

**Wilshire**



# Wilshire Advisors

## Monthly Performance Summary

As of April 30, 2022

## IMRF Performance Summary

- The Illinois Municipal Retirement Fund (“IMRF”) ended April 2022 with a market value of \$50.8 billion, down for the month by approximately \$3.32 billion. IMRF returned -5.52% during the month, slightly underperforming the Total Fund Benchmark, which returned -5.46%. Growth and defensive assets saw steep sell offs to begin the second quarter as rising rates coupled with uncertainty around future interest rate hikes to combat inflation weighed on investor sentiment.
- U.S. Equity markets sold off steeply due to Fed rate hike expectations, with growth underperforming value in both the small and large cap spaces. The U.S. Equity Portfolio underperformed the benchmark during the month, returning -9.07% versus -8.60%. In aggregate, investment manager performance in Large Cap Growth was the largest contributor to relative underperformance.
  - The Internally Managed GSAM-Factor Diversity Portfolio outperformed the benchmark during April, returning -8.16% versus -9.04% for the benchmark. Since Inception, the strategy has outperformed the benchmark, returning 12.72% versus 12.69%.
  - The Internally Managed Scientific Beta Portfolio outperformed the benchmark during the month, returning -5.79% versus -6.10% for the benchmark.
- International Equity markets suffered their weakest month since March 2020 primarily driven by the continued war in Ukraine and monetary policy tightening. The International Equity Portfolio underperformed the benchmark during April, returning -6.69% versus -6.28%. In aggregate, investment manager performance in Large Cap Growth and Large Cap Core underperformed their respective benchmarks during the month.
- U.S. Treasury yields moved significantly during April, with the longer end of the yield curve increasing more than the shorter end, reversing the recent flattening trend. The Fixed Income Portfolio underperformed the benchmark during the month, returning -3.41% versus -3.24%. Investment manager performance in Core Plus contributed to relative underperformance during April. The Bank Loan portfolio was a bright spot, as the floating rate nature of the bonds were able to benefit from rising interest rates.
- As of April month-end, all underlying asset class allocations in the Portfolio are within the stated four percentage point rebalancing range as outlined by the current Statement of Investment Policy.

Performance referenced above is Net of Fees.

# Market Dashboard

Returns though Friday April 29, 2022

Portfolio Allocations	MTD	MAR	FEB	QTD	Q1 2022	YTD	1 Year	3 Year	5 Year
Global 60/40	(6.32)	0.19	(2.00)	(6.32)	(5.55)	(11.52)	(7.00)	6.13	6.38
Wilshire Risk Parity (12%)	(4.96)	(1.91)	1.07	(4.96)	(5.02)	(9.73)	(0.54)	6.93	7.32
Strategic Allocation Themes *	MTD	MAR	FEB	QTD	Q1 2022	YTD	1 Year	3 Year	5 Year
Growth <sup>1</sup>	(8.00)	2.17	(2.58)	(8.00)	(5.36)	(12.94)	(6.27)	9.45	9.46
Defensive Growth <sup>2</sup>	(5.42)	2.65	(0.93)	(5.42)	(3.97)	(9.18)	(4.38)	9.40	9.50
Diversified Credit <sup>3</sup>	(3.86)	(0.86)	(3.29)	(3.86)	(6.35)	(9.97)	(8.01)	0.96	2.29
Real Assets <sup>4</sup>	(1.59)	4.58	2.28	(1.59)	6.30	4.61	17.93	13.25	9.26
Defensive <sup>5</sup>	(3.79)	(2.78)	(1.12)	(3.79)	(5.93)	(9.50)	(8.42)	0.43	1.20
Major Asset Classes	MTD	MAR	FEB	QTD	Q1 2022	YTD	1 Year	3 Year	5 Year
FT Wilshire 5000	(9.04)	3.35	(2.44)	(9.04)	(4.95)	(13.54)	(3.02)	13.48	13.24
MSCI ACWI-ex-USA (Net)	(6.28)	0.16	(1.98)	(6.28)	(5.44)	(11.38)	(11.26)	4.34	4.94
Bloomberg U.S. Aggregate	(3.79)	(2.78)	(1.12)	(3.79)	(5.93)	(9.50)	(8.42)	0.43	1.20
Bloomberg U.S. Corporate High Yield	(3.56)	(1.15)	(1.03)	(3.56)	(4.84)	(8.22)	(5.19)	2.85	3.69
Wilshire Global Real Estate Securities	(4.72)	5.51	(2.22)	(4.72)	(2.98)	(7.56)	9.16	7.38	7.29
Bloomberg Commodity	4.14	8.65	6.23	4.14	25.55	30.75	43.84	17.89	10.22

Source: Bloomberg, All returns are in USD

\* Strategic Allocations are comprised of the following asset mixes (rebalanced monthly)

<sup>1</sup> Growth : 100% Global Equity

<sup>2</sup> Defensive Growth : 60% Low Vol Global Equity, 40% US Convertibles

<sup>3</sup> Diversified Credit : 42.5% U.S. High Yield, 42.5% EMD, 15% Banks Loans

<sup>4</sup> Real Assets : 43% Global REITS/GLI, 33% Commodities, 48% TIPS, 9% Gold, -31% Cash

<sup>5</sup> Defensive : 100% US Core Bonds

# Market Returns

Returns though Friday April 29, 2022

<b>US Equity</b>	<b>MTD</b>	<b>MAR</b>	<b>FEB</b>	<b>QTD</b>	<b>Q1 2022</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>
FT Wilshire 5000	(9.04)	3.35	(2.44)	(9.04)	(4.95)	(13.54)	(3.02)	13.48	13.24
Standard & Poor's 500	(8.72)	3.71	(2.99)	(8.72)	(4.60)	(12.92)	(0.50)	13.88	13.66
Wilshire 4500 Completion	(10.01)	1.26	0.60	(10.01)	(7.49)	(16.75)	(15.81)	10.60	10.55
Wilshire US Large Cap	(9.15)	3.40	(3.04)	(9.15)	(5.32)	(13.98)	(3.60)	12.01	11.74
Wilshire US Large-Cap Growth	(12.66)	4.13	(3.78)	(12.66)	(8.07)	(19.71)	(6.73)	15.21	15.32
Wilshire US Large-Cap Value	(5.26)	2.56	(1.79)	(5.26)	(1.31)	(6.50)	0.52	8.64	7.96
Wilshire US Small Cap	(8.57)	1.13	0.67	(8.57)	(6.78)	(14.76)	(15.18)	6.60	6.50
Wilshire US Small-Cap Growth	(10.64)	(0.02)	1.01	(10.64)	(10.47)	(19.99)	(22.78)	5.78	7.91
Wilshire US Small-Cap Value	(7.12)	2.32	1.07	(7.12)	(2.25)	(9.22)	(6.32)	6.77	4.79
<b>Non-US Equity</b>	<b>MTD</b>	<b>MAR</b>	<b>FEB</b>	<b>QTD</b>	<b>Q1 2022</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>
MSCI ACWI-ex-USA (Net)	(6.28)	0.16	(1.98)	(6.28)	(5.44)	(11.38)	(11.26)	4.34	4.94
MSCI EAFE (Net)	(6.47)	0.64	(1.77)	(6.47)	(5.91)	(12.00)	(9.07)	4.54	4.77
MSCI EM (Net)	(5.56)	(2.26)	(2.99)	(5.56)	(6.97)	(12.15)	(19.34)	2.13	4.32
MSCI ACWI-ex-US Small cap (Net)	(6.46)	1.02	(1.30)	(6.46)	(6.52)	(12.55)	(11.21)	7.07	5.83
<b>Global Equity</b>	<b>MTD</b>	<b>MAR</b>	<b>FEB</b>	<b>QTD</b>	<b>Q1 2022</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>
MSCI ACWI (Net)	(8.00)	2.17	(2.58)	(8.00)	(5.36)	(12.94)	(6.27)	9.45	9.46
MSCI ACWI Minimum Volatility (Net)	(4.30)	3.61	(1.56)	(4.30)	(3.02)	(7.19)	0.89	6.08	7.36
<b>Fixed Income</b>	<b>MTD</b>	<b>MAR</b>	<b>FEB</b>	<b>QTD</b>	<b>Q1 2022</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>
Bloomberg U.S. Aggregate	(3.79)	(2.78)	(1.12)	(3.79)	(5.93)	(9.50)	(8.42)	0.43	1.20
Bloomberg Long Term Treasury	(8.89)	(5.34)	(1.46)	(8.89)	(10.58)	(18.53)	(12.01)	0.87	1.67
Bloomberg U.S. TIPS	(2.04)	(1.86)	0.85	(2.04)	(3.02)	(5.00)	0.67	5.42	3.88
Bloomberg U.S. Corporate High Yield	(3.56)	(1.15)	(1.03)	(3.56)	(4.84)	(8.22)	(5.19)	2.85	3.69
Credit Suisse Leveraged Loan	0.17	0.04	(0.50)	0.17	(0.10)	0.07	2.87	3.62	4.00
ICE BofA US Convertible Index	(7.10)	1.20	0.03	(7.10)	(5.41)	(12.12)	(11.98)	14.12	12.48
JPM EMBI Global Diversified	(5.59)	(0.90)	(6.55)	(5.59)	(10.02)	(15.05)	(14.36)	(1.92)	0.23
<b>Real Assets</b>	<b>MTD</b>	<b>MAR</b>	<b>FEB</b>	<b>QTD</b>	<b>Q1 2022</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>
Wilshire Global Real Estate Securities	(4.72)	5.51	(2.22)	(4.72)	(2.98)	(7.56)	9.16	7.38	7.29
FTSE Global Core Infrastructure 50/50	(3.64)	7.51	(0.36)	(3.64)	3.90	0.12	7.73	7.63	8.21
Alerian Midstream Energy	(2.15)	7.02	5.52	(2.15)	23.95	21.29	29.46	9.25	6.04
Bloomberg Commodity	4.14	8.65	6.23	4.14	25.55	30.75	43.84	17.89	10.22
Gold	(2.09)	1.49	6.22	(2.09)	5.92	3.70	7.04	14.01	8.38
Bitcoin	(15.75)	9.87	8.37	(15.75)	(1.22)	(16.78)	(27.23)	95.89	96.84

Source: Bloomberg, All returns are in USD

# Factor/Relative Returns

Returns through Friday April 29, 2022

<b>Asset Class Differentials</b>	<b>MTD</b>	<b>MAR</b>	<b>FEB</b>	<b>QTD</b>	<b>Q1 2022</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>
Stocks (ACWI) > Bonds (BB US Aggregate)	(4.21)	4.95	(1.47)	(4.21)	0.57	(3.43)	2.16	9.02	8.26
Stocks (ACWI) > Mkt Alts (Equity Hedged)	(6.57)	1.32	(1.02)	(6.57)	(2.98)	(9.15)	(6.19)	4.72	6.01
Mkt Alts (Relative Value) > Bonds (BB US Aggregate)	2.33	1.69	(0.01)	2.33	2.82	4.98	3.40	0.38	(0.09)
<b>Equity &amp; Real Assets Differentials</b>	<b>MTD</b>	<b>MAR</b>	<b>FEB</b>	<b>QTD</b>	<b>Q1 2022</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>
US Small > Large	0.56	(2.21)	3.90	0.56	(1.28)	(0.64)	(11.61)	(5.86)	(5.53)
US Value > Growth	7.39	(1.39)	2.16	7.39	7.27	13.71	9.13	(4.38)	(5.19)
ACWI-ex-US > US	2.76	(3.19)	0.46	2.76	(0.49)	2.16	(8.24)	(9.14)	(8.30)
EM > EAFE	0.91	(2.90)	(1.22)	0.91	(1.06)	(0.15)	(10.27)	(2.41)	(0.45)
ACWI-ex-US Currency Impact	(3.96)	(0.86)	0.11	(3.96)	(1.54)	(5.24)	(8.84)	(1.61)	(1.14)
EAFE Currency Impact	(5.08)	(1.49)	0.41	(5.08)	(2.18)	(6.93)	(11.97)	(1.98)	(1.19)
EM Currency Impact	(2.04)	(0.20)	(0.61)	(2.04)	(0.87)	(2.74)	(4.06)	(1.91)	(1.93)
Global Low Volatility > ACWI	3.70	1.45	1.02	3.70	2.34	5.74	7.15	(3.37)	(2.10)
Global RE > ACWI	3.29	3.35	0.37	3.29	2.38	5.37	15.43	(2.06)	(2.17)
Commodities > Global RE	8.86	3.13	8.45	8.86	28.53	38.31	34.68	10.51	2.93
Commodities > TIPS	6.18	10.51	5.38	6.18	28.57	35.75	43.17	12.47	6.34
Gold > Commodities	(6.23)	(7.16)	(0.01)	(6.23)	(19.63)	(27.04)	(36.80)	(3.88)	(1.84)
<b>Fixed Income Differentials</b>	<b>MTD</b>	<b>MAR</b>	<b>FEB</b>	<b>QTD</b>	<b>Q1 2022</b>	<b>YTD</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>
Duration (US Core > US Core 1-3 Years)	(3.24)	(1.42)	(0.67)	(3.24)	(3.43)	(6.46)	(4.90)	(0.25)	0.14
IG Credit > Treasury	(2.37)	0.59	(1.34)	(2.37)	(2.11)	(4.23)	(3.05)	0.50	0.99
High Yield > IG Credit	1.92	1.37	0.98	1.92	2.85	4.51	5.13	1.86	1.73
High Yield > Loans	(3.76)	(1.19)	(0.51)	(3.76)	(4.73)	(8.32)	(8.13)	(0.89)	(0.28)
TIPS > Treasury	2.14	2.19	1.18	2.14	3.59	5.51	9.49	5.00	2.91
EMD > Dev Hdg	(2.45)	(0.70)	(3.18)	(2.45)	(5.18)	(7.30)	(7.30)	(1.15)	(0.99)
EMD > High Yield	(0.77)	(1.19)	(3.51)	(0.77)	(4.39)	(4.93)	(7.36)	(3.74)	(2.94)
Non-US > US Core	(3.03)	(0.43)	0.01	(3.03)	(0.21)	(3.05)	(7.49)	(2.64)	(1.63)
Non-US Hdg > US Core	1.91	1.14	(0.24)	1.91	1.88	3.65	3.17	(0.18)	0.54
FI Currency Impact	(4.95)	(1.57)	0.25	(4.95)	(2.10)	(6.70)	(10.65)	(2.46)	(2.18)

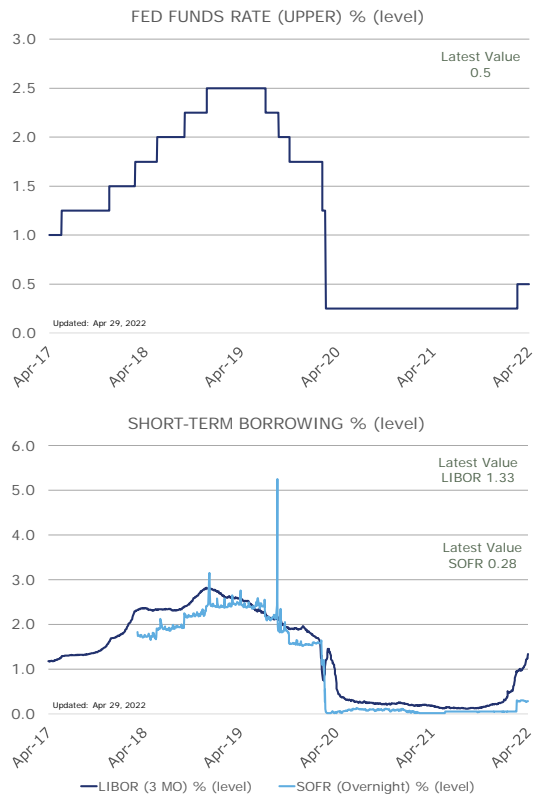
Source: Bloomberg, All returns are in USD

# Market Yields & Breakeven Inflation

Market Yields	Previous 3 Month-ends				Previous 2 Quarter-ends		EOY Prior	1 Yr Ago	3 Yrs Ago	5 Yrs Ago
	04/29/22	03/31/22	02/28/22	01/31/22	03/31/22	12/31/21	12/31/21	04/29/21	04/29/19	04/28/17
<b>Govt/Treasury Yields</b>										
Fed Funds Target Rate (Upper)	0.50	0.50	0.25	0.25	0.50	0.25	0.25	0.25	2.50	1.00
2-Year Treasury	2.72	2.34	1.43	1.18	2.34	0.73	0.73	0.16	2.29	1.26
5-Year Treasury	2.96	2.46	1.72	1.61	2.46	1.26	1.26	0.86	2.31	1.82
10-Year Treasury	2.94	2.34	1.83	1.78	2.34	1.51	1.51	1.64	2.53	2.28
30-Year Treasury	3.00	2.45	2.16	2.11	2.45	1.90	1.90	2.30	2.96	2.95
10-Year Real Treasury	(0.00)	(0.49)	(0.80)	(0.71)	(0.49)	(1.10)	(1.10)	(0.79)	0.57	0.36
<b>Term Spreads</b>										
5 - 2 Year Treasury Spread	0.23	0.12	0.28	0.43	0.12	0.53	0.53	0.70	0.02	0.55
10 - 5 Year Treasury Spread	(0.02)	(0.13)	0.11	0.17	(0.13)	0.25	0.25	0.77	0.21	0.46
10 - 2 Year Treasury Spread	0.21	(0.00)	0.39	0.60	(0.00)	0.77	0.77	1.47	0.23	1.01
30 - 10Year Treasury Spread	0.06	0.10	0.33	0.33	0.10	0.39	0.39	0.66	0.43	0.67
30 - 2Year Treasury Spread	0.28	0.11	0.72	0.93	0.11	1.17	1.17	2.13	0.66	1.68
<b>Market Yields</b>										
Bloomberg U.S. Treasury YTW	2.88	2.42	1.76	1.58	2.42	1.23	1.23	0.96	2.44	1.85
Bloomberg U.S. Aggregate YTW	3.48	2.92	2.33	2.11	2.92	1.75	1.75	1.53	2.99	2.53
Bloomberg U.S. Long Treasury YTW	3.10	2.55	2.23	2.14	2.55	1.89	1.89	2.24	2.91	2.87
Bloomberg U.S. Long Govt/Credit YTW	4.04	3.39	3.09	2.92	3.39	2.58	2.58	2.92	3.76	3.79
<b>Credit Spreads</b>										
Bloomberg Investment Grade OAS	1.35	1.16	1.22	1.06	1.16	0.92	0.92	0.88	1.10	1.16
Bloomberg High Yield OAS	3.79	3.25	3.59	3.42	3.25	2.83	2.83	2.93	3.56	3.71
<b>Breakeven Inflation Rates</b>										
1-Year Breakeven Inflation	5.12	5.63	5.16	3.51	5.63	3.43	3.43	2.73	1.76	1.24
2-Year Breakeven Inflation	4.36	4.41	4.04	3.26	4.41	3.22	3.22	2.77	1.77	1.59
5-Year Breakeven Inflation	3.35	3.43	3.15	2.89	3.43	2.91	2.91	2.59	1.86	1.82
10-Year Breakeven Inflation	2.94	2.83	2.62	2.49	2.83	2.59	2.59	2.43	1.96	1.92
5-Year 5-Year Forward Breakeven Inflation	2.49	2.38	2.22	2.18	2.38	2.27	2.27	2.30	2.09	2.10

Source: Bloomberg

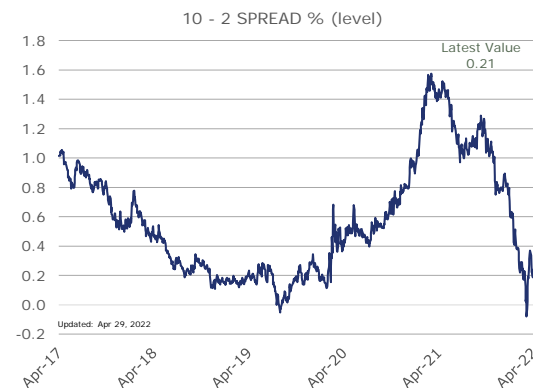
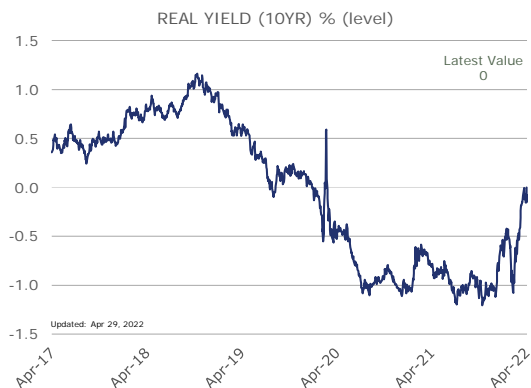
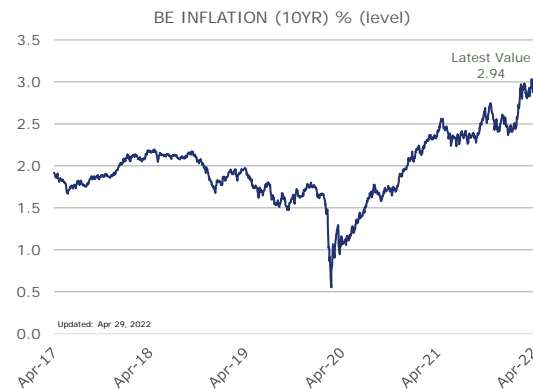
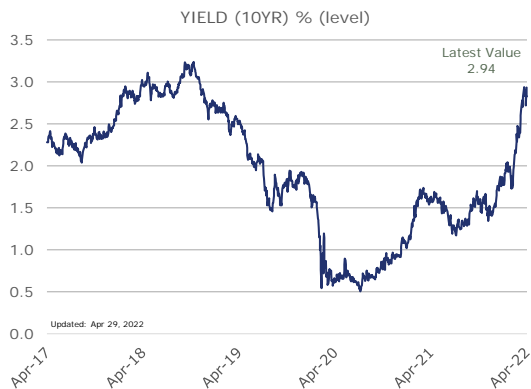
# Short Rates



Data Source: Bloomberg

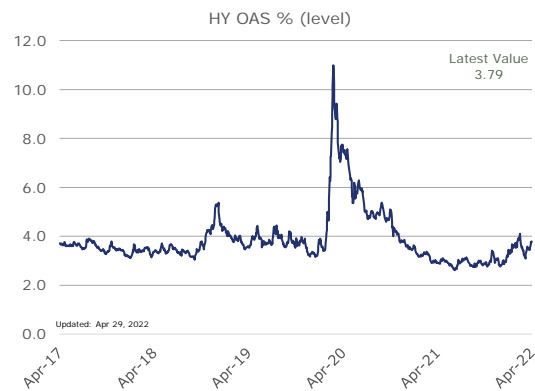
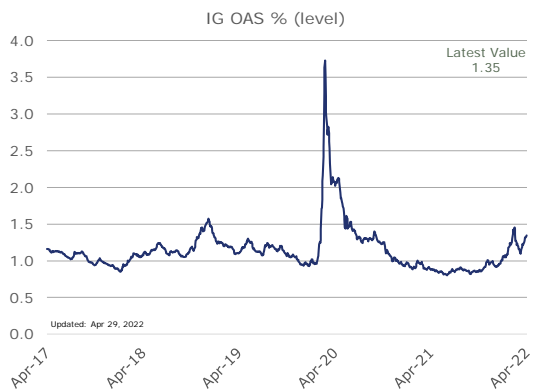
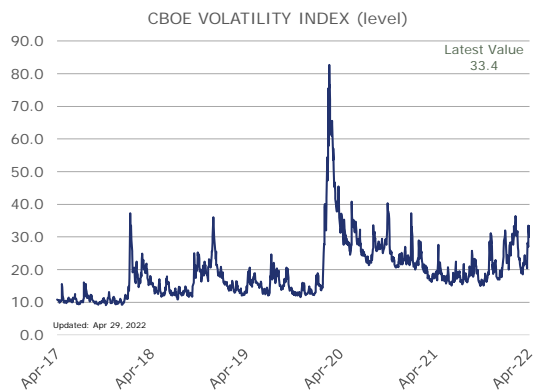
LIBOR: London Inter-bank Offered Rate  
SOFR: Federal Reserve Bank NY Secured Overnight Financing Rate

# Treasury Rates

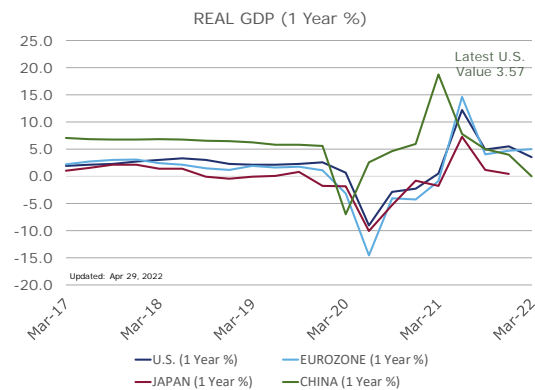
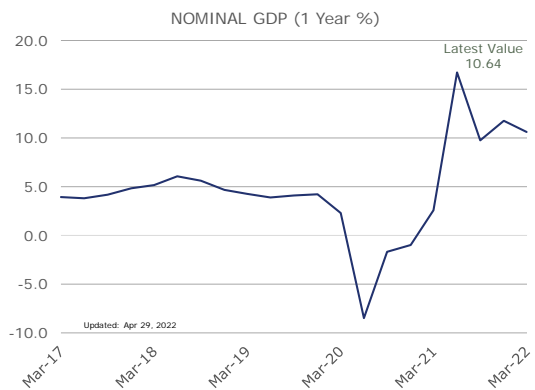
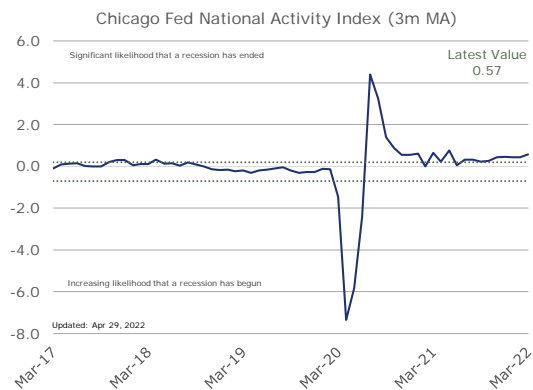




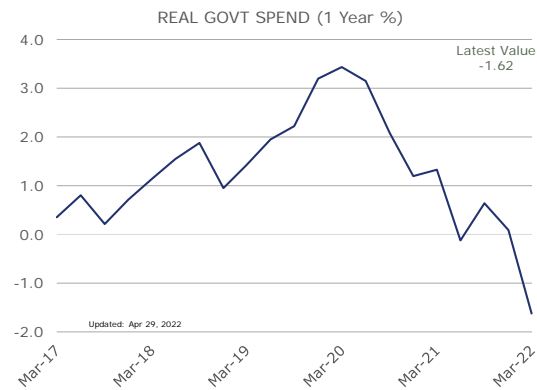
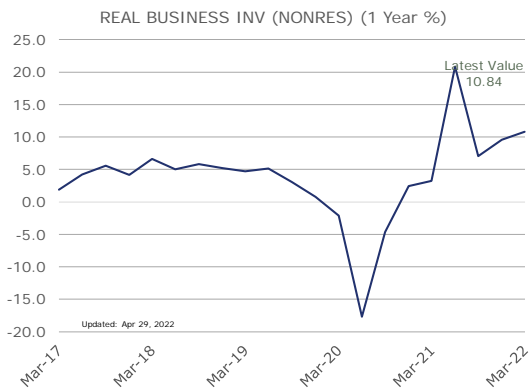
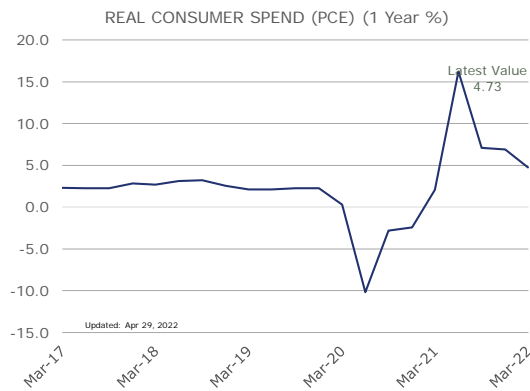
# Volatility & Credit Risk



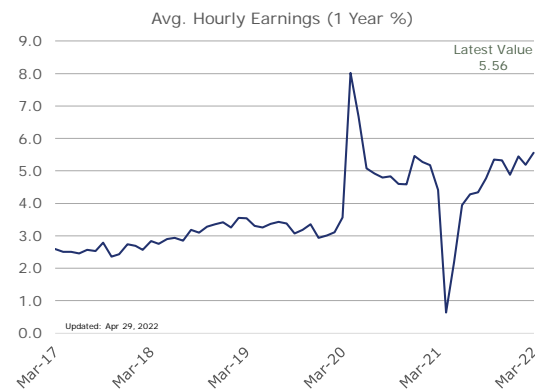
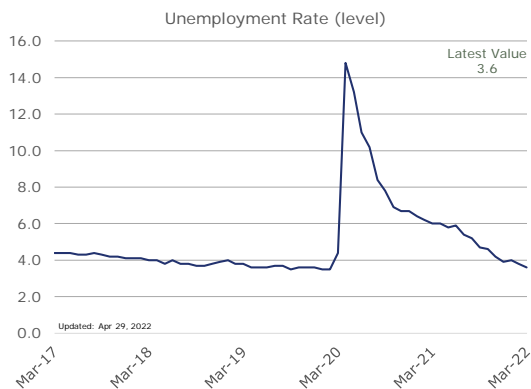
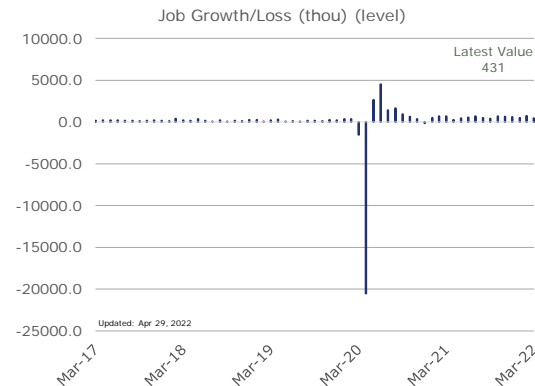
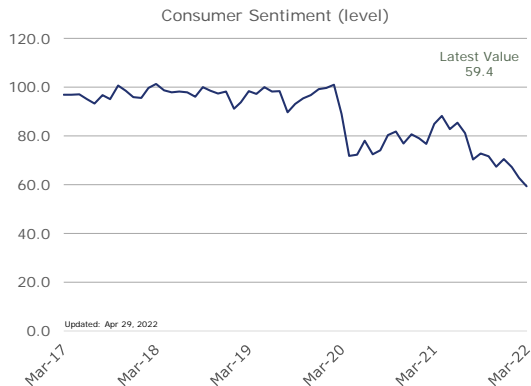
# Economic Growth



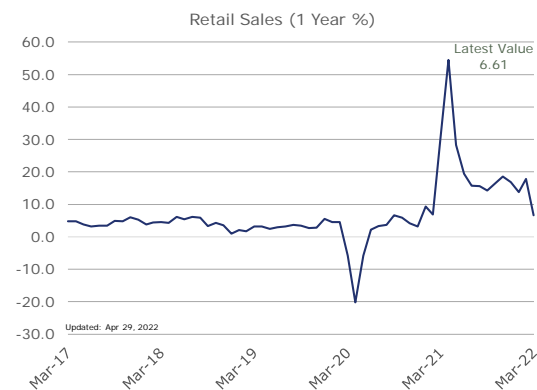
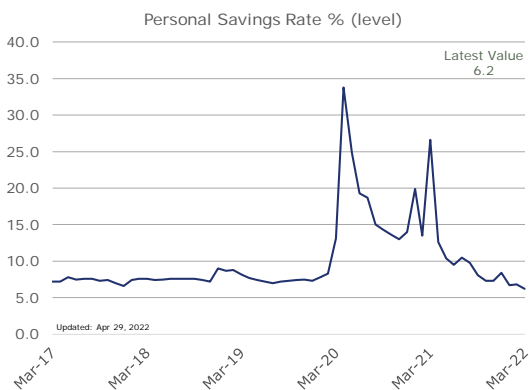
# Economic Growth



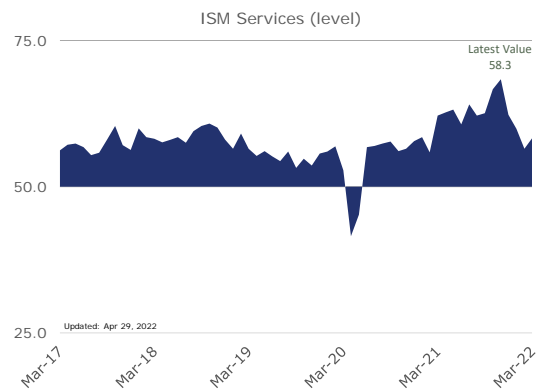
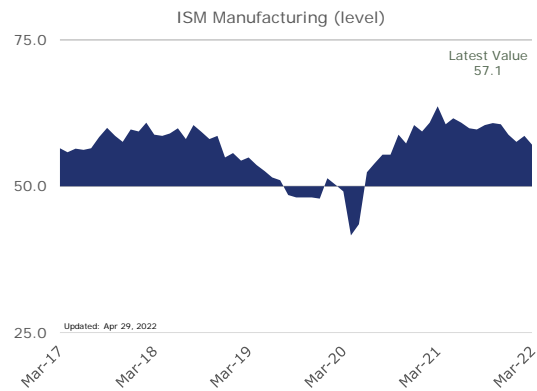
# Consumers & Employment



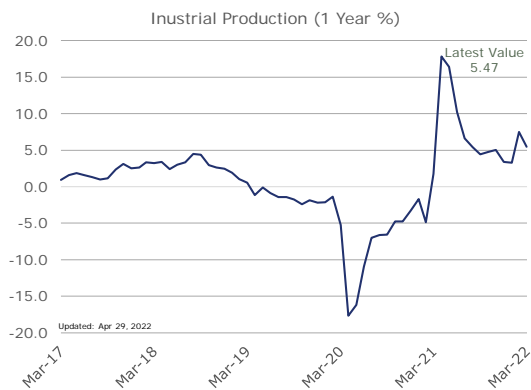
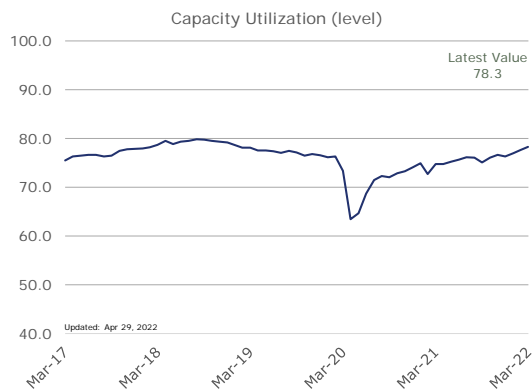
# Income & Spending



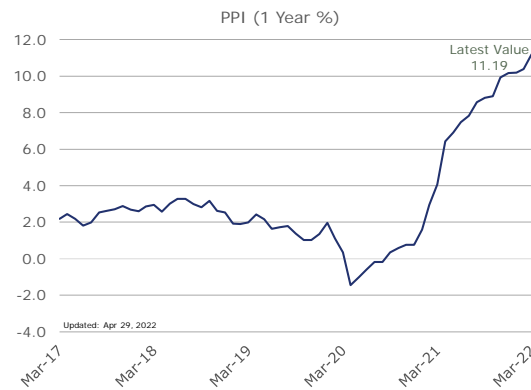
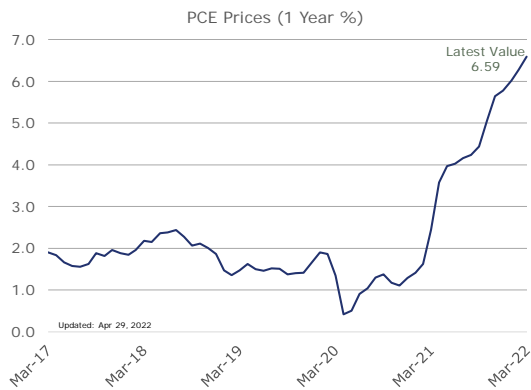
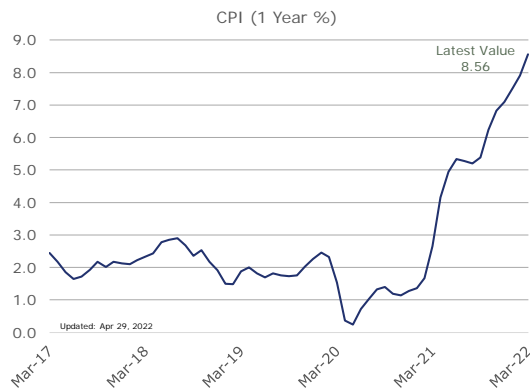
# ISM Surveys



# Manufacturing Activity

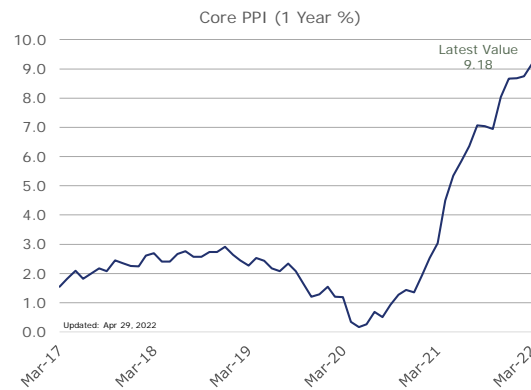
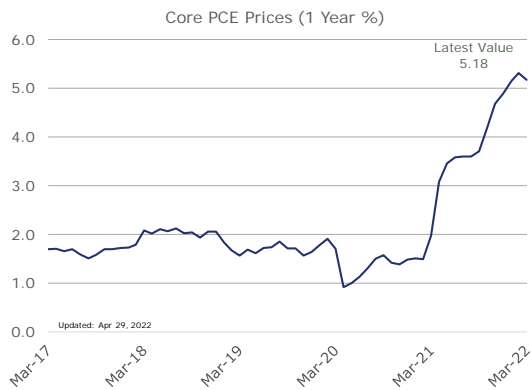
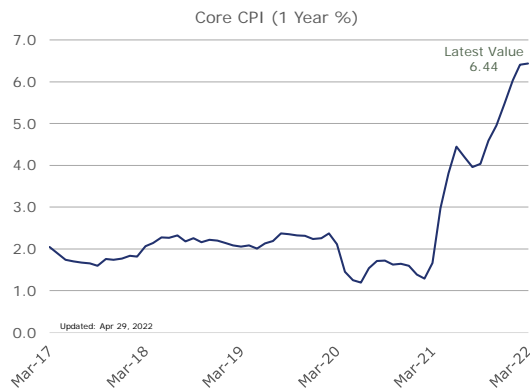


Price Indexes

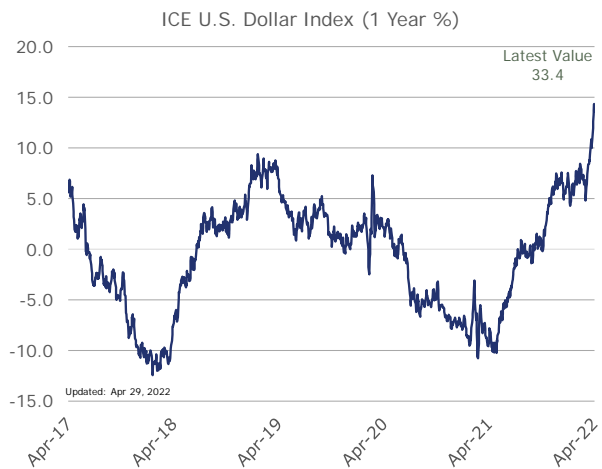




# Core Price Indexes



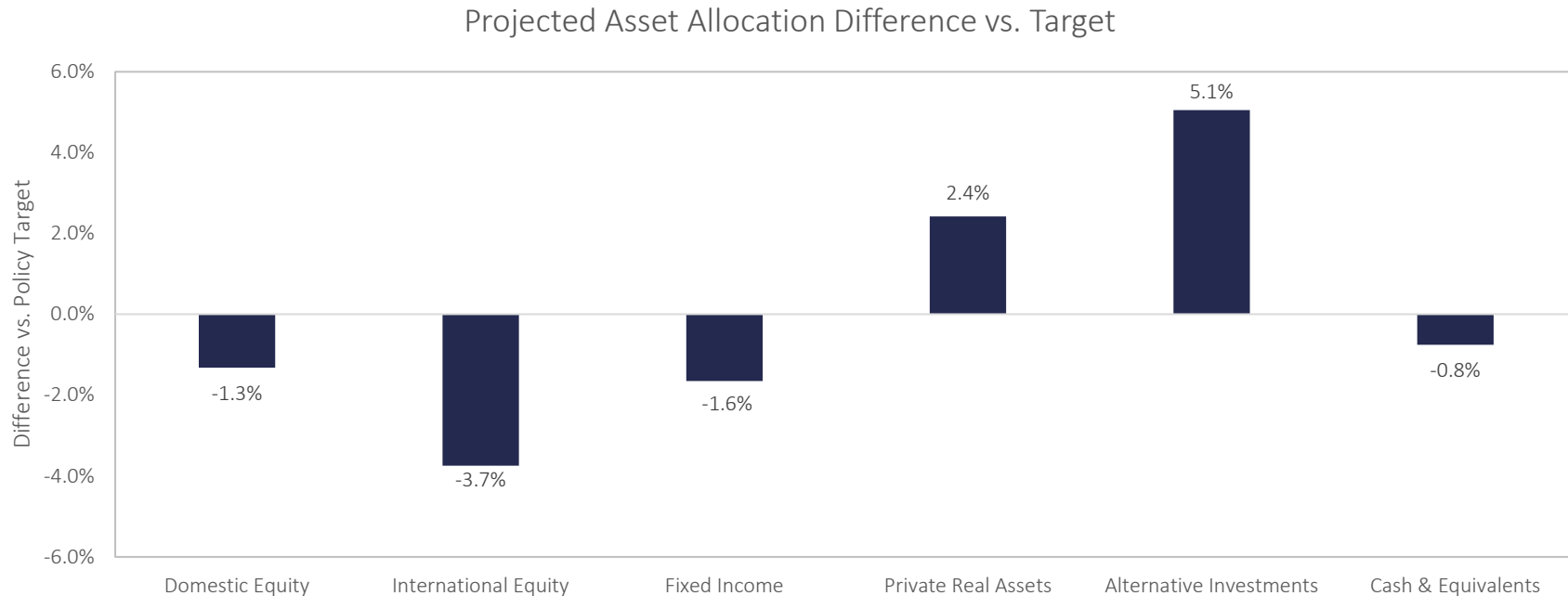
# U.S. Dollar



# IMRF Performance

# Projected Deviations from the Benchmark

As of April 30, 2022



- Includes committed, but unfunded amounts for Real Assets (\$1.89 billion) and Alternatives (\$2.48 billion). Assumes Real Assets and Alternatives allocations are fully funded as of month-end.
- Assumes that outstanding commitments are funded from a basket of public markets asset classes (Domestic Equity, International Equity and/or Fixed Income) that best reflects the expectations of risk, yield and regional allocations of the asset class.

Alternatives Proxy: 60% Domestic Equity, 40% International Equity

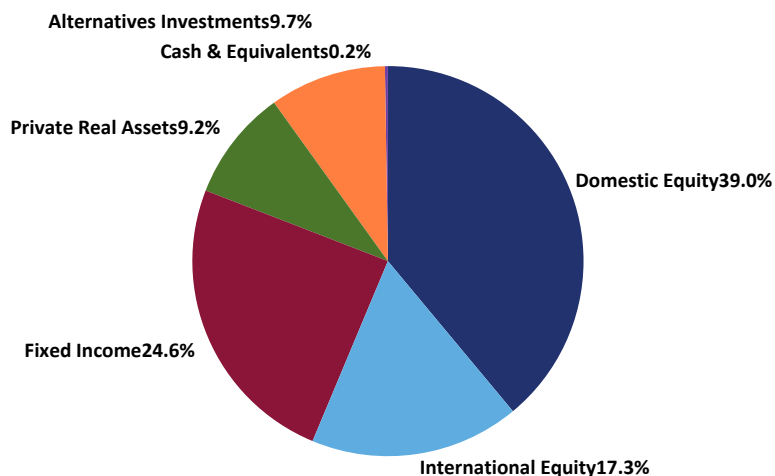
Real Assets Proxy: 50% Domestic Equity, 30% International Equity, 20% Fixed Income

# Asset Allocation

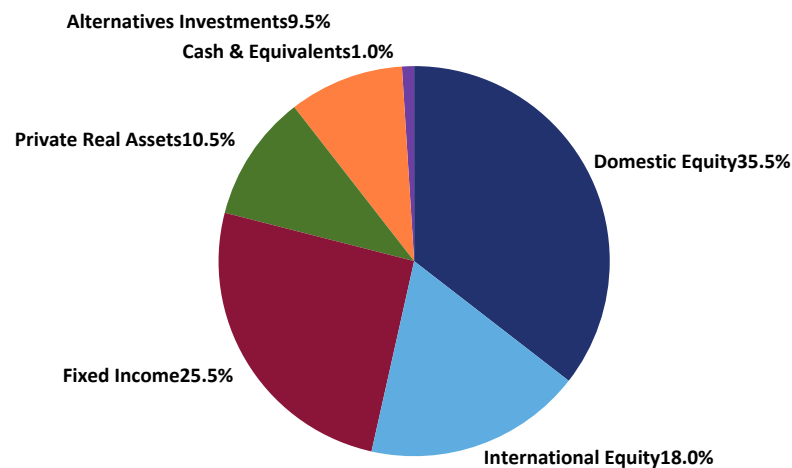
Total Fund

Periods Ended As of April 30, 2022

Actual Allocation



Target Allocation



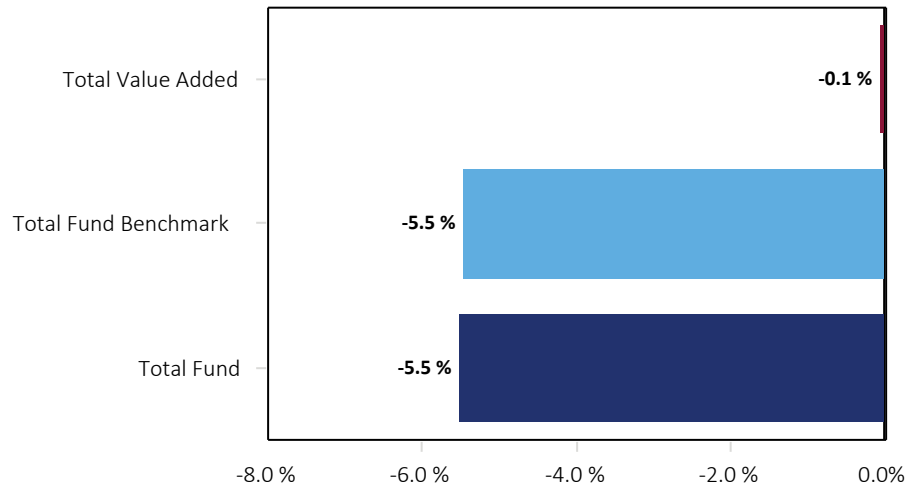
	Actual Allocation \$Millions	Actual Allocation %	Target Allocation %	Differences %	Differences \$Millions
Total Fund	50,768	100.0	100.0	0.0	
Domestic Equity	19,786	39.0	35.5	3.5	1,764
International Equity	8,796	17.3	18.0	-0.7	-342
Fixed Income	12,486	24.6	25.5	-0.9	-460
Private Real Assets	4,672	9.2	10.5	-1.3	-659
Alternatives Investments	4,904	9.7	9.5	0.2	81
Cash & Equivalents	124	0.2	1.0	-0.8	-383

# Total Fund Attribution

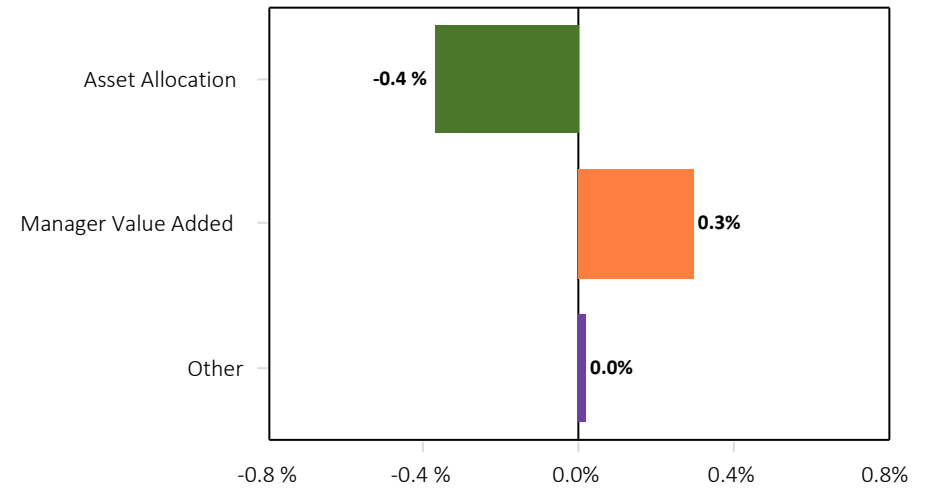
Total Fund

1 Month Ending April 30, 2022

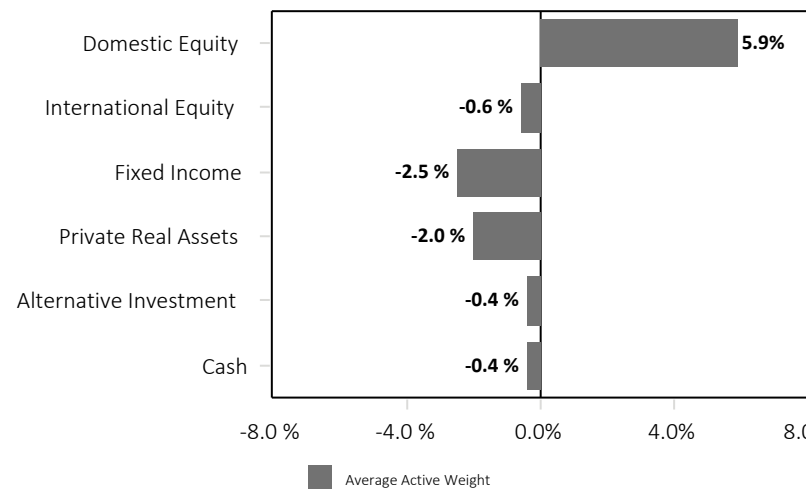
## Total Fund Performance



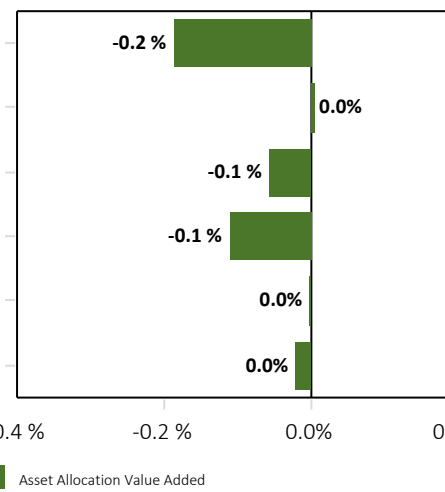
## Total Value Added:-0.1 %



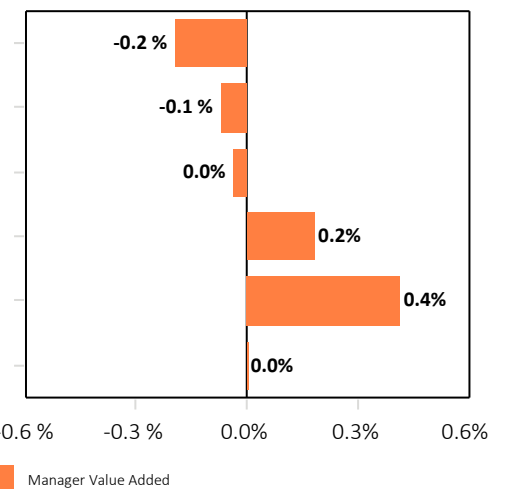
## Asset Class Under or Overweighting



## Asset Allocation Value Added:-0.4 %



## Total Manager Value Added:0.3%



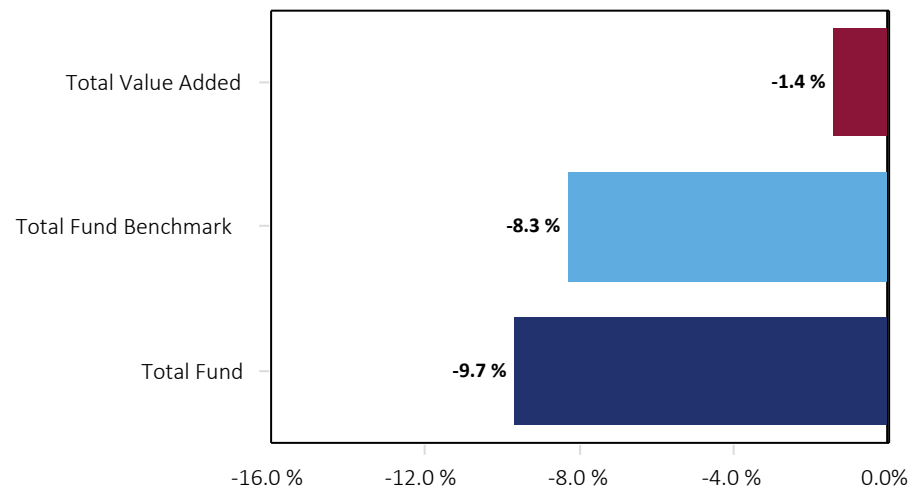
Total Fund Benchmark = 35.5% Domestic Equity Custom Benchmark, 25.5% Fixed Income Custom Benchmark, 18.0% MSCI AC World ex USA (Net), 10.5% Private Real Assets Custom Benchmark, 9.5% Alternatives Custom Benchmark, 1% 90 Day US Treasury Bill.

# Total Fund Attribution

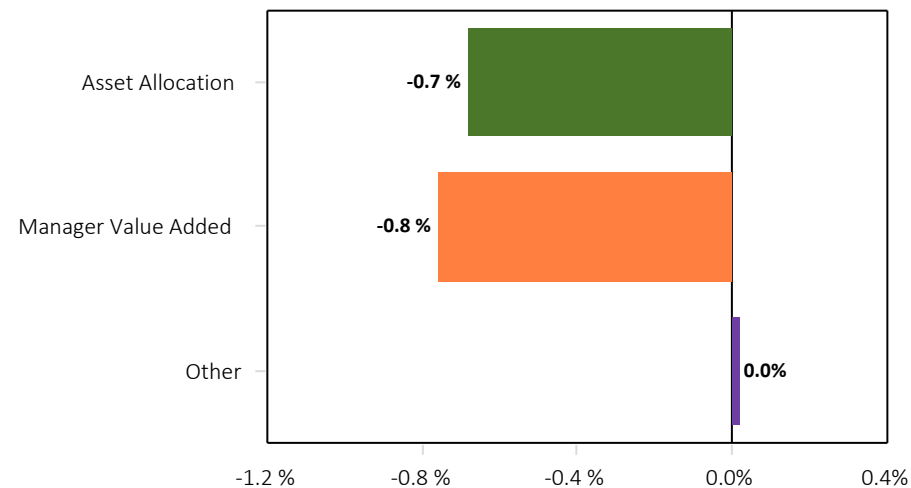
Total Fund

Year To Date Ending April 30, 2022

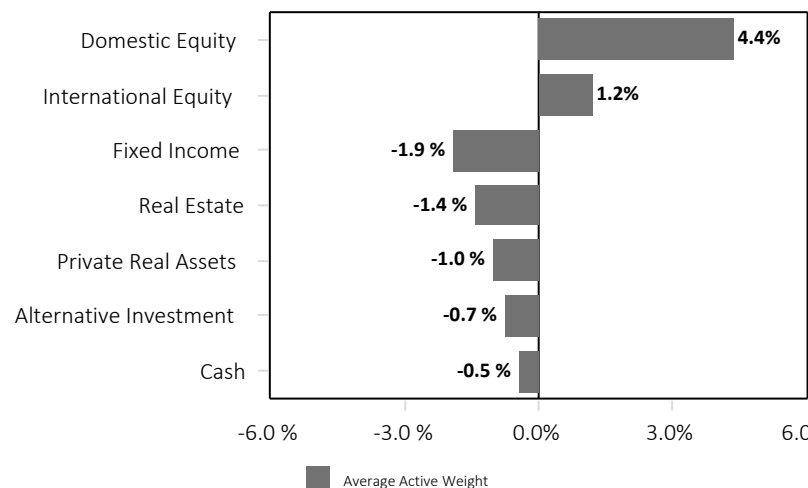
## Total Fund Performance



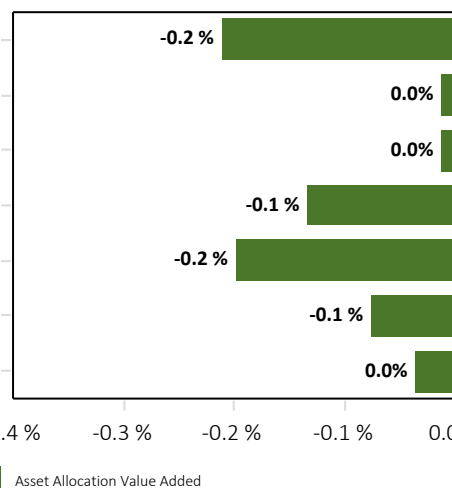
## Total Value Added: -1.4 %



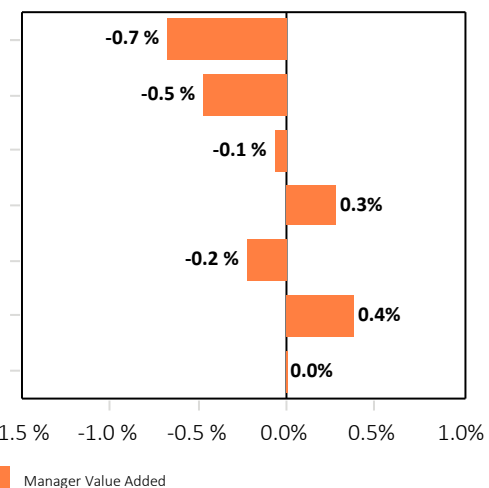
## Asset Class Under or Overweighting



## Asset Allocation Value Added: -0.7 %



## Total Manager Value Added: -0.8 %



Total Fund Benchmark = 35.5% Domestic Equity Custom Benchmark, 25.5% Fixed Income Custom Benchmark, 18.0% MSCI AC World ex USA (Net), 10.5% Private Real Assets Custom Benchmark, 9.5% Alternatives Custom Benchmark, 1% 90 Day US Treasury Bill.

# Asset Class Returns

*Periods Ended April 30, 2022*

	Performance (%)									
	1 Month	YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date
<b>Total Fund</b>	<b>-5.51</b>	<b>-9.66</b>	<b>-1.82</b>	<b>9.27</b>	<b>8.89</b>	<b>8.90</b>	<b>7.88</b>	<b>8.49</b>	<b>9.82</b>	<b>1/1/1982</b>
Total Fund - Net	-5.52	-9.71	-1.98	9.09	8.70	8.68				
Total Fund Benchmark	-5.46	-8.29	-1.18	8.22	8.06	8.21	7.40			
<b>Domestic Equity</b>	<b>-9.07</b>	<b>-14.68</b>	<b>-5.44</b>	<b>12.21</b>	<b>12.27</b>	<b>12.82</b>	<b>9.26</b>	<b>10.42</b>	<b>11.68</b>	<b>1/1/1982</b>
Domestic Equity - Net	-9.07	-14.73	-5.59	12.02	12.06	12.58				
Custom Benchmark (U.S. Equity)	-8.60	-13.18	-2.44	13.37	13.17	13.34	9.35	10.17		
U.S. Equity IMRF Custom Benchmark	-8.83	-13.60	-2.81	12.04	11.65					
<b>International Equity</b>	<b>-6.68</b>	<b>-13.85</b>	<b>-12.18</b>	<b>5.18</b>	<b>5.67</b>	<b>6.46</b>	<b>6.90</b>	<b>7.28</b>	<b>7.55</b>	<b>9/1/1986</b>
International Equity - Net	-6.69	-13.93	-12.51	4.82	5.31	6.10				
MSCI AC World ex USA (Net)	-6.28	-11.38	-10.31	4.30	4.94	5.04	6.04			
International Equity IMRF Custom Benchmark	-6.21	-11.56	-10.96	4.28	4.88					
<b>Fixed Income</b>	<b>-3.41</b>	<b>-8.73</b>	<b>-7.48</b>	<b>1.13</b>	<b>1.90</b>	<b>2.67</b>	<b>4.59</b>	<b>5.61</b>	<b>7.65</b>	<b>1/1/1982</b>
Fixed Income - Net	-3.41	-8.75	-7.57	1.03	1.78	2.53				
Custom Benchmark (Fixed Income)	-3.24	-8.46	-7.46	0.76	1.43	1.85	3.76	5.00	7.13	
Fixed Income IMRF Custom Benchmark	-3.58	-8.94	-7.79	0.72	1.53					
<b>Private Real Assets</b>	<b>2.23</b>								<b>3.82</b>	<b>3/1/2022</b>
Private Real Assets - Net	2.23								3.82	
Custom Benchmark (Private Real Assets)	0.04								6.91	
<b>Real Estate</b>	<b>2.46</b>	<b>8.71</b>	<b>25.78</b>	<b>14.23</b>	<b>12.08</b>	<b>11.54</b>	<b>8.29</b>	<b>6.60</b>	<b>6.12</b>	<b>5/1/1985</b>
Real Estate - Net	2.46	8.69	25.72	14.18	12.04	11.51				
Blended Benchmark (Real Estate)	0.00	7.14	27.26	10.21	8.80	9.95	7.92	7.78	7.96	
<b>Agriculture</b>	<b>-0.13</b>	<b>1.29</b>	<b>5.99</b>	<b>1.61</b>	<b>-0.14</b>	<b>7.43</b>	<b>7.25</b>		<b>6.65</b>	<b>10/1/1997</b>
NCREIF Farmland Index	0.00	2.63	9.73	5.89	6.17	9.56	12.49		11.23	
<b>Timberland</b>	<b>0.00</b>	<b>-3.34</b>	<b>1.90</b>	<b>-0.15</b>	<b>0.34</b>	<b>1.69</b>	<b>3.15</b>		<b>6.68</b>	<b>10/1/1992</b>
NCREIF Timberland Index	0.00	3.21	11.82	4.75	4.08	5.60	6.57		8.38	

Benchmark definitions on next page.



# Asset Class Returns

*Periods Ended April 30, 2022*

	Performance (%)									
	1 Month	YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date
<b>Unlisted Infrastructure</b>	<b>0.00</b>	<b>6.26</b>	<b>13.10</b>	<b>14.20</b>					<b>12.73</b>	<b>4/1/2018</b>
Blended Benchmark (Unlisted Infrastructure)	0.89	4.05	10.21	9.40					9.29	
<b>Alternatives Investments</b>	<b>-0.23</b>	<b>5.30</b>	<b>39.37</b>	<b>22.89</b>	<b>19.39</b>	<b>13.68</b>	<b>10.22</b>	<b>13.15</b>	<b>11.81</b>	<b>2/1/1986</b>
Alternatives Investments - Net	-0.23	5.30	39.35	22.86	19.30	13.46				
Custom Benchmark (Alternative Investments)	-4.80	0.75	6.71	8.23	8.54	8.77	10.24	11.81	12.35	
<b>Private Equity</b>	<b>-0.26</b>	<b>5.82</b>	<b>44.89</b>	<b>26.60</b>	<b>23.05</b>	<b>16.43</b>	<b>12.43</b>	<b>15.91</b>	<b>14.14</b>	<b>2/1/1986</b>
Blended Benchmark (Private Equity)	-5.06	0.68	6.63	8.21	8.52	8.76	10.24			
<b>Cash</b>	<b>0.26</b>	<b>1.20</b>	<b>3.11</b>	<b>2.88</b>	<b>2.71</b>	<b>1.51</b>	<b>1.40</b>	<b>3.02</b>	<b>3.75</b>	<b>7/1/1986</b>
90 Day US Treasury Bill	0.01	0.05	0.08	0.75	1.12	0.62	1.22	2.37	3.10	

Benchmark definitions on next page.

Private Equity and Blended Benchmark (Private Equity) returns are 1 quarter lagged.

## Benchmark Definitions

Account Name	From Date	To Date	Benchmark
Domestic Equity Custom	3/1/2022	Present	93% Russell 3000 Index, 7% FTSE Global Core Infrastructure 50/50 Index (Net)
Benchmark	1/1/2015	2/28/2022	100% Russell 3000 Index
	1/1/1982	12/31/2014	100% Dow Jones US Total Stock Market Index
Real Estate Blended	1/1/2013	Present	100% NCREIF Fund Index-ODCE (VW) (Net)**
Benchmark	1/1/2007	12/31/2012	100% NPI + 1%
	1/1/2005	12/31/2016	100% Consumer Price Index + 5%
Alternatives Custom	3/1/2022	Present	95% MSCI World World Index (Net) 1 Qtr Lagged +3%, 5% S&P LSTA Leveraged Loan 100 Index +2%
Benchmark	7/1/2010	2/28/2022	100% Annualized rate of 9.0%
	1/1/2004	6/30/2010	100% Annualized rate of 12.0%
	1/1/2003	12/31/2003	100% Annualized rate of 13.0%
	2/1/1986	12/31/2002	100% Annualized rate of 15.0%
U.S. Equity IMRF Custom Benchmark			Blend of the U.S. Equity Style benchmarks returns, dollar weighted by the actual allocation at pervious month end.
International Equity IMRF Custom Benchmark			Blend of the the International Equity Style benchmarks returns, dollar weighted by the actual allocation at previous month end.
Fixed Income IMRF Custom Benchmark			Blend of the the Fixed Income Style benchmarks returns, dollar weighted by the actual allocation at previous month end.

\*\*ODCE returns are updated quarterly.

# Benchmark Definitions

Account Name	From Date	To Date	Benchmark
Fixed Income Custom Benchmark	3/1/2022	Present	78% Bloomberg U.S. Aggregate, 14% Custom Barings Global Loan Benchmark, 8% ICE BofAML U.S. High Yield Cash Pay Index
	1/1/1976	2/28/2022	100% Bloomberg U.S. Aggregate
Private Real Assets Custom Benchmark	3/1/2022	Present	95% NCREIF Fund Index-ODCE (VW) (Net)**, 5% Consumer Price Index +4%
Unlisted Infrastructure Blended Benchmark	3/1/2022	Present	100% Consumer Price Index +4%
	4/1/2018	2/28/2022	100% Alternatives Custom Benchmark
Private Equity Blended Benchmark	3/1/2022	Present	100% MSCI World World Index (Net) 1 Qtr Lagged +3%
	2/1/1996	2/28/2022	100% Alternatives Custom Benchmark

\*\*ODCE returns are updated quarterly.

# Benchmark Definitions

Account Name	From Date	To Date	Benchmark
Total Fund Benchmark			The total fund benchmark is a blend of the asset class benchmark returns weighted by the target allocation for each asset class:
	3/1/2022	Present	35.5% Domestic Equity Custom Benchmark, 25.5% Fixed Income Custom Benchmark, 18% MSCI AC World ex USA (Net), 10.5% Private Real Assets Custom Benchmark, 9.5% Alternatives Custom Benchmark, 1% 90 Day US Treasury Bill.
	1/1/2021	2/28/2022	39% Russell 3000 Index, 25% Blmbg. Barc. U.S. Aggregate, 15% MSCI AC World ex USA (Net), 10% NCREIF Fund Index-ODCE (VW) (Net), 10% Alternatives Custom Benchmark, 1% 90 Day US Treasury Bill.
	3/1/2018	12/31/2020	37% Russell 3000 Index, 28% Blmbg. Barc. U.S. Aggregate, 18% MSCI AC World ex USA (Net), 9% NCREIF Fund Index-ODCE (VW) (Net), 7% Alternatives Custom Benchmark, 1% 90 Day US Treasury Bill.

# Investment Manager Asset Allocation

*Periods Ended April 30, 2022*

	Mar-2022		Apr-2022	
	\$	%	\$	%
<b>Domestic Equity</b>	<b>22,397,947,137</b>	<b>41.41</b>	<b>19,786,275,466</b>	<b>38.97</b>
<b>Large Cap Growth</b>	<b>7,534,804,251</b>	<b>13.93</b>	<b>5,002,107,312</b>	<b>9.85</b>
NTGI S&P 500 Growth	3,453,552,109	6.39	1,560,905,009	3.07
Sands Capital	1,843,848,163	3.41	1,473,909,230	2.90
Xponance Russell 1000 G	2,237,403,980	4.14	1,967,293,073	3.88
<b>Large Cap Value</b>	<b>5,019,576,663</b>	<b>9.28</b>	<b>4,713,348,140</b>	<b>9.28</b>
Dodge & Cox	1,906,842,354	3.53	1,759,163,068	3.47
LSV Asset	1,519,183,210	2.81	1,441,292,803	2.84
NTGI S&P 500 Value	1,593,551,100	2.95	1,512,892,269	2.98
<b>Large Cap Pass. Core</b>	<b>3,079,794,923</b>	<b>5.69</b>	<b>2,802,215,040</b>	<b>5.52</b>
NTGI MarketCap Idx.	3,079,794,923	5.69	2,802,215,040	5.52
<b>Factor Diversity Strategies</b>	<b>1,583,425,819</b>	<b>2.93</b>	<b>1,454,318,659</b>	<b>2.86</b>
U.S. Large Cap FDP-GSAM	1,583,425,819	2.93	1,454,318,659	2.86
<b>Quantitative Factor Strategies</b>	<b>1,815,612,829</b>	<b>3.36</b>	<b>2,186,734,191</b>	<b>4.31</b>
Quantitative US Equity - SciBeta	1,815,612,829	3.36	2,186,734,191	4.31
<b>Small Cap Growth</b>	<b>789,461,182</b>	<b>1.46</b>	<b>705,024,528</b>	<b>1.39</b>
Frontier Capital	789,461,182	1.46	705,024,528	1.39
<b>Small Cap Value</b>	<b>1,508,746,381</b>	<b>2.79</b>	<b>1,419,858,200</b>	<b>2.80</b>
Channing	338,698,999	0.63	311,377,810	0.61
DFA Small Cap Val.	546,646,562	1.01	516,641,893	1.02
William Blair Small Cap Value	623,400,820	1.15	591,838,497	1.17
Domestic Equity Transition		0.00	478,577,401	0.94

# Investment Manager Asset Allocation

*Periods Ended April 30, 2022*

	Mar-2022		Apr-2022	
	\$	%	\$	%
<b>Public Real Assets</b>	<b>1,066,525,086</b>	<b>1.97</b>	<b>1,024,091,995</b>	<b>2.02</b>
Brookfield	208,310,698	0.39	202,182,397	0.40
Cohen & Steers	858,214,388	1.59	821,909,598	1.62
<b>International Equity</b>	<b>9,426,493,695</b>	<b>17.43</b>	<b>8,795,902,921</b>	<b>17.33</b>
<b>Intl Large Cap Growth</b>	<b>1,613,458,917</b>	<b>2.98</b>	<b>1,474,356,145</b>	<b>2.90</b>
EARNEST Part. Intl	634,339,683	1.17	590,474,158	1.16
William Blair	979,119,234	1.81	883,881,987	1.74
<b>Intl Large Cap Value</b>	<b>1,366,997,412</b>	<b>2.53</b>	<b>1,300,869,061</b>	<b>2.56</b>
Brandes Investment	596,775,229	1.10	571,290,972	1.13
Mondrian	631,847,525	1.17	600,422,523	1.18
Lazard	138,374,658	0.26	129,155,565	0.25
<b>Intl Large Cap Core</b>	<b>4,493,473,193</b>	<b>8.31</b>	<b>4,208,103,610</b>	<b>8.29</b>
Arrowstreet Capital	1,064,663,946	1.97	1,006,978,031	1.98
Brown Capital	560,794,246	1.04	506,369,948	1.00
GlobeFlex Capital	876,851,825	1.62	831,434,331	1.64
Xponance Intl EQ	98,508,960	0.18	91,442,775	0.18
Progress Intl Equity	659,544	0.00	623,652	0.00
Transition Account	119,717	0.00	119,717	0.00
NTGI ACWI ex US Index Fund	1,891,874,955	3.50	1,771,135,156	3.49
<b>Intl All Cap Developed</b>	<b>165,796,869</b>	<b>0.31</b>	<b>155,387,946</b>	<b>0.31</b>
Ativo International	165,796,869	0.31	155,387,946	0.31

# Investment Manager Asset Allocation

*Periods Ended April 30, 2022*

	Mar-2022		Apr-2022	
	\$	%	\$	%
<b>International Small Cap</b>	<b>600,108,570</b>	<b>1.11</b>	<b>544,102,860</b>	<b>1.07</b>
Franklin Templeton	226,459,614	0.42	211,315,651	0.42
William Blair IntSC	373,648,956	0.69	332,787,208	0.66
<b>Emerging Mkt Equity</b>	<b>1,186,658,735</b>	<b>2.19</b>	<b>1,113,083,299</b>	<b>2.19</b>
Genesis Asset Mngrs.	1,186,658,735	2.19	1,113,083,299	2.19

# Investment Manager Asset Allocation

*Periods Ended April 30, 2022*

	Mar-2022		Apr-2022	
	\$	%	\$	%
<b>Fixed Income</b>	<b>12,427,070,915</b>	<b>22.98</b>	<b>12,485,719,383</b>	<b>24.59</b>
Global Bonds Transition	210,263	0.00	14	0.00
<b>Domestic Fixed Core</b>	<b>4,064,715,748</b>	<b>7.52</b>	<b>3,924,936,046</b>	<b>7.73</b>
Attucks Fixed Income	93,716,240	0.17	90,176,019	0.18
Brandes FI Core	354,946,090	0.66	344,041,300	0.68
EARNEST Partners	965,774,469	1.79	933,741,482	1.84
Garcia Hamilton	1,035,544,810	1.91	999,506,302	1.97
Ramirez Asset Management	563,847,708	1.04	543,964,257	1.07
Xponance Yield Advantage Agg.	1,050,886,430	1.94	1,013,506,685	2.00
<b>Domestic Fixed Passive Core</b>	<b>3,439,948,286</b>	<b>6.36</b>	<b>3,310,030,879</b>	<b>6.52</b>
NTGI Blmbg Agg.	1,709,083,276	3.16	1,644,592,892	3.24
BlackRock US Debt I	1,730,865,010	3.20	1,665,437,987	3.28
<b>Domestic Fixed Core Plus</b>	<b>3,184,087,542</b>	<b>5.89</b>	<b>3,057,227,345</b>	<b>6.02</b>
LM Capital Group FI	908,230,733	1.68	877,602,580	1.73
Progress Inv. FI	1,159	0.00	1,088	0.00
Loop Capital Management	619,953,817	1.15	593,707,785	1.17
Western Asset	1,039,857,546	1.92	992,198,517	1.95
Longfellow Core Plus	616,044,287	1.14	593,717,375	1.17
<b>Bank Loans</b>	<b>726,116,001</b>	<b>1.34</b>	<b>1,214,187,879</b>	<b>2.39</b>
Barings Global Loan Fund	726,116,001	1.34	1,214,187,879	2.39
<b>Emerging Markets Debt</b>	<b>199,893,049</b>	<b>0.37</b>	<b>190,169,582</b>	<b>0.37</b>
Standish-Mellon EMD	199,893,049	0.37	190,169,582	0.37



# Investment Manager Asset Allocation

*Periods Ended April 30, 2022*

	Mar-2022		Apr-2022	
	\$	%	\$	%
<b>High Yield</b>	<b>812,100,026</b>	<b>1.50</b>	<b>789,167,640</b>	<b>1.55</b>
MacKay Shields	812,100,023	1.50	789,167,640	1.55
FIAM High Yield	3	0.00		0.00

# Investment Manager Asset Allocation

Periods Ended April 30, 2022

	Mar-2022		Apr-2022	
	\$	%	\$	%
<b>Private Real Assets</b>	<b>4,597,883,654</b>	<b>8.50</b>	<b>4,671,923,727</b>	<b>9.20</b>
<b>Real Estate</b>	<b>4,182,789,262</b>	<b>7.73</b>	<b>4,255,139,515</b>	<b>8.38</b>
<b>Real Estate Core Cmp</b>	<b>2,241,122,737</b>	<b>4.14</b>	<b>2,302,025,344</b>	<b>4.53</b>
TA Assoc. Buckhead	894,660,982	1.65	894,660,982	1.76
Barings Euro Core Property	145,674,226	0.27	138,119,826	0.27
Blackstone Property Euro	160,735,892	0.30	160,170,918	0.32
INVESCO Core Real Estate	237,766,430	0.44	251,394,301	0.50
INVESCO European real estate	58,016,963	0.11	57,513,478	0.11
AEW Core Property Tr	272,951,247	0.50	293,211,147	0.58
CBRE Core Partners	282,528,121	0.52	313,630,690	0.62
JPM Strategic Property Fund	188,788,876	0.35	193,324,002	0.38
<b>RE Non-Core Cmp</b>	<b>1,941,666,525</b>	<b>3.59</b>	<b>1,953,114,171</b>	<b>3.85</b>
Artemis MWBE Spruce	355,210,635	0.66	299,337,774	0.59
Franklin T. EMREFF	4,639,964	0.01	4,639,964	0.01
Security Capital	61,777,751	0.11	56,327,892	0.11
Dune II	9,412,963	0.02	9,412,963	0.02
Non-Core Real Estate Funds	1,265,156,738	2.34	1,334,104,714	2.63
Non-Core Intl Real Estate	245,382,878	0.45	249,205,268	0.49
Almanac ARS V	85,596	0.00	85,596	0.00
<b>Agriculture</b>	<b>231,475,704</b>	<b>0.43</b>	<b>231,165,524</b>	<b>0.46</b>
Premiere Partners IV	231,475,704	0.43	231,165,524	0.46
<b>Timberland</b>	<b>63,091,285</b>	<b>0.12</b>	<b>63,091,285</b>	<b>0.12</b>
Forest Investment	63,091,285	0.12	63,091,285	0.12
<b>Unlisted Infrastructure</b>	<b>120,527,403</b>	<b>0.22</b>	<b>122,527,403</b>	<b>0.24</b>
Unlisted Infrastructure Funds	120,527,403	0.22	122,527,403	0.24

# Investment Manager Asset Allocation

*Periods Ended April 30, 2022*

	Mar-2022		Apr-2022	
	\$	%	\$	%
<b>Alternatives Investments</b>	<b>4,914,673,500</b>	<b>9.09</b>	<b>4,903,531,283</b>	<b>9.66</b>
<b>Absolute Return</b>	<b>78,878</b>	<b>0.00</b>	<b>81,996</b>	<b>0.00</b>
Aurora Investment	78,878	0.00	81,996	0.00
<b>Private Equity</b>	<b>4,731,189,165</b>	<b>8.75</b>	<b>4,747,941,822</b>	<b>9.35</b>
<b>Abbott S/A Comp.</b>	<b>536,150,189</b>	<b>0.99</b>	<b>536,336,823</b>	<b>1.06</b>
Muller Monroe MPEFF	517,859	0.00	517,859	0.00
<b>Pantheon S/A Comp.</b>	<b>419,526,411</b>	<b>0.78</b>	<b>424,906,710</b>	<b>0.84</b>
Private Equity Fund - Domestic	3,068,429,292	5.67	3,100,553,880	6.11
Private Equity Fund - International	551,353,095	1.02	524,842,554	1.03
Oakbrook Opportunities Fund	155,212,320	0.29	160,783,995	0.32
<b>Private Credit</b>	<b>183,405,457</b>	<b>0.34</b>	<b>155,507,465</b>	<b>0.31</b>
Private Credit Fund - Domestic	183,405,457	0.34	155,507,465	0.31
<b>Cash &amp; Equivalents</b>	<b>320,935,546</b>	<b>0.59</b>	<b>124,211,973</b>	<b>0.24</b>
<b>Total Fund</b>	<b>54,085,004,446</b>	<b>100.00</b>	<b>50,767,564,752</b>	<b>100.00</b>

# Performance

*Periods Ended April 30, 2022*

	Market Value \$	Performance (%)							
		1 Month	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Total Fund</b>	<b>50,767,564,752</b>	<b>-5.51</b>	<b>-9.66</b>	<b>-1.82</b>	<b>9.27</b>	<b>8.89</b>	<b>8.90</b>	<b>9.82</b>	<b>1/1/1982</b>
Total Fund - Net		-5.52	-9.71	-1.98	9.09	8.70	8.68		
Total Fund Benchmark		-5.46	-8.29	-1.18	8.22	8.06	8.21		
<b>Domestic Equity</b>	<b>19,786,275,466</b>	<b>-9.07</b>	<b>-14.68</b>	<b>-5.44</b>	<b>12.21</b>	<b>12.27</b>	<b>12.82</b>	<b>11.68</b>	<b>1/1/1982</b>
Domestic Equity - Net		-9.07	-14.73	-5.59	12.02	12.06	12.58		
Custom Benchmark (U.S. Equity)		-8.60	-13.18	-2.44	13.37	13.17	13.34		
Russell 3000 Index		-8.97	-13.78	-3.11	13.11	13.01	13.29	11.63	
U.S. Equity IMRF Custom Benchmark		-8.83	-13.60	-2.81	12.04	11.65			
<b>Large Cap Equity</b>	<b>13,971,989,151</b>	<b>-10.15</b>	<b>-16.63</b>	<b>-6.59</b>	<b>12.36</b>	<b>12.80</b>	<b>13.20</b>	<b>11.38</b>	<b>1/1/1982</b>
Large Cap Equity - Net		-10.15	-16.65	-6.66	12.27	12.70	13.07		
Russell 1000 Index		-8.91	-13.59	-2.10	13.57	13.44	13.53	11.79	
<b>Large Cap Growth</b>	<b>5,002,107,312</b>	<b>-14.49</b>	<b>-24.87</b>	<b>-14.28</b>	<b>13.85</b>	<b>16.38</b>	<b>14.46</b>	<b>12.17</b>	<b>1/1/1982</b>
Large Cap Growth - Net		-14.49	-24.89	-14.35	13.76	16.27	14.31		
LCG Blended Benchmark		-12.08	-20.03	-5.35	16.68	17.28	15.56		
Russell 1000 Growth Index		-12.08	-20.03	-5.35	16.68	17.28	15.56	11.59	
<b>NTGI S&amp;P 500 Growth</b>	<b>1,560,905,009</b>	<b>-12.44</b>	<b>-19.94</b>	<b>-3.20</b>	<b>15.62</b>	<b>16.29</b>	<b>15.26</b>	<b>9.08</b>	<b>8/1/2001</b>
NTGI S&P 500 Growth - Net		-12.44	-19.95	-3.20	15.62	16.28	15.25		
S&P 500 Growth		-12.48	-20.00	-3.23	15.64	16.31	15.26	9.06	
<b>Xponance Russell 1000 G</b>	<b>1,967,293,073</b>	<b>-12.07</b>	<b>-20.02</b>	<b>-5.35</b>	<b>16.67</b>			<b>14.43</b>	<b>10/1/2018</b>
Xponance Russell 1000 G - Net		-12.07	-20.02	-5.36	16.65			14.41	
Russell 1000 Growth Index		-12.08	-20.03	-5.35	16.68			14.44	
<b>Sands Capital</b>	<b>1,473,909,230</b>	<b>-20.06</b>	<b>-37.34</b>	<b>-36.92</b>	<b>5.62</b>	<b>13.12</b>	<b>12.68</b>	<b>11.53</b>	<b>11/1/2003</b>
Sands Capital - Net		-20.06	-37.38	-37.08	5.40	12.88	12.43		
LCG Blended Benchmark		-12.08	-20.03	-5.35	16.68	17.28	15.56	11.07	
Russell 1000 Growth Index		-12.08	-20.03	-5.35	16.68	17.28	15.56	11.11	

Benchmark definitions in glossary.

# Performance

*Periods Ended April 30, 2022*

	Market Value \$	Performance (%)							
		1 Month	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Large Cap Value</b>	<b>4,713,348,140</b>	<b>-5.91</b>	<b>-5.88</b>	<b>1.32</b>	<b>10.78</b>	<b>10.14</b>	<b>12.33</b>	<b>10.39</b>	<b>10/1/1982</b>
Large Cap Value - Net		-5.91	-5.92	1.19	10.62	9.97	12.15		
LCV Blended Benchmark		-5.64	-6.34	1.32	9.58	9.06	11.17		
Russell 1000 Value Index		-5.64	-6.34	1.32	9.58	9.06	11.17	11.71	
<b>Dodge &amp; Cox</b>	<b>1,759,163,068</b>	<b>-7.52</b>	<b>-6.58</b>	<b>1.00</b>	<b>12.68</b>	<b>11.51</b>	<b>13.68</b>	<b>10.14</b>	<b>9/1/2003</b>
Dodge & Cox - Net		-7.52	-6.63	0.79	12.45	11.28	13.44		
LCV Blended Benchmark		-5.64	-6.34	1.32	9.58	9.06	11.17	8.60	
Russell 1000 Value Index		-5.64	-6.34	1.32	9.58	9.06	11.17	8.74	
<b>LSV Asset</b>	<b>1,441,292,803</b>	<b>-4.93</b>	<b>-5.84</b>	<b>-0.21</b>	<b>9.46</b>	<b>9.14</b>	<b>12.23</b>	<b>10.78</b>	<b>2/1/2003</b>
LSV Asset - Net		-4.93	-5.89	-0.39	9.20	8.90	11.97		
LCV Blended Benchmark		-5.64	-6.34	1.32	9.58	9.06	11.17	9.39	
Russell 1000 Value Index		-5.64	-6.34	1.32	9.58	9.06	11.17	9.40	
<b>NTGI S&amp;P 500 Value</b>	<b>1,512,892,269</b>	<b>-4.90</b>	<b>-5.10</b>	<b>3.23</b>	<b>10.79</b>	<b>10.11</b>	<b>11.57</b>	<b>6.54</b>	<b>8/1/1999</b>
NTGI S&P 500 Value - Net		-4.90	-5.11	3.22	10.78	10.10	11.56		
S&P 500 Value		-4.86	-5.02	3.25	10.74	10.05	11.49	6.51	
<b>Large Cap Pass. Core</b>	<b>2,802,215,040</b>	<b>-9.01</b>	<b>-13.92</b>	<b>-3.32</b>	<b>13.00</b>	<b>12.96</b>	<b>13.27</b>	<b>11.34</b>	<b>1/1/1985</b>
Large Cap Pass. Core - Net		-9.01	-13.92	-3.33	12.99	12.95	13.27		
Dow Jones US Total Stock Market Index		-9.02	-13.93	-3.36	12.98	12.92	13.20		
<b>NTGI MarketCap Idx.</b>	<b>2,802,215,040</b>	<b>-9.01</b>	<b>-13.92</b>	<b>-3.32</b>	<b>13.00</b>	<b>12.96</b>	<b>13.27</b>	<b>11.13</b>	<b>2/1/1985</b>
NTGI MarketCap Idx. - Net		-9.01	-13.92	-3.33	12.99	12.95	13.27		
Dow Jones US Total Stock Market Index		-9.02	-13.93	-3.36	12.98	12.92	13.20		
<b>Factor Diversity Strategies</b>	<b>1,454,318,659</b>	<b>-8.15</b>	<b>-13.69</b>	<b>-2.55</b>				<b>12.79</b>	<b>8/18/2020</b>

# Performance

*Periods Ended April 30, 2022*

	Market Value \$	Performance (%)							Inception Date
		1 Month	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>U.S. Large Cap FDP-GSAM</b>	1,454,318,659	-8.15	-13.69	-2.55				12.79	8/18/2020
U.S. Large Cap FDP-GSAM - Net		-8.16	-13.71	-2.60				12.72	
Solactive GBS U.S. 1000 Index		-9.04	-13.96	-2.51				12.69	
GSAM Active Beta US. Large Cap FDC Index		-8.17	-13.70	-2.52				12.73	
<b>Quantitative Factor Strategies</b>	2,186,734,191	-5.78	-9.74	1.35				10.60	9/17/2019
<b>Quantitative US Equity - SciBeta</b>	2,186,734,191	-5.78	-9.74	1.35				10.60	9/17/2019
Quantitative US Equity - SciBeta - Net		-5.79	-9.76	1.29				10.38	
SciBeta US Hi-Fctr-Intst Div Multi-Beta Multi-Strat Index		-6.10	-10.11	0.24				9.68	
<b>Small Cap</b>	2,124,882,728	-7.54	-11.18	-7.61	11.18	10.10	11.49	12.10	7/1/1988
Small Cap Composite - Net		-7.54	-11.49	-8.29	10.47	9.46	10.87		
Russell 2000 Index		-9.91	-16.69	-16.87	6.73	7.24	10.06	9.25	
<b>Small Cap Growth</b>	705,024,528	-10.70	-18.04	-16.82	12.37	12.69	12.63	12.98	7/1/1988
Small Cap Growth - Net		-10.70	-18.73	-17.88	11.30	11.84	11.91		
Russell 2000 Growth Index		-12.27	-23.35	-26.44	4.14	7.08	9.95	7.85	
<b>Frontier Capital</b>	705,024,528	-10.70	-18.04	-17.68	13.43	15.93	13.45	13.34	8/1/1988
Frontier Capital - Net		-10.70	-18.73	-18.68	12.28	14.94	12.64		
Russell 2000 Growth Index		-12.27	-23.35	-26.44	4.14	7.08	9.95	7.93	
<b>Small Cap Value</b>	1,419,858,200	-5.89	-7.32	-2.49	10.85	8.65	11.30	11.74	9/1/1989
Small Cap Value - Net		-5.89	-7.42	-2.91	10.32	8.12	10.76		
Russell 2000 Value Index		-7.76	-9.97	-6.59	8.38	6.75	9.81	9.93	
<b>Channing</b>	311,377,810	-8.07	-9.18	-8.39	10.17	7.83	11.69	10.56	7/1/2011
Channing - Net		-8.07	-9.30	-8.82	9.68	7.33	11.11	9.98	
Russell 2000 Value Index		-7.76	-9.97	-6.59	8.38	6.75	9.81	9.04	

Benchmark definitions in glossary.

# Performance

Periods Ended April 30, 2022

	Market Value \$	Performance (%)							
		1 Month	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>DFA Small Cap Val.</b>	<b>516,641,893</b>	<b>-5.49</b>	<b>-4.53</b>	<b>3.51</b>	<b>12.73</b>	<b>8.87</b>	<b>11.70</b>	<b>12.10</b>	<b>2/1/1996</b>
DFA Small Cap Val. - Net		-5.49	-4.62	3.06	12.21	8.34	11.16		
Russell 2000 Value Index		-7.76	-9.97	-6.59	8.38	6.75	9.81	9.45	
<b>William Blair Small Cap Value</b>	<b>591,838,497</b>	<b>-5.06</b>	<b>-8.67</b>	<b>-4.70</b>	<b>9.73</b>	<b>8.97</b>	<b>11.57</b>	<b>11.38</b>	<b>5/1/1999</b>
Inv. Couns. Maryland - Net		-5.06	-8.76	-5.10	9.18	8.42	11.05		
Russell 2000 Value Index		-7.76	-9.97	-6.59	8.38	6.75	9.81	9.03	
<b>Public Real Assets</b>	<b>1,024,091,995</b>	<b>-3.98</b>	<b>-0.02</b>	<b>8.92</b>	<b>8.00</b>			<b>7.78</b>	<b>8/1/2017</b>
Public Real Assets - Net		-3.98	-0.10	8.54	7.57			7.35	
Public Real Assets Benchmark		-3.34	0.47	7.67	6.49			6.09	
<b>Brookfield</b>	<b>202,182,397</b>	<b>-2.94</b>	<b>4.30</b>	<b>14.78</b>	<b>7.65</b>			<b>6.55</b>	<b>8/1/2017</b>
Brookfield - Net		-2.94	4.17	14.21	7.09			6.03	
Dow Jones Brookfield Global Infrastructure Composite Index		-2.69	1.55	9.74	6.28			5.24	
<b>Cohen &amp; Steers</b>	<b>821,909,598</b>	<b>-4.23</b>	<b>-1.03</b>	<b>7.39</b>	<b>8.53</b>			<b>8.60</b>	<b>8/1/2017</b>
Cohen & Steers - Net		-4.23	-1.10	7.06	8.13			8.21	
FTSE Global Core Infrastructure 50/50 Index (Net)		-3.66	-0.08	6.62	6.56			6.49	

# Performance

*Periods Ended April 30, 2022*

	Market Value \$	Performance (%)							Inception Date
		1 Month	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>International Equity</b>	<b>8,795,902,921</b>	<b>-6.68</b>	<b>-13.85</b>	<b>-12.18</b>	<b>5.18</b>	<b>5.67</b>	<b>6.46</b>	<b>7.55</b>	<b>9/1/1986</b>
International Equity - Net		-6.69	-13.93	-12.51	4.82	5.31	6.10		
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04		
International Equity IMRF Custom Benchmark		-6.21	-11.56	-10.96	4.28	4.88			
<b>Intl LargeCap Equity</b>	<b>6,983,328,816</b>	<b>-6.56</b>	<b>-12.21</b>	<b>-8.86</b>	<b>6.19</b>	<b>6.16</b>	<b>6.86</b>	<b>7.63</b>	<b>9/1/1986</b>
Intl LargeCap Equity - Net		-6.56	-12.27	-9.15	5.89	5.86	6.57		
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04		
<b>Intl Large Cap Grwth</b>	<b>1,474,356,145</b>	<b>-8.62</b>	<b>-16.97</b>	<b>-12.80</b>	<b>8.05</b>	<b>7.50</b>	<b>6.98</b>	<b>8.32</b>	<b>9/1/2002</b>
Intl Large Cap Grwth - Net		-8.62	-17.04	-13.11	7.75	7.22	6.66		
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04	6.89	
MSCI AC World ex USA Growth (Net)		-7.44	-17.41	-16.23	5.25	6.32	5.94	7.18	
<b>EARNEST Part. Intl</b>	<b>590,474,158</b>	<b>-6.91</b>	<b>-6.75</b>	<b>-2.05</b>	<b>7.58</b>	<b>6.91</b>	<b>6.29</b>	<b>8.87</b>	<b>10/1/2004</b>
EARNEST Part. Intl - Net		-6.91	-6.80	-2.24	7.38	6.72	6.05		
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04	5.65	
MSCI AC World ex USA Growth (Net)		-7.44	-17.41	-16.23	5.25	6.32	5.94	6.33	
<b>William Blair</b>	<b>883,881,987</b>	<b>-9.73</b>	<b>-22.64</b>	<b>-18.78</b>	<b>8.50</b>	<b>8.07</b>	<b>7.64</b>	<b>9.41</b>	<b>10/1/2002</b>
William Blair - Net		-9.73	-22.72	-19.14	8.13	7.70	7.24		
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04	7.53	
MSCI AC World ex USA Growth (Net)		-7.44	-17.41	-16.23	5.25	6.32	5.94	7.71	
<b>Intl Large Cap Val.</b>	<b>1,300,869,061</b>	<b>-4.84</b>	<b>-6.49</b>	<b>-5.49</b>	<b>3.37</b>	<b>4.16</b>	<b>5.65</b>	<b>8.13</b>	<b>10/1/1995</b>
Intl Large Cap Val. - Net		-4.84	-6.56	-5.77	3.08	3.84	5.28		
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04	5.13	
MSCI AC World ex USA Value		-5.11	-4.85	-3.59	3.50	3.89	4.55		



# Performance

Periods Ended April 30, 2022

	Market Value \$	Performance (%)							Inception Date
		1 Month	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	
<b>Brandes Investment</b>	571,290,972	-4.27	-5.85	-3.61	3.62	4.09	6.03	8.30	1/1/1996
Brandes Investment - Net		-4.27	-5.90	-3.80	3.42	3.88	5.79		
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04	5.04	
MSCI AC World ex USA Value		-5.11	-4.85	-3.59	3.50	3.89	4.55		
<b>Mondrian</b>	600,422,523	-4.97	-6.46	-6.36	3.22	4.26	5.33	5.00	4/1/2012
Mondrian - Net		-4.97	-6.46	-6.65	2.87	3.82	4.86	4.53	
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04	4.83	
MSCI AC World ex USA Value		-5.11	-4.85	-3.59	3.50	3.89	4.55	4.26	
<b>Lazard</b>	129,155,565	-6.66	-9.32	-9.36	3.93	4.98	5.79	5.70	4/1/2012
Lazard - Net		-6.66	-9.32	-9.53	3.69	4.73	5.33	5.24	
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04	4.83	
MSCI AC World ex USA Value		-5.11	-4.85	-3.59	3.50	3.89	4.55	4.26	
<b>Intl Large Cap Active Core</b>	2,436,968,454	-6.33	-12.16	-8.54	8.16	7.55	8.39	5.52	2/1/2008
Intl Large Cap Active Core - Net		-6.33	-12.24	-9.03	7.59	7.02	7.84		
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04	2.71	
<b>Arrowstreet Capital</b>	1,006,978,031	-5.42	-9.16	-6.17	13.28	10.66	10.34	6.72	3/1/2008
Arrowstreet Capital - Net		-5.42	-9.27	-6.59	12.77	10.16	9.83	6.23	
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04	2.53	
<b>Brown Capital</b>	506,369,948	-9.70	-24.16	-20.06	3.48	4.98	7.56	7.18	10/1/2004
Brown Capital - Net		-9.70	-24.22	-20.81	2.76	4.34	6.70		
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04	5.65	
<b>GlobeFlex Capital</b>	831,434,331	-5.18	-6.41	-2.39	7.54	6.35	7.39	5.33	3/1/2006
GlobeFlex Capital - Net		-5.18	-6.47	-2.70	7.13	5.95	6.96	4.89	
MSCI AC World ex USA (Net)		-6.28	-11.38	-10.31	4.30	4.94	5.04	3.82	

Benchmark definitions in glossary.

# Performance

Periods Ended April 30, 2022

	Market Value \$	Performance (%)							
		1 Month	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Xponance Intl EQ</b>	<b>91,442,775</b>	<b>-7.17</b>	<b>-16.02</b>	<b>-13.07</b>				<b>-3.75</b>	<b>2/1/2021</b>
Xponance Intl EQ - Net		-7.17	-16.16	-13.60				-4.22	
MSCI EAFE Index (Net)		-6.47	-12.00	-8.15				-0.83	
<b>Progress Intl Equity</b>	<b>623,652</b>								
<b>Intl Large Cap Passive Core</b>	<b>1,771,135,156</b>	<b>-6.38</b>	<b>-12.05</b>	<b>-8.29</b>	<b>4.55</b>	<b>5.03</b>	<b>6.11</b>	<b>3.89</b>	<b>2/1/2000</b>
Intl Large Cap Passive Core - Net		-6.38	-12.05	-8.30	4.54	5.02	6.11		
International Large Cap Passive Core Benchmark		-6.28	-11.38	-8.28	4.39	4.74	5.76	3.52	
<b>NTGI ACWI ex US Index</b>	<b>1,771,135,156</b>	<b>-6.38</b>	<b>-12.05</b>					<b>-10.08</b>	<b>10/1/2021</b>
NTGI ACWI ex US Index - Net		-6.38	-12.05					-10.08	
MSCI AC World ex USA (Net)		-6.28	-11.38					-9.77	
<b>Intl All Cap Developed</b>	<b>155,387,946</b>	<b>-6.28</b>	<b>-13.08</b>	<b>-6.27</b>	<b>4.50</b>			<b>5.89</b>	<b>2/1/2019</b>
Intl All Cap Developed - Net		-6.28	-13.19	-6.61	4.00			5.42	
MSCI EAFE + Canada (Net)		-6.57	-11.06	-6.66	5.14			6.63	
<b>Ativo International</b>	<b>155,387,946</b>	<b>-6.28</b>	<b>-13.08</b>	<b>-6.27</b>	<b>4.50</b>			<b>5.89</b>	<b>2/1/2019</b>
Ativo International - Net		-6.28	-13.19	-6.61	4.00			5.42	
MSCI EAFE + Canada (Net)		-6.57	-11.06	-6.66	5.14			6.63	
<b>Intl Small Cap Eqty</b>	<b>544,102,860</b>	<b>-9.33</b>	<b>-24.61</b>	<b>-20.64</b>	<b>5.20</b>	<b>4.99</b>	<b>7.04</b>	<b>4.78</b>	<b>12/1/2005</b>
Intl Small Cap Eqty - Net		-9.33	-24.77	-21.23	4.46	4.23	6.25		
MSCI AC World ex USA Small Cap (Net)		-6.46	-12.55	-10.53	7.01	5.83	6.66	6.18	
Custom Benchmark (Intl Small Cap)		-6.46	-12.55	-10.53	7.01	5.83	6.66	5.56	
<b>Franklin Templeton</b>	<b>211,315,651</b>	<b>-6.69</b>	<b>-17.80</b>	<b>-15.97</b>	<b>3.04</b>	<b>4.18</b>	<b>6.57</b>	<b>5.48</b>	<b>8/1/2011</b>
Franklin Templeton - Net		-6.69	-17.96	-16.55	2.31	3.43	5.82	4.73	
MSCI AC World ex USA Small Cap (Net)		-6.46	-12.55	-10.53	7.01	5.83	6.66	5.25	

Benchmark definitions in glossary.

# Performance

*Periods Ended April 30, 2022*

	Market Value \$	Performance (%)							
		1 Month	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>William Blair IntSC</b>	<b>332,787,208</b>	<b>-10.94</b>	<b>-28.37</b>	<b>-23.35</b>	<b>6.61</b>	<b>5.53</b>	<b>7.37</b>	<b>8.32</b>	<b>9/1/2010</b>
William Blair IntSC - Net		-10.94	-28.54	-23.94	5.88	4.77	6.54	7.51	
MSCI AC World ex USA Small Cap (Net)		-6.46	-12.55	-10.53	7.01	5.83	6.66	6.96	
Custom Benchmark (Intl Small Cap)		-6.46	-12.55	-10.53	7.01	5.83	6.66	7.21	
<b>Emerging Mkt Equity</b>	<b>1,113,083,299</b>	<b>-6.16</b>	<b>-17.85</b>	<b>-26.00</b>	<b>-0.20</b>	<b>3.80</b>	<b>3.35</b>	<b>8.17</b>	<b>2/1/1992</b>
Emerging Mkt Equity - Net		-6.20	-18.00	-26.41	-0.75	3.21	2.75		
MSCI Emerging Markets Index		-5.55	-12.09	-18.06	2.60	4.69	3.26	6.69	
<b>Genesis Asset Mngrs.</b>	<b>1,113,083,299</b>	<b>-6.16</b>	<b>-17.85</b>	<b>-26.00</b>	<b>-0.20</b>	<b>3.80</b>	<b>3.35</b>	<b>9.34</b>	<b>5/1/2004</b>
Genesis Asset Mngrs. - Net		-6.20	-18.00	-26.41	-0.75	3.21	2.75		
MSCI Emerging Markets Index		-5.55	-12.09	-18.06	2.60	4.69	3.26	7.95	

# Performance

Periods Ended April 30, 2022

	Market Value \$	Performance (%)							
		1 Month	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Fixed Income</b>	<b>12,485,719,383</b>	<b>-3.41</b>	<b>-8.73</b>	<b>-7.48</b>	<b>1.13</b>	<b>1.90</b>	<b>2.67</b>	<b>7.65</b>	<b>1/1/1982</b>
Fixed Income - Net		-3.41	-8.75	-7.57	1.03	1.78	2.53		
Custom Benchmark (Fixed Income)		-3.24	-8.46	-7.46	0.76	1.43	1.85	7.13	
Fixed Income IMRF Custom Benchmark		-3.58	-8.94	-7.79	0.72	1.53			
<b>Active Fixed Core</b>	<b>3,924,936,046</b>	<b>-3.44</b>	<b>-8.72</b>	<b>-7.53</b>	<b>0.96</b>	<b>1.67</b>	<b>2.29</b>	<b>3.96</b>	<b>4/1/2001</b>
ActiveCore Fixed Inc - Net		-3.44	-8.75	-7.63	0.87	1.58	2.15		
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20	1.73	3.86	
<b>Attucks Fixed Income</b>	<b>90,176,019</b>	<b>-3.78</b>	<b>-9.62</b>	<b>-8.24</b>				<b>-7.89</b>	<b>2/1/2021</b>
Attucks Fixed Income - Net		-3.78	-9.70	-8.53				-8.13	
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51				-8.29	
<b>Brandes FI Core</b>	<b>344,041,300</b>	<b>-3.07</b>	<b>-8.10</b>	<b>-6.98</b>	<b>0.68</b>	<b>1.27</b>		<b>1.34</b>	<b>3/1/2016</b>
Brandes FI Core - Net		-3.07	-8.11	-7.00	0.67	1.26		1.34	
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20		1.32	
<b>EARNEST Partners</b>	<b>933,741,482</b>	<b>-3.32</b>	<b>-8.81</b>	<b>-7.59</b>	<b>0.92</b>	<b>1.71</b>	<b>2.30</b>	<b>3.81</b>	<b>5/1/2005</b>
EARNEST Partners - Net		-3.32	-8.84	-7.71	0.80	1.59	2.13	3.62	
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20	1.73	3.34	
<b>Garcia Hamilton</b>	<b>999,506,302</b>	<b>-3.48</b>	<b>-8.15</b>	<b>-7.43</b>	<b>0.79</b>	<b>1.64</b>		<b>1.90</b>	<b>6/1/2015</b>
Garcia Hamilton - Net		-3.48	-8.16	-7.48	0.72	1.56		1.81	
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20		1.41	
<b>Ramirez Asset Management</b>	<b>543,964,257</b>	<b>-3.53</b>	<b>-9.41</b>	<b>-8.12</b>				<b>-1.98</b>	<b>5/1/2020</b>
Ramirez Asset Management - Net		-3.53	-9.44	-8.24				-2.11	
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51				-4.48	
<b>Xponance Yield Advantage Agg.</b>	<b>1,013,506,685</b>	<b>-3.56</b>	<b>-8.96</b>	<b>-7.28</b>	<b>1.33</b>	<b>1.75</b>	<b>2.34</b>	<b>3.68</b>	<b>6/1/2005</b>
Xponance Yield Advantage Agg. - Net		-3.56	-8.99	-7.40	1.22	1.62	2.20	3.51	
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20	1.73	3.29	

Benchmark definitions in glossary.

# Performance

Periods Ended April 30, 2022

	Market Value \$	Performance (%)							
		1 Month	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Pass. Core Fixed Inc</b>	<b>3,310,030,879</b>	<b>-3.78</b>	<b>-9.44</b>	<b>-8.47</b>	<b>0.43</b>	<b>1.26</b>	<b>1.78</b>	<b>5.35</b>	<b>1/1/1990</b>
Pass. Core Fixed Inc - Net		-3.78	-9.44	-8.48	0.43	1.25	1.78		
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20	1.73	5.33	
<b>BlackRock US Debt I</b>	<b>1,665,437,987</b>	<b>-3.78</b>	<b>-9.39</b>	<b>-8.42</b>	<b>0.47</b>	<b>1.30</b>		<b>2.04</b>	<b>10/1/2013</b>
BlackRock US Debt I - Net		-3.78	-9.39	-8.42	0.46	1.29		2.04	
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20		1.92	
<b>NTGI Blmbg Agg.</b>	<b>1,644,592,892</b>	<b>-3.77</b>	<b>-9.49</b>	<b>-8.53</b>	<b>0.40</b>	<b>1.23</b>	<b>1.76</b>	<b>5.40</b>	<b>2/1/1990</b>
NTGI Blmbg Agg. - Net		-3.77	-9.49	-8.53	0.39	1.22	1.75		
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20	1.73	5.39	
<b>Core Plus Fixed Income</b>	<b>3,057,227,345</b>	<b>-3.98</b>	<b>-10.25</b>	<b>-9.05</b>	<b>1.12</b>	<b>1.83</b>	<b>2.67</b>	<b>7.51</b>	<b>1/1/1982</b>
Core Plus Fixed Inc. - Net		-3.98	-10.28	-9.18	0.96	1.66	2.49		
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20	1.73	7.10	
<b>LM Capital Group FI</b>	<b>877,602,580</b>	<b>-3.37</b>	<b>-8.49</b>	<b>-8.04</b>	<b>1.71</b>	<b>1.99</b>	<b>2.62</b>	<b>4.19</b>	<b>5/1/2005</b>
LM Capital Group FI - Net		-3.37	-8.53	-8.18	1.56	1.84	2.46	4.02	
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20	1.73	3.34	
<b>Progress Inv. FI</b>	<b>1,088</b>								
<b>Loop Capital Management</b>	<b>593,707,785</b>	<b>-4.23</b>	<b>-10.31</b>	<b>-8.88</b>	<b>0.69</b>	<b>1.67</b>	<b>2.84</b>	<b>4.14</b>	<b>5/1/2005</b>
Loop Capital Management - Net		-4.23	-10.34	-9.00	0.55	1.54	2.71	4.01	
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20	1.73	3.34	
<b>Western Asset</b>	<b>992,198,517</b>	<b>-4.58</b>	<b>-12.20</b>	<b>-10.66</b>	<b>0.74</b>	<b>1.74</b>	<b>2.87</b>	<b>4.66</b>	<b>11/1/2001</b>
Western Asset - Net		-4.58	-12.23	-10.79	0.62	1.62	2.73		
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51	0.38	1.20	1.73	3.61	
<b>Longfellow Core Plus</b>	<b>593,717,375</b>	<b>-3.62</b>	<b>-9.40</b>	<b>-7.47</b>				<b>-1.95</b>	<b>5/1/2020</b>
Longfellow Core Plus - Net		-3.62	-9.43	-7.60				-2.09	
Blmbg. U.S. Aggregate		-3.79	-9.50	-8.51				-4.48	

Benchmark definitions in glossary.

# Performance

*Periods Ended April 30, 2022*

	Market Value \$	Performance (%)							
		1 Month	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
<b>Bank Loans</b>	<b>1,214,187,879</b>	<b>-0.12</b>	<b>-0.29</b>	<b>2.92</b>	<b>3.63</b>	<b>4.10</b>		<b>4.33</b>	<b>8/1/2014</b>
Bank Loans - Net		-0.14	-0.28	2.95	3.61	3.88		3.97	
Custom Benchmark		0.12	-0.02	2.83	3.78	4.16		4.06	
<b>Barings Global Loan Fund</b>	<b>1,214,187,879</b>	<b>-0.12</b>	<b>-0.29</b>	<b>2.92</b>	<b>3.63</b>	<b>4.10</b>		<b>4.33</b>	<b>8/1/2014</b>
Barings Global Loan Fund - Net		-0.14	-0.28	2.95	3.61	3.88		3.97	
Custom Benchmark		0.12	-0.02	2.83	3.78	4.16		4.06	
<b>Emerging Markets Debt</b>	<b>190,169,582</b>	<b>-4.86</b>	<b>-14.87</b>	<b>-16.75</b>	<b>-2.66</b>	<b>-0.77</b>		<b>0.23</b>	<b>8/1/2014</b>
Emerging Markets Debt - Net		-4.86	-14.95	-16.98	-2.97	-1.09		-0.09	
Custom Benchmark		-5.15	-13.00	-15.00	-2.13	-0.29		0.05	
<b>Standish-Mellon EMD</b>	<b>190,169,582</b>	<b>-4.86</b>	<b>-14.87</b>	<b>-16.75</b>	<b>-2.66</b>	<b>-0.77</b>		<b>0.23</b>	<b>8/1/2014</b>
Standish EM MRK - Net		-4.86	-14.95	-16.98	-2.97	-1.09		-0.09	
Custom Benchmark		-5.15	-13.00	-15.00	-2.13	-0.29		0.05	
<b>High Yield</b>	<b>789,167,640</b>	<b>-2.82</b>	<b>-6.04</b>	<b>-2.98</b>	<b>4.15</b>	<b>4.88</b>	<b>5.97</b>	<b>9.12</b>	<b>4/1/1986</b>
High Yield - Net		-2.82	-6.12	-3.29	3.81	4.53	5.61		
ICE BofAML US High Yield, Cash Pay Index		-3.66	-8.02	-4.99	2.61	3.54	5.18	7.84	
<b>MacKay Shields</b>	<b>789,167,640</b>	<b>-2.82</b>	<b>-6.02</b>	<b>-2.97</b>	<b>4.16</b>	<b>4.87</b>	<b>6.07</b>	<b>8.22</b>	<b>11/1/2000</b>
MacKay Shields - Net		-2.82	-6.10	-3.29	3.82	4.52	5.70		
ICE BofAML US High Yield, Cash Pay Index		-3.66	-8.02	-4.99	2.61	3.54	5.18	6.89	

## Benchmark History

Account Name	From Date	To Date	Benchmark
Total Fund			The total fund benchmark is a blend of the asset class benchmark returns weighted by the target allocation for each asset classes:
	3/1/2022	Present	35.5% Domestic Equity Custom Benchmark, 25.5% Fixed Income Custom Benchmark, 18% MSCI AC World ex USA (Net), 10.5% Private Real Assets Custom Benchmark, 9.5% Alternatives Custom Benchmark, 1% 90 Day US Treasury Bill.
	1/1/2021	2/28/2022	39% Russell 3000 Index, 25% Blmbg. Barc. U.S. Aggregate, 15% MSCI AC World ex USA (Net), 10% NCREIF Fund Index-ODCE (VW) (Net), 10% Alternatives Custom Benchmark, 1% 90 Day US Treasury Bill
	3/1/2018	12/31/2020	37% Russell 3000 Index, 28% Blmbg. Barc. U.S. Aggregate, 18% MSCI AC World ex USA (Net), 9% NCREIF Fund Index-ODCE (VW) (Net), 7% Alternatives Custom Benchmark, 1% 90 Day US Treasury Bill
Domestic Equity	3/1/2022	Present	93% Russell 3000 Index, 7% FTSE Global Core Infrastructure 50/50 Index (Net)
	1/1/2015	2/28/2022	100% Russell 3000 Index
	1/1/1982	12/31/2014	100% Dow Jones US Total Stock Market Index
Large Cap Growth	1/1/2006	Present	100% Russell 1000 Growth Index
	11/1/2003	12/13/2005	100% S&P 500 Growth
Large Cap Value	1/1/2006	Present	100% Russell 1000 Value Index
	2/1/2001	12/31/2005	100% S&P 500 Value
Public Real Assets	8/1/2017	Present	33.3% Dow Jones Brookfield Global Infrastructure Composite, 66.7% FTSE GLOBAL CORE INFRASTRUCTURE 50/50 INDEX (Net)

## Benchmark History

Account Name	From Date	To Date	Benchmark
Intl Small Cap Eqty	6/1/2011	Present	100% MSCI AC World ex USA Small Cap (Net)
	12/1/2005	5/31/2011	100% S&P Developed Ex-U.S. SmallCap (Net)
Barings Global Loan Fund	8/1/2014	Present	Comprised of the Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each sector.
Standish-Mellon EMD	4/1/2020	Present	50% JPM GBI-EM Global Diversified ex-CNY, 25% JPM EMBI Global (USD), 25% JPM CEMBI Broad Index
	8/1/2014	3/31/2020	50% JPM GBI-EM Global Diversified, 25% JPM EMBI Global (USD), 25% JPM CEMBI Broad Index