MSCI Emerging Markets (Net), 6.00% NCREIF Fund Index - ODCE (net), 1.00% NCREIF Timberland Index

Portfolio Allocation



Actual vs. Target Allocations





Asset Allocation

Total Invested Assets

As of October 31, 2022

	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
Total Invested Assets	204,189,429	100.0	100.0	0.0
Short Term Liquidity	3,570,687	1.7	0.0	1.7
Key Bank Cash Portfolio	3,532,282	1.7	0.0	1.7
First American Govt Oblig Fund Z	38,405	0.0	0.0	0.0
Fixed Income	46,223,625	22.6	25.0	-2.4
JIC Core Bond Fund I	33,417,802	16.4	17.5	-1.1
BlackRock Strategic Income Opportunities K	12,805,823	6.3	7.5	-1.2
Equity	142,030,457	69.6	68.0	1.6
Domestic Equity	84,877,596	41.6	40.0	1.6
Mellon Large Cap Core	64,872,673	31.8	31.0	0.8
Mellon Smid Cap Core	20,004,923	9.8	9.0	0.8
International Equity	56,317,140	27.6	27.5	0.1
Mellon EAFE Fund	42,417,725	20.8	20.5	0.3
Mellon Emerging Markets	13,899,415	6.8	7.0	-0.2
Private Equity	835,721	0.4	0.5	-0.1
Hamilton Lane II	23,945	0.0	-	-
Hamilton Lane VII A	570,403	0.3	-	-
Hamilton Lane VII B	241,373	0.1	-	-
Real Assets	12,364,660	6.1	7.0	-0.9
UBS Trumbull Property Fund	12,042,489	5.9	6.0	-0.1
Molpus SWF II	322,171	0.2	1.0	-0.8



Manager Performance

Total Invested Assets (excluding Prepaid)

As of October 31, 2022

	Allocation		Performance(%)								
	Market Value (\$)	%	1 Month	YTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Total Invested Assets (excluding Prepaid)	204,189,429	100.0	4.0	-18.2	-2.0	-17.0	3.9	4.5	5.4	4.5	01/2008
<i>Policy Benchmark</i>			<i>4.0</i>	<i>-17.5</i>	<i>-1.7</i>	<i>-16.4</i>	<i>4.1</i>	<i>4.9</i>	<i>7.5</i>	<i>5.7</i>	
Short Term Liquidity	3,570,687	1.7	0.0	0.1	0.0	0.1	-	-	-	0.0	01/2021
<i>90 Day U.S. Treasury Bill</i>			<i>0.2</i>	<i>0.8</i>	<i>0.6</i>	<i>0.8</i>	<i>0.6</i>	<i>1.2</i>	<i>0.7</i>	<i>0.4</i>	
Key Bank Cash Portfolio	3,532,282	1.7	0.0	0.0	0.0	0.0	-	-	-	0.0	01/2021
<i>90 Day U.S. Treasury Bill</i>			<i>0.2</i>	<i>0.8</i>	<i>0.6</i>	<i>0.8</i>	<i>0.6</i>	<i>1.2</i>	<i>0.7</i>	<i>0.4</i>	
First American Govt Oblig Fund Z	38,405	0.0	0.0	-	0.4	-	-	-	-	-	02/2022
<i>90 Day U.S. Treasury Bill</i>			<i>0.2</i>	<i>0.8</i>	<i>0.6</i>	<i>0.8</i>	<i>0.6</i>	<i>1.2</i>	<i>0.7</i>	<i>0.8</i>	
Fixed Income	46,223,625	22.6	-1.0	-14.9	-5.1	-15.0	-	-	-	-9.5	01/2021
<i>Blmbg. U.S. Aggregate</i>			<i>-1.3</i>	<i>-15.7</i>	<i>-6.0</i>	<i>-15.7</i>	<i>-3.8</i>	<i>-0.5</i>	<i>0.7</i>	<i>-9.7</i>	
JIC Core Bond Fund I	33,417,802	16.4	-1.2	-16.3	-5.9	-16.4	-3.6	-0.3	1.1	-5.5	03/2020
<i>Blmbg. U.S. Aggregate</i>			<i>-1.3</i>	<i>-15.7</i>	<i>-6.0</i>	<i>-15.7</i>	<i>-3.8</i>	<i>-0.5</i>	<i>0.7</i>	<i>-5.5</i>	
IM U.S. Broad Market Core Fixed Income (MF) Median			-1.4	-16.4	-6.0	-16.4	-3.8	-0.6	0.7	-5.5	
JIC Core Bond Fund I Rank			23	49	39	51	37	22	16	52	
BlackRock Strategic Income Opportunities K	12,805,823	6.3	-0.1	-7.2	-1.9	-7.3	0.6	1.6	2.3	-6.3	02/2022
<i>Blmbg. U.S. Aggregate</i>			<i>-1.3</i>	<i>-15.7</i>	<i>-6.0</i>	<i>-15.7</i>	<i>-3.8</i>	<i>-0.5</i>	<i>0.7</i>	<i>-13.9</i>	
IM Alternative Credit Focus (MF) Median			-0.2	-9.3	-1.7	-8.6	-0.1	0.5	1.3	-7.8	
BlackRock Strategic Income Opportunities K Rank			48	44	62	38	36	26	18	38	

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.



Manager Performance

Total Invested Assets (excluding Prepaid)

As of October 31, 2022

	Allocation		Performance(%)								
	Market Value (\$)	%	1 Month	YTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Equity	142,030,457	69.6	6.2	-20.4	-1.0	-19.4	-	-	-	-3.1	01/2021
<i>MSCI AC World Index (Net)</i>			<i>6.0</i>	<i>-21.1</i>	<i>-1.2</i>	<i>-20.0</i>	<i>4.8</i>	<i>5.2</i>	<i>8.0</i>	<i>-3.6</i>	
Domestic Equity	84,877,596	41.6	8.4	-17.4	3.7	-15.3	-	-	-	2.2	01/2021
<i>Domestic Equity Benchmark</i>			<i>8.4</i>	<i>-17.5</i>	<i>3.7</i>	<i>-15.3</i>	<i>9.9</i>	<i>9.5</i>	<i>12.2</i>	<i>2.4</i>	
Mellon Large Cap Core	64,872,673	31.8	8.1	-17.7	2.8	-14.6	10.2	10.4	-	12.1	04/2016
<i>S&P 500</i>			<i>8.1</i>	<i>-17.7</i>	<i>2.8</i>	<i>-14.6</i>	<i>10.2</i>	<i>10.4</i>	<i>12.8</i>	<i>12.1</i>	
IM U.S. Large Cap Core Equity (MF) Median			7.9	-18.5	2.4	-16.3	9.3	9.7	11.9	11.3	
Mellon Large Cap Core Rank			40	38	36	30	26	25	-	21	
Mellon Smid Cap Core	20,004,923	9.8	9.6	-16.6	6.6	-17.4	8.1	7.2	-	10.0	04/2016
<i>Russell 2500 Index</i>			<i>9.6</i>	<i>-16.7</i>	<i>6.5</i>	<i>-17.6</i>	<i>7.9</i>	<i>7.1</i>	<i>10.7</i>	<i>9.9</i>	
IM U.S. SMID Cap Equity (MF) Median			9.2	-18.1	6.0	-17.3	7.3	6.7	10.4	9.4	
Mellon Smid Cap Core Rank			42	43	41	51	38	39	-	35	
International Equity	56,317,140	27.6	3.1	-24.7	-7.1	-25.0	-	-	-	-11.8	01/2021
<i>International Equity Benchmark</i>			<i>3.2</i>	<i>-24.6</i>	<i>-7.0</i>	<i>-25.0</i>	<i>-1.2</i>	<i>-0.6</i>	<i>3.0</i>	<i>-11.2</i>	
Mellon EAFE Fund	42,417,725	20.8	5.4	-22.8	-4.4	-22.6	-0.8	0.4	-	4.1	04/2016
<i>MSCI EAFE (Net)</i>			<i>5.4</i>	<i>-23.2</i>	<i>-4.5</i>	<i>-23.0</i>	<i>-1.3</i>	<i>-0.1</i>	<i>4.1</i>	<i>3.6</i>	
IM International Large Cap Core Equity (MF) Median			5.4	-23.5	-5.3	-23.4	-1.3	-0.6	3.5	3.2	
Mellon EAFE Fund Rank			56	33	29	36	45	21	-	24	
Mellon Emerging Markets	13,899,415	6.8	-3.2	-29.9	-14.5	-31.5	-4.6	-3.2	-	2.5	04/2016
<i>MSCI Emerging Markets (Net)</i>			<i>-3.1</i>	<i>-29.4</i>	<i>-14.3</i>	<i>-31.0</i>	<i>-4.4</i>	<i>-3.1</i>	<i>0.8</i>	<i>2.7</i>	
IM Emerging Markets Equity (MF) Median			-1.8	-30.8	-12.9	-32.7	-4.5	-3.3	0.7	2.4	
Mellon Emerging Markets Rank			76	43	72	43	52	49	-	47	
Private Equity	835,721	0.4	0.0	-6.2	0.0	-4.9	-	-	-	6.1	01/2021
Hamilton Lane II	23,945	0.0	0.0	-7.8	0.0	-20.7	-2.5	8.3	11.2	14.3	03/2009
Hamilton Lane VII A	570,403	0.3	0.0	-6.4	0.0	-4.3	14.0	14.0	13.3	12.5	07/2011
Hamilton Lane VII B	241,373	0.1	0.0	-5.4	0.0	-3.1	4.7	6.5	9.1	9.2	07/2011

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.



Manager Performance

Total Invested Assets (excluding Prepaid)

As of October 31, 2022

	Allocation		Performance(%)								
	Market Value (\$)	%	1 Month	YTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Real Assets	12,364,660	6.1	0.0	3.6	-3.0	10.7	-	-	-	10.4	01/2021
UBS Trumbull Property Fund	12,042,489	5.9	0.0	7.8	-3.0	13.3	5.6	4.4	-	4.5	07/2016
<i>NCREIF Fund Index - ODCE (net)</i>			<i>0.0</i>	<i>12.4</i>	<i>0.3</i>	<i>21.0</i>	<i>11.4</i>	<i>9.3</i>	<i>9.9</i>	<i>8.7</i>	
Molpus SWF II	322,171	0.2	0.0	-15.7	0.0	0.5	-1.4	-0.9	2.0	1.6	03/2009
<i>NCREIF Timberland Index</i>			<i>0.0</i>	<i>7.6</i>	<i>2.4</i>	<i>12.5</i>	<i>5.8</i>	<i>4.7</i>	<i>5.7</i>	<i>4.0</i>	

Valuations data as of:

Hamilton Lane VII, Hamilton Lane II and Molpus SWF II - 6/30/2022

UBS Trumbull Property Fund - 9/30/2022

All private equity and real estate assets are adjusted for any capital activity.

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.



Benchmark History

Policy Benchmark

As of October 31, 2022

Members	Weight (%)
Sep-2022	
Blmbg. U.S. Aggregate	25.00
S&P 500	31.50
Russell 2500 Index	9.00
MSCI EAFE (Net)	20.50
MSCI Emerging Markets (Net)	7.00
NCREIF Fund Index - ODCE (net)	6.00
NCREIF Timberland Index	1.00
May-2021	
Blmbg. U.S. Aggregate	18.00
S&P 500	31.50
Russell 2500 Index	10.50
MSCI EAFE (Net)	23.00
MSCI Emerging Markets (Net)	10.00
NCREIF Fund Index - ODCE (net)	6.00
NCREIF Timberland Index	1.00
Dec-2019	
Blmbg. U.S. Aggregate	20.00
S&P 500	32.00
Russell 2500 Index	18.00
MSCI EAFE (Net)	10.00
MSCI Emerging Markets (Net)	10.00
NCREIF Fund Index - ODCE (net)	8.00
NCREIF Timberland Index	2.00

Members	Weight (%)
Jun-2017	
Blmbg. Intermed. U.S. Government/Credit	20.00
S&P 500	30.00
Russell 2500 Index	18.00
S&P Completion Index	2.00
MSCI EAFE (Net)	10.00
MSCI Emerging Markets (Net)	10.00
NCREIF Fund Index - ODCE (net)	8.00
NCREIF Timberland Index	2.00
Jan-2016	
Blmbg. Intermed. U.S. Government/Credit	28.00
S&P 500	30.00
Russell 2500 Index	18.00
S&P Completion Index	2.00
MSCI EAFE (Net)	10.00
MSCI Emerging Markets (Net)	10.00
NCREIF Timberland Index	2.00
Jan-2008	
Blmbg. U.S. Aggregate	20.00
S&P 500	32.00
Russell 2500 Index	18.00
MSCI EAFE (Net)	10.00
MSCI Emerging Markets (Net)	10.00
NCREIF Fund Index - ODCE (net)	8.00
NCREIF Timberland Index	2.00



Definitions & Disclosures

Please note: Due to rounding methodologies of various data providers, certain returns in this report might differ slightly when compared to other sources

REGULATORY DISCLOSURES

Offer of ADV Part 2A: Rule 204-3 under the Investment Advisers Act of 1940 requires that we make an annual offer to clients to send them, without charge, a written disclosure statement meeting the requirements of such rule. We will be glad to send a copy of our ADV Part 2A to you upon your written request to compliance@fiducient.com.

INDEX DEFINITIONS

- **Citigroup 3 Month T-Bill** measures monthly return equivalents of yield averages that are not marked to market. The Three-Month Treasury Bill Indexes consist of the last three three-month Treasury bill issues.
- **Ryan 3 Yr. GIC** is an arithmetic mean of market rates of \$1 million Guaranteed Interest Contracts held for three years.
- **Bloomberg Treasury U.S. T-Bills-1-3 Month Index** includes aged U.S. Treasury bills, notes and bonds with a remaining maturity from 1 up to (but not including) 3 months. It excludes zero coupon strips.
- **Bloomberg Capital US Treasury Inflation Protected Securities Index** consists of Inflation-Protection securities issued by the U.S. Treasury.
- **Bloomberg Muni Index** is a rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. Bonds must be rated investment-grade by at least two ratings agencies.
- **Bloomberg Muni 1 Year Index** is the 1-year (1-2) component of the Municipal Bond index.
- **Bloomberg Muni 3 Year Index** is the 3-year (2-4) component of the Municipal Bond index.
- **Bloomberg Muni 5 Year Index** is the 5-year (4-6) component of the Municipal Bond index.
- **Bloomberg Muni 7 Year Index** is the 7-year (6-8) component of the Municipal Bond index.
- **Bloomberg Intermediate U.S. Gov't/Credit** is the Intermediate component of the U.S. Government/Credit index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.
- **Bloomberg U.S. Aggregate Index** covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.
- **Bloomberg Global Aggregate ex. USD Indices** represent a broad-based measure of the global investment-grade fixed income markets. The two major components of this index are the Pan-European Aggregate and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds and Canadian government, agency and corporate securities.
- **Bloomberg U.S. Corporate High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.
- **JP Morgan Government Bond Index-Emerging Market (GBI-EM) Index** is a comprehensive, global local emerging markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure.
- **The S&P 500** is a capitalization-weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.
- **The Dow Jones Industrial Index** is a price-weighted average of 30 blue-chip stocks that are generally the leaders in their industry.
- **The NASDAQ** is a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market.
- **Russell 3000** is a market-cap-weighted index which consists of roughly 3,000 of the largest companies in the U.S. as determined by market capitalization. It represents nearly 98% of the investable U.S. equity market.
- **Russell 1000** consists of the largest 1000 companies in the Russell 3000 Index.
- **Russell 1000 Growth** measures the performance of those Russell 1000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 1000 Value** measures the performance of those Russell 1000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell Mid Cap** measures the performance of the 800 smallest companies in the Russell 1000 Index.
- **Russell Mid Cap Growth** measures the performance of those Russell Mid Cap companies with higher P/B ratios and higher forecasted growth values.
- **Russell Mid Cap Value** measures the performance of those Russell Mid Cap companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2000** consists of the 2,000 smallest U.S. companies in the Russell 3000 index.
- **Russell 2000 Growth** measures the performance of the Russell 2000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2000 Value** measures the performance of those Russell 2000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2500** consists of the 2,500 smallest U.S. companies in the Russell 3000 index.
- **Russell 2500 Growth** measures the performance of the Russell 2500 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2500 Value** measures the performance of those Russell 2500 companies with lower P/B ratios and lower forecasted growth values.
- **MSCI World** captures large and mid-cap representation across 23 Developed Markets countries. With 1,645 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.
- **MSCI ACWI (All Country World Index) ex. U.S. Index** captures large and mid-cap representation across 22 of 23 Developed Markets countries (excluding the United States) and 23 Emerging Markets countries. With 1,859 constituents, the index covers approximately 85% of the global equity opportunity set outside the US.
- **MSCI ACWI (All Country World Index) ex. U.S. Small Cap Index** captures small cap representation across 22 of 23 Developed Markets countries (excluding the US) and 23 Emerging Markets countries. With 4,368 constituents, the index covers approximately 14% of the global equity opportunity set outside the US.
- **MSCI EAFE** is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the US and Canada. With 930 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.



- **MSCI EAFE Value** captures large and mid-cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield. With 507 constituents, the index targets 50% coverage of the free float-adjusted market capitalization of the MSCI EAFE Index.
- **MSCI EAFE Growth** captures large and mid-cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend. With 542 constituents, the index targets 50% coverage of the free float-adjusted market capitalization of the MSCI EAFE Index.
- **MSCI Emerging Markets** captures large and mid-cap representation across 23 Emerging Markets countries. With 836 constituents, the index covers approximately 85% of the free-float adjusted market capitalization in each country.
- **Consumer Price Index** is a measure of prices paid by consumers for a market basket of consumer goods and services. The yearly (or monthly) growth rates represent the inflation rate.
- **FTSE NAREIT Equity REITs Index** contains all Equity REITs not designed as Timber REITs or Infrastructure REITs.
- **S&P Developed World Property** defines and measures the investable universe of publicly traded property companies domiciled in developed markets. The companies in the index are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- **S&P Developed World Property x U.S.** defines and measures the investable universe of publicly traded property companies domiciled in developed countries outside of the U.S. The companies included are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- **Fund Specific Broad Real Asset Benchmarks:**
 - **DWS Real Assets:** 30%: Dow Jones Brookfield Infrastructure Index, 30%: FTSE EPRA/NAREIT Developed Index, 15%: Bloomberg Commodity Index, 15%: S&P Global Natural Resources Index, 10%: U.S. Treasury Inflation Notes Total Return Index
 - **PIMCO Inflation Response Multi Asset Fund:** 45% Bloomberg U.S. TIPS, 20% Bloomberg Commodity Index, 15% JP Morgan Emerging Local Markets Plus, 10% Dow Jones Select REIT, 10% Bloomberg Gold Subindex Total Return
 - **Principal Diversified Real Assets:** 35% BbgBarc U.S. Treasury TIPS Index, 20% S&P Global Infrastructure Index NTR, 20% S&P Global Natural Resources Index NTR, 15% Bloomberg Commodity Index, and 10% FTSE EPRA/NAREIT Developed Index NTR
 - **Wellington Diversified Inflation H:** 50% MSCI ACWI Commodity Producers Index, 25% Bloomberg Commodity Index, and 25% Bloomberg Bloomberg US TIPS 1 – 10 Year Index
- **Bloomberg Commodity Index** is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.
- **HFRI Fund Weighted Composite Index** is a global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or a twelve (12) month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.
- **The Alerian MLP Index** is the leading gauge of energy Master Limited Partnerships (MLPs). The float adjusted, capitalization-weighted index, whose constituents represent approximately 85% of total float-adjusted market capitalization, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis.
- **The Adjusted Alerian MLP Index** is commensurate with 65% of the monthly returns of the Alerian MLP Index to incorporate the effect of deferred tax liabilities incurred by MLP entities.
- **Cambridge Associates U.S. Private Equity Index** is based on data compiled from more than 1,200 institutional-quality buyout, growth equity, private equity energy, and mezzanine funds formed between 1986 and 2015.
- **Cambridge Associates U.S. Venture Capital Index** is based on data compiled from over 1,600 institutional-quality venture capital funds formed between 1986 and 2015.
- **Vanguard Spliced Bloomberg US1-5Yr Gov/Cr Flt Adj Index:** Bloomberg U.S. 1–5 Year Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. 1–5 Year Government/Credit Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US5-10Yr Gov/Cr Flt Adj Index:** Bloomberg U.S. 5–10 Year Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. 5–10 Year Government/Credit Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US Agg Flt Adj Index:** Bloomberg U.S. Aggregate Bond Index through December 31, 2009; Bloomberg U.S. Aggregate Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US Long Gov/Cr Flt Adj Index:** Bloomberg U.S. Long Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. Long Government/Credit Float Adjusted Index thereafter.
- **Vanguard Balanced Composite Index:** Made up of two unmanaged benchmarks, weighted 60% Dow Jones U.S. Total Stock Market Index (formerly the Dow Jones Wilshire 5000 Index) and 40% Bloomberg U.S. Aggregate Bond Index through May 31, 2005; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Bond Index through December 31, 2009; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Float Adjusted Index through January 14, 2013; and 60% CRSP US Total Market Index and 40% Bloomberg U.S. Aggregate Float Adjusted Index thereafter.
- **Vanguard Spliced Intermediate-Term Tax-Exempt Index:** Bloomberg 1–15 Year Municipal Bond Index.
- **Vanguard Spliced Extended Market Index:** Dow Jones Wilshire 4500 Index through June 17, 2005; S&P Transitional Completion Index through September 16, 2005; S&P Completion Index thereafter.
- **Vanguard Spliced Value Index:** S&P 500 Value Index (formerly the S&P 500/Barra Value Index) through May 16, 2003; MSCI US Prime Market Value Index through April 16, 2013; CRSP US Large Cap Value Index thereafter.
- **Vanguard Spliced Large Cap Index:** Consists of MSCI US Prime Market 750 Index through January 30, 2013, and the CRSP US Large Cap Index thereafter.
- **Vanguard Spliced Growth Index:** S&P 500 Growth Index (formerly the S&P 500/Barra Growth Index) through May 16, 2003; MSCI US Prime Market Growth Index through April 16, 2013; CRSP US Large Cap Growth Index thereafter.
- **Vanguard Spliced Mid Cap Value Index:** MSCI US Mid Cap Value Index through April 16, 2013; CRSP US Mid Cap Value Index thereafter.
- **Vanguard Spliced Mid Cap Index:** S&P MidCap 400 Index through May 16, 2003; the MSCI US Mid Cap 450 Index through January 30, 2013; and the CRSP US Mid Cap Index thereafter.
- **Vanguard Spliced Mid Cap Growth Index:** MSCI US Mid Cap Growth Index through April 16, 2013; CRSP US Mid Cap Growth Index thereafter.
- **Vanguard Spliced Total Stock Market Index:** Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005; MSCI US Broad Market Index through June 2, 2013; and CRSP US Total Market Index thereafter.
- **Vanguard Spliced Small Cap Value Index:** SmallCap 600 Value Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Value Index through April 16, 2013; CRSP US Small Cap Value Index thereafter.



- **Vanguard Spliced Small Cap Index:** Russell 2000 Index through May 16, 2003; the MSCI US Small Cap 1750 Index through January 30, 2013; and the CRSP US Small Cap Index thereafter.
- **Vanguard Spliced Small Cap Growth Index:** S&P SmallCap 600 Growth Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Growth Index through April 16, 2013; CRSP US Small Cap Growth Index thereafter.
- **Vanguard Spliced Total International Stock Index:** Consists of the Total International Composite Index through August 31, 2006; the MSCI EAFE + Emerging Markets Index through December 15, 2010; the MSCI AC USA IMI Index through June 2, 2013; and FTSE Global All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard Spliced Developed Markets Index:** MSCI EAFE Index through May 28, 2013; FTSE Developed ex North America Index through December 20, 2015; FTSE Developed All Cap ex US Transition Index through May 31, 2016; FTSE Developed All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard Spliced Emerging Markets Index:** Select Emerging Markets Index through August 23, 2006; MSCI Emerging Markets Index through January 9, 2013; FTSE Emerging Transition Index through June 27, 2013; FTSE Emerging Index through November 1, 2015; and FTSE Emerging Markets All Cap China A Transition Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard REIT Spliced Index:** MSCI US REIT Index adjusted to include a 2% cash position (Lipper Money Market Average) through April 30, 2009; MSCI US REIT Index through January 31, 2018; MSCI US Investable Market Real Estate 25/50 Transition Index through July 24, 2018; MSCI US Investable Market Real Estate 25/50 Index thereafter.

Additional:

- Equity sector returns are calculated by Russell and MSCI for domestic and international markets, respectively. MSCI sector definitions correspond to the MSCI GICS® classification (Global Industry Classification System); Russell uses its own sector and industry classifications.
- MSCI country returns are calculated by MSCI and are free float-adjusted market capitalization indices that are designed to measure equity market performance in each specific country.
- Currency returns are calculated using Bloomberg's historical spot rate indices and are calculated using the U.S. dollar as the base currency.
- The Index of Leading Economic Indicators, calculated by The Conference Board, is used as a barometer of economic activity over a range of three to six months. The index is used to determine the direction and stability of the economy. The composite index of leading indicators, which is derived from 10 leading indicators, helps to signal turning points in the economy and forecast economic cycles. The leading indicators are the following: average weekly hours, average weekly initial claims, manufacturers' new orders, both consumer and non-defense capital goods, vendor performance, building permits, stock prices, money supply (M2), the interest rate spread and the index of consumer expectations.
- S&P Target Date Indexes are constructed using a survey method of current target date investments with \$100 million or more in assets under management. Allocations for each vintage are comprised of exchange-traded funds that represent respective asset classes used in target date portfolios. The indexes are designed to represent a market consensus glide path.

DEFINITION OF KEY STATISTICS AND TERMS

- **Returns:** A percentage figure used when reporting historical average compounded rate of investment return. All returns are annualized if the period for which they are calculated exceeds one year.
- **Universe Comparison:** The universe compares the fund's returns to a group of other investment portfolios with similar investment strategies. The returns for the fund, the index and the universe percentiles are displayed. A percentile ranking of 1 is the best, while a percentile ranking of 100 is the worst. For example, a ranking of 50 indicates the fund outperformed half of the universe. A ranking of 25 indicates the fund was in the top 25% of the universe, outperforming 75%.
- **Returns In Up/Down Markets:** This measures how the fund performed in both up and down markets. The methodology is to segregate the performance for each time period into the quarters in which the market, as defined by the index, was positive and negative. Quarters with negative index returns are treated as down markets, and quarters with positive index returns are treated as up markets. Thus, in a 3 year or 12 quarter period, there might be 4 down quarters and 8 up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the down quarters. The up market capture ratio is the ratio of the fund's return in up markets to the index. The down market capture ratio is the ratio of the fund's return in down markets to the index. Ideally, the fund would have a greater up market capture ratio than down market capture ratio.
- **Standard Deviation:** Standard deviation is a statistical measure of the range of performance within which the total returns of a fund fall. When a fund has a high standard deviation, the range of performance is very wide, meaning there is a greater volatility. Approximately 68% of the time, the total return of any given fund will differ from the average total return by no more than plus or minus the standard deviation figure. Ninety-five percent of the time, a fund's total return will be within a range of plus or minus two times the standard deviation from the average total return. If the quarterly or monthly returns are all the same the standard deviation will be zero. The more they vary from one another, the higher the standard deviation. Standard deviation can be misleading as a risk indicator for funds with high total returns because large positive deviations will increase the standard deviation without a corresponding increase in the risk of the fund. While positive volatility is welcome, negative is not.
- **R-Squared:** This reflects the percentage of a fund's movements that are explained by movements in its benchmark index. An R-squared of 100 means that all movements of a fund are completely explained by movements in the index. Conversely, a low R-squared indicates very few of the fund's movements are explained by movements in the benchmark index. R-squared can also be used to ascertain the significance of a particular beta. Generally, a higher R-squared will indicate a more reliable beta figure. If the R-squared is lower, then the beta is less relevant to the fund's performance. A measure of diversification, R-squared indicates the extent to which fluctuations in portfolio returns are explained by market. An R-squared = 0.70 implies that 70% of the fluctuation in a portfolio's return is explained by the fluctuation in the market. In this instance, overweighting or underweighting of industry groups or individual securities is responsible for 30% of the fund's movement.
- **Beta:** This is a measure of a fund's market risk. The beta of the market is 1.00. Accordingly, a fund with a 1.10 beta is expected to perform 10% better than the market in up markets and 10% worse than the market in down markets. It is important to note, however, a low fund beta does not imply the fund has a low level of volatility; rather, a low beta means only that the fund's market-related risk is low. Because beta analyzes the market risk of a fund by showing how responsive the fund is to the market, its usefulness depends on the degree to which the markets determine the fund's total risk (indicated by R-squared).
- **Alpha:** The Alpha is the nonsystematic return, or the return that can't be attributed to the market. It can be thought of as how the manager performed if the market's return was zero. A positive alpha implies the manager added value to the return of the portfolio over that of the market. A negative alpha implies the manager did not contribute any value over the performance of the market.
- **Sharpe Ratio:** The Sharpe ratio is the excess return per unit of total risk as measured by standard deviation. Higher numbers are better, indicating more return for the level of risk experienced. The ratio is a fund's return minus the risk-free rate of return (30-day T-Bill rate) divided by the fund's standard deviation. The higher the Sharpe ratio, the more reward you are receiving per unit of total risk. This measure can be used to rank the performance of mutual funds or other portfolios.
- **Treynor Ratio:** The Treynor ratio measures returns earned in excess of that which could have been earned on a riskless investment per each unit of market risk. The ratio relates excess return over the risk-free rate to the additional risk taken; however, systematic risk is used instead of total risk. The Treynor ratio is similar to the Sharpe ratio, except in the fact that it uses the beta to evaluate the returns rather than the standard deviation of portfolio returns. High values mean better return for risk taken.



- **Tracking Error:** Tracking error measures the volatility of the difference in annual returns between the manager and the index. This value is calculated by measuring the standard deviation of the difference between manager and index returns. For example, a tracking error of +/- 5 would mean there is about a 68% chance (1 standard deviation event) that the manager's returns will fall within +/- 5% of the benchmark's annual return.
- **Information Ratio:** The information ratio is a measure of the consistency of excess return. This value is determined by taking the annualized excess return over a benchmark (style benchmark by default) and dividing the standard deviation of excess return.
- **Consistency:** Consistency shows the percent of the periods the fund has beaten the index and the percent of the periods the index has beat the fund. A high average for the fund (e.g., over 50) is desirable, indicating the fund has beaten the index frequently.
- **Downside Risk:** Downside risk is a measure similar to standard deviation but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the factor, the riskier the product.
- **M-Squared:** M-squared, or the Modigliani risk-adjusted performance measure is used to characterize how well a portfolio's return rewards an investor for the amount of risk taken, relative to that of some benchmark portfolio and to the risk-free rate.

DEFINITION OF KEY PRIVATE EQUITY TERMS

- **PIC (Paid in Capital):** The amount of committed capital that has been transferred from the limited partner to the general partner.
- **TVPI (Total Value to Paid in Capital):** Money returned to limited partners plus the fund's unrealized investments, divided by money paid-in to the partnership. The TVPI should equal RVPI plus DPI.
- **DPI (Distribution to Paid In Capital):** Money returned (distributions) to limited partners divided by money paid in to the partnership. Also called cash-on-cash multiple.
- **RVPI (Residual Value to Paid In Capital):** The value of a fund's unrealized investments divided by money paid-in to the partnership.
- **Internal rate of return (IRR):** This is the most appropriate performance benchmark for private equity investments. It is a time-weighted return expressed as a percentage. IRR uses the present sum of cash drawdowns (money invested), the present value of distributions (money returned from investments) and the current value of unrealized investments and applies a discount.
- **Commitment:** Every investor in a private equity fund commits to investing a specified sum of money in the fund partnership over a specified period of time. The fund records this as the limited partnership's capital commitment. The sum of capital commitments is equal to the size of the fund.
- **Capital Distribution:** These are the returns that an investor in a private equity fund receives. It is the income and capital realized from investments less expenses and liabilities. Once a limited partner has had their cost of investment returned, further distributions are actual profit. The partnership agreement determines the timing of distributions to the limited partner. It will also determine how profits are divided among the limited partners and general partner.
- **Carried Interest:** The share of profits that the fund manager is due once it has returned the cost of investment to investors. Carried interest is normally expressed as a percentage of the total profits of the fund.
- **Co-Investment:** Co-Investments are minority investments made alongside a private equity investor in an LBO, a recapitalization, or an expansion capital transaction. It is a passive, non-controlling investment, as the private equity firm involved will typically exercise control and perform monitoring functions.
- **General Partner (GP):** This can refer to the top-ranking partners at a private equity firm as well as the firm managing the private equity fund.
- **GP Commitments:** It is normal practice for the GP managing a private equity fund to also make a financial commitment to the fund on the same basis as the LPs in the fund, and this is seen as an important factor driving the alignment of GP and LP interests. The historic benchmark for GP commitments has been 1% of the total fund size, but this is by no means universal, and many GPs commit significantly larger amounts. Furthermore, there has been a marked trend towards GPs making larger commitments to their funds over recent years.
- **Leveraged Buy-Out (LBO):** The acquisition of a company using debt and equity finance.
- **Limited Partner (LP):** Institutions or high-net-worth individuals/sophisticated investors that contribute capital to a private equity fund.
- **Public Market Equivalent (PME):** Performance measure used to evaluate performance relative to the market. It is calculated as the ratio of the discounted value of the LP's inflows divided by the discounted value of outflows, with the discounting performed using realized market returns.
- **Primaries:** An original investment vehicle that invests directly into a company or asset.

VALUATION POLICY

Fiducient Advisors does not engage an independent third-party pricing service to value securities. Our reports are generated using the security prices provided by custodians used by our clients. Our custodial pricing hierarchy is available upon request. If a client holds a security not reported by the first custodian within the hierarchy, the valuation is generated from the next custodian within the hierarchy, and so forth. Each custodian uses pricing services from outside vendors, where the vendors may generate nominally different prices. Therefore, this report can reflect minor valuation differences from those contained in a custodian's report. In rare instances where FA overrides a custodial price, prices are taken from Bloomberg.

REPORTING POLICY

This report is intended for the exclusive use of the client listed within the report. Content is privileged and confidential. Any dissemination or distribution is strictly prohibited. Information has been obtained from a variety of sources believed to be reliable though not independently verified. Any forecast represents median expectations and actual returns, volatilities and correlations will differ from forecasts. Please note each client has customized investment objectives and constraints and the investment strategy for each portfolio is based on a client-specific asset allocation model. Past performance does not indicate future performance and there is a possibility of a loss. Performance calculated net of investment fees. Certain portfolios presented may be gross of Fiducient Advisors' fees and actual performance would be reduced by investment advisory fees. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice.



Custodian reports are the reports that govern the account. There will be different account values between Fiducient Advisors' reports and the custodian reports based on whether the report utilizes trade date or date to calculate value. Additionally, difference between values contained on reports may be caused by different accrued income values. Any forecasts represent future expectations and actual returns, volatilities and will differ from forecasts. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice. Past performance does not indicate future performance and there is a possibility of a loss.

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Unless specified otherwise, all returns are net of individual manager fees, represent total returns and are annualized for periods greater than one year. The deduction of fees produces a compounding effect that reduces the total rate of return over time. As an example, the effect of investment management fees on the total value of a client's portfolio assuming (a) quarterly fee assessment, (b) \$1,000,000 investment, (c) portfolio return of 8% a year, and (d) 0.50% annual investment advisory fee would be \$5,228 in the first year, and cumulative effects of \$30,342 over five years and \$73,826 over ten years. Additional information on advisory fees charged by Fiducient Advisors are described in Part 2 of the Form ADV.

OTHER

By regulation, closed-end funds utilizing debt for leverage must report their interest expense, as well as their income tax expense, as part of their total expense ratio. To make for a useful comparison between closed-end funds and both open-end funds and exchange-traded funds, adjusted expense ratios excluding interest and income tax expenses are utilized for closed-end funds within this report. See disclosure on closed-end fund fact sheets for information regarding the total expense ratio of each closed-end fund.

Please advise us of any changes in your objectives or circumstances.

CUSTODIAN STATEMENTS

Please remember to review the periodic statements you receive from your custodian. If you do not receive periodic statements from your custodian or notice issues with the activity reported in those statements, please contact FA or your custodian immediately.