

Wilshire



Wilshire Advisors

Executive Summary of Investment Performance

As of September 30, 2021

IMRF Performance Summary

The Illinois Municipal Retirement Fund (“IMRF”) ended September 2021 with a market value of \$54.9 billion, up for the quarter by approximately \$172 million.

IMRF outperformed its benchmark during the Third Quarter 2021, returning +1.04% versus the Total Fund Benchmark which returned +0.43%. Relative to peers, IMRF ranked at the 33rd percentile during the quarter, outperforming two-thirds of peers.

- Year-to-date, IMRF has returned +11.76%, outperforming the Total Fund Benchmark, which returned +8.19%, and ranks at the 24th Percentile relative to peers.
- Longer-term, IMRF ranks at the 13th Percentile over the trailing three-years, and at the 11th Percentile over the trailing five-years.

The Domestic Equity Portfolio outperformed the Russell 3000 Index during the quarter, returning +0.30% versus -0.10%. This marked the first negative returning quarter for the U.S. Equity Market since the initial COVID-19 sell-off during the First Quarter 2020. Strong investment manager performance was the leading contributor to relative outperformance during the quarter with investment managers in Large Cap Growth, Small Cap Growth, and Small Cap Value outperforming their respective benchmarks.

- Relative to peers, the Domestic Equity Portfolio ranked at the 23rd Percentile during the quarter and at the 27th Percentile year-to-date.

The International Equity Portfolio outperformed the benchmark during the quarter, returning -1.71% versus -2.99%. In aggregate, investment manager performance in Large Cap Growth, Large Cap Value, Large Cap Core, All Cap and Small Cap outperformed their respective benchmarks. Additionally, the Portfolio’s dedicated allocation to Small Cap stocks benefited relative outperformance during the quarter.

- Relative to peers, the International Equity Portfolio ranked at the 36th Percentile during the quarter and at the 30th Percentile year-to-date.

The Fixed Income Portfolio modestly outperformed the benchmark during the quarter, returning +0.13% versus +0.05%. The Portfolio’s dedicated allocations to Bank Loans and High Yield were the largest drivers of relative outperformance during the quarter, as the global loan market and high yield bond market returned +1.13% and +0.94%, respectively.

- Relative to peers, the Fixed Income Portfolio ranked at the 67th Percentile during the quarter and at the 60th Percentile year-to-date.

As of September quarter-end, Domestic Equity was 4.4% over its target. The current Statement of Investment Policy states that when actual allocations of the asset class differ by more than four percentage points from the policy target, a recommendation for rebalancing will be made to the Board of Trustees. At this time, IMRF is implementing the rebalancing recommendations approved by the Board at the August 2021 Meeting.

IMRF returns referenced above are Net of Fees

Peer Rankings referenced are Gross of Fees

Asset Class Performance

Asset Class Returns - Best to Worst

2016	2017	2018	2019	2020	2021 YTD	Annualized 5-Year as of 9/21
High Yield 17.1%	Emrg Mrkts 37.7%	T-Bills 1.9%	U.S. Equity 31.0%	U.S. Equity 20.8%	Commodities 29.1%	U.S. Equity 17.0%
U.S. Equity 13.4%	Developed 25.6%	Core Bond 0.0%	REITs 25.8%	Emrg Mrkts 18.7%	REITs 24.8%	Emrg Mrkts 9.6%
Commodities 11.8%	U.S. Equity 21.0%	U.S. TIPS -1.3%	Developed 22.7%	U.S. TIPS 11.0%	U.S. Equity 15.6%	Developed 9.3%
Emrg Mrkts 11.6%	High Yield 7.5%	High Yield -2.1%	Emrg Mrkts 18.9%	Developed 8.3%	Developed 8.8%	REITs 7.0%
REITs 7.2%	REITs 4.2%	REITs -4.8%	High Yield 14.3%	Core Bond 7.5%	High Yield 4.5%	High Yield 6.5%
U.S. TIPS 4.7%	Core Bond 3.6%	U.S. Equity -5.3%	Core Bond 8.7%	High Yield 7.1%	U.S. TIPS 3.5%	Commodities 4.5%
Core Bond 2.6%	U.S. TIPS 3.0%	Commodities -11.2%	U.S. TIPS 8.4%	T-Bills 0.7%	T-Bills 0.0%	U.S. TIPS 4.3%
Developed 1.5%	Commodities 1.7%	Developed -13.4%	Commodities 7.7%	Commodities -3.1%	Emrg Mrkts -1.0%	Core Bond 2.9%
T-Bills 0.3%	T-Bills 0.8%	Emrg Mrkts -14.2%	T-Bills 2.3%	REITs -7.9%	Core Bond -1.6%	T-Bills 1.2%

Data Sources: Bloomberg Note: Developed asset class is developed equity markets ex-U.S., ex-Canada

Market Commentary

U.S. Equity

The U.S. stock market, represented by the FT Wilshire 5000 IndexSM, was up 0.1% for the third quarter. A slim majority of the eleven sectors were in positive territory, with Financials (+2.6%) and Utilities (+1.2%) representing the best performing sectors. The worst performing sector this quarter was Materials (-4.6%). From a size perspective, large-cap outperformed small-cap. In fact, large-cap growth was the only U.S. segment in positive territory this quarter.

Consumer sentiment dropped dramatically during the third quarter, with the University of Michigan's Consumer Sentiment Index falling to its lowest point in almost a decade. The drop occurred with the August results and followed a six-month period when headline inflation surged 7.8% (annualized), the largest six-month increase in 30 years. Additionally, July brought a surge in Coronavirus infections as the highly contagious delta variant infected even vaccinated individuals. Finally, the August survey period coincided with the Taliban seizing control of Kabul, the capital city of Afghanistan, in less than a week's time.

Non-U.S. Equity

Economic conditions in the U.K. appear to be rapidly deteriorating. The Office for National Statistics said that the economy grew by just 0.1% in July, hampered by supply-chain issues and Covid-19 infections. At the same time, inflation has spiked, with consumer prices in the U.K. rising 3.2% in August. Emerging Markets experienced a meaningful drop this quarter, down -8.0%. The main sources of weakness were South Korea (-13.2%) and China (-18.1%).

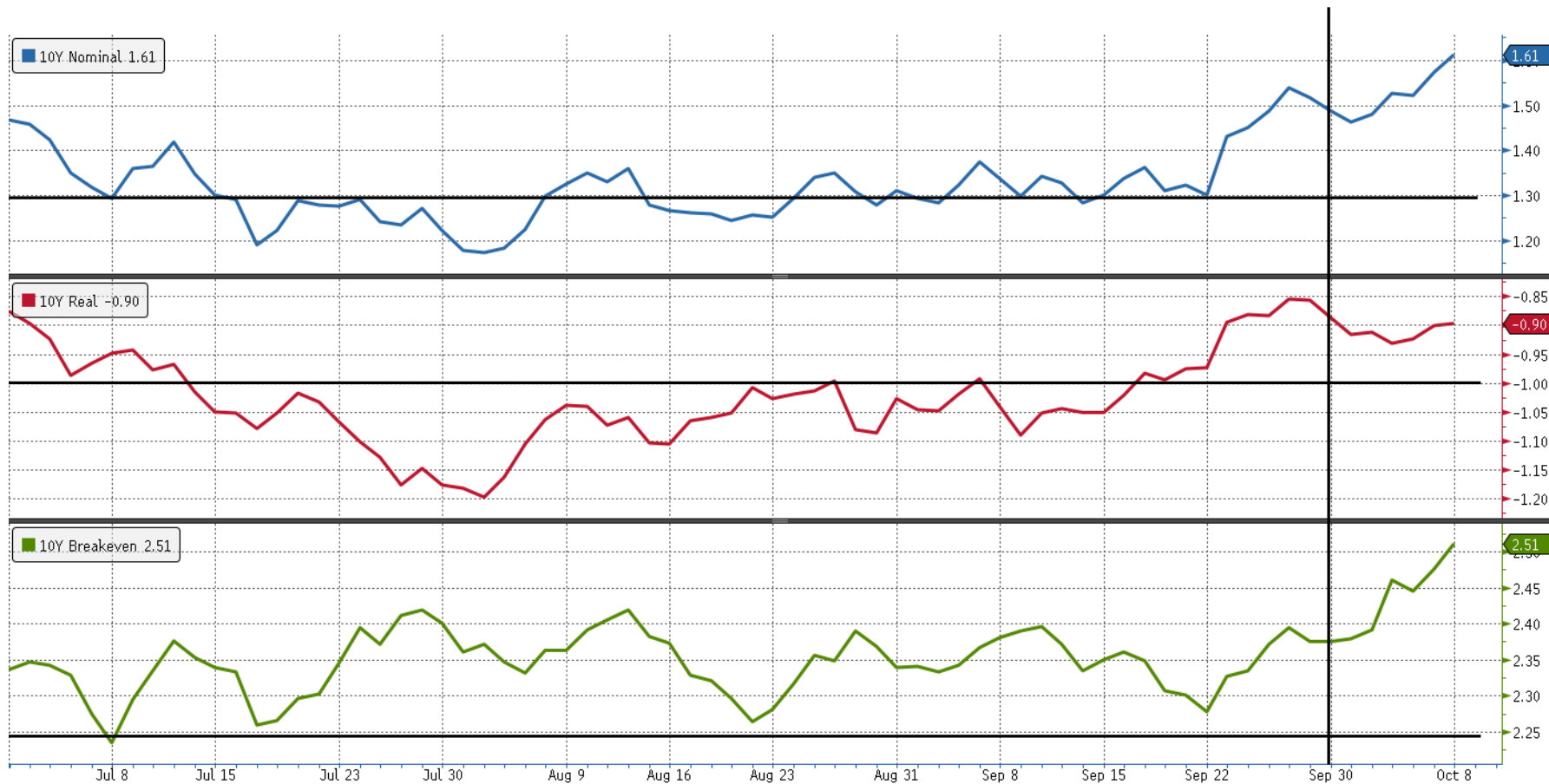
Fixed Income

The U.S. Treasury yield curve was up, generally, during the quarter, with yields in the 3- to 10-year maturity range rising the most. The 10-year Treasury yield ended the quarter at 1.49%, up two basis points from June. The FOMC met twice, as scheduled, with no change to their overnight rate. Through the Fed's "dot plot," they are messaging that the current intent is for a 25 basis point increase in the overnight rate before the end of 2022. Their median forecast for year-end 2023 is for a Fed funds rate of 1.0%.

September 2021 Asset Class Assumptions

	Equity						Fixed Income						Real Assets						
	U.S. Stock	Dev ex-U.S. Stock	Emg Mrkt Stock	Global ex-U.S. Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	U.S. TIPS	High Yield	Non-U.S. Bond	U.S. Real Estate Secs	Global RE Secs	Private Real Estate	Cmdty	Real Assets	U.S. CPI	
Compound Return (%)	5.00	6.00	6.00	6.25	5.65	8.40	1.55	1.85	2.35	1.55	3.60	0.75	4.75	4.90	6.35	4.05	5.85	2.50	
Arithmetic Return (%)	6.35	7.50	9.00	7.90	7.00	11.75	1.55	1.95	2.75	1.75	4.10	0.85	6.10	6.05	7.25	5.10	6.35	2.50	
Expected Risk (%)	17.00	18.00	26.00	19.15	17.15	28.00	0.75	4.30	8.85	6.00	10.00	4.30	17.00	15.85	14.00	15.00	10.15	1.75	
Cash Yield (%)	1.30	2.50	2.00	2.35	1.75	0.00	1.55	3.00	3.40	2.30	7.50	1.80	2.85	2.85	2.30	1.55	1.95	0.00	
Growth Expoure	8.00	8.00	8.00	8.00	8.00	13.50	0.00	-0.80	-2.10	-3.00	4.00	-1.00	6.00	6.00	3.50	0.00	1.80	0.00	
Inflation Expoure	-3.00	0.00	5.00	1.55	-1.10	-3.80	0.00	-2.45	-6.55	2.50	-1.00	-3.00	1.00	1.95	1.00	12.00	4.90	1.00	
Correlations																			
US Stock	1.00																		
Dev ex-US Stock (USD)	0.81	1.00																	
Emerging Mkt Stock	0.74	0.74	1.00																
Global ex-US Stock	0.83	0.96	0.87	1.00															
Global Stock	0.95	0.92	0.83	0.94	1.00														
Private Equity	0.74	0.64	0.62	0.67	0.74	1.00													
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.07	0.00	1.00												
Core Bond	0.28	0.13	0.00	0.09	0.20	0.31	0.19	1.00											
LT Core Bond	0.31	0.16	0.01	0.12	0.23	0.32	0.11	0.92	1.00										
TIPS	-0.05	0.00	0.15	0.05	0.00	-0.03	0.20	0.59	0.47	1.00									
High Yield Bond	0.54	0.39	0.49	0.45	0.51	0.34	-0.10	0.25	0.32	0.05	1.00								
Dev ex-US Bond (Hdg)	0.16	0.25	-0.01	0.17	0.18	0.26	0.10	0.66	0.65	0.39	0.26	1.00							
US RE Securities	0.58	0.47	0.44	0.49	0.56	0.50	-0.05	0.17	0.23	0.10	0.56	0.05	1.00						
Global RE Securities	0.64	0.58	0.56	0.61	0.65	0.58	-0.05	0.17	0.22	0.11	0.61	0.03	0.96	1.00					
Private Real Estate	0.54	0.44	0.44	0.47	0.52	0.51	-0.05	0.19	0.25	0.09	0.57	0.05	0.77	0.75	1.00				
Commodities	0.25	0.34	0.39	0.38	0.32	0.27	0.00	-0.02	-0.02	0.25	0.29	-0.10	0.25	0.28	0.25	1.00			
Real Assets	0.48	0.51	0.58	0.57	0.54	0.47	-0.02	0.23	0.25	0.39	0.56	0.05	0.70	0.75	0.70	0.65	1.00		
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.13	-0.10	0.10	-0.12	-0.12	0.15	-0.08	-0.08	0.05	0.03	0.05	0.44	0.26	1.00	

Rate Splits: Yield / Inflation Environment



USGG10YR Index (US Generic Govt 10 Yr) 10yr Splits Daily 30JUN2021-11OCT2021

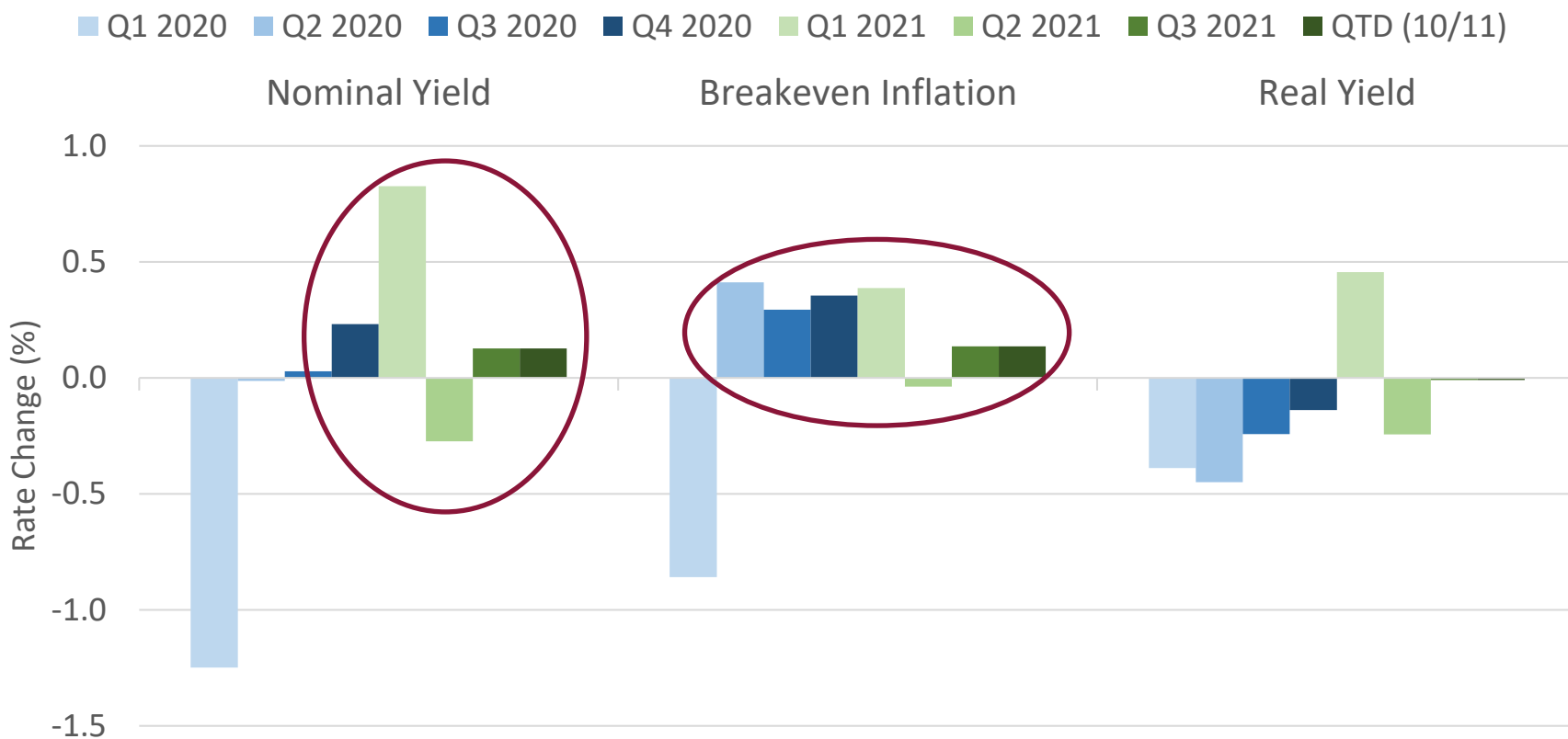
Copyright© 2021 Bloomberg Finance L.P.

11-Oct-2021 13:07:27

Data Source: Bloomberg

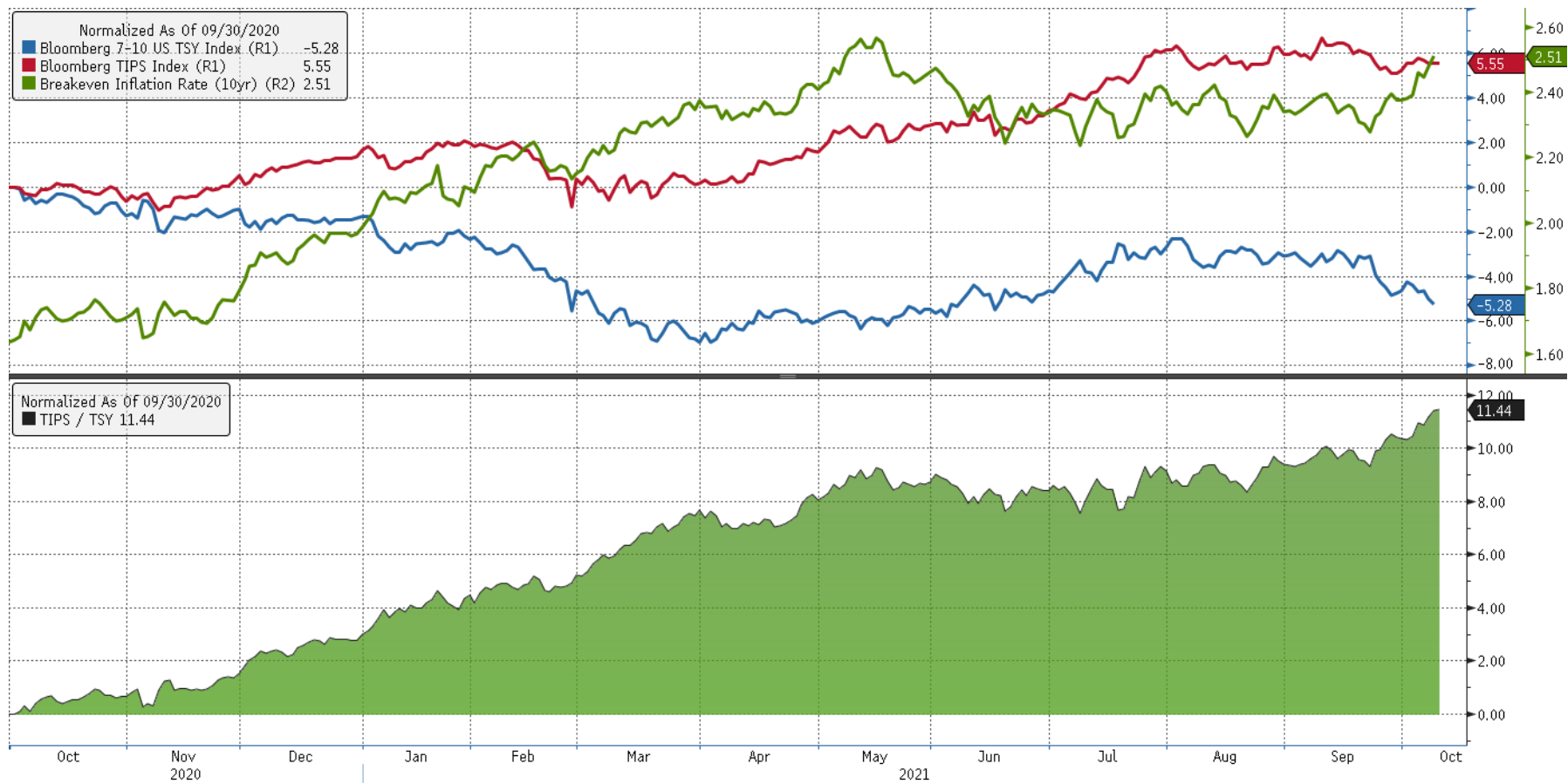
Rate Change Attribution

Quarterly Rate Changes



Data Source: Bloomberg

U.S. Treasury vs. TIPS Returns



Data Source: Bloomberg

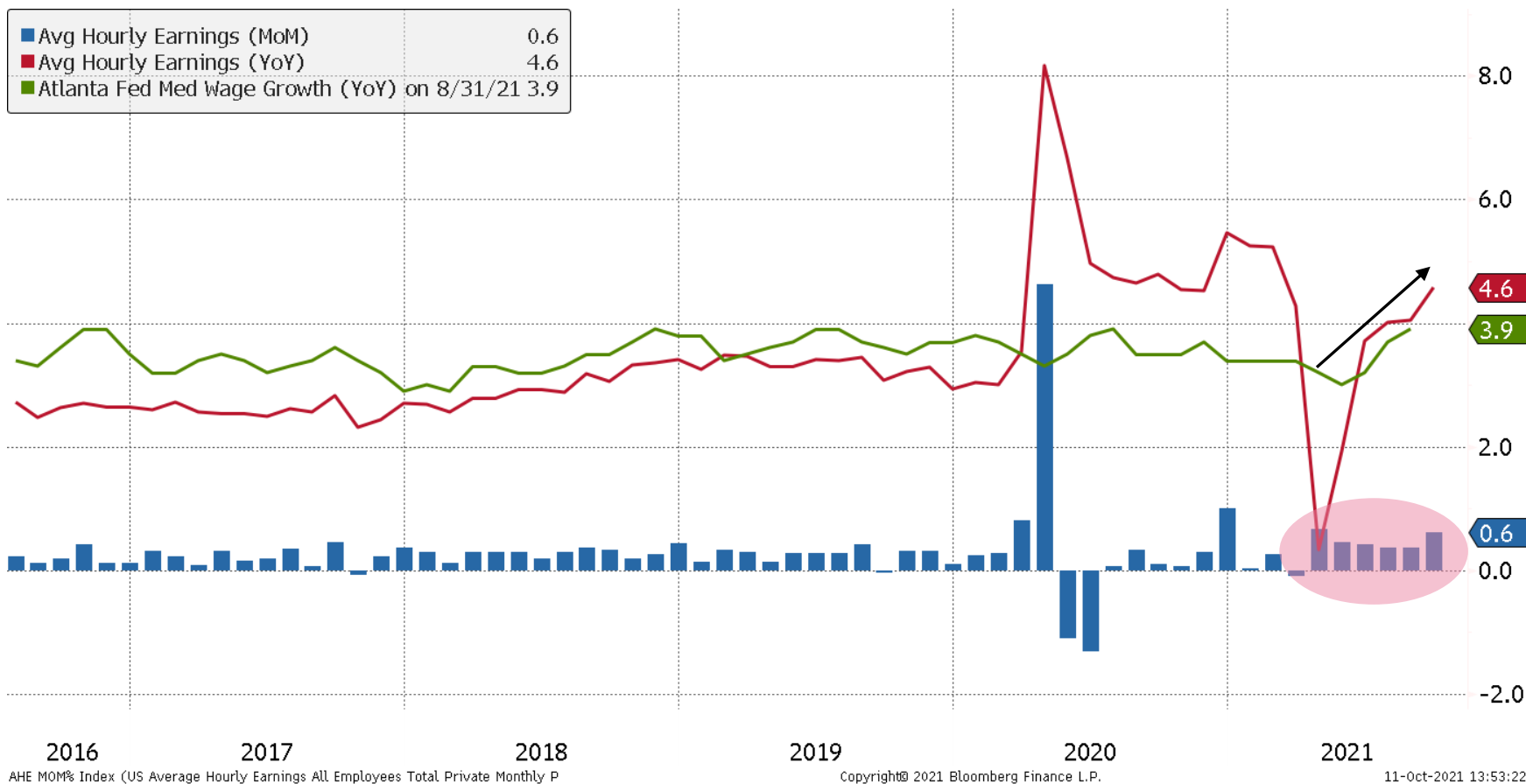
Inflation Persists



Data Source: Bloomberg

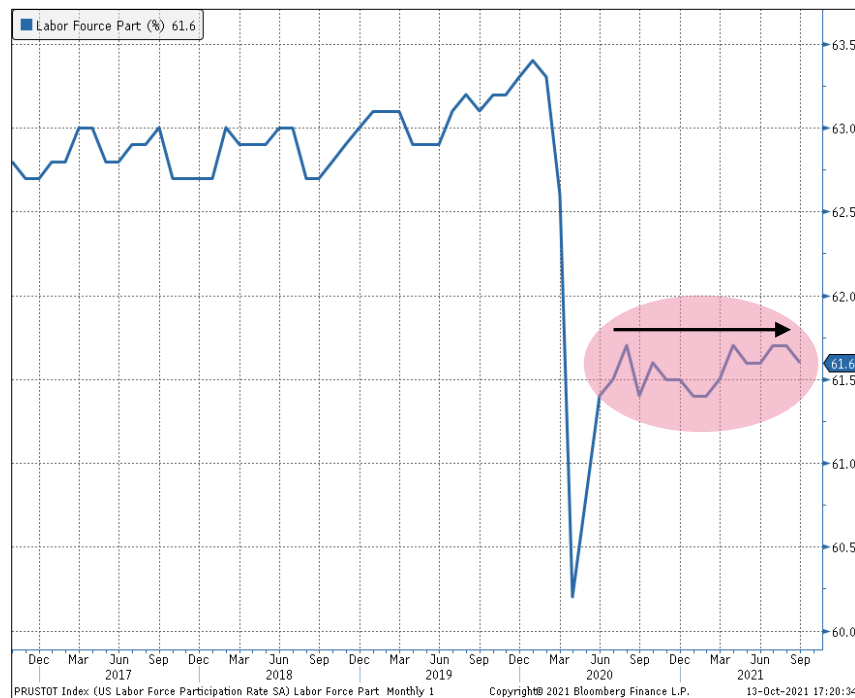
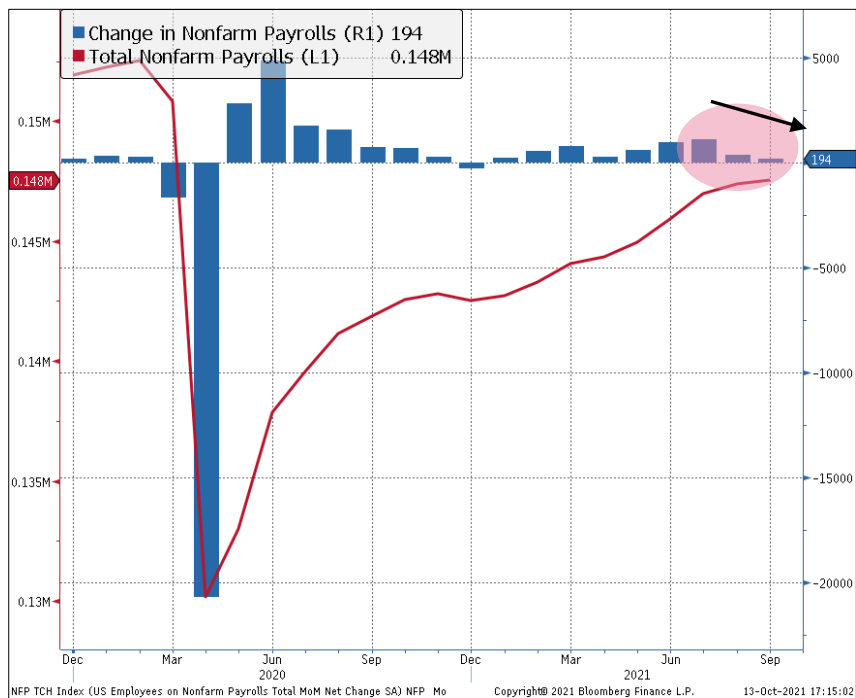
Wages Rising

Since 2Q: AHE rose 3.7% to 4.6%; Atlanta Fed wage Growth: 3.2% to 3.9%



Data Source: Bloomberg

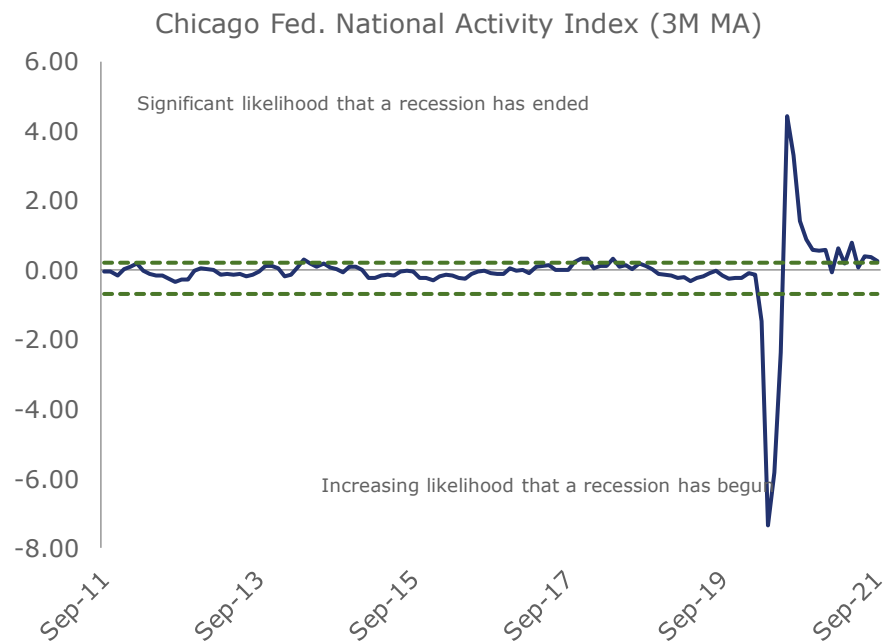
Employment Gains Slowing...



Data Source: Bloomberg

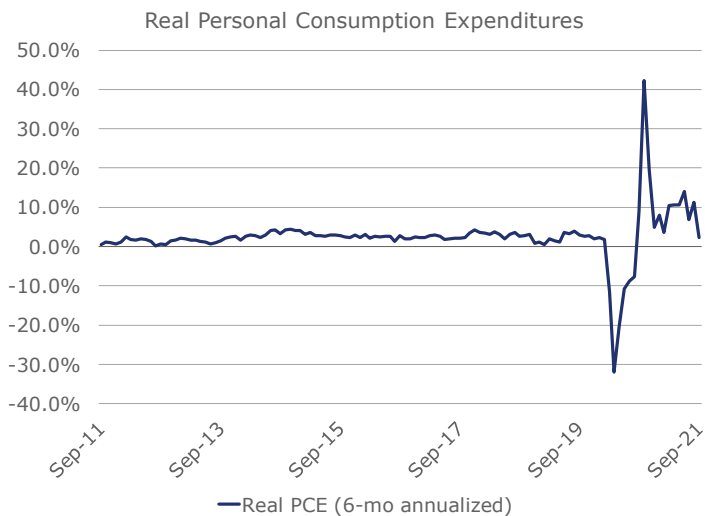
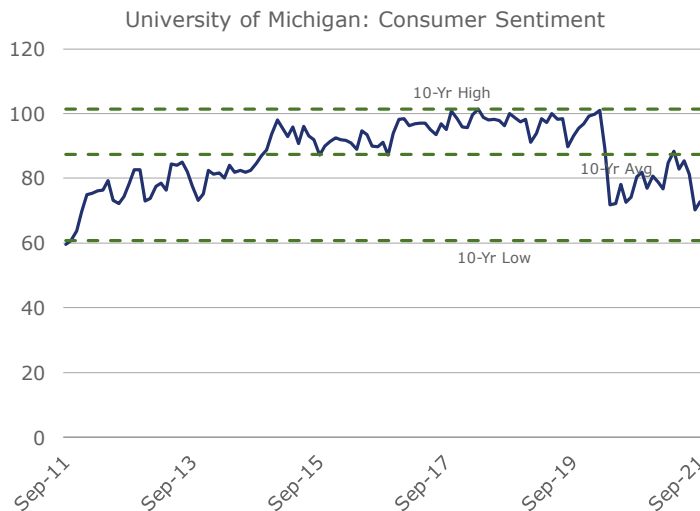
Economic/Market Activity

Economic Growth



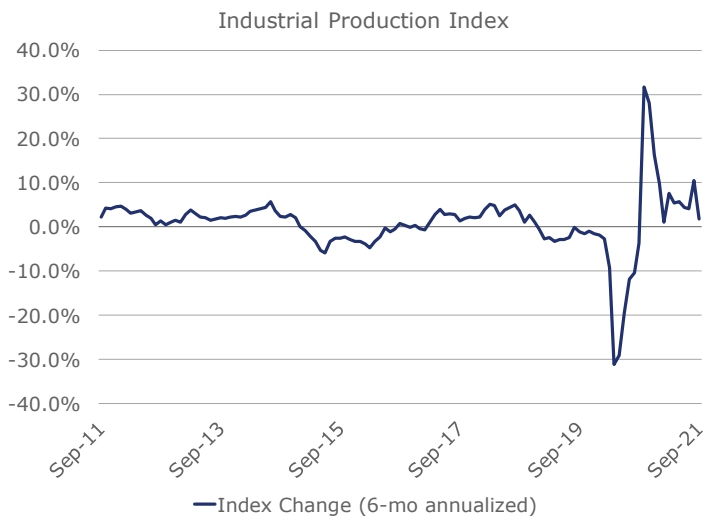
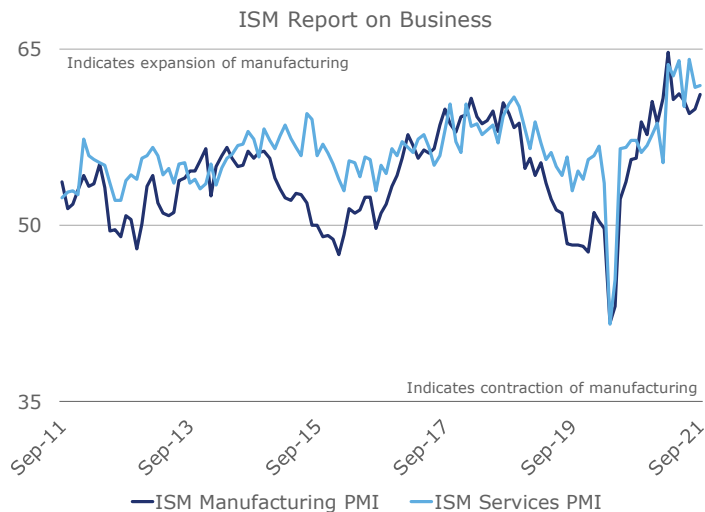
Data Sources: Bloomberg

Consumer Activity



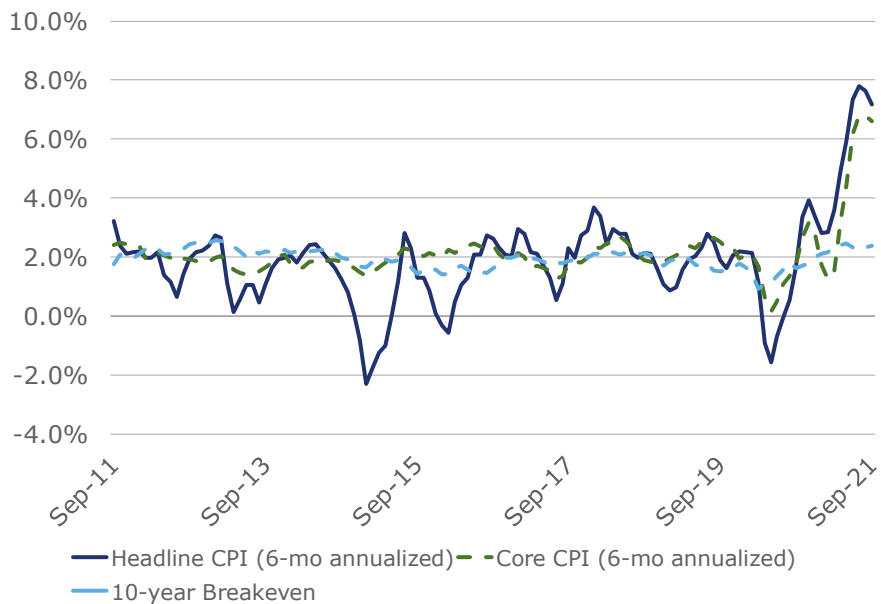
Data Sources: Bloomberg

Business Activity

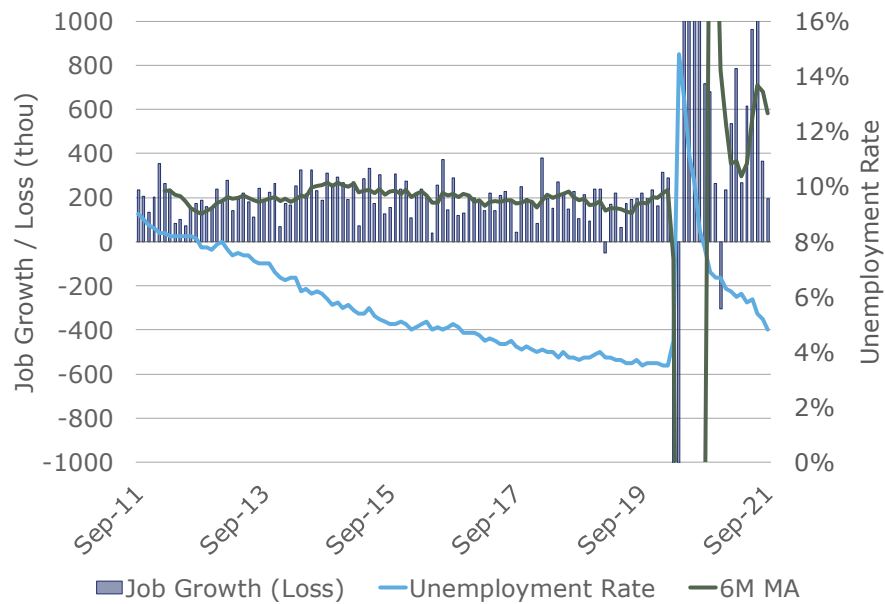


Inflation and Employment

Inflation: Actual & Expected



Employment Gains / Losses

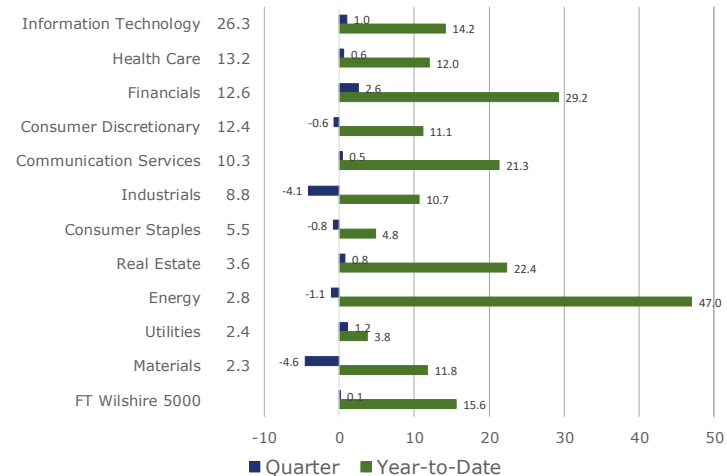


Data Sources: Bloomberg

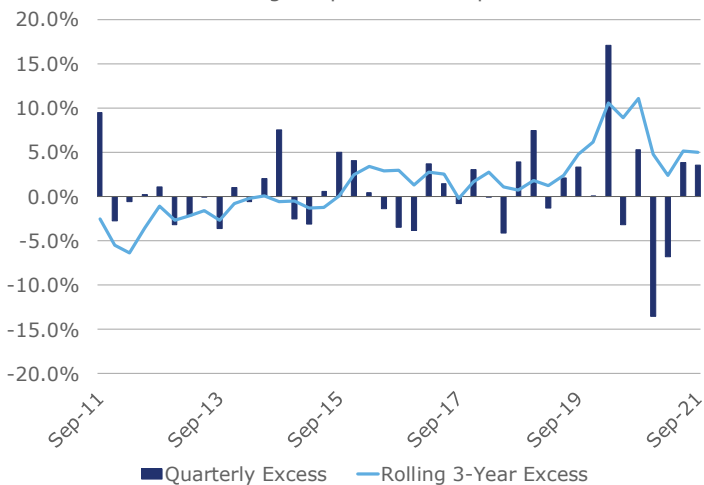
U.S. Equity Market

As of 9/30/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
FT Wilshire 5000	0.1	15.6	32.4	16.2	17.0	16.7
Wilshire U.S. Large Cap	0.4	15.6	30.9	16.7	17.4	16.8
Wilshire U.S. Small Cap	-3.0	15.4	51.1	11.2	13.4	15.1
Wilshire U.S. Large Growth	1.3	15.5	30.3	20.9	22.1	19.4
Wilshire U.S. Large Value	-0.6	14.7	30.3	12.0	12.4	14.1
Wilshire U.S. Small Growth	-3.8	8.2	40.4	13.0	16.1	15.7
Wilshire U.S. Small Value	-1.8	23.3	63.0	9.4	10.7	14.4
Wilshire REIT Index	1.6	24.8	38.0	10.4	7.0	11.3
MSCI USA Min. Vol. Index	0.3	9.6	17.2	11.1	12.4	14.2
FTSE RAFI U.S. 1000 Index	-0.8	20.8	41.9	12.9	13.8	15.2

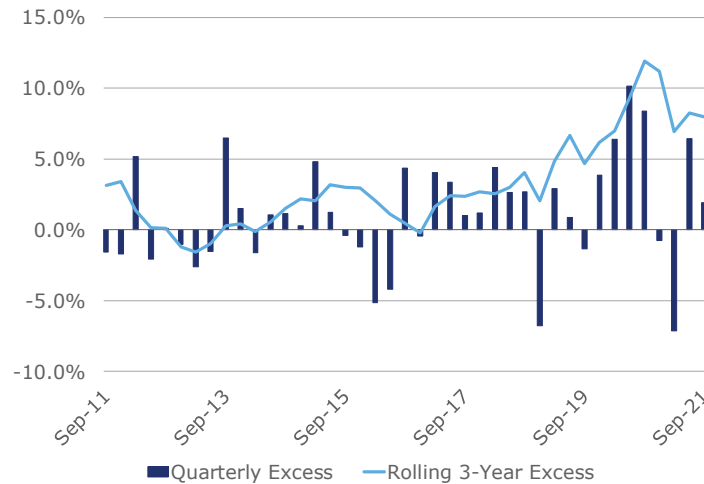
U.S. Sector Weight and Return (%)



Large Cap vs Small Cap



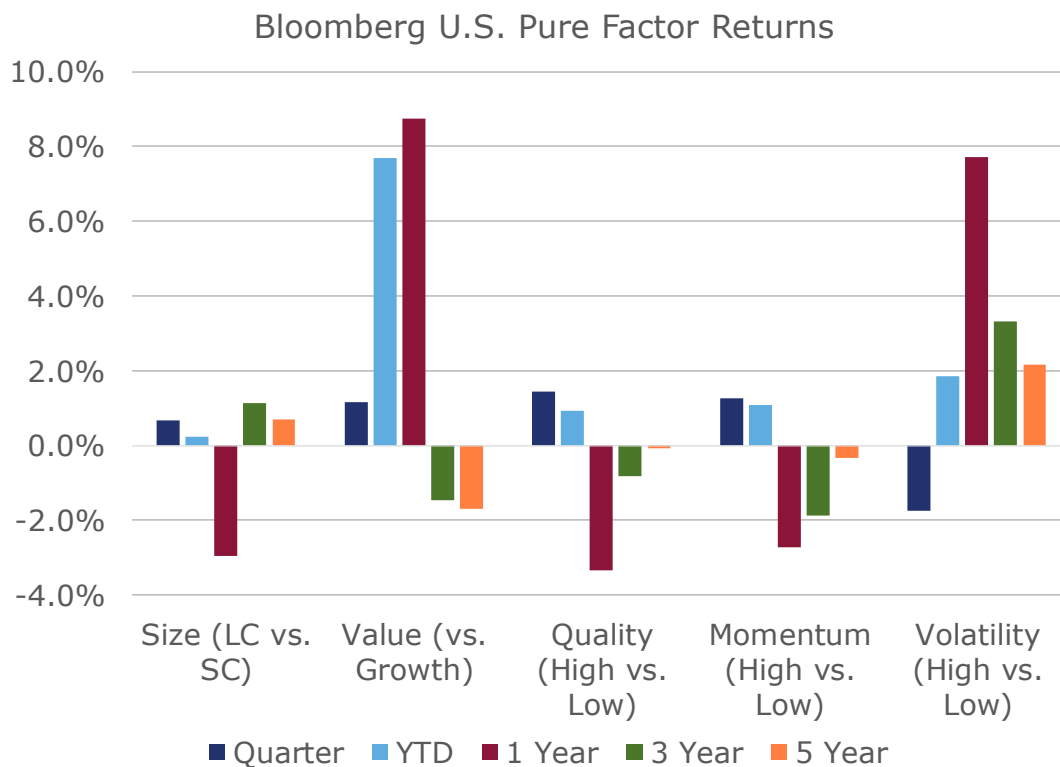
Large Growth vs Large Value



Data Sources: Bloomberg, Wilshire Atlas

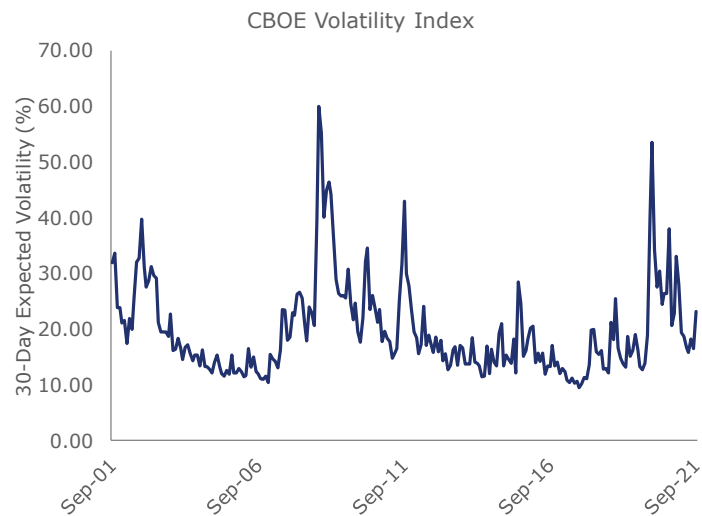
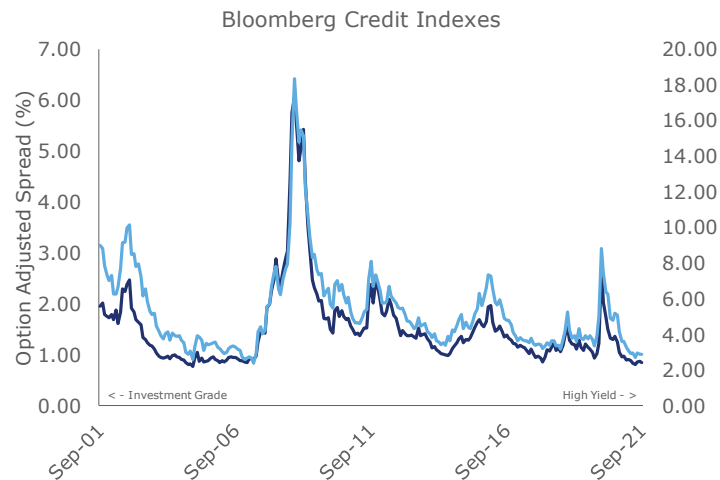
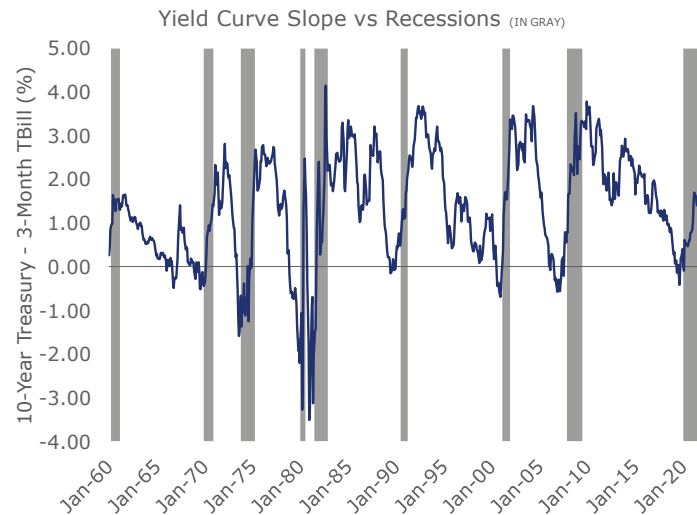
U.S. Factor Returns

- Factor returns represent the contribution from large cap, value, etc. stocks within Bloomberg's Portfolio & Risk Analytics module
- Value stocks have rebounded during the past year



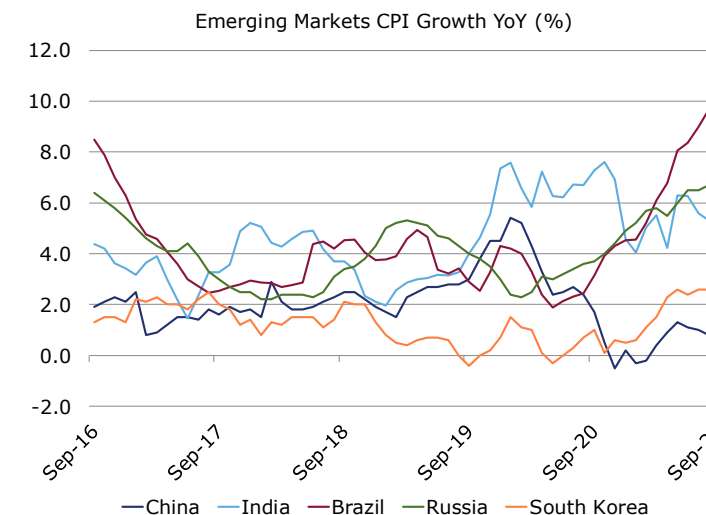
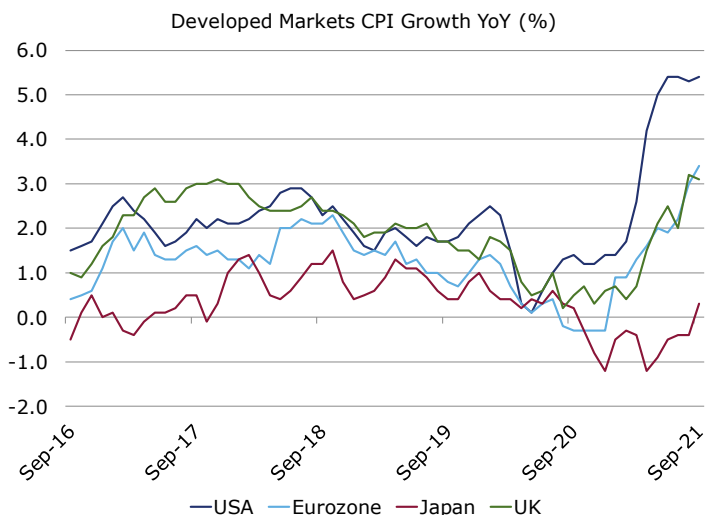
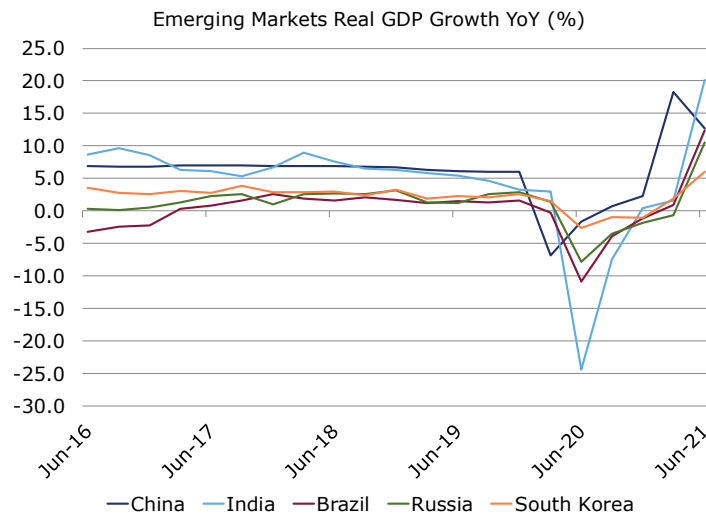
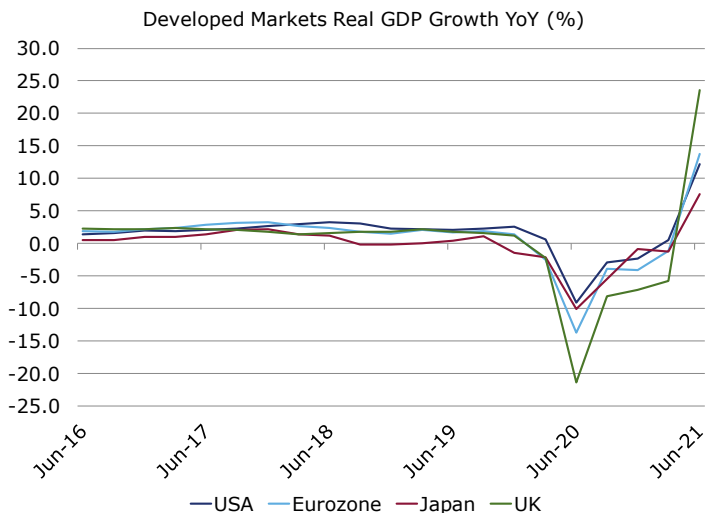
Data Sources: Bloomberg

Risk Monitor



Data Sources: Bloomberg

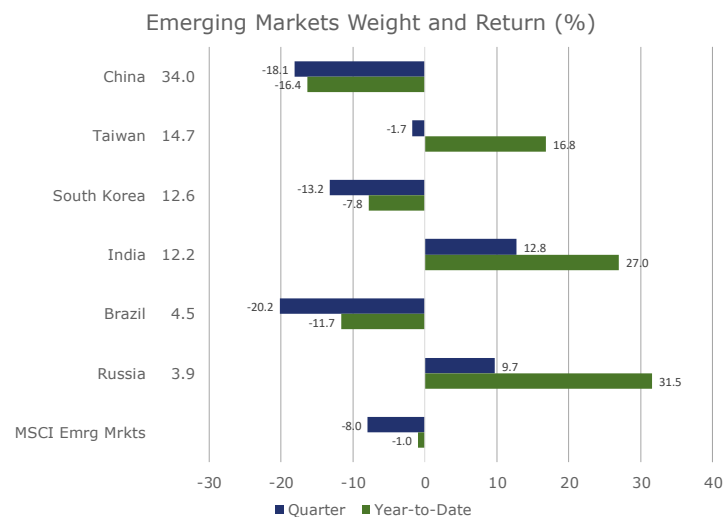
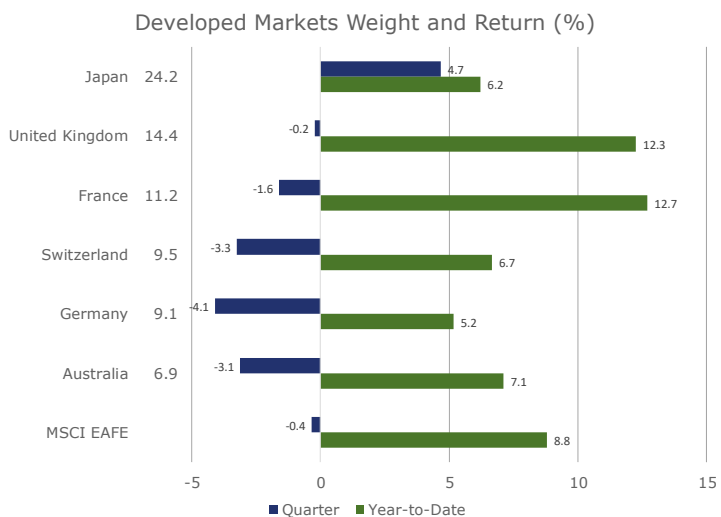
Non-U.S. Growth and Inflation



Data Sources: Bloomberg

Non-U.S. Equity Market

As of 9/30/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
MSCI ACWI ex-US (\$G)	-2.9	6.3	24.4	8.5	9.4	8.0
MSCI EAFE (\$G)	-0.4	8.8	26.3	8.1	9.3	8.6
MSCI Emerging Markets (\$G)	-8.0	-1.0	18.6	9.0	9.6	6.5
MSCI Frontier Markets (\$G)	1.7	2.6	20.5	3.3	3.6	4.0
MSCI ACWI ex-US Growth (\$G)	-3.6	2.9	17.3	12.3	11.6	9.7
MSCI ACWI ex-US Value (\$G)	-1.9	10.3	33.0	4.9	7.3	6.5
MSCI ACWI ex-US Small (\$G)	0.1	12.6	33.5	10.8	10.7	9.8
MSCI ACWI Minimum Volatility	0.2	7.7	14.7	8.2	9.1	10.6
MSCI EAFE Minimum Volatility	0.3	4.9	13.4	4.7	6.1	7.9
FTSE RAFI Developed ex-US	-1.1	12.5	36.5	6.1	8.6	7.5
MSCI EAFE LC (G)	1.4	14.7	27.8	7.7	9.5	10.6
MSCI Emerging Markets LC (G)	-6.6	1.0	17.2	9.8	10.8	9.0

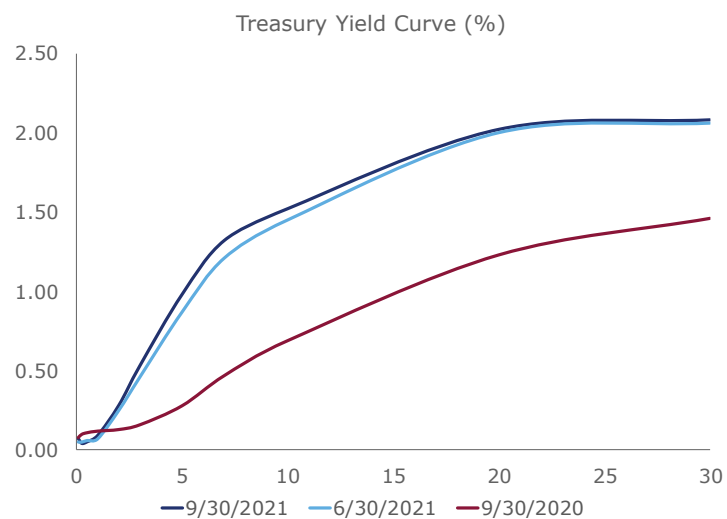
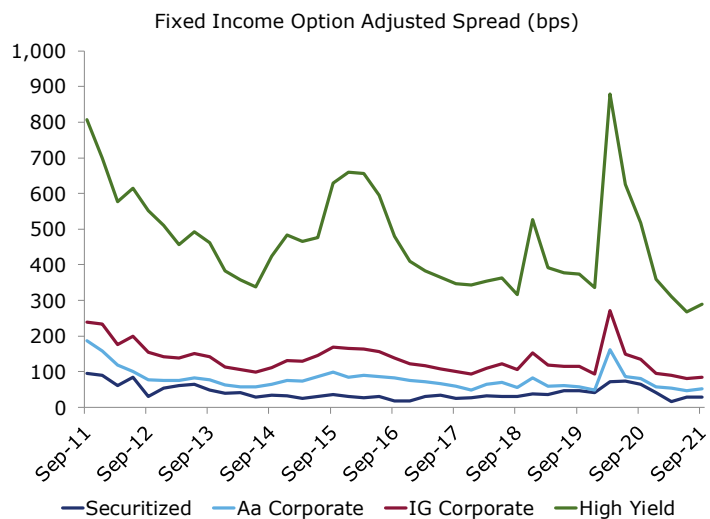


Data Sources: Bloomberg

U.S. Fixed Income

As of 9/30/2021	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg Aggregate	1.6	6.7	0.1	-1.6	-0.9	5.4	2.9	3.0
Bloomberg Treasury	1.0	7.1	0.1	-2.5	-3.3	4.9	2.2	2.2
Bloomberg Gov't-Rel.	1.4	6.1	-0.1	-1.3	-0.4	4.9	2.9	2.9
Bloomberg Securitized	1.8	4.6	0.1	-0.7	-0.3	4.0	2.2	2.5
Bloomberg Corporate	2.1	8.7	0.0	-1.3	1.7	7.4	4.6	4.9
Bloomberg LT Gov't/Credit	2.7	16.6	0.1	-4.6	-3.0	10.1	5.2	5.8
Bloomberg LT Treasury	2.0	18.7	0.5	-7.5	-10.3	9.2	3.3	4.4
Bloomberg LT Gov't-Rel.	3.0	13.7	-0.5	-3.4	-0.7	7.9	4.7	5.5
Bloomberg LT Corporate	3.1	15.3	-0.1	-2.6	2.5	10.5	6.3	6.7
Bloomberg U.S. TIPS *	1.4	8.2	1.8	3.5	5.2	7.4	4.3	3.1
Bloomberg High Yield	4.0	4.0	0.9	4.5	11.3	6.9	6.5	7.4
Treasury Bills	0.0	0.3	0.0	0.0	0.1	1.2	1.2	0.7

* Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 7-10 Year Index

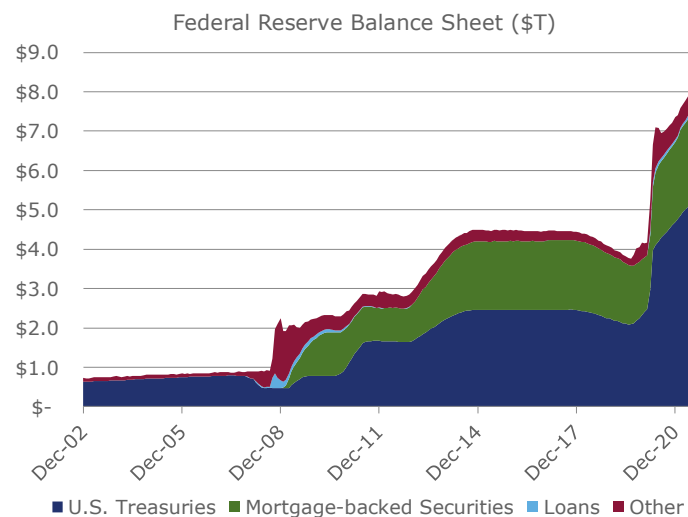
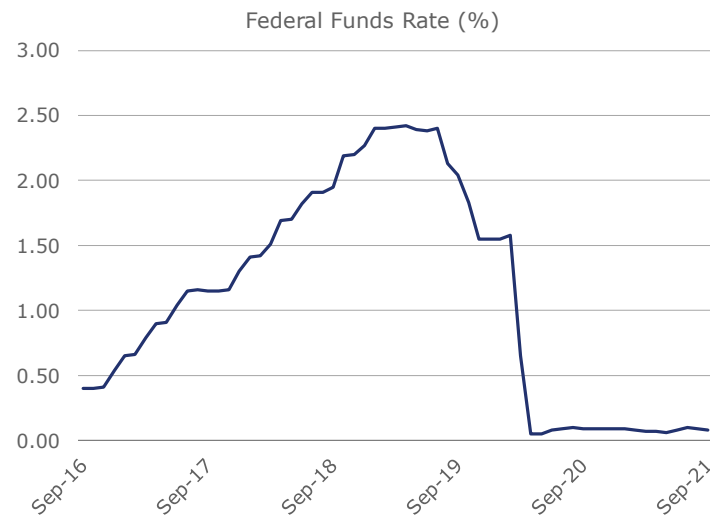


Data Sources: Bloomberg

Federal Reserve

- Current FOMC expectation is for one 25 basis point increase in the Fed-funds rate during 2022
- Federal Reserve has added more than \$4 trillion in assets to their balance sheet during the past 18 months
- QE4 is now larger than the 3 phases of quantitative easing – combined – following the global financial crisis

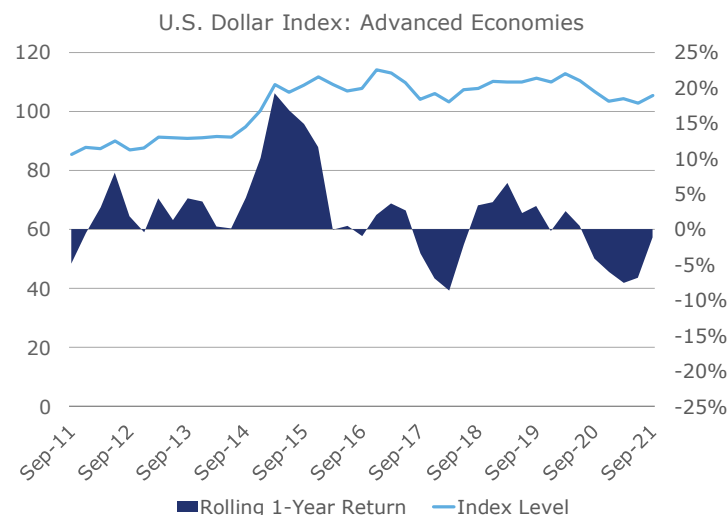
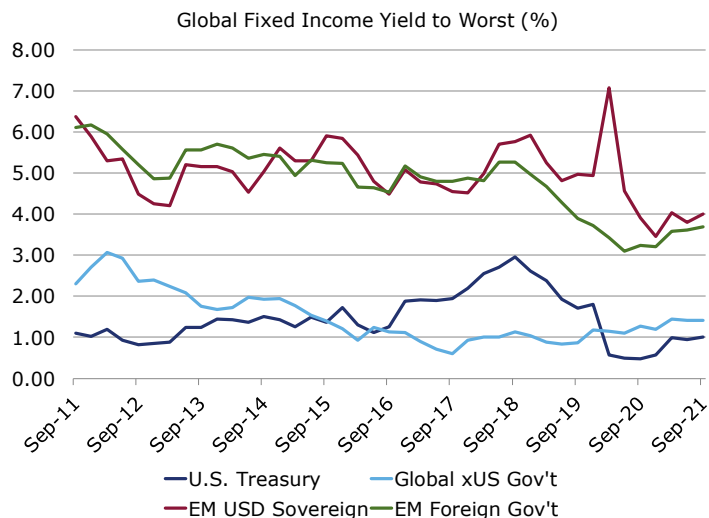
	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	\$1,403
QE2	11/3/2010	6/29/2012	\$568
QE3	9/13/2012	10/29/2014	\$1,674
QE4	3/23/2020		\$4,174



Non-U.S. Fixed Income

As of 9/30/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Developed Markets						
Bloomberg Global Aggregate xUS	-1.6	-5.9	-1.2	3.2	1.1	0.9
Bloomberg Global Aggregate xUS *	0.1	-1.5	-0.5	3.9	2.7	3.9
Bloomberg Global Inflation Linked xUS	-0.1	-2.1	4.7	5.8	3.3	3.5
Bloomberg Global Inflation Linked xUS *	2.4	1.4	3.3	6.4	4.1	5.8
Emerging Markets (Hard Currency)						
Bloomberg EM USD Aggregate	-0.5	-1.1	3.3	5.9	4.1	5.7
Emerging Markets (Foreign Currency)						
Bloomberg EM Local Currency Gov't	-1.0	-2.0	4.9	5.0	2.9	2.6
Bloomberg EM Local Currency Gov't *	0.3	-1.0	-0.1	4.4	2.8	3.0
Euro vs. Dollar	-2.3	-5.2	-1.2	-0.1	0.6	-1.4
Yen vs. Dollar	-0.2	-7.2	-5.2	0.7	-1.9	-3.6
Pound vs. Dollar	-2.6	-1.4	4.3	1.1	0.8	-1.4

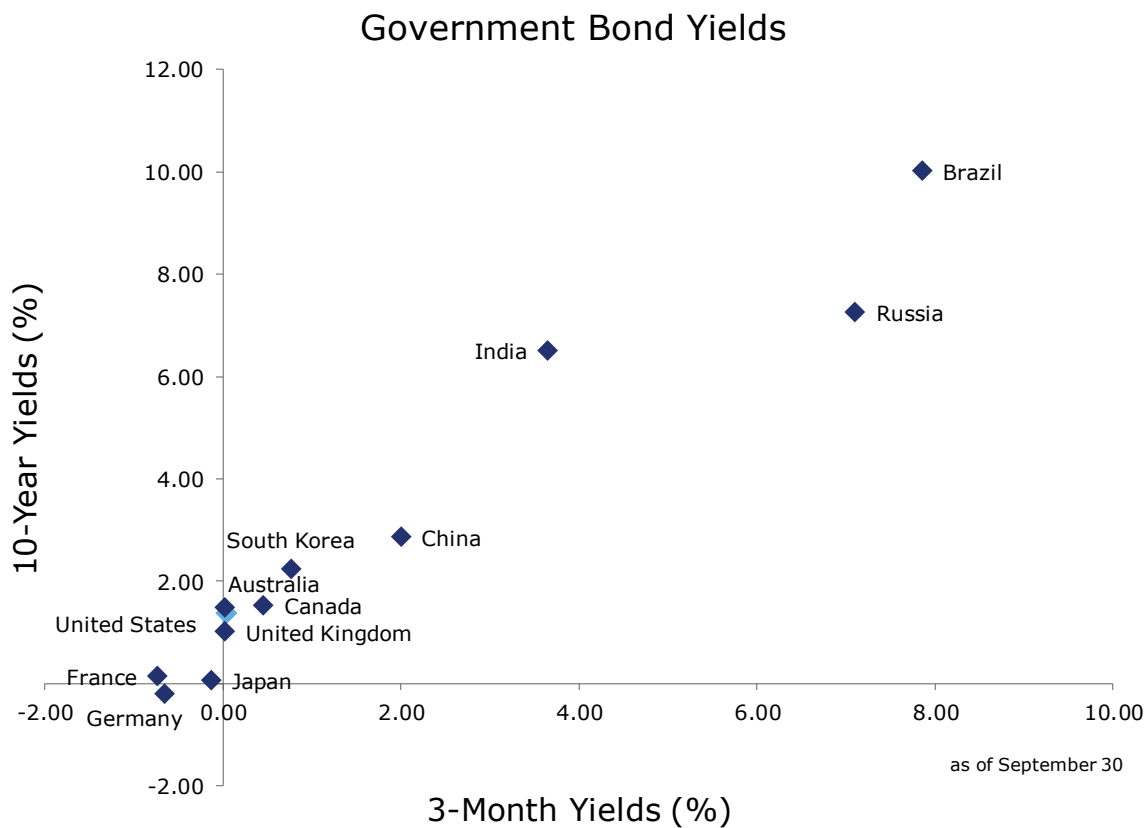
* Returns are reported in terms of local market investors, which removes currency effects.



Data Sources: Bloomberg

Global Interest Rates

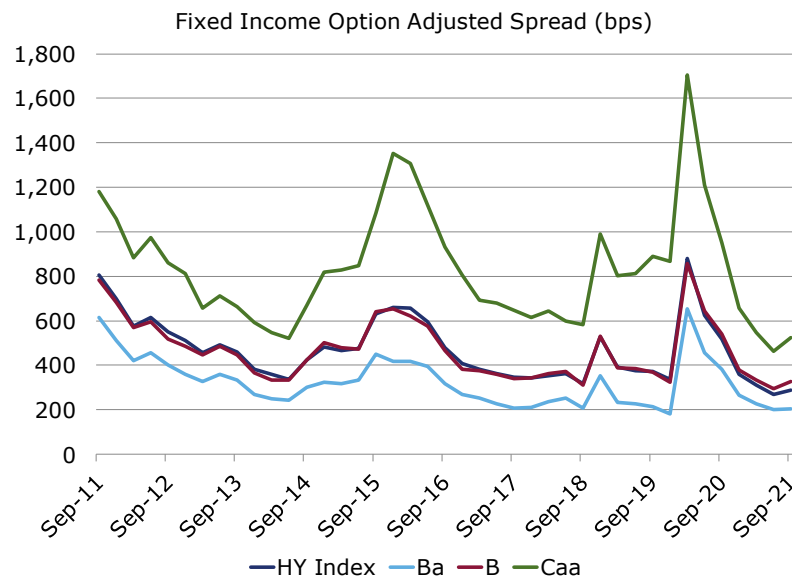
Negative rates found in Germany and France; low but positive rates, and at similar levels, in the U.S., Australia and in the U.K.



Data Sources: Bloomberg

High Yield Bond Market

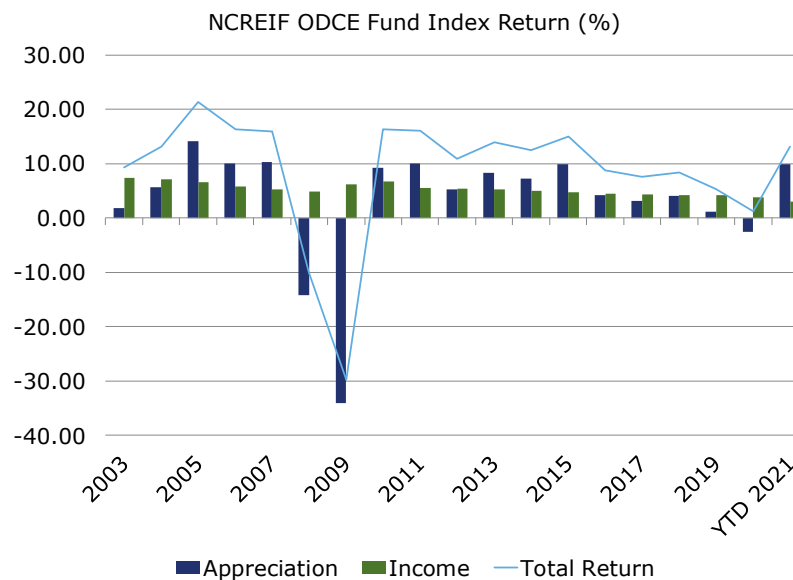
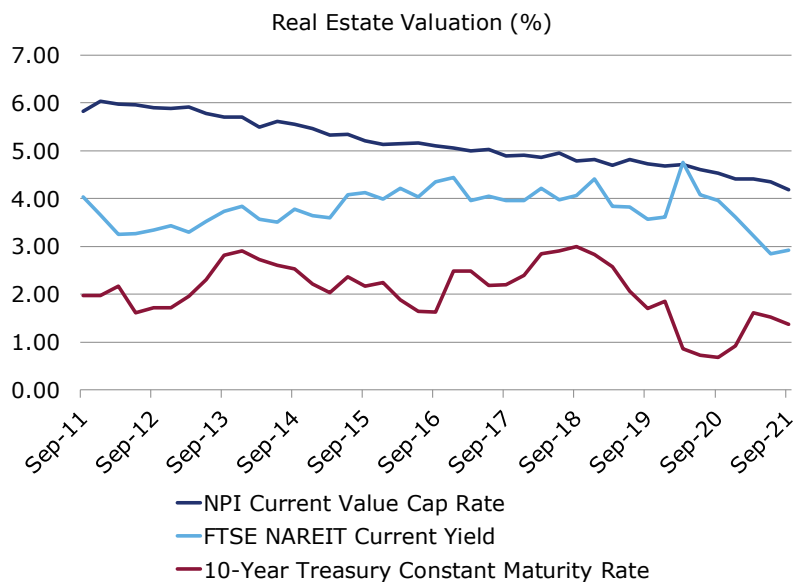
As of 9/30/2021		YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Bloomberg High Yield		4.0	0.9	4.5	11.3	6.9	6.5	7.4
S&P LSTA Leveraged Loan		3.7	1.0	3.2	6.7	3.9	4.3	4.7
High Yield Quality Distribution	Weight							
Ba U.S. High Yield	53.8%	3.2	1.1	3.8	9.7	8.7	6.8	7.5
B U.S. High Yield	34.1%	4.5	0.6	4.0	10.0	6.1	6.0	6.8
Caa U.S. High Yield	11.7%	6.3	0.8	8.0	18.7	3.1	6.1	7.9
Ca to D U.S. High Yield	0.4%	19.0	0.2	29.2	73.3	0.1	10.7	0.9
Non-Rated U.S. High Yield	0.0%	0.0	0.0	0.0	0.0	-0.8	2.2	3.4



Data Sources: Bloomberg

Real Assets

As of 9/30/2021	Quarter	YTD	1 Year	3 Year	5 Year	10 Year
Bloomberg U.S. TIPS	1.8	3.5	5.2	7.4	4.3	3.1
Bloomberg Commodity Index	6.6	29.1	42.3	6.9	4.5	-2.7
Bloomberg Gold Index	-1.0	-7.9	-8.2	12.1	4.7	-0.1
Wilshire Global RESI Index	0.4	18.5	34.4	8.2	6.2	9.9
NCREIF ODCE Fund Index	6.6	13.1	14.6	7.1	7.5	9.9
NCREIF Timberland Index	1.9	4.4	5.0	2.4	2.9	4.9
FTSE Global Core Infrastructure 50/50	-0.1	7.4	16.7	8.5	7.9	10.0
Alerian Midstream Energy	-1.3	38.9	66.9	3.9	2.4	n.a.
Bitcoin	25.6	49.8	305.7	87.8	135.0	147.0



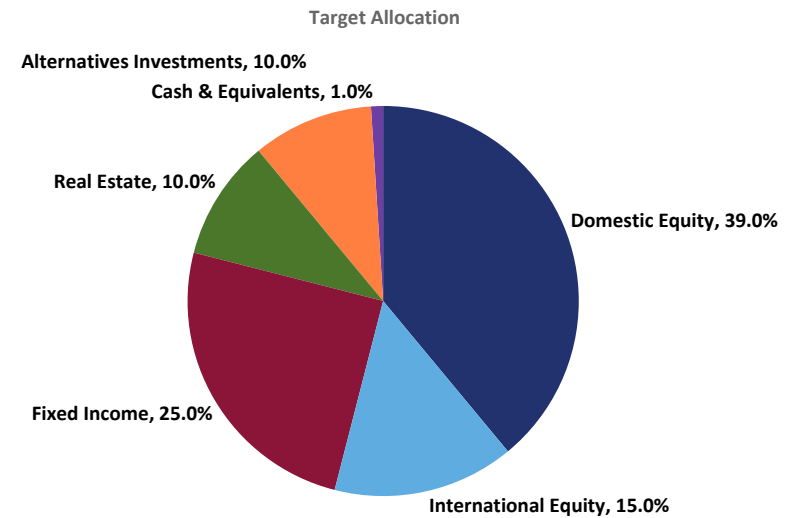
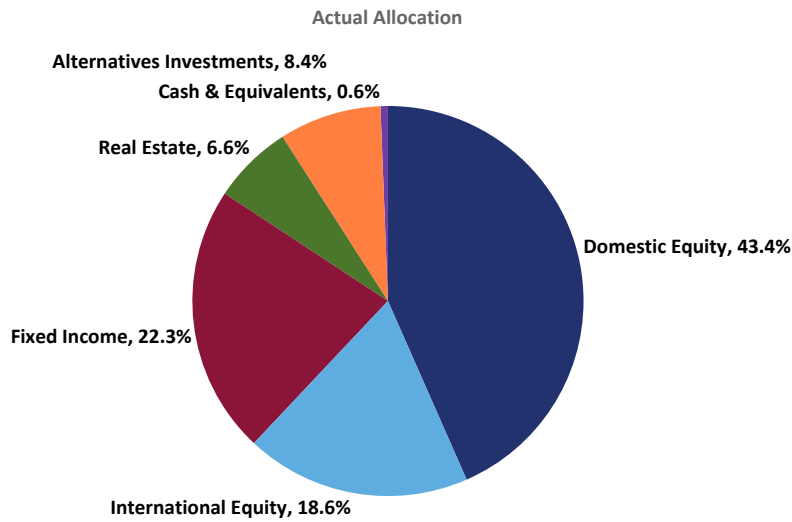
Data Sources: Bloomberg, National Council of Real Estate Investment Fiduciaries

Total Fund

Asset Allocation

Total Fund

Periods Ended As of September 30, 2021

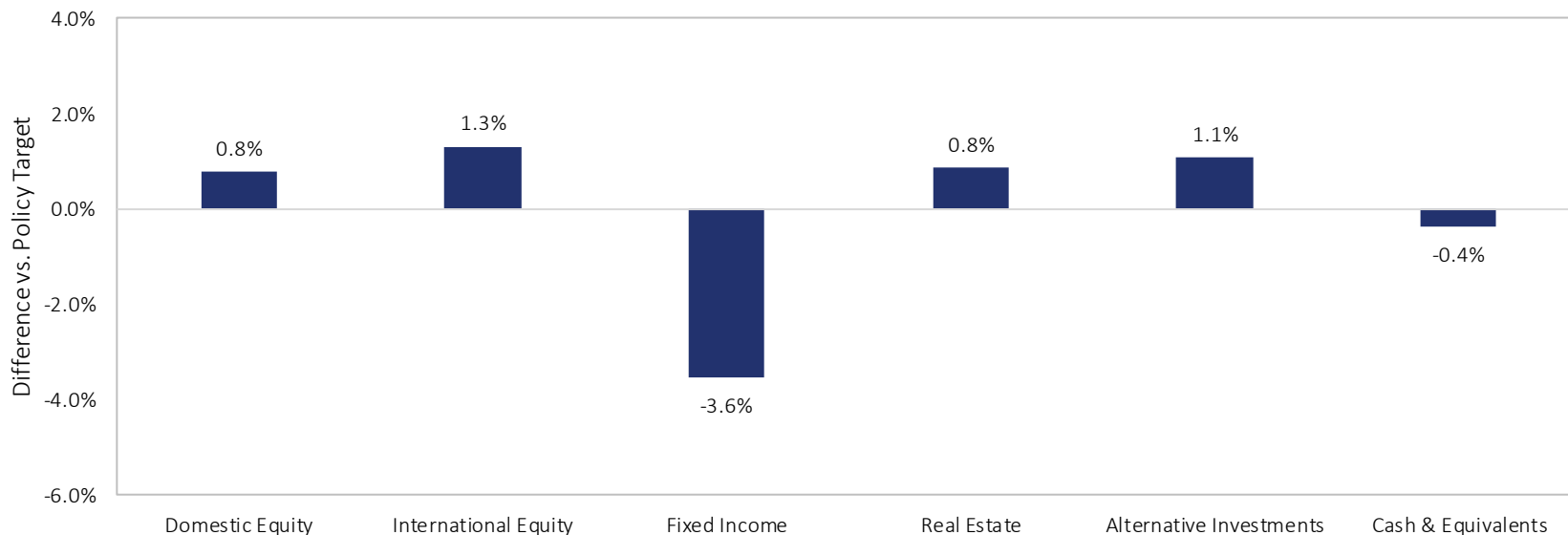


	Actual Allocation \$Millions	Actual Allocation %	Target Allocation %	Differences %	Differences \$Millions
Total Fund	54,874	100.0	100.0	0.0	
Domestic Equity	23,824	43.4	39.0	4.4	2,423
International Equity	10,206	18.6	15.0	3.6	1,975
Fixed Income	12,226	22.3	25.0	-2.7	-1,492
Real Estate	3,645	6.6	10.0	-3.4	-1,842
Alternatives Investments	4,636	8.4	10.0	-1.6	-851
Cash & Equivalents	337	0.6	1.0	-0.4	-212

Projected Deviations from the Benchmark

As of September 30, 2021

Projected Asset Allocation Difference vs. Target



- Includes committed, but unfunded amounts for real estate (\$1.43 billion) and alternatives (\$2.30 billion). Assumes real estate and alternatives allocations are fully funded as of quarter-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

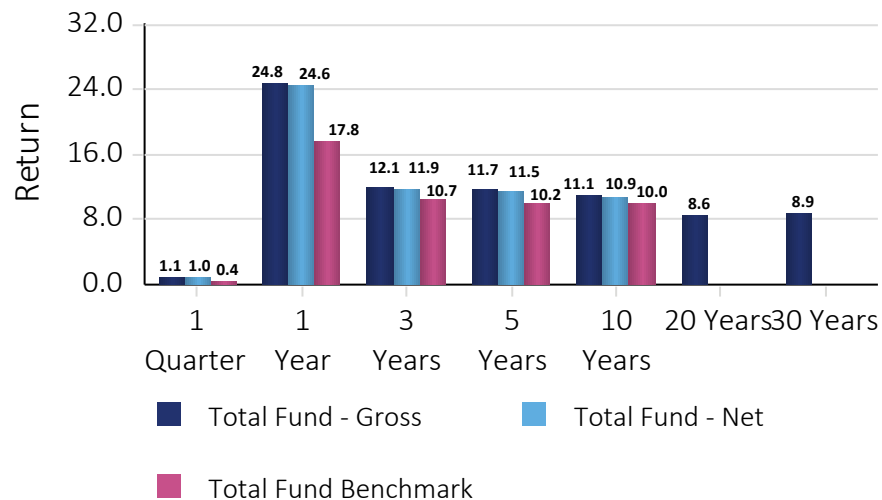
Private Equity Proxy: 60% Domestic Equity, 40% International Equity
 Real Estate Proxy: 50% Domestic Equity, 30% International Equity, 20% Fixed Income

Composite Performance Summary

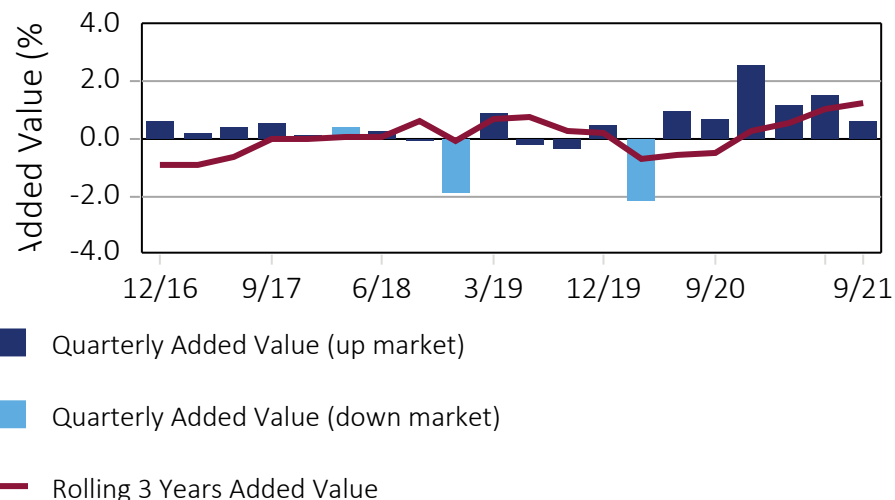
Total Fund

Periods Ended September 30, 2021

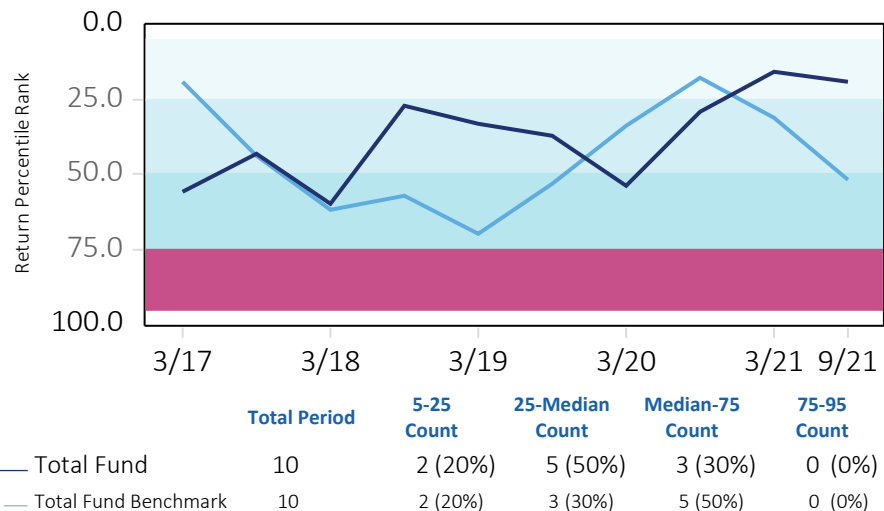
Comparative Performance



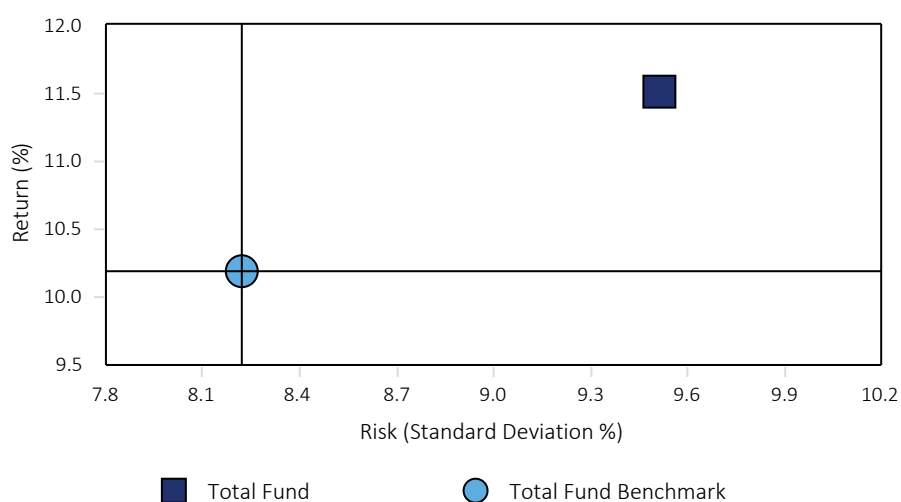
Added Value History



Rolling Percentile Rank : All Public Plans > \$1B - Total Fund



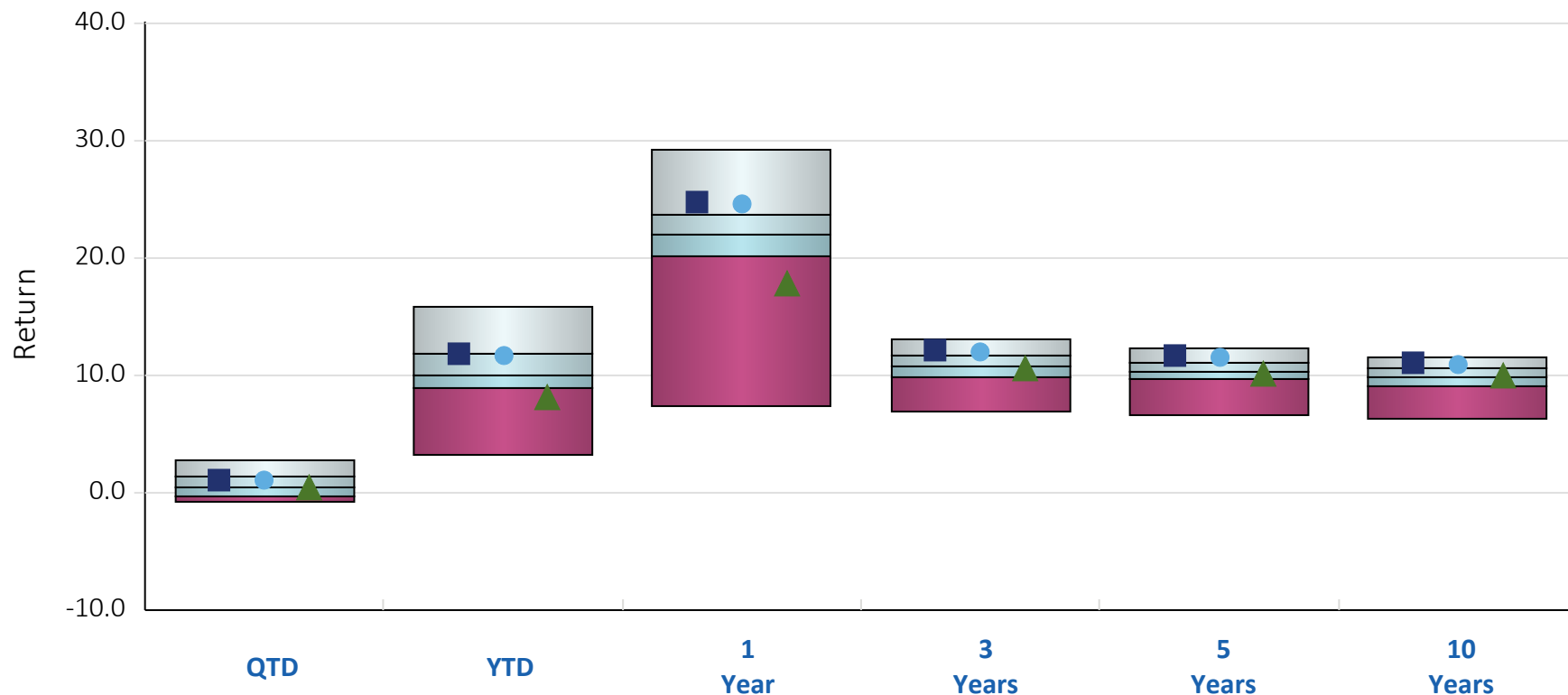
Risk and Return 10/01/16 - 09/30/21



Plan Sponsor Peer Group Analysis

Total Fund vs All Public Plans > \$1B-Total Fund(Gross)

Periods Ended September 30, 2021



	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ Total Fund	1.08 (33)	11.89 (24)	24.78 (16)	12.11 (13)	11.72 (11)	11.12 (14)
● Total Fund - Net	1.04 (35)	11.76 (27)	24.57 (18)	11.93 (19)	11.51 (16)	10.89 (17)
▲ Total Fund Benchmark	0.43 (53)	8.19 (82)	17.81 (89)	10.67 (52)	10.20 (54)	10.04 (45)
5th Percentile	2.80	15.90	29.20	13.06	12.24	11.54
1st Quartile	1.40	11.83	23.67	11.71	11.14	10.59
Median	0.48	10.07	21.96	10.70	10.36	9.88
3rd Quartile	-0.23	8.85	20.15	9.81	9.73	9.08
95th Percentile	-0.76	3.21	7.37	6.85	6.58	6.32
Population	137	137	137	136	135	127

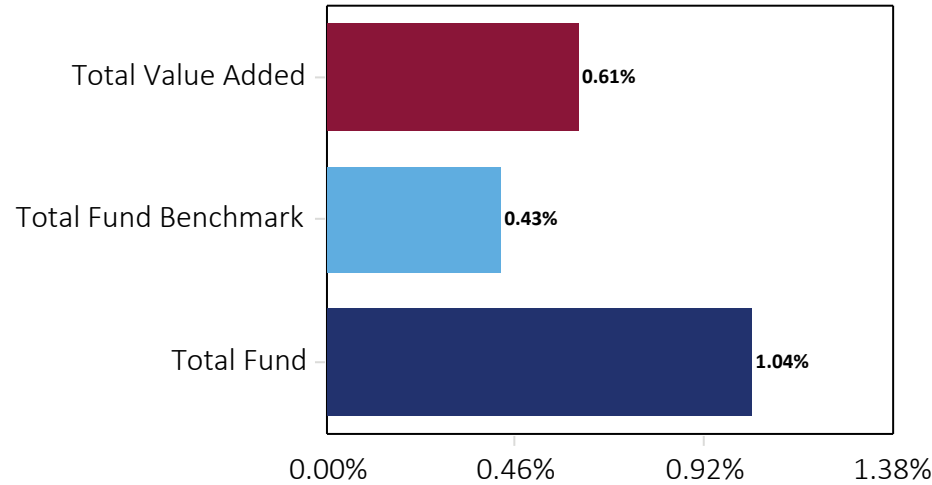
Total Fund Benchmark = 39.0% Russell 3000 Index, 25.0% Blmbg Aggregate, 15.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Val Wt Nt, 10.0% 9% Annually and 1.0% 3-month Treasury Bill.

Total Fund Attribution

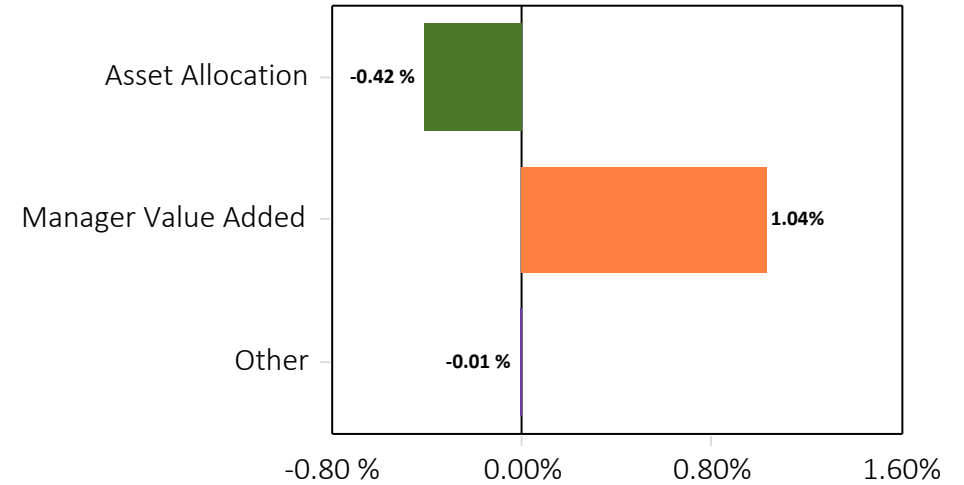
Total Fund

1 Quarter Ending September 30, 2021

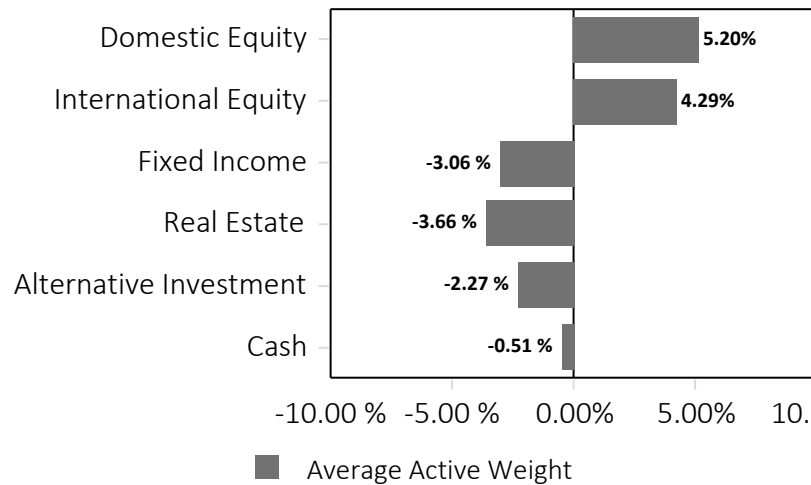
Total Fund Performance



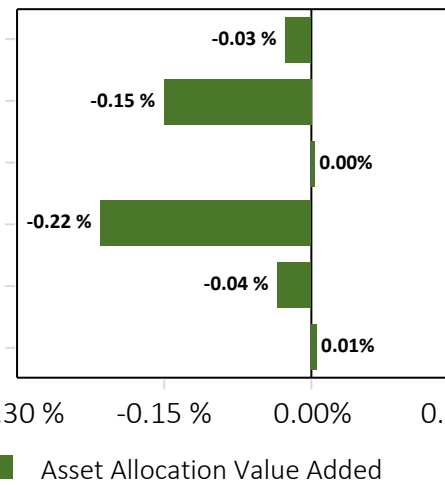
Total Value Added: 0.61%



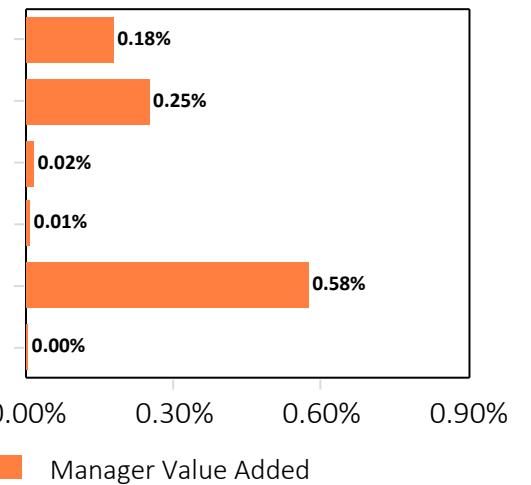
Asset Class Under or Overweighting



Asset Allocation Value Added: -0.42%



Total Manager Value Added: 1.04%



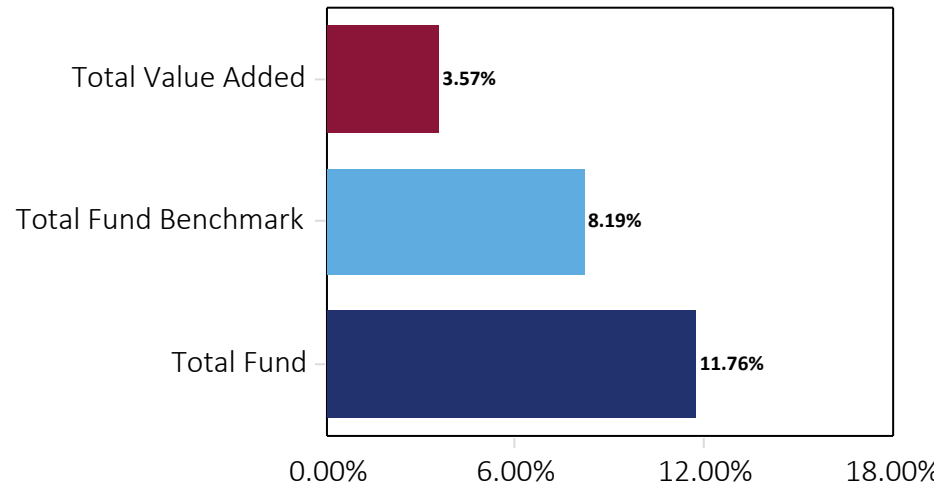
Total Fund Benchmark = 39.0% Russell 3000 Index, 25.0% Blmbg Aggregate, 15.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Val Wt Nt, 10.0% 9% Annually and 1.0% 3-month Treasury Bill.

Total Fund Attribution

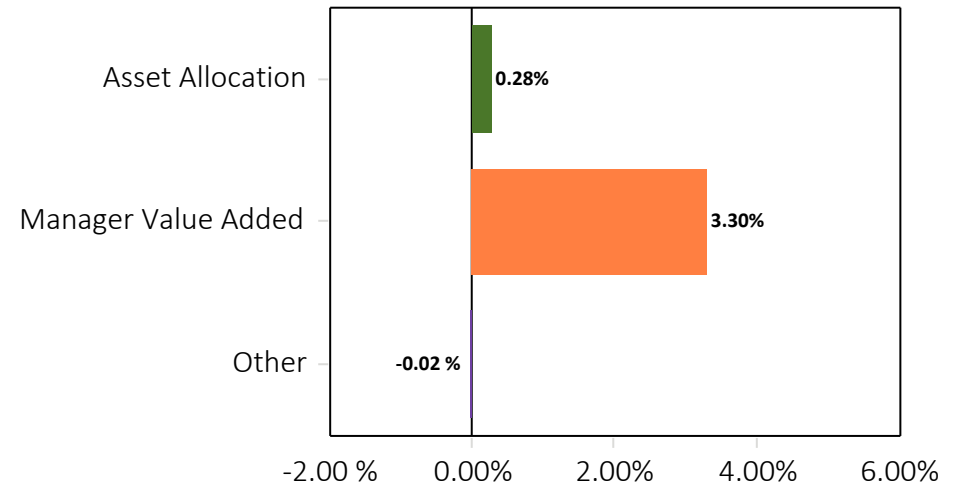
Total Fund

Year To Date Ending September 30, 2021

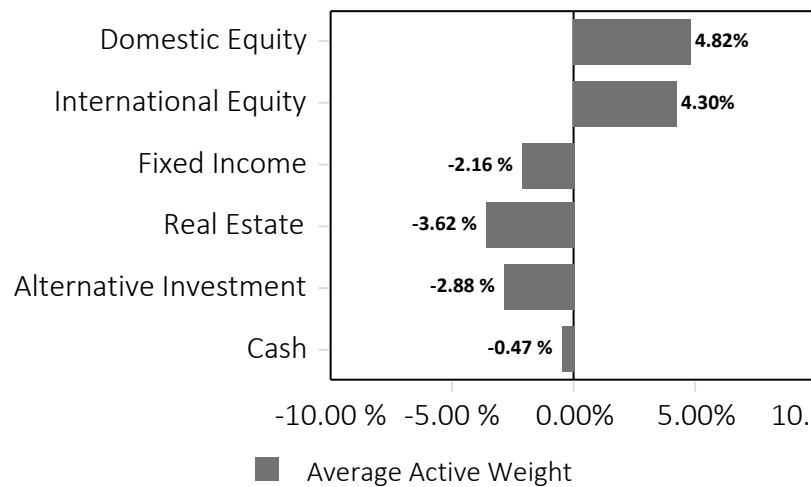
Total Fund Performance



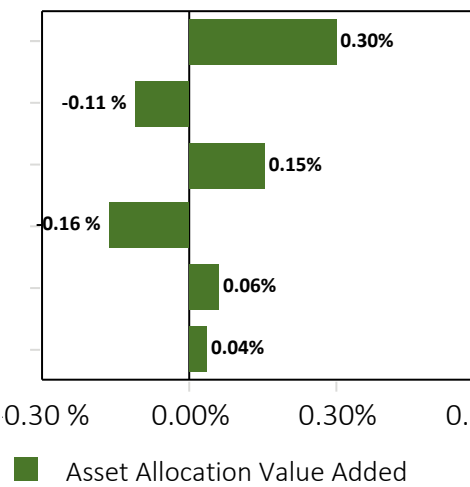
Total Value Added: 3.57%



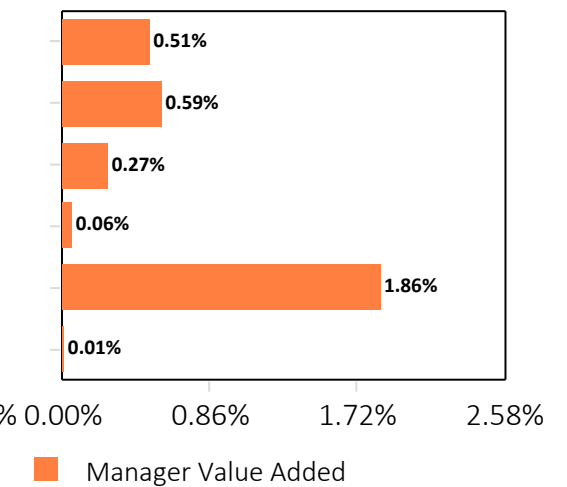
Asset Class Under or Overweighting



Asset Allocation Value Added: 0.28%



Total Manager Value Added: 3.30%



Total Fund Benchmark = 39.0% Russell 3000 Index, 25.0% Blmbg Aggregate, 15.0% MSCI ACWI ex US, 10.0% NCREIF NFI-ODCE Val Wt Nt, 10.0% 9% Annually and 1.0% 3-month Treasury Bill.

Asset Class Returns

Periods Ended September 30, 2021

	Performance (%)									
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date
Total Fund	1.08	11.89	24.78	12.11	11.72	11.12	8.61	8.86	10.14	1/1/1982
Total Fund - Net	1.04	11.76	24.57	11.93	11.51	10.89				
Total Fund Benchmark	0.43	8.19	17.81	10.67	10.20	10.04				
Domestic Equity	0.34	16.40	36.22	15.80	16.87	16.61	10.37	11.07	12.11	1/1/1982
Domestic Equity - Net	0.30	16.26	36.00	15.60	16.66	16.36				
Blended Benchmark (U.S. Equity)	-0.10	14.99	31.88	16.00	16.85	16.58	10.05	10.67		
U.S. Equity IMRF Custom Benchmark	-0.24	14.86	32.51	14.45	15.38					
International Equity	-1.63	9.13	29.14	10.34	10.65	9.46	8.32	7.73	8.12	9/1/1986
International Equity - Net	-1.71	8.88	28.68	9.97	10.28	9.10				
MSCI AC World ex USA (Net)	-2.99	5.90	23.92	8.03	8.94	7.48	7.15			
International Equity IMRF Custom Benchmark	-2.93	5.88	24.20	8.14	9.04					
Fixed Income	0.16	-0.43	1.27	5.82	3.77	4.09	5.25	6.13	8.01	1/1/1982
Fixed Income - Net	0.13	-0.51	1.16	5.71	3.63	3.94				
Blmbg. U.S. Aggregate	0.05	-1.56	-0.90	5.35	2.94	3.01	4.33	5.46	7.47	
Fixed Income IMRF Custom Benchmark	0.12	-0.92	0.37	5.43	3.28					
Real Estate	7.10	14.08	17.35	10.16	9.84	10.78	7.74	5.58	5.79	5/1/1985
Blended Benchmark (Real Estate)	6.41	12.41	13.64	6.13	6.56	9.14	7.34	7.42	7.67	
Alternatives Investments	9.87	34.75	46.80	20.90	17.59	12.45	9.01	12.93	11.59	2/1/1986
Alternatives Investments - Net	9.87	34.73	46.76	20.85	17.48	12.22				
Alternatives Custom Benchmark	2.18	6.68	9.00	9.00	9.00	9.00	10.53	12.00	12.47	
Private Equity	11.13	40.97	54.97	24.72	21.27	14.70	10.79	15.71	13.92	2/1/1986
Alternatives Custom Benchmark	2.18	6.68	9.00	9.00	9.00	9.00	10.53	12.00	12.47	
Agriculture	-0.02	-1.90	1.18	0.28	-1.29	8.01	6.96		6.56	10/1/1997
NCREIF Farmland Index	1.51	3.89	5.54	4.90	5.53	10.19	12.17		11.22	

Benchmark definitions are on the following pages.

Real Estate. Private Equity. Agriculture. Timberland. Unlisted Infrastructure returns shown are gross of fees.

Asset Class Returns

Periods Ended September 30, 2021

	Performance (%)									
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	Since Inception	Inception Date
Timberland	1.65	-5.84	-6.46	-0.40	0.34	1.74	3.13		6.82	10/1/1992
NCREIF Timberland Index	1.89	4.41	5.01	2.42	2.90	4.89	5.84		8.27	
Unlisted Infrastruct	2.86	9.70	18.95	12.12					12.45	4/1/2018
Alternatives Custom Benchmark	2.18	6.68	9.00	9.00					9.00	
Cash	0.81	1.79	2.09	2.87	2.44	1.34	1.47	3.05	3.75	7/1/1986
90 Day US Treasury Bill	0.02	0.04	0.07	1.18	1.15	0.61	1.28	2.46	3.15	

Benchmark definitions are on the following pages.

Real Estate. Private Equity. Agriculture. Timberland. Unlisted Infrastructure returns shown are gross of fees.

Asset Class Returns

Periods Ended September 30, 2021

	Performance (%)										
	YTD	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total Fund	11.89	14.98	19.77	-4.23	16.02	8.01	0.53	6.15	20.20	13.84	-0.29
Total Fund - Net	11.76	14.79	19.57	-4.40	15.78	7.77	0.29	5.90	19.94	13.58	-0.50
Total Fund Benchmark	8.19	13.16	18.68	-3.12	14.37	7.89	1.37	7.33	15.84	12.19	1.47
Domestic Equity	16.40	22.07	29.23	-6.08	19.83	12.62	0.04	9.81	37.65	17.39	-0.74
Domestic Equity - Net	16.26	21.86	29.00	-6.25	19.59	12.35	-0.22	9.54	37.32	17.09	-0.99
Blended Benchmark (U.S. Equity)	14.99	20.89	31.02	-5.24	21.13	12.74	0.48	12.47	33.47	16.38	1.08
International Equity	9.13	13.52	23.76	-14.13	27.95	3.56	-1.90	-2.80	20.24	19.11	-12.27
International Equity - Net	8.88	13.08	23.39	-14.41	27.52	3.21	-2.23	-3.10	19.87	18.70	-12.50
MSCI AC World ex USA (Net)	5.90	10.65	21.51	-14.20	27.19	4.50	-5.66	-3.87	15.29	16.83	-13.71
Fixed Income	-0.43	7.87	9.50	-0.24	4.82	4.87	0.25	5.97	-0.59	7.41	7.60
Fixed Income - Net	-0.51	7.75	9.37	-0.39	4.66	4.71	0.10	5.81	-0.75	7.24	7.44
Blmbg. U.S. Aggregate	-1.56	7.51	8.72	0.01	3.54	2.65	0.55	5.97	-2.02	4.21	7.84
Real Estate	14.08	4.20	9.81	8.36	10.03	8.97	12.54	13.02	10.82	12.85	12.29
Real Estate - Net	14.03	4.16	9.76	8.36	10.03	8.97	12.46	13.02	10.82	12.85	12.29
Blended Benchmark (Real Estate)	12.41	0.34	4.39	7.36	6.66	7.79	13.95	11.46	12.90	11.54	15.26
Alternatives Investments	34.75	12.31	9.48	17.32	12.09	5.32	6.90	11.63	12.11	6.24	5.05
Alternative Investments - Net	34.73	12.27	9.43	17.14	11.91	5.00	6.47	11.16	11.86	6.00	4.84
Alternatives Custom Benchmark	6.68	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Private Equity	40.97	14.50	11.78	21.46	15.61	8.60	8.41	13.72	14.13	5.61	12.33
Alternatives Custom Benchmark	6.68	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Agriculture	-1.90	4.69	-5.82	0.28	-4.58	-0.47	20.18	24.73	25.68	13.55	9.70
NCREIF Farmland Index	3.89	3.08	4.81	6.74	6.19	7.09	10.35	12.63	20.91	18.58	15.16
Timberland	-5.84	4.51	1.00	-3.62	4.68	-4.58	4.99	12.83	9.14	-3.59	3.20
NCREIF Timberland Index	4.41	0.81	1.30	3.21	3.63	2.59	4.97	10.48	9.69	7.75	1.57
Unlisted Infrastruct	9.70	15.90	9.65								
Alternatives Custom Benchmark	6.68	9.00	9.00								

Benchmark definitions are on the following pages.

Private Equity, Agriculture, Timberland, Unlisted Infrastructure returns shown are gross of fees.

Asset Class Returns

Periods Ended September 30, 2021

	Performance (%)										
	YTD	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Cash	1.79	2.56	3.59	2.36	1.67	0.63	0.29	0.17	0.11	0.23	0.24
90 Day US Treasury Bill	0.04	0.67	2.28	1.87	0.86	0.25	0.03	0.04	0.05	0.08	0.08

Benchmark definitions are on the following pages.

Private Equity, Agriculture, Timberland, Unlisted Infrastructure returns shown are gross of fees.

Benchmark Definitions

Account Name	From Date	To Date	Benchmark
Domestic Equity Blended	1/1/2015	Present	100% Russell 3000 Index
Benchmark	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)** 100%
Benchmark	1/1/2007	12/31/2012	100% NPI + 1%
	1/1/2005	12/31/2016	100% Consumer Price Index + 5%
Alternatives Custom	7/1/2010	Present	100% Annualized rate of 9.0%
Benchmark	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.

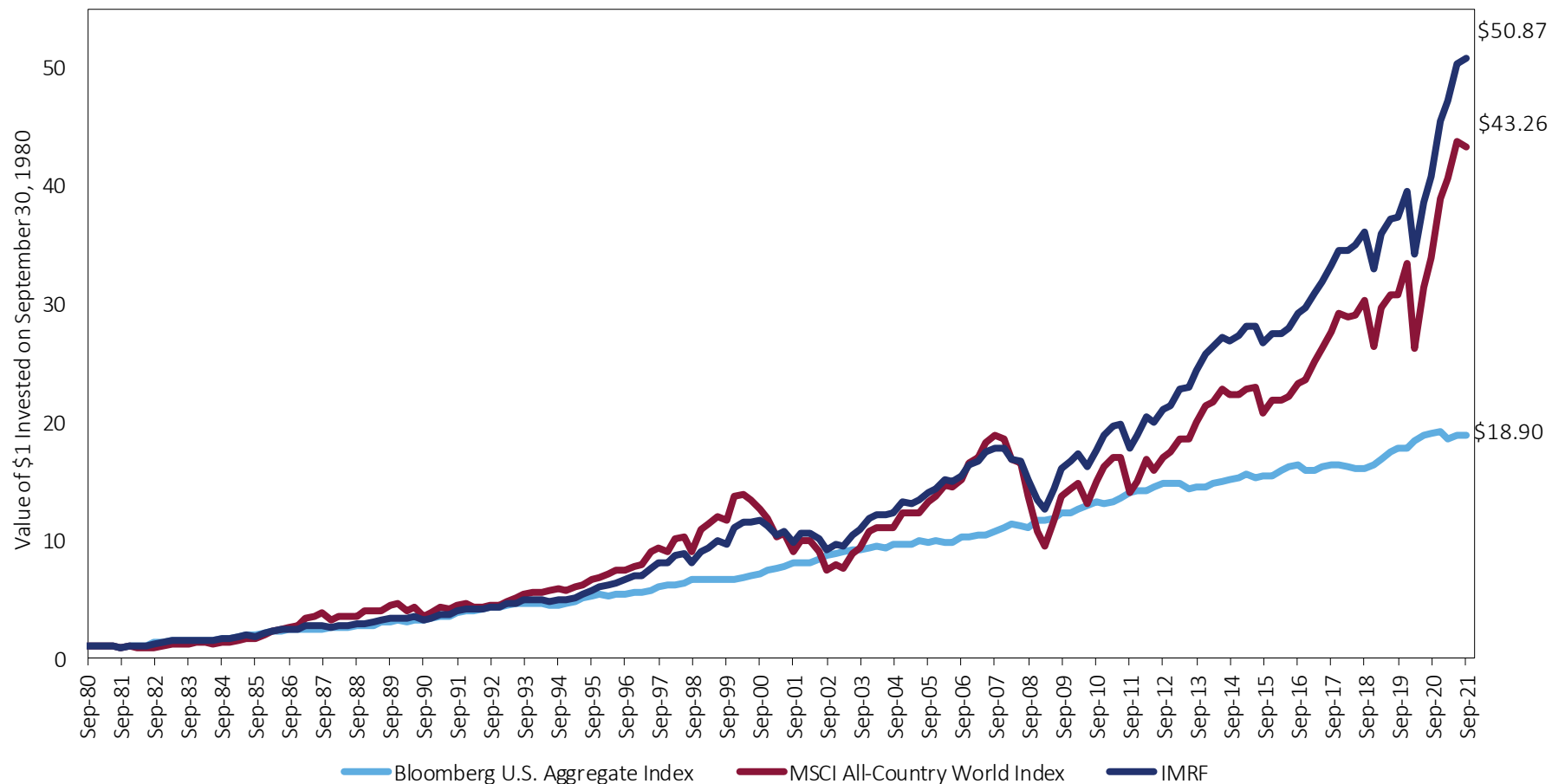
**ODCE returns are updated quarterly.

Benchmark Definitions

Account Name	From Date	To Date	Benchmark
Total Fund Benchmark	1/1/2021	Present	The total fund benchmark is a blend of the asset class benchmark returns weighted by the target allocation for each asset class: 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.

Total Fund Growth on a Dollar

Growth of a Dollar - As of September 30, 2021



Investment Manager Asset Allocation

Periods Ended September 30, 2021

	Jun-2021		Sep-2021	
	\$	%	\$	%
Domestic Equity	24,069,084,986	44.00	23,823,936,761	43.42
Large Cap Growth	9,133,053,519	16.70	9,097,310,568	16.58
NTGI S&P 500 Growth	3,690,513,569	6.75	3,759,065,046	6.85
Sands Capital	3,264,374,903	5.97	3,134,975,842	5.71
Xponance Russell 1000 G	2,178,165,047	3.98	2,203,269,679	4.02
Large Cap Value	4,821,809,911	8.81	4,741,665,170	8.64
Dodge & Cox	1,826,952,979	3.34	1,797,754,542	3.28
LSV Asset	1,496,173,585	2.74	1,457,680,469	2.66
NTGI S&P 500 Value	1,498,683,347	2.74	1,486,230,159	2.71
Large Cap Pass. Core	3,398,577,933	6.21	3,125,171,219	5.70
NTGI MarketCap Idx.	3,398,577,933	6.21	3,125,171,219	5.70
Factor Diversity Strategies	1,255,998,413	2.30	1,255,128,306	2.29
U.S. Large Cap FDP-GSAM	1,255,998,413	2.30	1,255,128,306	2.29
Quantitative Factor Strategies	1,209,996,999	2.21	1,470,400,831	2.68
Quantitative US Equity - SciBeta	1,209,996,999	2.21	1,470,400,831	2.68
Small Cap Growth	1,160,293,183	2.12	1,039,742,351	1.89
Frontier Capital	964,847,439	1.76	838,557,020	1.53
FIAM Small Cap	195,445,744	0.36	201,185,331	0.37
Small Cap Value	2,114,919,967	3.87	2,075,333,670	3.78
Channing	333,057,183	0.61	326,073,284	0.59
DFA Small Cap Val.	827,658,649	1.51	822,130,374	1.50
Inv. Couns. Maryland	954,204,135	1.74	927,130,011	1.69

Investment Manager Asset Allocation

Periods Ended September 30, 2021

	Jun-2021		Sep-2021	
	\$	%	\$	%
Micro Cap	224,891,761	0.41	70,013,054	0.13
DFA Micro Cap (9-10)	224,891,761	0.41	70,013,054	0.13
Public Real Assets	749,543,302	1.37	949,171,592	1.73
Brookfield	181,944,002	0.33	181,361,077	0.33
Cohen & Steers	567,599,300	1.04	767,810,515	1.40
International Equity	10,620,150,178	19.41	10,206,160,855	18.60
Intl Large Cap Growth	1,838,913,514	3.36	1,806,557,256	3.29
EARNEST Part. Intl	627,836,196	1.15	626,468,256	1.14
William Blair	1,211,077,317	2.21	1,180,088,999	2.15
Intl Large Cap Value	1,415,007,681	2.59	1,383,392,712	2.52
Brandes Investment	615,028,051	1.12	606,476,291	1.11
Mondrian	655,567,379	1.20	634,645,890	1.16
Lazard	144,412,250	0.26	142,270,532	0.26
Intl Large Cap Core	4,943,885,212	9.04	4,702,338,776	8.57
Arrowstreet Capital	1,125,244,504	2.06	1,092,980,252	1.99
Brown Capital	650,536,026	1.19	659,844,686	1.20
GlobeFlex Capital	884,712,321	1.62	872,450,610	1.59
Xponance Intl EQ	107,482,445	0.20	106,599,287	0.19
NTGI MSCI EAFE	2,174,943,503	3.98		0.00
NTGI ACWI ex US Index Fund		0.00	1,969,603,898	3.59
Progress Intl Equity	846,696	0.00	740,326	0.00
Transition Account	119,718	0.00	119,717	0.00

Investment Manager Asset Allocation

Periods Ended September 30, 2021

	Jun-2021		Sep-2021	
	\$	%	\$	%
Intl All Cap Developed	170,019,885	0.31	169,525,470	0.31
Ativo International	170,019,885	0.31	169,525,470	0.31
International Small Cap	706,538,238	1.29	721,812,535	1.32
Franklin Templeton	259,693,686	0.47	255,537,841	0.47
William Blair IntSC	446,844,552	0.82	466,274,694	0.85
Emerging Mkt Equity	1,545,785,649	2.83	1,422,534,105	2.59
Genesis Asset Mngrs.	1,545,785,649	2.83	1,422,534,105	2.59

Investment Manager Asset Allocation

Periods Ended September 30, 2021

	Jun-2021		Sep-2021	
	\$	%	\$	%
Fixed Income	12,052,637,222	22.03	12,226,422,984	22.28
Domestic Fixed Core	3,827,438,231	7.00	3,829,440,865	6.98
Attucks Fixed Income	99,648,372	0.18	99,754,469	0.18
Brandes FI Core	373,691,110	0.68	374,691,783	0.68
EARNEST Partners	1,025,034,588	1.87	1,024,056,560	1.87
Xponance Yield Advantage Agg.	1,109,271,045	2.03	1,111,078,480	2.02
Garcia Hamilton	1,087,003,802	1.99	1,086,780,228	1.98
Ramirez Asset Management	132,789,313	0.24	133,079,345	0.24
Domestic Fixed Passive Core	3,653,581,639	6.68	3,656,423,449	6.66
NTGI Blmbg Agg.	1,816,156,108	3.32	1,817,507,000	3.31
BlackRock US Debt I	1,837,425,530	3.36	1,838,916,449	3.35
Domestic Fixed Core Plus	2,939,767,840	5.37	2,940,543,448	5.36
LM Capital Group FI	964,191,576	1.76	960,213,087	1.75
Progress Inv. FI	1,721	0.00	1,668	0.00
BMO - TCH	660,429,037	1.21	662,419,279	1.21
Western Asset	1,129,386,459	2.06	1,131,457,873	2.06
Longfellow Core Plus	185,759,048	0.34	186,451,541	0.34
Bank Loans	574,216,967	1.05	735,502,538	1.34
Barings Global Loan Fund	574,216,967	1.05	735,502,538	1.34
Emerging Markets Debt	232,656,510	0.43	228,557,725	0.42
Standish-Mellon EMD	232,656,510	0.43	228,557,725	0.42
High Yield	824,976,036	1.51	835,954,960	1.52
MacKay Shields	824,955,304	1.51	835,939,057	1.52

Investment Manager Asset Allocation

Periods Ended September 30, 2021

	Jun-2021		Sep-2021	
	\$	%	\$	%
FIAM High Yield	20,732	0.00	15,903	0.00

Investment Manager Asset Allocation

Periods Ended September 30, 2021

	Jun-2021		Sep-2021	
	\$	%	\$	%
Real Estate	3,429,574,704	6.27	3,645,191,985	6.64
Real Estate Core Cmp	1,836,015,652	3.36	1,961,523,098	3.57
TA Assoc. Buckhead	659,233,580	1.21	743,116,202	1.35
Barings Euro Core Property	141,713,875	0.26	145,789,868	0.27
Blackstone Property Euro	158,726,776	0.29	161,281,845	0.29
INVESCO Core Real Estate	203,919,196	0.37	212,036,109	0.39
INVESCO European real estate	63,343,340	0.12	57,943,196	0.11
AEW Core Property Tr	235,414,221	0.43	243,116,484	0.44
CBRE Core Partners	217,552,560	0.40	229,724,994	0.42
JPM Strategic Property Fund	156,112,104	0.29	168,514,400	0.31
RE Non-Core Cmp	1,593,559,052	2.91	1,683,668,887	3.07
Artemis MWBE Spruce	241,674,333	0.44	295,920,495	0.54
Franklin T. EMREFF	6,865,209	0.01	6,865,209	0.01
Security Capital	66,614,519	0.12	70,192,975	0.13
Dune II	8,810,759	0.02	10,567,951	0.02
Non-Core Real Estate Funds	1,052,149,698	1.92	1,072,091,930	1.95
Non-Core Intl Real Estate	217,346,608	0.40	227,943,279	0.42
Almanac ARS V	97,925	0.00	87,048	0.00
Alternatives Investments	4,150,572,118	7.59	4,636,171,451	8.45
Absolute Return	138,938	0.00	117,832	0.00
Aurora Investment	138,938	0.00	117,832	0.00
Private Equity	3,589,198,550	6.56	4,061,245,044	7.40

Investment Manager Asset Allocation

Periods Ended September 30, 2021

	Jun-2021		Sep-2021	
	\$	%	\$	%
Abbott S/A Comp.	490,816,756	0.90	521,595,639	0.95
Muller Monroe MPEFF	557,400	0.00	522,930	0.00
Pantheon S/A Comp.	333,814,055	0.61	396,576,222	0.72
Private Equity Fund - Domestic	2,157,588,556	3.94	2,507,130,404	4.57
Private Equity Fund - International	547,493,829	1.00	544,426,113	0.99
Oakbrook Opportunities Fund	58,927,953	0.11	90,993,736	0.17
Private Credit	199,180,246	0.36	190,976,623	0.35
Private Credit Fund - Domestic	199,180,246	0.36	190,976,623	0.35
Agriculture	212,042,460	0.39	218,013,625	0.40
Premiere Partners IV	212,042,460	0.39	218,013,625	0.40
Timberland	67,469,042	0.12	67,577,675	0.12
Forest Investment	67,469,042	0.12	67,577,675	0.12
Unlisted Infrastructure	82,542,882	0.15	98,240,652	0.18
Unlisted Infrastructure Funds	82,542,882	0.15	98,240,652	0.18
Cash & Equivalents	379,519,222	0.69	336,529,831	0.61
Total Fund	54,701,538,430	100.00	54,874,413,867	100.00

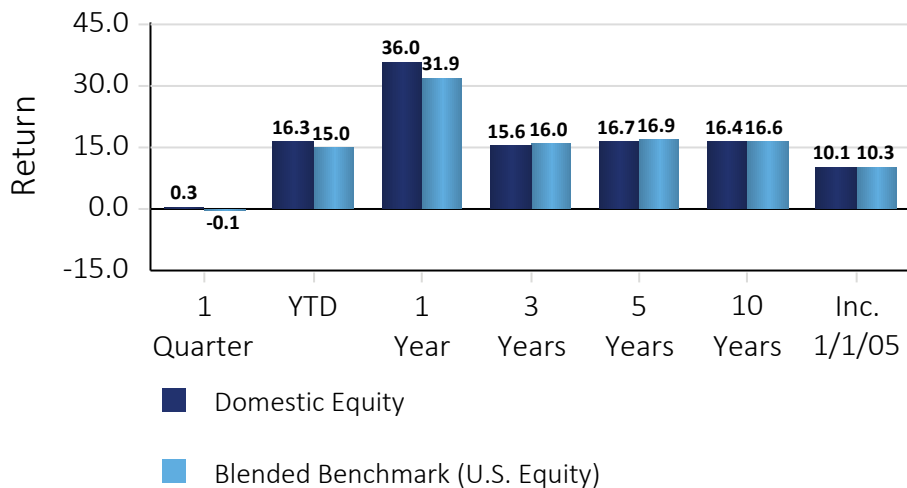
Domestic Equity

Composite Performance Summary

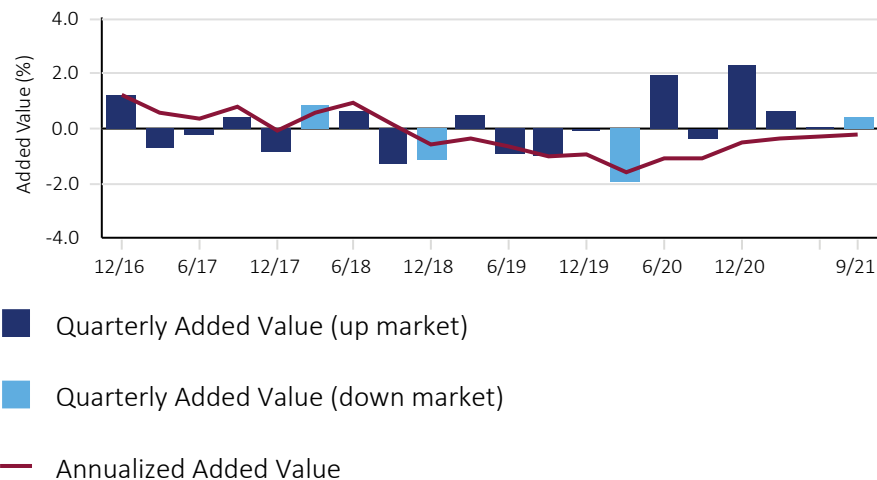
Domestic Equity

Periods Ended September 30, 2021

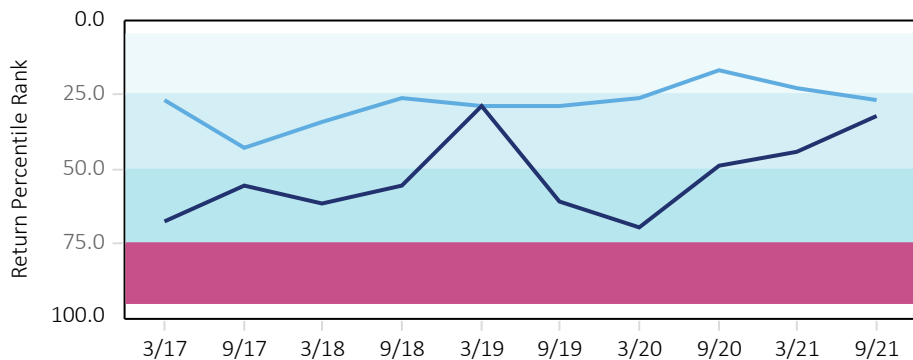
Comparative Performance



Added Value History

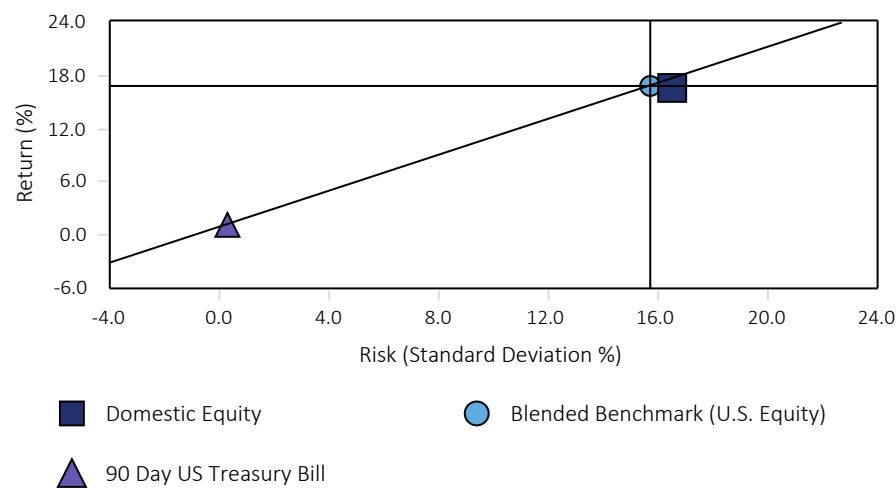


Rolling Percentile Rank: All Public Plans > \$1B-US Equity Segment



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
— Domestic Equity	10	0 (0%)	4 (40%)	6 (60%)	0 (0%)
— Benchmark	10	2 (20%)	8 (80%)	0 (0%)	0 (0%)

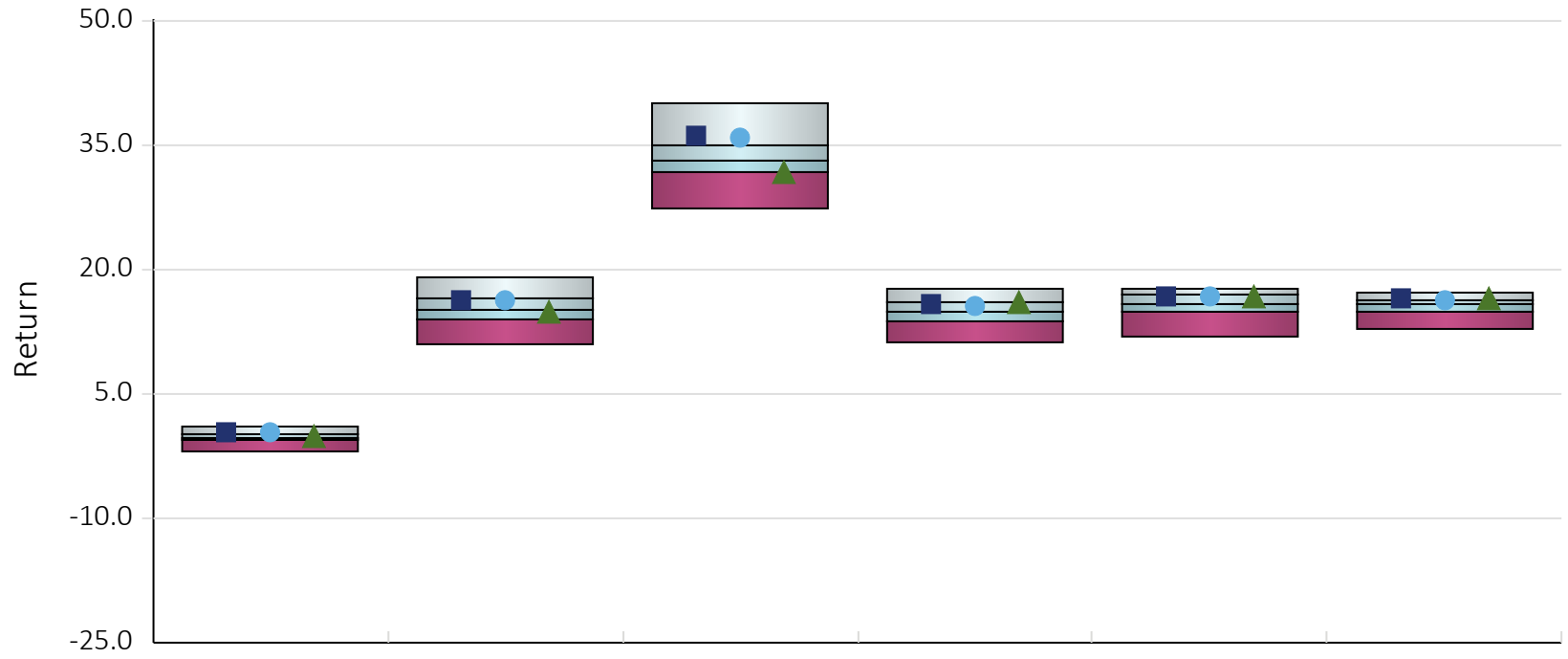
Risk and Return 10/1/16 - 09/30/21



Plan Sponsor Peer Group Analysis

Domestic Equity vs All Public Plans > \$1B-US Equity Segment(Gross)

Periods Ended September 30, 2021



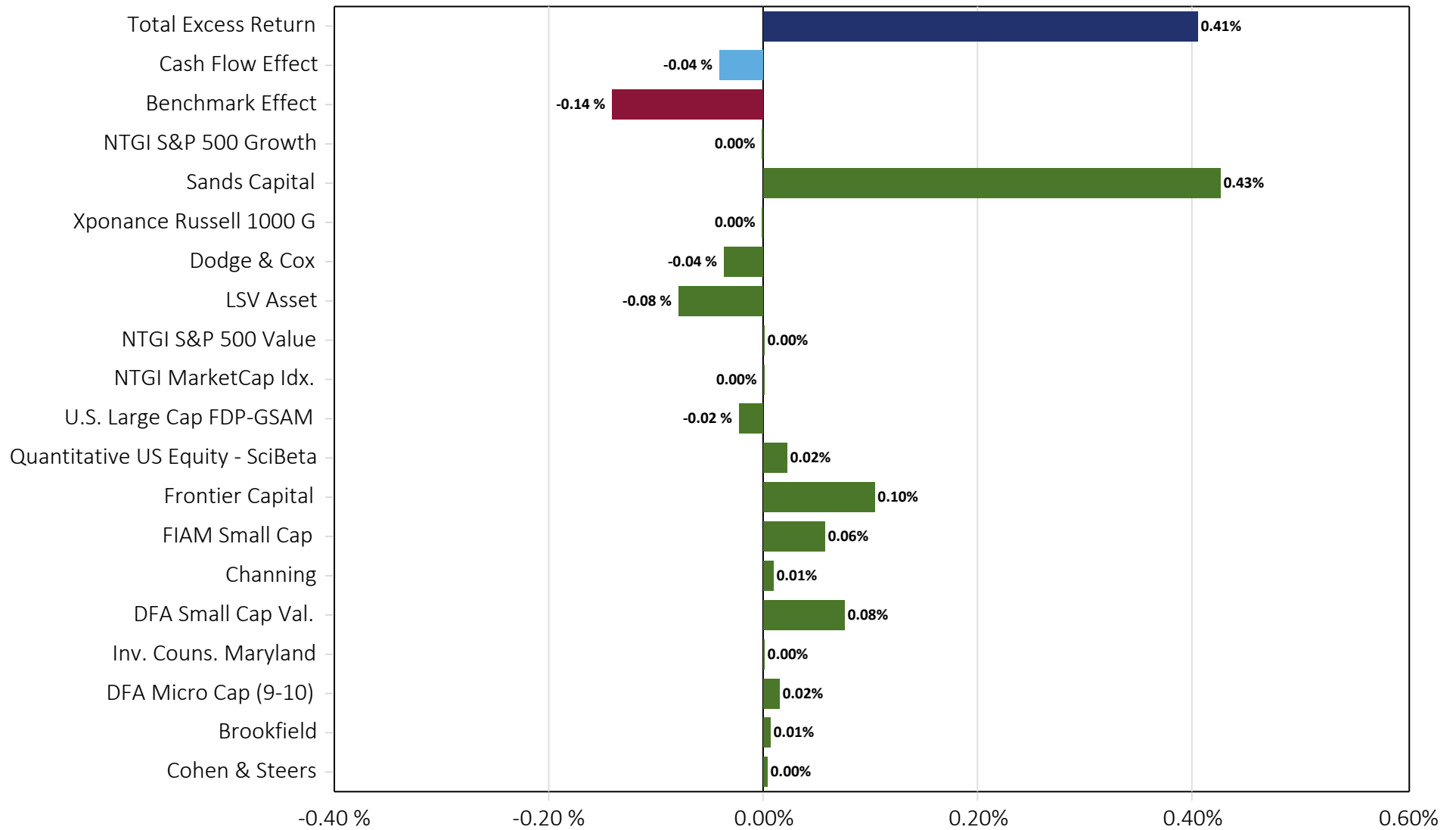
	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ Domestic Equity	0.34 (23)	16.40 (27)	36.22 (20)	15.80 (30)	16.87 (30)	16.61 (20)
● Domestic Equity - Net	0.30 (24)	16.26 (28)	36.00 (21)	15.60 (32)	16.66 (35)	16.36 (25)
▲ Blended Benchmark (U.S. Equity)	-0.10 (43)	14.99 (58)	31.88 (74)	16.00 (27)	16.85 (31)	16.58 (22)
5th Percentile	1.06	19.13	39.98	17.58	17.58	17.12
1st Quartile	0.20	16.51	34.95	16.18	17.05	16.30
Median	-0.22	15.26	33.12	14.81	15.96	15.85
3rd Quartile	-0.53	13.94	31.67	13.81	14.89	15.02
95th Percentile	-1.82	11.04	27.37	11.32	11.96	12.74
Population	62	58	56	49	46	33

Asset Class Attribution

Domestic Equity

Periods Ended 1 Quarter Ending September 30, 2021

1 Quarter



Performance

Domestic Equity

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Domestic Equity	23,823,936,761	0.34 (23)	16.40 (27)	36.22 (20)	15.80 (30)	16.87 (30)	16.61 (20)	12.11	1/1/1982
Domestic Equity - Net		0.30 (24)	16.26 (28)	36.00 (21)	15.60 (32)	16.66 (35)	16.36 (25)		
Blended Benchmark (U.S. Equity)		-0.10 (43)	14.99 (58)	31.88 (74)	16.00 (27)	16.85 (31)	16.58 (22)		
Russell 3000 Index		-0.10 (43)	14.99 (58)	31.88 (74)	16.00 (27)	16.85 (31)	16.60 (21)	11.98	
U.S. Equity IMRF Custom Benchmark		-0.24 (55)	14.86 (62)	32.51 (64)	14.45 (68)	15.38 (66)			
Large Cap Equity	18,219,275,264	0.86 (13)	15.98 (28)	33.63 (14)	17.18 (9)	17.94 (6)	17.17 (4)	11.86 (36)	1/1/1982
Large Cap Equity - Net		0.84 (13)	15.91 (31)	33.51 (14)	17.07 (10)	17.83 (7)	17.03 (5)		
Russell 1000 Index		0.21 (47)	15.19 (53)	30.96 (32)	16.43 (17)	17.11 (13)	16.76 (9)	12.12 (26)	
Large Cap Growth	9,097,310,568	2.49 (5)	14.49 (30)	30.44 (14)	23.81 (15)	24.14 (15)	19.90 (19)	12.99 (16)	1/1/1982
Large Cap Growth - Net		2.47 (5)	14.41 (31)	30.32 (15)	23.70 (15)	24.01 (16)	19.74 (22)		
LCG Blended Benchmark*		1.16 (23)	14.30 (33)	27.32 (42)	22.00 (26)	22.84 (27)	19.68 (24)		
Russell 1000 Growth Index		1.16 (23)	14.30 (33)	27.32 (42)	22.00 (26)	22.84 (27)	19.68 (24)	12.09 (38)	
NTGI S&P 500 Growth	3,759,065,046	1.86 (9)	16.43 (10)	28.86 (26)	20.21 (50)	21.11 (50)	18.95 (38)	9.89 (34)	8/1/2001
NTGI S&P 500 Growth - Net		1.86 (9)	16.43 (10)	28.85 (26)	20.20 (50)	21.10 (50)	18.94 (38)		
S&P 500 Growth		1.87 (9)	16.44 (10)	28.86 (26)	20.23 (49)	21.15 (50)	18.96 (38)	9.87 (35)	
Xponance Russell 1000 G	2,203,269,679	1.15 (23)	14.28 (33)	27.31 (43)	21.98 (27)			21.98 (27)	10/1/2018
Xponance Russell 1000 G - Net		1.15 (24)	14.27 (34)	27.28 (44)	21.96 (27)			21.96 (27)	
Russell 1000 Growth Index		1.16 (23)	14.30 (33)	27.32 (42)	22.00 (26)			22.00 (26)	
Sands Capital	3,134,975,842	4.31 (1)	13.14 (49)	33.75 (6)	28.68 (4)	28.36 (5)	22.61 (4)	15.35 (2)	11/1/2003
Sands Capital - Net		4.26 (1)	12.97 (52)	33.48 (6)	28.41 (5)	28.09 (5)	22.34 (4)		
LCG Blended Benchmark*		1.16 (23)	14.30 (33)	27.32 (42)	22.00 (26)	22.84 (27)	19.68 (24)	12.16 (29)	
Russell 1000 Growth Index		1.16 (23)	14.30 (33)	27.32 (42)	22.00 (26)	22.84 (27)	19.68 (24)	12.20 (28)	

* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those the S&P 500/Citigroup Growth Index.

** The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

*** Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

Performance

Domestic Equity

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Large Cap Value	4,741,665,170	-1.33 (74)	20.54 (13)	41.71 (20)	10.69 (30)	12.75 (19)	14.86 (7)	10.54 (70)	10/1/1982
Large Cap Value - Net		-1.37 (75)	20.41 (14)	41.50 (22)	10.53 (32)	12.58 (22)	14.67 (9)		
LCV Blended Benchmark**		-0.78 (51)	16.14 (51)	35.01 (49)	10.07 (41)	10.94 (57)	13.51 (30)		
Russell 1000 Value Index		-0.78 (51)	16.14 (51)	35.01 (49)	10.07 (41)	10.94 (57)	13.51 (30)	11.87 (7)	
Dodge & Cox	1,797,754,542	-1.21 (71)	24.62 (3)	49.67 (6)	12.86 (9)	15.16 (4)	16.33 (1)	10.54 (3)	9/1/2003
Dodge & Cox - Net		-1.26 (72)	24.44 (3)	49.37 (7)	12.62 (11)	14.92 (4)	16.09 (2)		
LCV Blended Benchmark**		-0.78 (51)	16.14 (51)	35.01 (49)	10.07 (41)	10.94 (57)	13.51 (30)	8.84 (40)	
Russell 1000 Value Index		-0.78 (51)	16.14 (51)	35.01 (49)	10.07 (41)	10.94 (57)	13.51 (30)	8.98 (33)	
LSV Asset	1,457,680,469	-1.98 (87)	20.94 (11)	43.85 (14)	9.20 (60)	11.85 (34)	14.89 (6)	11.11 (3)	2/1/2003
LSV Asset - Net		-2.04 (88)	20.73 (12)	43.50 (15)	8.94 (66)	11.59 (41)	14.62 (9)		
LCV Blended Benchmark**		-0.78 (51)	16.14 (51)	35.01 (49)	10.07 (41)	10.94 (57)	13.51 (30)	9.64 (35)	
Russell 1000 Value Index		-0.78 (51)	16.14 (51)	35.01 (49)	10.07 (41)	10.94 (57)	13.51 (30)	9.65 (34)	
NTGI S&P 500 Value	1,486,230,159	-0.83 (54)	15.29 (63)	31.96 (65)	10.77 (29)	11.79 (36)	13.85 (21)	6.58 (64)	8/1/1999
NTGI S&P 500 Value - Net		-0.83 (54)	15.28 (63)	31.95 (65)	10.76 (29)	11.79 (36)	13.84 (21)		
S&P 500 Value		-0.85 (55)	15.31 (63)	32.02 (65)	10.69 (30)	11.70 (39)	13.77 (23)	6.55 (65)	
Large Cap Pass. Core	3,125,171,219	-0.12 (67)	15.14 (64)	32.13 (28)	15.98 (48)	16.86 (49)	16.63 (49)	11.72 (72)	1/1/1985
Large Cap Pass. Core - Net		-0.12 (67)	15.14 (64)	32.12 (28)	15.97 (48)	16.85 (49)	16.62 (50)		
Dow Jones US Total Stock Market Index		-0.12 (67)	15.13 (64)	32.13 (28)	15.95 (48)	16.82 (50)	16.56 (52)		
NTGI MarketCap Idx.	3,125,171,219	-0.12 (67)	15.14 (64)	32.13 (28)	15.98 (48)	16.86 (49)	16.63 (49)	11.51 (72)	2/1/1985
NTGI MarketCap Idx. - Net		-0.12 (67)	15.14 (64)	32.12 (28)	15.97 (48)	16.85 (49)	16.62 (50)		
Dow Jones US Total Stock Market Index		-0.12 (67)	15.13 (64)	32.13 (28)	15.95 (48)	16.82 (50)	16.56 (52)		
Factor Diversity Strategies	1,255,128,306	-0.07	14.30	31.25				25.26	8/18/2020

* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those the S&P 500/Citigroup Growth Index.

** The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

*** Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

Performance

Domestic Equity

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
U.S. Large Cap FDP-GSAM	1,255,128,306	-0.07	14.30	31.25				25.26	8/18/2020
U.S. Large Cap FDP-GSAM - Net		-0.08	14.25	31.17				25.18	
Solactive GBS U.S. 1000 Index		0.33	15.23	31.21				25.89	
GSAM Active Beta US. Large Cap FDC Index		-0.02	14.37	31.16				25.18	
Quantitative Factor Strategies	1,470,400,831	-0.43	15.15	29.29				14.43	9/17/2019
Quantitative US Equity - SciBeta	1,470,400,831	-0.43	15.15	29.29				14.43	9/17/2019
Quantitative US Equity - SciBeta - Net		-0.45	15.10	29.14				14.15	
SciBeta US Hi-Fctr-Inst Div Multi-Beta Multi-Strat Index		-0.90	13.80	28.07				13.33	

* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those the S&P 500/Citigroup Growth Index.

** The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

*** Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

Performance

Domestic Equity

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Small Cap	3,185,089,075	-1.91 (51)	20.74 (32)	58.91 (29)	12.14 (40)	14.18 (46)	15.30 (50)	12.56 (48)	7/1/1988
Small Cap Composite - Net		-2.03 (54)	20.20 (35)	58.04 (31)	11.51 (46)	13.57 (53)	14.68 (64)		
Russell 2000 Index		-4.36 (89)	12.41 (73)	47.68 (62)	10.54 (57)	13.45 (55)	14.63 (65)	9.95 (95)	
Small Cap Growth	1,039,742,351	-1.92 (49)	14.09 (19)	48.31 (12)	18.76 (25)	18.67 (42)	17.57 (31)	13.81 (2)	7/1/1988
Small Cap Growth - Net		-2.07 (52)	13.28 (22)	47.11 (14)	17.90 (31)	17.94 (49)	16.89 (44)		
Russell 2000 Growth Index		-5.65 (91)	2.82 (84)	33.27 (68)	11.70 (79)	15.34 (75)	15.74 (68)	8.86 (99)	
Frontier Capital	838,557,020	-2.93 (66)	13.23 (22)	47.36 (14)	19.42 (22)	22.24 (19)	18.31 (21)	14.18 (1)	8/1/1988
Frontier Capital - Net		-3.06 (69)	12.38 (25)	46.08 (18)	18.34 (28)	21.32 (26)	17.55 (31)		
Russell 2000 Growth Index		-5.65 (91)	2.82 (84)	33.27 (68)	11.70 (79)	15.34 (75)	15.74 (68)	8.95 (99)	
FIAM Small Cap	201,185,331	2.94 (5)	18.09 (9)	52.79 (8)	15.28 (48)	15.27 (77)	16.86 (44)	13.97 (4)	8/1/1988
FIAM Small Cap - Net		2.72 (6)	17.47 (10)	51.99 (9)	14.88 (51)	14.83 (81)	16.32 (56)		
Russell 2000 Index		-4.36 (84)	12.41 (25)	47.68 (14)	10.54 (87)	13.45 (91)	14.63 (83)	10.01 (80)	
Russell 2000 Growth Index		-5.65 (91)	2.82 (84)	33.27 (68)	11.70 (79)	15.34 (75)	15.74 (68)	8.95 (99)	
Small Cap Value	2,075,333,670	-1.87 (50)	24.38 (44)	64.71 (39)	9.15 (32)	12.16 (14)	14.44 (15)	12.02 (1)	9/1/1989
Small Cap Value - Net		-1.97 (52)	24.02 (46)	64.07 (42)	8.63 (43)	11.61 (20)	13.88 (21)		
Russell 2000 Value Index		-2.98 (80)	22.92 (57)	63.92 (43)	8.58 (43)	11.03 (34)	13.22 (36)	10.33 (37)	
Channing	326,073,284	-2.10 (55)	14.62 (95)	55.54 (76)	9.84 (21)	11.93 (15)	14.73 (12)	11.70 (10)	7/1/2011
Channing - Net		-2.22 (62)	14.24 (96)	54.84 (79)	9.30 (30)	11.38 (23)	14.12 (18)	11.11 (16)	
Russell 2000 Value Index		-2.98 (80)	22.92 (57)	63.92 (43)	8.58 (43)	11.03 (34)	13.22 (36)	10.24 (33)	
DFA Small Cap Val.	822,130,374	-0.67 (19)	31.80 (9)	76.32 (12)	9.14 (32)	11.44 (23)	14.42 (15)	12.31 (1)	2/1/1996
DFA Small Cap Val. - Net		-0.76 (20)	31.40 (9)	75.59 (12)	8.64 (43)	10.90 (37)	13.87 (21)		
Russell 2000 Value Index		-2.98 (80)	22.92 (57)	63.92 (43)	8.58 (43)	11.03 (34)	13.22 (36)	9.94 (68)	

* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those the S&P 500/Citigroup Growth Index.

** The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

*** Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

Performance

Domestic Equity

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Inv. Couns. Maryland	927,130,011	-2.84 (78)	21.94 (66)	58.74 (69)	8.93 (37)	13.00 (10)	14.93 (10)	11.82 (11)	5/1/1999
Inv. Couns. Maryland - Net		-2.93 (79)	21.62 (67)	58.18 (70)	8.40 (48)	12.44 (12)	14.40 (15)		
Russell 2000 Value Index		-2.98 (80)	22.92 (57)	63.92 (43)	8.58 (43)	11.03 (34)	13.22 (36)	9.58 (63)	
Micro Cap	70,013,054	-1.93 (51)	24.26 (20)	63.89 (19)	9.56 (69)	11.70 (75)	13.69 (83)	11.81 (82)	7/1/1984
Micro Cap - Net		-2.14 (56)	23.65 (23)	62.86 (22)	8.96 (77)	11.07 (83)	12.98 (89)		
Russell Microcap Index		-4.98 (94)	22.59 (26)	61.07 (25)	12.23 (40)	14.47 (44)	15.42 (48)		
DFA Micro Cap (9-10)	70,013,054	-1.93 (51)	24.26 (20)	63.89 (19)	9.67 (67)	13.51 (54)	15.35 (49)	11.52 (59)	8/1/1987
DFA Micro Cap (9-10) - Net		-2.14 (56)	23.65 (23)	62.86 (22)	9.08 (75)	12.92 (61)	14.77 (62)		
Russell 2000 Index		-4.36 (89)	12.41 (73)	47.68 (62)	10.54 (57)	13.45 (55)	14.63 (65)	9.37 (89)	
Russell 2000 Value Index		-2.98 (74)	22.92 (25)	63.92 (19)	8.58 (80)	11.03 (83)	13.22 (87)	10.12 (85)	
Public Real Assets	949,171,592	-0.05	9.60	18.80	8.51			6.95	8/1/2017
Public Real Assets - Net		-0.15	9.28	18.33	8.05			6.51	
Public Real Assets Benchmark***		-0.65	8.76	17.95	7.19			5.07	
Brookfield	181,361,077	-0.32	13.27	25.03	6.57			4.74	8/1/2017
Brookfield - Net		-0.45	12.84	24.40	6.01			4.21	
Dow Jones Brookfield Global Infrastructure Composi		-1.45	12.68	22.13	6.10			3.97	
Cohen & Steers	767,810,515	0.04	8.48	16.93	9.53			8.08	8/1/2017
Cohen & Steers - Net		-0.05	8.19	16.52	9.11			7.67	
FTSE GLOBAL CORE INFRASTRUCTURE 50/50 INDEX (Net)		-0.25	6.83	15.87	7.70			5.59	

* The LCG Blended Benchmark is currently the Russell 1000 Growth Index. Returns prior to January 1, 2006, reflect those the S&P 500/Citigroup Growth Index.

** The LCV Blended Benchmark is currently the Russell 1000 Value Index. Returns prior to January 1, 2006, reflect those of the S&P 500/Citigroup Value Index.

*** Public Real Assets benchmark is 1/3 Dow Jones Global Infrastructure Composite Index + 2/3 FTSE Global Core Infrastructure 50/50 Net Tax Index.

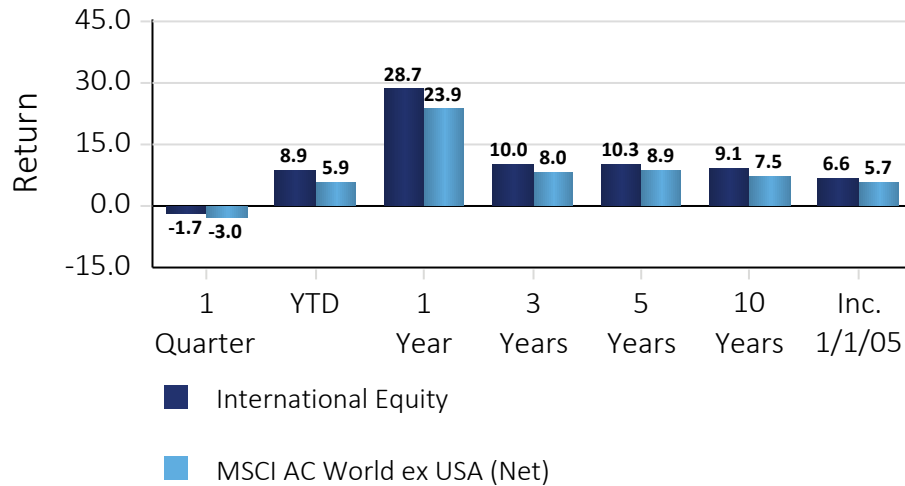
International Equity

Composite Performance Summary

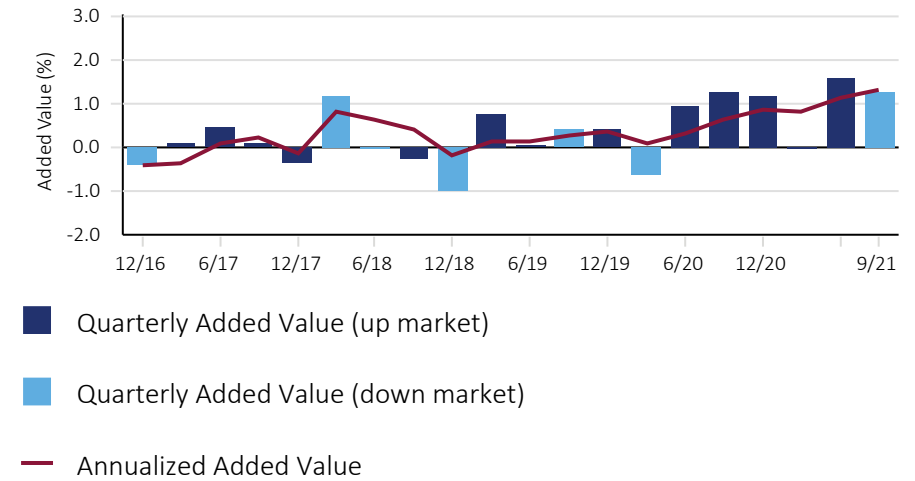
International Equity

Periods Ended September 30, 2021

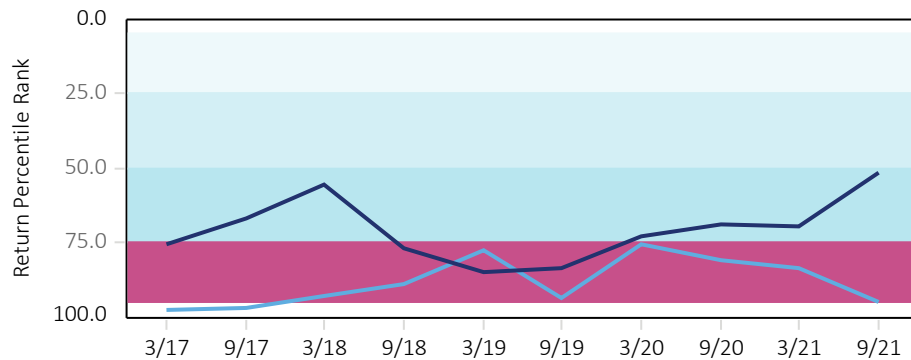
Comparative Performance



Added Value History

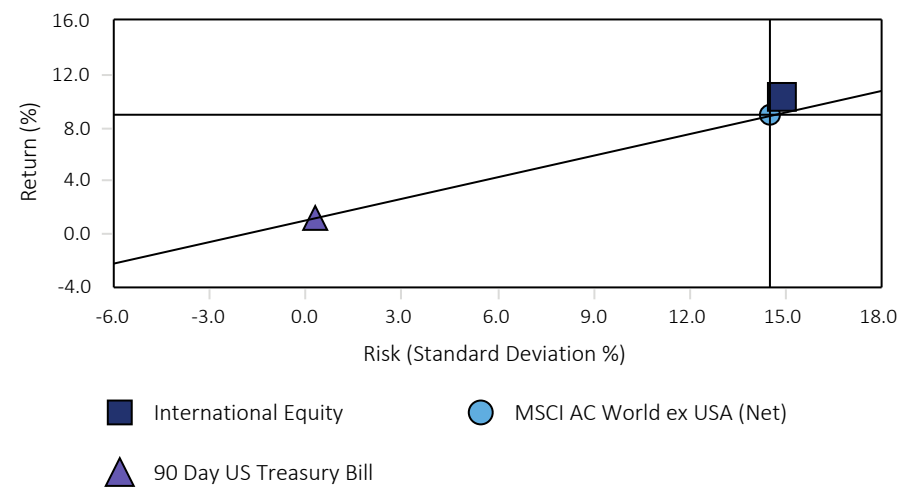


Rolling Percentile Rank: All Public Plans > \$1B-Intl. Equity Segment



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
International Equity	10	0 (0%)	0 (0%)	6 (60%)	4 (40%)
Benchmark	10	0 (0%)	0 (0%)	0 (0%)	10 (100%)

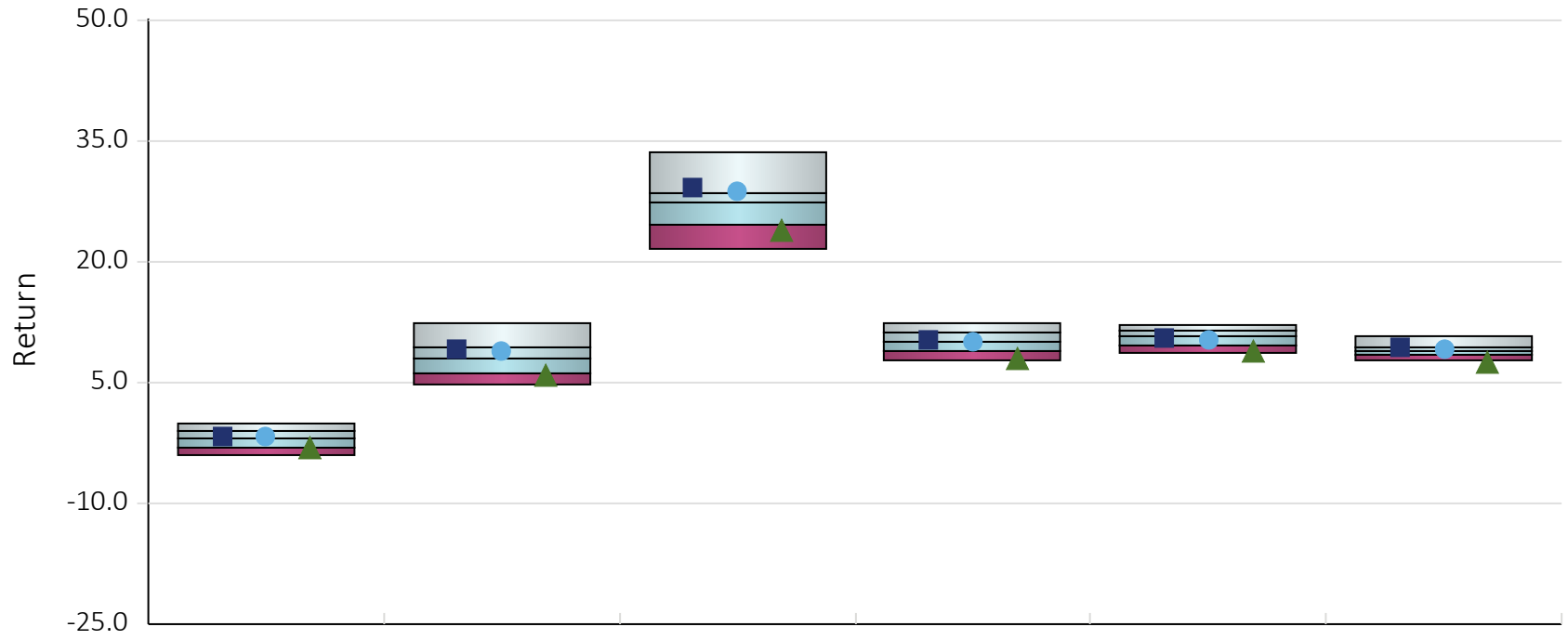
Risk and Return 10/1/16 - 09/30/21



Plan Sponsor Peer Group Analysis

International Equity vs All Public Plans > \$1B-Intl. Equity Segment(Gross)

Periods Ended September 30, 2021



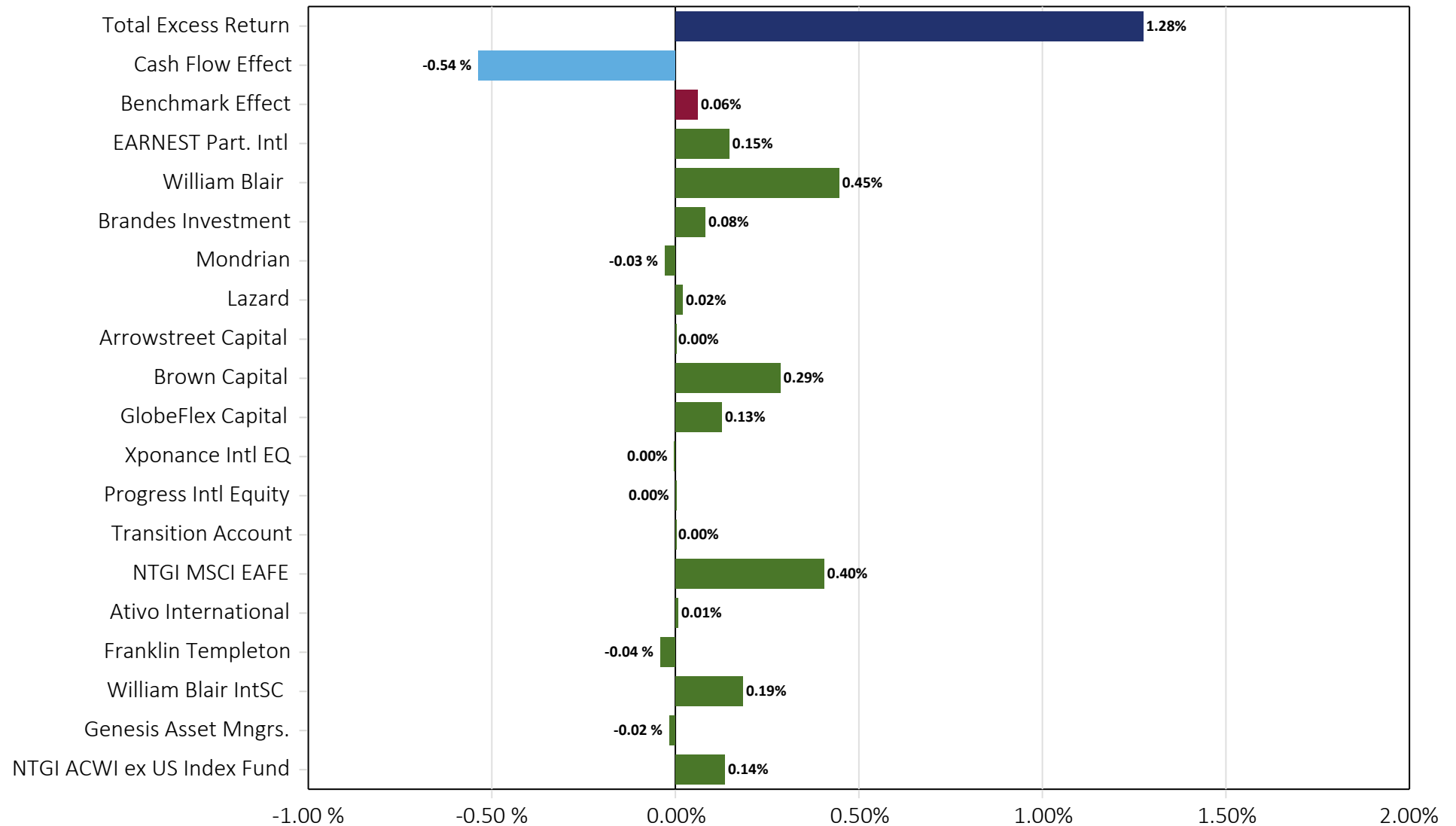
	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ International Equity	-1.63 (36)	9.13 (30)	29.14 (22)	10.34 (47)	10.65 (53)	9.46 (26)
● International Equity - Net	-1.71 (40)	8.88 (34)	28.68 (25)	9.97 (52)	10.28 (60)	9.10 (45)
▲ MSCI AC World ex USA (Net)	-2.99 (76)	5.90 (83)	23.92 (84)	8.03 (95)	8.94 (93)	7.48 (100)
5th Percentile	-0.12	12.33	33.50	12.33	12.08	10.69
1st Quartile	-1.10	9.40	28.59	11.27	11.39	9.47
Median	-2.02	7.89	27.31	10.04	10.67	9.00
3rd Quartile	-2.96	6.13	24.50	9.01	9.68	8.48
95th Percentile	-3.93	4.85	21.68	7.83	8.62	7.78
Population	63	60	58	52	51	34

Asset Class Attribution

International Equity

Periods Ended 1 Quarter Ending September 30, 2021

1 Quarter



Performance

International Equity

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
International Equity	10,206,160,855	-1.63 (36)	9.13 (30)	29.14 (22)	10.34 (47)	10.65 (53)	9.46 (26)	8.12	9/1/1986
International Equity - Net		-1.71 (40)	8.88 (34)	28.68 (25)	9.97 (52)	10.28 (60)	9.10 (45)		
MSCI AC World ex USA (Net)		-2.99 (76)	5.90 (83)	23.92 (84)	8.03 (95)	8.94 (93)	7.48 (100)		
International Equity IMRF Custom Benchmark		-2.93 (75)	5.88 (83)	24.20 (79)	8.14 (95)	9.04 (92)			
Intl Large Cap Equity	7,892,288,744	-0.82 (38)	10.98 (20)	31.23 (19)	10.06 (52)	10.59 (45)	9.49 (49)	8.12 (93)	9/1/1986
Intl LargeCap Equity - Net		-0.88 (39)	10.79 (21)	30.85 (21)	9.77 (54)	10.29 (52)	9.20 (56)		
MSCI AC World ex USA (Net)		-2.99 (79)	5.90 (71)	23.92 (57)	8.03 (64)	8.94 (66)	7.48 (90)		
Intl Large Cap Grwth	1,806,557,256	0.35 (34)	10.42 (25)	32.86 (6)	14.17 (34)	13.21 (43)	10.59 (67)	9.59 (44)	9/1/2002
Intl Large Cap Grwth - Net		0.28 (36)	10.20 (25)	32.47 (6)	13.88 (39)	12.91 (46)	10.25 (69)		
MSCI AC World ex USA (Net)		-2.99 (80)	5.90 (68)	23.92 (46)	8.03 (86)	8.94 (93)	7.48 (100)	7.68 (100)	
EARNEST Part. Intl	626,468,256	-0.21 (46)	13.32 (6)	46.51 (1)	9.56 (81)	10.54 (77)	8.33 (98)	9.56 (34)	10/1/2004
EARNEST Part. Intl - Net		-0.26 (47)	13.16 (6)	46.16 (1)	9.36 (82)	10.33 (80)	8.03 (99)		
MSCI AC World ex USA (Net)		-2.99 (80)	5.90 (68)	23.92 (46)	8.03 (86)	8.94 (93)	7.48 (100)	6.49 (100)	
MSCI AC World ex USA Growth (Net)		-3.62 (88)	2.66 (85)	16.95 (85)	11.94 (59)	11.22 (71)	9.32 (84)	7.61 (80)	
William Blair	1,180,088,999	0.62 (33)	8.96 (39)	26.75 (29)	17.24 (16)	14.95 (24)	12.41 (21)	11.14 (26)	10/1/2002
William Blair - Net		0.54 (33)	8.71 (39)	26.34 (29)	16.85 (16)	14.55 (24)	12.01 (21)	(26)	
MSCI AC World ex USA (Net)		-2.99 (80)	5.90 (68)	23.92 (46)	8.03 (86)	8.94 (93)	7.48 (100)	8.36 (100)	
MSCI AC World ex USA Growth (Net)		-3.62 (88)	2.66 (85)	16.95 (85)	11.94 (59)	11.22 (71)	9.32 (84)	8.92 (92)	
Intl Large Cap Val.	1,383,392,712	-2.23 (72)	10.01 (43)	31.82 (40)	5.63 (65)	7.13 (68)	7.17 (81)	8.58 (22)	10/1/1995
Intl Large Cap Val. - Net		-2.31 (74)	9.76 (48)	31.42 (41)	5.30 (68)	6.77 (79)	6.79 (91)		
MSCI AC World ex USA (Net)		-2.99 (84)	5.90 (84)	23.92 (78)	8.03 (40)	8.94 (41)	7.48 (76)	5.67 (100)	
Brandes Investment	606,476,291	-1.39 (47)	14.27 (7)	38.39 (16)	4.74 (78)	7.19 (66)	7.45 (77)	8.75 (21)	1/1/1996
Brandes Investment - Net		-1.44 (49)	14.09 (8)	38.09 (17)	4.52 (81)	6.94 (73)	7.21 (80)		
MSCI AC World ex USA (Net)		-2.99 (84)	5.90 (84)	23.92 (78)	8.03 (40)	8.94 (41)	7.48 (76)	5.58 (100)	
MSCI AC World ex USA Value		-2.14 (68)	9.66 (50)	32.15 (38)	4.43 (82)	7.06 (70)	6.11 (95)		

* Custom benchmark is calculated as a weighted average of each funds respective benchmark until 12/2017. After 12/2017 the benchmark is MSCI ACWI ex US - Net.

** Genesis is NOF NAV commingled fund.

Performance

International Equity

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Mondrian	634,645,890	-3.19 (86)	7.39 (70)	27.86 (63)	6.42 (57)	7.03 (71)		5.93 (85)	4/1/2012
Mondrian - Net		-3.29 (88)	7.08 (74)	27.35 (65)	5.97 (61)	6.55 (86)		5.44 (93)	
MSCI AC World ex USA (Net)		-2.99 (84)	5.90 (84)	23.92 (78)	8.03 (40)	8.94 (41)		6.28 (75)	
MSCI AC World ex USA Value		-2.14 (68)	9.66 (50)	32.15 (38)	4.43 (82)	7.06 (70)		4.93 (96)	
Lazard	142,270,532	-1.48 (49)	4.73 (91)	23.09 (81)	7.96 (40)	8.16 (52)		7.14 (52)	4/1/2012
Lazard - Net		-1.54 (50)	4.54 (92)	22.80 (81)	7.69 (40)	7.89 (57)		6.66 (63)	
MSCI AC World ex USA (Net)		-2.99 (84)	5.90 (84)	23.92 (78)	8.03 (40)	8.94 (41)		6.28 (75)	
MSCI AC World ex USA Value		-2.14 (68)	9.66 (50)	32.15 (38)	4.43 (82)	7.06 (70)		4.93 (96)	
Intl Large Cap Active Core	2,732,734,878	-1.31 (54)	13.73 (5)	33.65 (5)	11.73 (19)	12.19 (20)	11.26 (11)	6.65 (7)	2/1/2008
Intl Large Cap Active Core - Net		-1.40 (56)	13.43 (6)	32.95 (7)	11.20 (26)	11.63 (23)	10.70 (17)		
MSCI AC World ex USA (Net)		-2.99 (83)	5.90 (83)	23.92 (65)	8.03 (58)	8.94 (61)	7.48 (100)	3.61 (96)	
Arrowstreet Capital	1,092,980,252	-2.86 (83)	16.57 (3)	44.71 (1)	15.91 (4)	14.99 (5)	12.46 (3)	7.66 (1)	3/1/2008
Arrowstreet Capital - Net		-2.97 (83)	16.19 (3)	44.09 (1)	15.38 (8)	14.47 (8)	11.94 (5)	7.17 (2)	
MSCI AC World ex USA (Net)		-2.99 (83)	5.90 (83)	23.92 (65)	8.03 (58)	8.94 (61)	7.48 (100)	3.42 (97)	
Brown Capital	659,844,686	1.43 (8)	7.63 (62)	18.96 (91)	12.70 (18)	12.15 (20)	12.37 (4)	9.12 (1)	10/1/2004
Brown Capital - Net		1.37 (8)	7.44 (63)	17.95 (94)	12.18 (19)	11.38 (26)	11.52 (10)		
MSCI AC World ex USA (Net)		-2.99 (83)	5.90 (83)	23.92 (65)	8.03 (58)	8.94 (61)	7.48 (100)	6.49 (88)	
GlobeFlex Capital	872,450,610	-1.38 (56)	16.13 (3)	34.47 (4)	7.75 (61)	9.79 (53)	9.77 (33)	5.85 (43)	3/1/2006
GlobeFlex Capital - Net		-1.47 (59)	15.84 (3)	34.00 (4)	7.32 (67)	9.37 (56)	9.33 (55)	5.41 (68)	
MSCI AC World ex USA (Net)		-2.99 (83)	5.90 (83)	23.92 (65)	8.03 (58)	8.94 (61)	7.48 (100)	4.65 (88)	
Xponance Intl EQ	106,599,287	-0.82 (44)						11.13 (27)	2/1/2021
Xponance Intl EQ - Net		-0.97 (49)						10.82 (32)	
MSCI EAFE Index (Net)		-0.45 (35)						9.51 (48)	
Progress Intl Equity	740,326								

Performance

International Equity

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Intl Large Cap Passive Core	1,969,603,898	-0.27 (27)	8.73 (46)	26.19 (42)	8.08 (57)	9.24 (58)	8.52 (81)	4.51 (98)	2/1/2000
Intl Large Cap Passive Core - Net		-0.27 (27)	8.73 (46)	26.18 (42)	8.07 (57)	9.23 (58)	8.52 (81)		
MSCI EAFE Index (Net)		-0.45 (35)	8.35 (54)	25.73 (46)	7.62 (62)	8.81 (62)	8.10 (92)	4.11 (99)	
NTGI ACWI ex US Index Fund	1,969,603,898								
NTGI ACWI ex US Index Fund - Net									
MSCI AC World ex USA (Net)									
Intl All Cap Developed	169,525,470	-0.29 (40)	10.31 (41)	21.59 (78)				10.78 (73)	2/1/2019
Intl All Cap Developed - Net		-0.41 (44)	9.92 (45)	21.01 (80)				10.29 (76)	
MSCI EAFE + Canada (Net)		-0.66 (48)	9.19 (52)	26.50 (53)				11.70 (65)	
Ativo International	169,525,470	-0.29 (40)	10.31 (41)	21.59 (78)				10.78 (73)	2/1/2019
Ativo International - Net		-0.41 (44)	9.92 (45)	21.01 (80)				10.29 (76)	
MSCI EAFE + Canada (Net)		-0.66 (48)	9.19 (52)	26.50 (53)				11.70 (65)	
Intl Small Cap Eqty	721,812,535	2.16 (20)	13.00 (41)	31.61 (51)	14.58 (19)	12.81 (33)	11.96 (47)	6.85 (99)	12/1/2005
Intl Small Cap Eqty - Net		1.98 (22)	12.42 (50)	30.69 (56)	13.74 (26)	11.98 (42)	11.13 (68)		
MSCI AC World ex USA Small Cap (Net)		0.00 (57)	12.23 (52)	33.06 (35)	10.33 (52)	10.28 (65)	9.44 (91)	7.28 (97)	
Custom Benchmark (Intl Small Cap)		0.00 (57)	12.23 (52)	33.06 (35)	10.33 (52)	10.28 (65)	9.44 (91)	6.63 (100)	
Franklin Templeton	255,537,841	-1.60 (88)	12.05 (53)	28.21 (71)	9.44 (58)	10.51 (63)	10.63 (75)	7.80 (85)	8/1/2011
Franklin Templeton - Net		-1.77 (89)	11.49 (59)	27.34 (75)	8.65 (72)	9.72 (78)	9.83 (88)	7.03 (94)	
MSCI AC World ex USA Small Cap (Net)		0.00 (57)	12.23 (52)	33.06 (35)	10.33 (52)	10.28 (65)	9.44 (91)	6.90 (94)	
William Blair IntSC	466,274,694	4.35 (8)	13.53 (37)	33.55 (30)	17.88 (10)	14.09 (25)	12.75 (33)	12.14 (32)	9/1/2010
William Blair IntSC - Net		4.17 (8)	12.94 (42)	32.61 (42)	16.99 (14)	13.24 (30)	11.89 (47)	11.29 (45)	
MSCI AC World ex USA Small Cap (Net)		0.00 (57)	12.23 (52)	33.06 (35)	10.33 (52)	10.28 (65)	9.44 (91)	8.58 (95)	
Custom Benchmark (Intl Small Cap)		0.00 (57)	12.23 (52)	33.06 (35)	10.33 (52)	10.28 (65)	9.44 (91)	8.85 (94)	

Performance

International Equity

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Emerging Mkt Equity	1,422,534,105	-7.84 (57)	-2.00 (69)	18.16 (64)	11.69 (44)	10.73 (44)	7.88 (48)	9.22 (49)	2/1/1992
Emerging Mkt Equity - Net		-7.97 (59)	-2.41 (71)	17.52 (68)	11.06 (48)	10.08 (52)	7.26 (58)		
MSCI Emerging Markets Index		-7.97 (59)	-0.99 (62)	18.58 (62)	8.96 (68)	9.62 (59)	6.46 (73)	7.34 (99)	
Genesis Asset Mngrs.**	1,422,534,105	-7.84 (57)	-2.00 (69)	18.16 (64)	11.69 (44)	10.73 (44)	7.88 (48)	11.20 (18)	5/1/2004
Genesis Asset Mngrs. - Net		-7.97 (59)	-2.41 (71)	17.52 (68)	11.06 (48)	10.08 (52)	7.26 (58)		
MSCI Emerging Markets Index		-7.97 (59)	-0.99 (62)	18.58 (62)	8.96 (68)	9.62 (59)	6.46 (73)	9.11 (76)	

** Genesis is NOF NAV commingled fund.

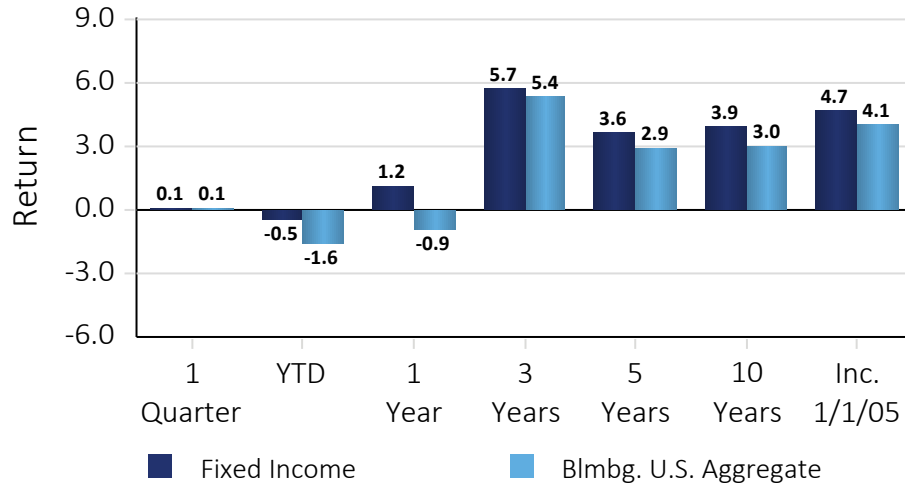
Fixed Income

Composite Performance Summary

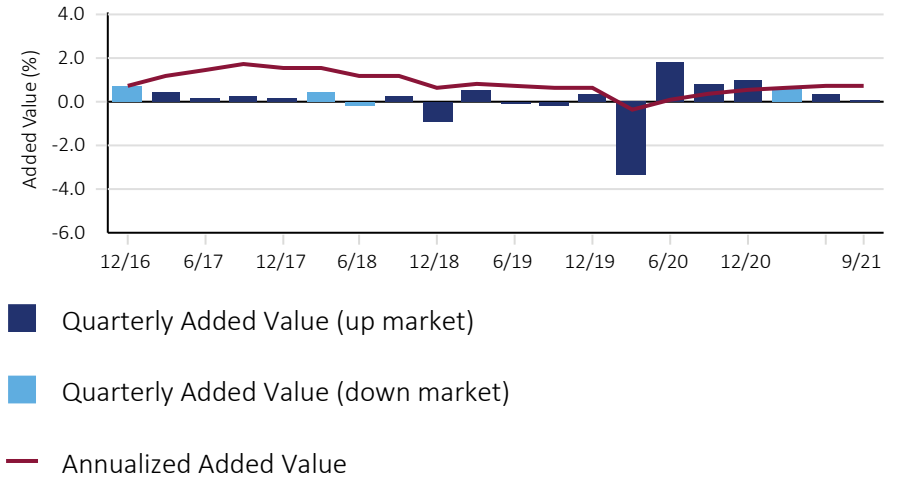
Fixed Income

Periods Ended September 30, 2021

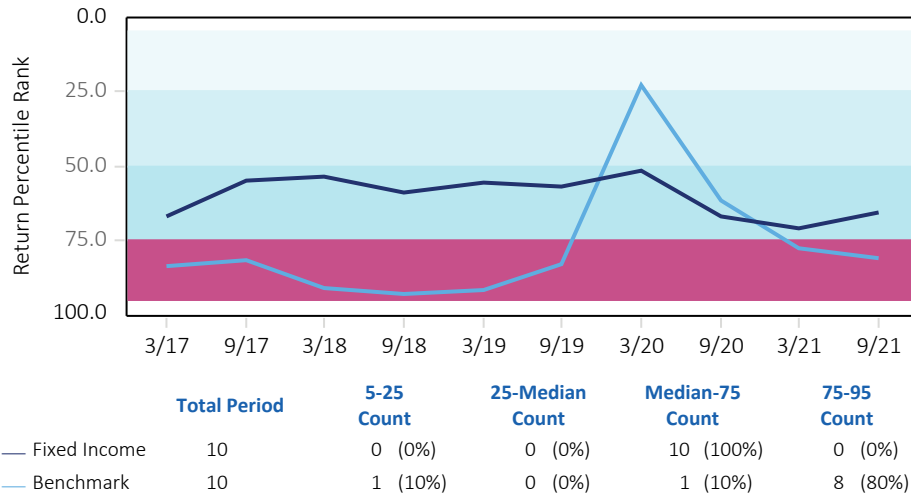
Comparative Performance



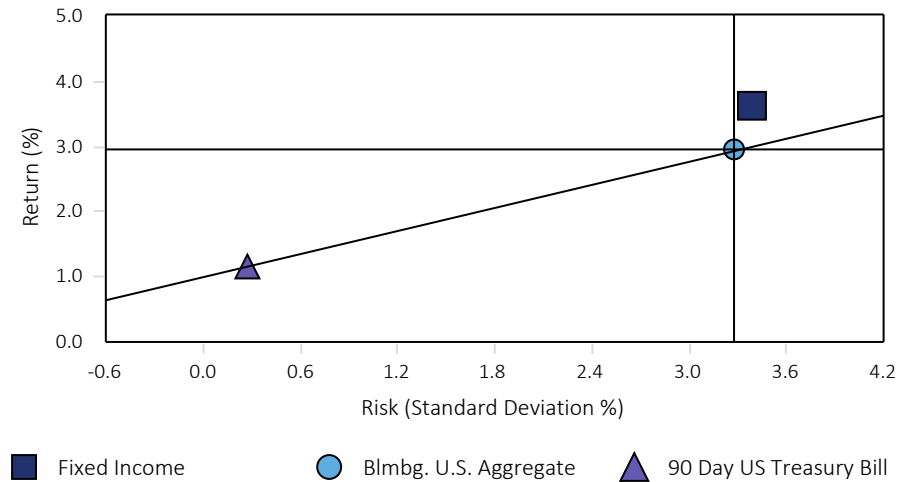
Added Value History



Rolling Percentile Rank: All Public Plans > \$1B-US Fixed Income Segment



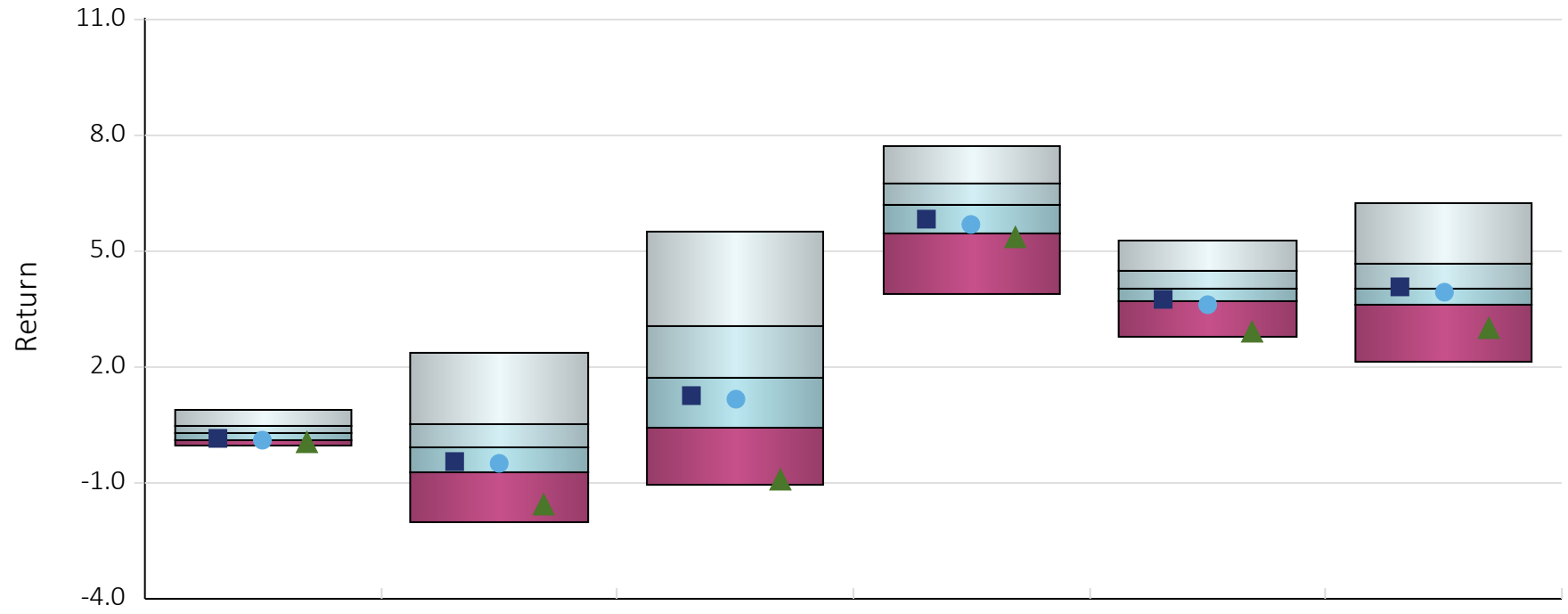
Risk and Return 10/1/16 - 09/30/21



Plan Sponsor Peer Group Analysis

Fixed Income vs All Public Plans > \$1B-US Fixed Income Segment(Gross)

Periods Ended September 30, 2021



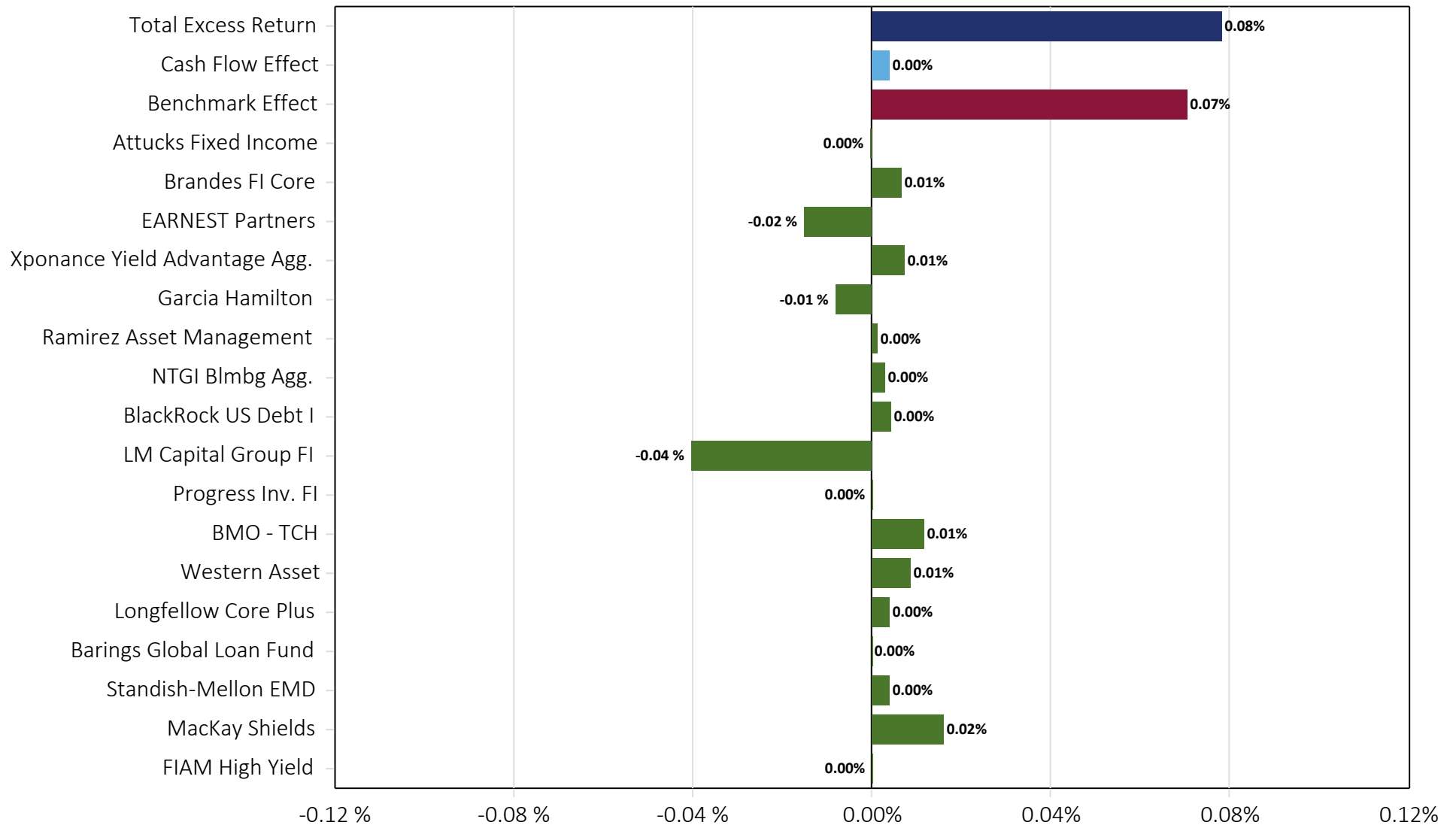
	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ Fixed Income	0.16 (67)	-0.43 (60)	1.27 (58)	5.82 (64)	3.77 (70)	4.09 (50)
● Fixed Income - Net	0.13 (73)	-0.51 (62)	1.16 (59)	5.71 (66)	3.63 (77)	3.94 (58)
▲ Blmbg. U.S. Aggregate	0.05 (90)	-1.56 (92)	-0.90 (92)	5.35 (81)	2.94 (89)	3.01 (92)
5th Percentile	0.91	2.38	5.51	7.71	5.29	6.23
1st Quartile	0.48	0.53	3.08	6.78	4.49	4.68
Median	0.28	-0.07	1.70	6.20	4.05	4.05
3rd Quartile	0.10	-0.70	0.43	5.46	3.70	3.61
95th Percentile	-0.04	-2.02	-1.07	3.88	2.77	2.13
Population	63	61	59	51	50	35

Asset Class Attribution

Fixed Income

Periods Ended 1 Quarter Ending September 30, 2021

1 Quarter



Performance

Fixed Income

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Fixed Income	12,226,422,984	0.16 (67)	-0.43 (60)	1.27 (58)	5.82 (64)	3.77 (70)	4.09 (50)	8.01	1/1/1982
Fixed Income - Net		0.13 (73)	-0.51 (62)	1.16 (59)	5.71 (66)	3.63 (77)	3.94 (58)		
Blmbg. U.S. Aggregate		0.05 (90)	-1.56 (92)	-0.90 (92)	5.35 (81)	2.94 (89)	3.01 (92)	7.47	
Fixed Income IMRF Custom Benchmark		0.12 (74)	-0.92 (81)	0.37 (80)	5.43 (78)	3.28 (85)			
Active Fixed Core	3,829,440,865	0.05 (68)	-0.96 (44)	-0.10 (56)	5.59 (77)	3.36 (69)	3.63 (55)	4.53 (88)	4/1/2001
Active Fixed Core - Net		0.03 (76)	-1.04 (47)	-0.21 (60)	5.48 (83)	3.25 (75)	3.49 (66)		
Blmbg. U.S. Aggregate		0.05 (68)	-1.56 (79)	-0.90 (86)	5.35 (92)	2.94 (92)	3.01 (94)	4.48 (92)	
Attucks Fixed Income	99,754,469	0.11 (47)						-0.19 (34)	2/1/2021
Attucks Fixed Income - Net		0.03 (75)						-0.34 (42)	
Blmbg. U.S. Aggregate		0.05 (68)						-0.84 (83)	
Brandes FI Core	374,691,783	0.27 (10)	-1.19 (54)	-1.16 (93)	4.97 (97)	2.79 (96)		3.04 (96)	3/1/2016
Brandes FI Core - Net		0.27 (10)	-1.19 (54)	-1.16 (93)	4.97 (97)	2.79 (96)		3.04 (96)	
Blmbg. U.S. Aggregate		0.05 (68)	-1.56 (79)	-0.90 (86)	5.35 (92)	2.94 (92)		3.29 (92)	
EARNEST Partners	1,024,056,560	-0.10 (93)	-0.50 (26)	0.21 (46)	5.74 (69)	3.36 (69)	3.63 (55)	4.53 (56)	5/1/2005
EARNEST Partners - Net		-0.13 (96)	-0.60 (29)	0.08 (48)	5.60 (76)	3.21 (76)	3.46 (67)	4.34 (76)	
Blmbg. U.S. Aggregate		0.05 (68)	-1.56 (79)	-0.90 (86)	5.35 (92)	2.94 (92)	3.01 (94)	4.09 (91)	
Xponance Yield Advantage Agg.	1,111,078,480	0.16 (34)	-0.33 (19)	1.14 (24)	6.04 (51)	3.55 (55)	3.73 (48)	4.40 (66)	6/1/2005
Xponance Yield Advantage Agg. - Net		0.13 (40)	-0.42 (23)	1.01 (26)	5.91 (61)	3.41 (65)	3.58 (59)	4.23 (81)	
Blmbg. U.S. Aggregate		0.05 (68)	-1.56 (79)	-0.90 (86)	5.35 (92)	2.94 (92)	3.01 (94)	4.04 (91)	
Garcia Hamilton	1,086,780,228	-0.02 (85)	-2.14 (100)	-1.49 (96)	5.00 (97)	3.16 (79)		3.43 (76)	6/1/2015
Garcia Hamilton - Net		-0.04 (86)	-2.19 (100)	-1.57 (96)	4.92 (98)	3.07 (83)		3.34 (80)	
Blmbg. U.S. Aggregate		0.05 (68)	-1.56 (79)	-0.90 (86)	5.35 (92)	2.94 (92)		3.16 (93)	

Taplin, Canada, Habacht switched from core to core plus effective 10/01/2010.

* Custom Benchmark is Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each

** Custom Benchmark is 50% JPM GBI-EM Index, 25% JPM EMBI Global Index and 25% JPM Corporate EMBI Diversified Index.

Performance

Fixed Income

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Ramirez Asset Management	133,079,345	0.22 (17)	0.10 (11)	1.32 (19)				4.43 (13)	5/1/2020
Ramirez Asset Management - Net		0.17 (31)	-0.04 (12)	1.13 (24)				4.27 (14)	
Blmbg. U.S. Aggregate		0.05 (68)	-1.56 (79)	-0.90 (86)				0.57 (90)	
Pass. Core Fixed Income	3,656,423,449	0.08 (58)	-1.54 (78)	-0.85 (84)	5.42 (87)	3.00 (87)	3.06 (90)	5.78 (97)	1/1/1990
Pass. Core Fixed Income - Net		0.08 (59)	-1.54 (78)	-0.86 (84)	5.41 (87)	2.99 (88)	3.06 (90)		
Blmbg. U.S. Aggregate		0.05 (68)	-1.56 (79)	-0.90 (86)	5.35 (92)	2.94 (92)	3.01 (94)	5.76 (97)	
BlackRock US Debt I	1,838,916,449	0.08 (57)	-1.52 (76)	-0.83 (83)	5.45 (84)	3.04 (85)		3.47 (85)	10/1/2013
BlackRock US Debt I - Net		0.08 (57)	-1.53 (77)	-0.84 (83)	5.44 (85)	3.03 (85)		3.46 (85)	
Blmbg. U.S. Aggregate		0.05 (68)	-1.56 (79)	-0.90 (86)	5.35 (92)	2.94 (92)		3.35 (94)	
NTGI Blmbg Agg.	1,817,507,000	0.07 (60)	-1.56 (79)	-0.87 (84)	5.40 (90)	2.96 (90)	3.04 (90)	5.83 (96)	2/1/1990
NTGI Blmbg Agg. - Net		0.07 (61)	-1.56 (81)	-0.88 (85)	5.39 (91)	2.95 (91)	3.04 (91)		
Blmbg. U.S. Aggregate		0.05 (68)	-1.56 (79)	-0.90 (86)	5.35 (92)	2.94 (92)	3.01 (94)	5.82 (97)	
Core Plus Fixed Income	2,940,543,448	0.04 (87)	-0.98 (85)	1.35 (62)	6.49 (55)	4.04 (56)	4.25 (57)	7.92 (100)	1/1/1982
Core Plus Fixed Income - Net		-0.01 (91)	-1.09 (89)	1.20 (67)	6.31 (60)	3.86 (65)	4.06 (68)		
Blmbg. U.S. Aggregate		0.05 (84)	-1.56 (98)	-0.90 (100)	5.35 (91)	2.94 (98)	3.01 (98)	7.47 (100)	
LM Capital Group FI	960,213,087	-0.41 (99)	-1.38 (97)	0.73 (76)	6.32 (60)	3.76 (70)	4.01 (70)	4.91 (65)	5/1/2005
LM Capital Group FI - Net		-0.45 (99)	-1.50 (98)	0.57 (80)	6.15 (68)	3.60 (76)	3.84 (77)	4.74 (80)	
Blmbg. U.S. Aggregate		0.05 (84)	-1.56 (98)	-0.90 (100)	5.35 (91)	2.94 (98)	3.01 (98)	4.09 (98)	
Progress Inv. FI	1,668								
Progress Inv. FI - Net									
BMO - TCH	662,419,279	0.30 (32)	-0.35 (53)	1.37 (62)	5.92 (79)	4.09 (54)	4.52 (41)	4.99 (59)	5/1/2005
BMO - TCH - Net		0.27 (38)	-0.45 (58)	1.24 (65)	5.78 (85)	3.96 (61)	4.38 (50)	4.86 (69)	
Blmbg. U.S. Aggregate		0.05 (84)	-1.56 (98)	-0.90 (100)	5.35 (91)	2.94 (98)	3.01 (98)	4.09 (98)	

Taplin, Canada, Habacht switched from core to core plus effective 10/01/2010.

* Custom Benchmark is Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each

** Custom Benchmark is 50% JPM GBI-EM Index, 25% JPM EMBI Global Index and 25% JPM Corporate EMBI Diversified Index.

Performance

Fixed Income

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Western Asset	1,131,457,873	0.21 (51)	-1.20 (94)	1.74 (52)	7.14 (22)	4.46 (35)	4.69 (32)	5.49 (37)	11/1/2001
Western Asset - Net		0.14 (70)	-1.30 (95)	1.60 (55)	7.02 (27)	4.33 (41)	4.55 (38)		
Blmbg. U.S. Aggregate		0.05 (84)	-1.56 (98)	-0.90 (100)	5.35 (91)	2.94 (98)	3.01 (98)	4.24 (99)	
Longfellow Core Plus	186,451,541	0.37 (23)	0.14 (37)	2.03 (47)				4.04 (63)	5/1/2020
Longfellow Core Plus - Net		0.32 (29)	-0.01 (44)	1.82 (51)				3.87 (66)	
Blmbg. U.S. Aggregate		0.05 (84)	-1.56 (98)	-0.90 (100)				0.57 (100)	
Bank Loans	735,502,538	1.14 (46)	5.79 (11)	10.55 (9)	4.23 (41)	4.99 (21)		4.62 (19)	8/1/2014
Bank Loans - Net		1.14 (46)	5.79 (11)	10.55 (9)	4.12 (45)	4.69 (34)		4.23 (42)	
Barings Custom Benchmark		1.13 (46)	4.62 (42)	8.47 (46)	4.31 (39)	4.80 (28)		4.29 (36)	
Barings Global Loan Fund	735,502,538	1.14 (46)	5.79 (11)	10.55 (9)	4.23 (41)	4.99 (21)		4.62 (19)	8/1/2014
Barings Global Loan Fund - Net		1.14 (46)	5.79 (11)	10.55 (9)	4.12 (45)	4.69 (34)		4.23 (42)	
Barings Custom Benchmark*		1.13 (46)	4.62 (42)	8.47 (46)	4.31 (39)	4.80 (28)		4.29 (36)	
Emerging Markets Debt	228,557,725	-1.76 (70)	-3.83 (76)	5.42 (69)	5.37 (67)	3.67 (68)		2.85 (64)	8/1/2014
Emerging Markets Debt - Net		-1.84 (72)	-4.08 (77)	5.06 (75)	5.01 (77)	3.31 (78)		2.50 (65)	
Custom Benchmark (EMD)		-2.05 (74)	-3.93 (76)	3.33 (89)	4.98 (77)	3.24 (79)		2.28 (67)	
Standish-Mellon EMD	228,557,725	-1.76 (70)	-3.83 (76)	5.42 (69)	5.37 (67)	3.67 (68)		2.85 (64)	8/1/2014
Standish EM MRK - Net		-1.84 (72)	-4.08 (77)	5.06 (75)	5.01 (77)	3.31 (78)		2.50 (65)	
Custom Benchmark**		-2.05 (74)	-3.93 (76)	3.33 (89)	4.98 (77)	3.24 (79)		2.28 (67)	
High Yield	835,954,960	1.33 (9)	6.03 (23)	10.35 (67)	8.00 (11)	7.12 (20)	7.76 (28)	9.45 (2)	4/1/1986
High Yield - Net		1.17 (15)	5.77 (26)	10.00 (71)	7.65 (22)	6.77 (38)	7.39 (51)		
ICE BofAML US High Yield, Cash Pay Index		0.94 (45)	4.55 (56)	11.30 (52)	6.60 (65)	6.33 (62)	7.26 (59)	8.21 (58)	

Taplin, Canada, Habacht switched from core to core plus effective 10/01/2010.

* Custom Benchmark is Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each

** Custom Benchmark is 50% JPM GBI-EM Index, 25% JPM EMBI Global Index and 25% JPM Corporate EMBI Diversified Index.

Performance

Fixed Income

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
MacKay Shields	835,939,057	1.33 (9)	6.03 (23)	10.35 (67)	8.01 (11)	7.18 (18)	7.84 (24)	8.75 (8)	11/1/2000
MacKay Shields - Net		1.17 (15)	5.77 (26)	10.00 (71)	7.66 (21)	6.83 (35)	7.46 (47)		
ICE BofAML US High Yield, Cash Pay Index		0.94 (45)	4.55 (56)	11.30 (52)	6.60 (65)	6.33 (62)	7.26 (59)	7.49 (65)	

Taplin, Canida, Habacht switched from core to core plus effective 10/01/2010.

* Custom Benchmark is Credit Suisse US Leveraged Loan Index and the Credit Suisse Western European Leveraged Loan Index, weighted by the portfolio's market value to each

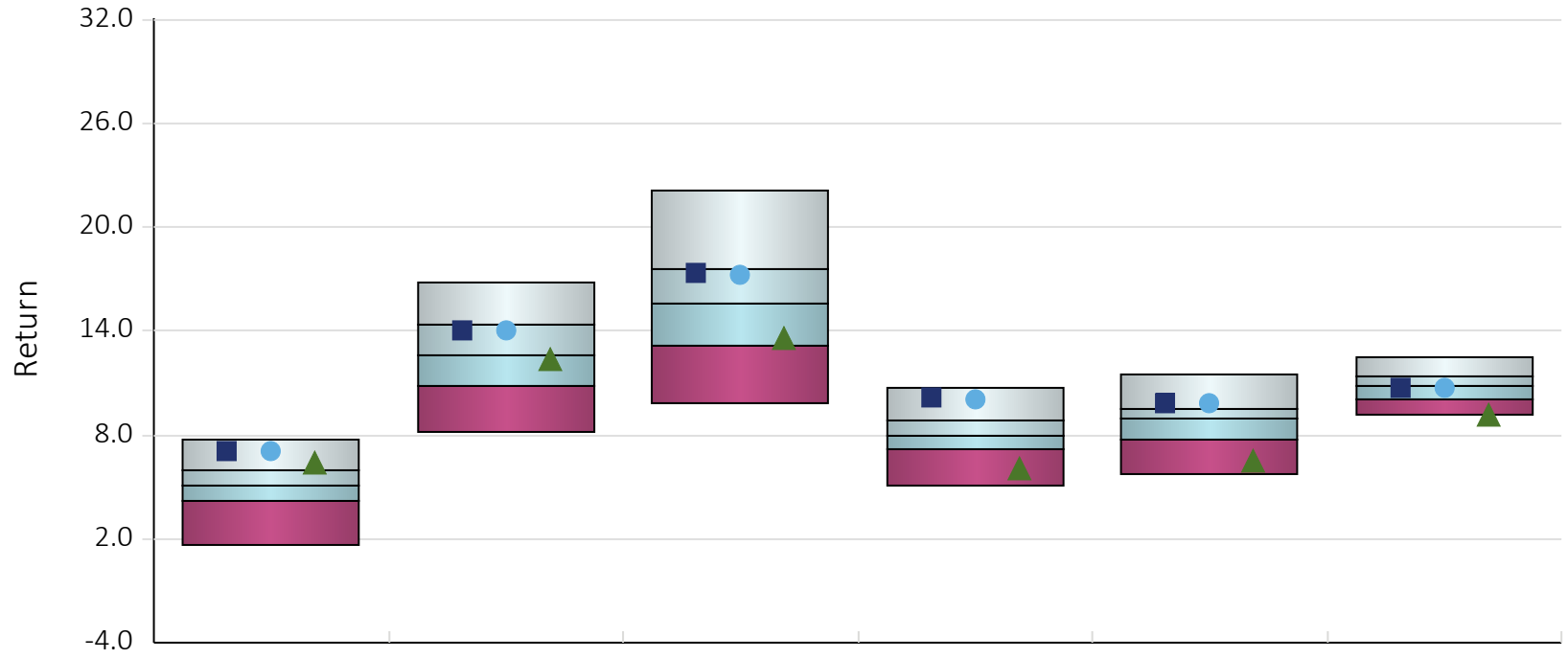
** Custom Benchmark is 50% JPM GBI-EM Index, 25% JPM EMBI Global Index and 25% JPM Corporate EMBI Diversified Index.

Real Estate

Plan Sponsor Peer Group Analysis

Real Estate vs All Public Plans > \$1B-Real Estate Segment(Gross)

Periods Ended September 30, 2021



	QTD	YTD	1 Year	3 Years	5 Years	10 Years
■ Real Estate	7.10 (9)	14.08 (31)	17.35 (28)	10.16 (11)	9.84 (17)	10.78 (52)
● Real Estate - Net	7.09 (9)	14.03 (32)	17.27 (29)	10.11 (11)	9.81 (17)	10.76 (52)
▲ Blended Benchmark (Real Estate)	6.41 (15)	12.41 (55)	13.64 (68)	6.13 (87)	6.56 (89)	9.14 (95)
5th Percentile	7.75	16.80	22.09	10.72	11.49	12.53
1st Quartile	6.00	14.42	17.64	8.82	9.51	11.43
Median	5.10	12.59	15.58	8.02	8.96	10.82
3rd Quartile	4.22	10.84	13.21	7.21	7.71	10.10
95th Percentile	1.61	8.14	9.82	5.11	5.72	9.14
Population	46	40	39	27	23	12

Asset Allocation & Performance

Real Estate

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Real Estate	3,645,191,985	7.10	14.08	17.35	10.16	9.84	10.78	5.79	5/1/1985
Real Estate - Net		7.09	14.03	17.27	10.11	9.81	10.76		
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13	6.56	9.14	7.67	
Real Estate Core Cmp	1,961,523,098	7.23	12.71	16.84	11.54	10.41	10.78	7.78	4/1/1999
TA Assoc. Buckhead	743,116,202	13.29	25.82	30.17	18.00	15.78	13.63	11.43	8/1/1995
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13	6.56	9.14	7.38	
Barings Euro Core Property	145,789,868	2.88	2.57	8.63	18.07			14.77	3/1/2017
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13			6.50	
Blackstone Property Euro	161,281,845	1.61	6.29	13.90	10.10			8.29	12/1/2017
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13			6.48	
INVESCO Core Real Estate	212,036,109	4.60	5.77	7.00	4.26	5.20	7.81	8.24	4/1/2011
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13	6.56	9.14	9.47	
INVESCO European real estate	57,943,196	-8.53	-10.66	-0.65	1.04			-0.78	4/1/2018
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13			6.33	
AEW Core Property Tr	243,116,484	4.12	6.14	8.09	5.12	5.45		7.51	10/1/2013
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13	6.56		8.35	
CBRE Core Partners	229,724,994	5.60	8.22	12.00	8.06	8.81		9.29	12/1/2013
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13	6.56		8.27	
JPM Strategic Property Fund	168,514,400	7.94	12.34					12.34	1/1/2021
Blended Benchmark (Real Estate)		6.41	12.41					12.41	
RE Non-Core Cmp	1,683,668,887	6.95	15.72	17.98	8.62	9.21	10.95	11.34	1/1/2010

Returns are time-weighted and are reported net of fee for all real estate managers.

The Blended Benchmark (Real Estate) is currently the NCREIF ODCE VW Net Index. Prior to January 1, 2013, it was the NCREIF Property Index + 1%. Returns prior to January, 2007, reflect those of the Consumer Price Index + 5%.

Asset Allocation & Performance

Real Estate

Periods Ended September 30, 2021

	Market Value \$	Performance (%)							
		1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Artemis MWBE Spruce	295,920,495	6.68	9.76	10.11	8.17	6.30		5.07	6/1/2016
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13	6.56		6.62	
Franklin T. EMREFF	6,865,209								9/1/2011
Blended Benchmark (Real Estate)									
Security Capital	70,192,975	6.25	29.40	40.19	16.86	8.67	9.51		7/1/1997
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13	6.56	9.14	7.36	
Dune II	10,567,951								2/1/2009
Blended Benchmark (Real Estate)									
Non-Core Real Estate Funds	1,072,091,930	7.32	19.20	21.03	9.34	10.42	10.84	10.84	10/1/2011
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13	6.56	9.14	9.14	
Almanac ARS V	87,048								
Non-Core Intl Real Estate	227,943,279	5.26	4.01	8.27	4.66	5.51		-0.83	8/1/2014
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13	6.56		8.04	

Returns are time-weighted and are reported net of fee for all real estate managers.

The Blended Benchmark (Real Estate) is currently the NCREIF ODCE VW Net Index. Prior to January 1, 2013, it was the NCREIF Property Index + 1%. Returns prior to January, 2007, reflect those of the Consumer Price Index + 5%.

Alternative Investments

Asset Allocation & Performance

Alternatives Investments

Periods Ended September 30, 2021

	Allocation	Performance (%)							
	Market Value \$	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Alternatives Investments	4,636,171,451	9.87	34.75	46.80	20.90	17.59	12.45	11.59	2/1/1986
Alternatives Custom Benchmark		2.18	6.68	9.00	9.00	9.00	9.00	12.47	
Absolute Return	117,832	6.47	0.99	-23.14	-28.78	-12.77	-4.79	-0.32	1/1/2002
Aurora Investment	117,832								11/1/2001
Private Equity	4,061,245,044	11.13	40.97	54.97	24.72	21.27	14.70	13.92	2/1/1986
Alternatives Custom Benchmark		2.18	6.68	9.00	9.00	9.00	9.00	12.47	
Abbott S/A Comp.	521,595,639	11.02	50.05	62.15	26.15	23.57	15.53	14.95	6/1/1987
Muller Monroe MPEFF	522,930								5/1/2008
Pantheon S/A Comp.	396,576,222	22.27	43.70	74.02	26.84	22.54	15.47	11.95	10/1/2000
Private Equity Fund - Domestic	2,507,130,404	11.26	40.54	53.42	27.21	22.02		15.50	6/1/2012
Private Equity Fund - International	544,426,113	2.25	34.14	44.56	17.62	19.55		-2.90	7/1/2015
Oakbrook Opportunities Fund	90,993,736	24.88	33.80	47.84				8.71	6/1/2019
Private Credit	190,976,623	3.55	10.37	17.44				3.28	10/1/2019
Private Credit Fund - Domestic	190,976,623	3.55	10.37	17.44				3.28	10/1/2019
Agriculture	218,013,625	-0.02	-1.90	1.18	0.28	-1.29	8.01	6.56	10/1/1997
NCREIF Farmland Index		1.51	3.89	5.54	4.90	5.53	10.19	11.22	
Premiere Partners IV	218,013,625	-0.02	-1.90	1.18	0.28	-1.29		1.58	3/1/2015
Timberland	67,577,675	1.65	-5.84	-6.46	-0.40	0.34	1.74	6.82	10/1/1992
Blended Benchmark (Real Estate)		6.41	12.41	13.64	6.13	6.56	9.14	7.41	

Returns are time-weighted and are reported net of fee for all real estate managers. The Alternatives Custom Benchmark is based on an annualized return of 9%. Prior to July 1, 2010, it was based on an annual return of 12%. Prior to 2004, it was based on an annualized return of 13%. Prior to 2003, it was based on an annual return of 15%.

Asset Allocation & Performance

Alternatives Investments

Periods Ended September 30, 2021

	Allocation	Performance (%)							
	Market Value \$	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Forest Investment	67,577,675	1.65	-5.84	-6.46	-0.40	0.34	2.02	6.98	10/1/1992
Alternatives Custom Benchmark (Timberland)		1.89	4.41	5.01	2.42	2.90	5.17		
Unlisted Infrastructure	98,240,652	2.86	9.70	18.95	12.12			12.45	4/1/2018
Alternatives Custom Benchmark		2.18	6.68	9.00	9.00			9.00	
Unlisted Infrastructure Funds	98,240,652	2.86	9.70	18.95	12.12			12.45	4/1/2018
Alternatives Custom Benchmark		2.18	6.68	9.00	9.00			9.00	

Returns are time-weighted and are reported net of fee for all real estate managers. The Alternatives Custom Benchmark is based on an annualized return of 9%. Prior to July 1, 2010, it was based on an annual return of 12%. Prior to 2004, it was based on an annualized return of 13%. Prior to 2003, it was based on an annual return of 15%.

Manager Watch List

As of September 30, 2021

Organization

Investment Manager	Asset Class	Effective Date	Resolution
Standish-Mellon	Fixed Income Emerging Markets Debt	May 2021	Continue Monitoring