

Investment Performance Review  
Period Ending September 30, 2022

# The Woodlands Firefighters' Retirement System

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# 3rd Quarter 2022 Market Environment



## The Economy

- Broadly, global markets declined during the 3rd quarter as inflation remained elevated, causing global central banks further drain liquidity from the market, and geopolitical risks increased as the conflict in Ukraine escalated.
- While inflation moderated slightly in the US, it showed signs of increasing, especially in Europe, where UK and German inflation reached multi-decade highs. US CPI was 8.3% in August, down from 9.1% at the end of the 2nd quarter.
- The US Federal Reserve Bank (the Fed) continued to increase interest rates during the quarter by raising 0.75% at the July and September meetings. Importantly, the Fed signaled it was committed to fight inflation by additional rate hikes if needed.
- The US labor market showed its resiliency during the quarter by adding an estimated 1.1 million jobs. As a result, the unemployment rate fell to 3.5% in September. The number of workers re-entering the workforce increased slightly during the period as wage growth remained strong.
- Real estate markets were under pressure during the quarter as rising interest rates pushed mortgages to their highest levels since 2007. As of September, the average 30-year fixed mortgage was roughly 6.7%, up from roughly 3.0% last year at the same time.

## Equity (Domestic and International)

- US equities declined during the 3rd quarter as concerns regarding inflation, the path of interest rates, and a slowing global economy acted as headwinds. Small cap growth was the best performing domestic segment of the equity market relative to other US market capitalizations and styles during the period while large cap value performed the worst.
- Momentum was decidedly negative in international stocks during the 3rd quarter. The escalating conflict in Ukraine, rising inflation in Europe, and tightening monetary policy all contributed to the decline. The continued strength of the US dollar, which rose against most major developed market and emerging market currencies, also acted as a headwind. Finally, China continued its zero-tolerance policy regarding Covid-19, which led to additional restrictions.

## Fixed Income

- While inflation fell slightly during the quarter, the Fed continued increasing interest rates which acted as a headwind for fixed income performance during the quarter. US interest rates moved significantly higher during the quarter with the US 10-Year Treasury bond rising 83 basis points to close at 3.80%.
- Performance across all bond market sectors was negative during the quarter, with US high yield corporate bonds and US Treasury bonds down the least.
- The combination of higher coupons and a shorter maturity profile relative to high quality government bonds was the primary driver of the relative outperformance of high yield bonds during the period.
- US Treasury bonds declined less than other investment grade bond market sectors during the quarter. During periods of increased volatility, investors have historically preferred the safety of government bonds over those with credit risk.

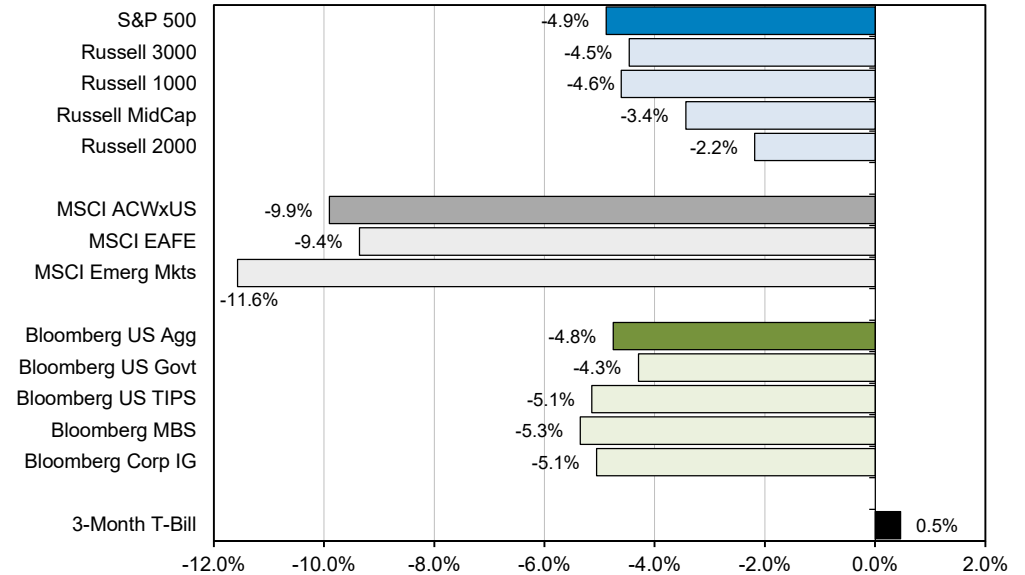
## Market Themes

- Central banks remained hawkish during the quarter with several banks raising interest rates to fight higher inflation. The Fed, the Bank of England, and European Central Bank all raised rates during the quarter. Additionally, the Fed is currently allowing bonds to mature without reinvesting (quantitative tightening), while other banks are also considering similar actions. The outcome would be additional liquidity from the market.
- The escalating crisis in Ukraine spilled over as several gas pipelines were attacked in the Baltic Sea. The result was further disruption of energy supplies to Europe, Germany in particular. Energy costs have risen significantly since the start of the conflict which have negatively impacted economic activity in the region.
- US equity markets experienced their third consecutive quarter of negative performance during the 3rd quarter. Growth-oriented stocks outperformed value stocks as investors believe the Fed will begin slowing the rise of interest rates as economic growth declines. Historically, growth stocks have outperformed value stocks as the economy reaches the trough following a recession.
- Interest rates rose across the Treasury yield curve during the quarter as the Fed hiked interest rates by 0.75% at both the July and September meetings. The 3rd quarter marks the third consecutive quarter the bond market has suffered negative absolute returns. Long-term mortgage and investment grade corporate bonds underperformed during the quarter given their maturity profiles. High yield bonds outperformed primarily due to their shorter maturity profile and higher coupons.

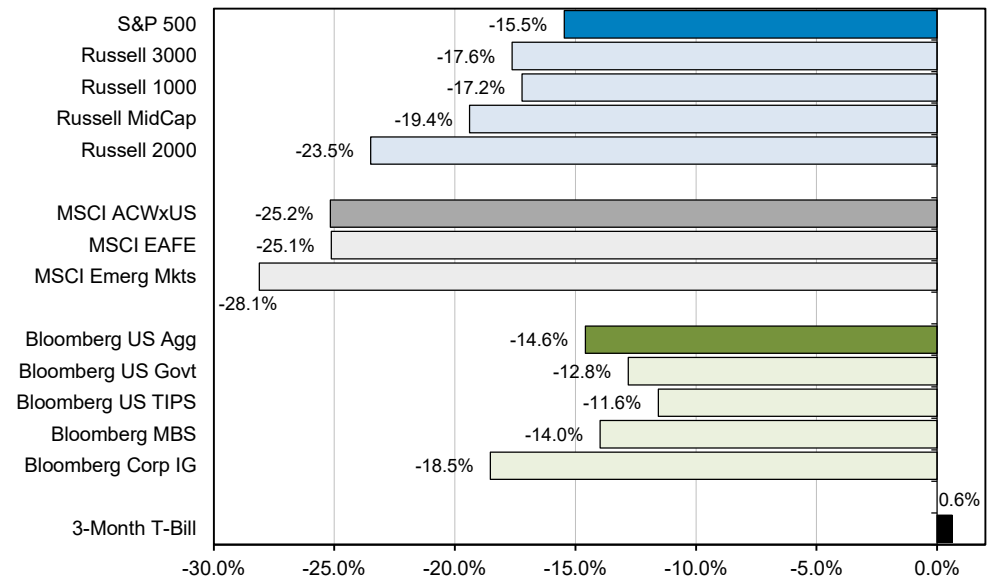


- Negative momentum continued during the 3rd quarter as broad US equity markets experienced negative returns. Factors that contributed to performance included elevated inflation, tighter monetary policy, continued geopolitical events in Ukraine, and expectations of slower economic growth. For the period, the S&P 500 large cap benchmark returned -4.9%, compared to -3.4% for mid-cap and -2.2% for small cap indices.
- Like domestic equities, developed markets international equities also suffered negative results for the 3rd quarter. Europe was negatively impacted by higher-than-expected inflation, the conflict in Ukraine, uncertainty regarding energy supplies, and rising interest rates. Emerging markets were also negatively impacted by war in Ukraine and a strengthening USD. During the period, the MSCI EAFE Index returned -9.4% while the MSCI Emerging Markets Index declined by -11.6%.
- For the quarter, performance of the bond market was broadly negative due to continued concerns about inflation and the FOMC's decision to raise interest rates twice during the period. The Bloomberg (BB) US Aggregate Index returned -4.8%, for the period while Investment Grade Corporate bonds posted a return of -5.1%.
- Performance for developed equity markets was strongly negative over the trailing 1-year period. The primary drivers of return during the period were weakening global economic growth, more restrictive monetary policy from global central banks, and elevated inflation. The S&P 500 large cap stock index led equity market performance for the year with a return of -15.5%. The outlier was the MSCI ACWI ex-US index which declined by -25.2% for the year.
- Over the trailing 1-year period, international markets fell with the developed market MSCI EAFE Index returning -25.1% while the MSCI Emerging Markets Index fell by -28.1%. Global economic growth slowed throughout the year and both developed and emerging markets were negatively impacted by a strong USD and continued geopolitical concerns.
- Bond market returns disappointed over the trailing 1-year period due primarily to concerns about rising inflation and the expectation of higher future interest rates. US TIPS were the best performing sector returning -11.6% while investment grade corporate bonds was the worst, falling -18.5%.

### Quarter Performance



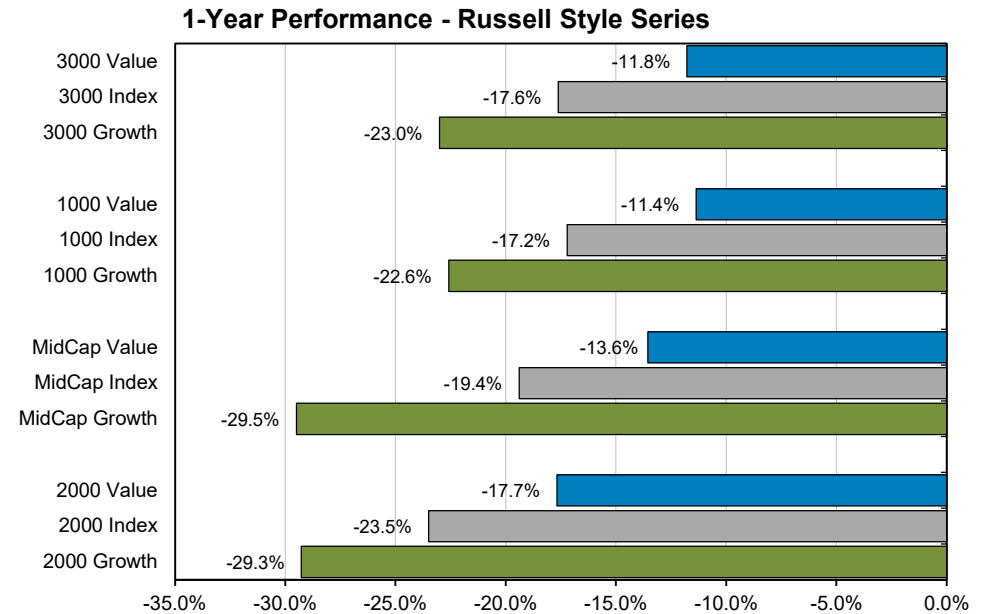
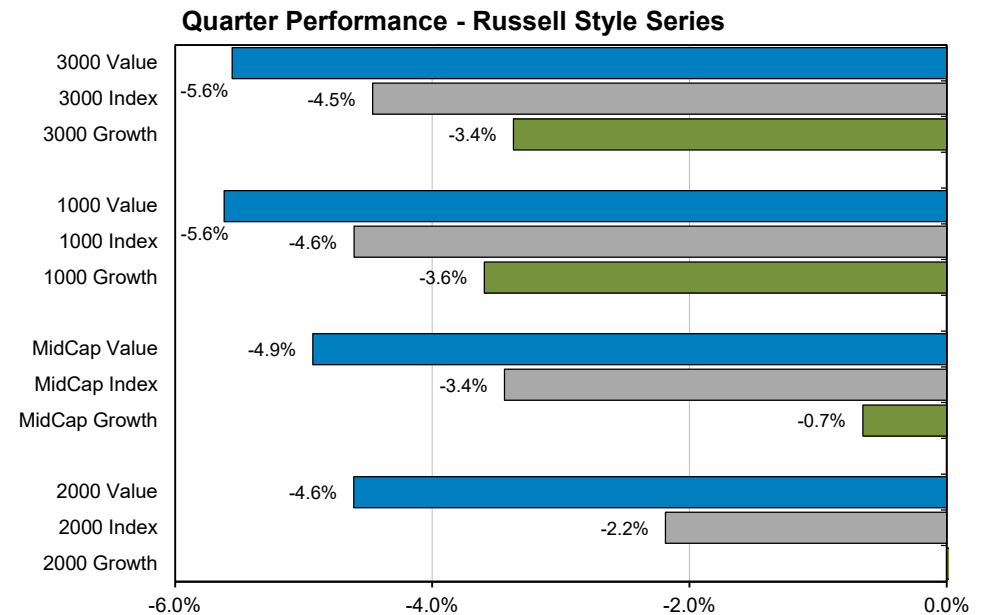
### 1-Year Performance



Source: Investment Metrics



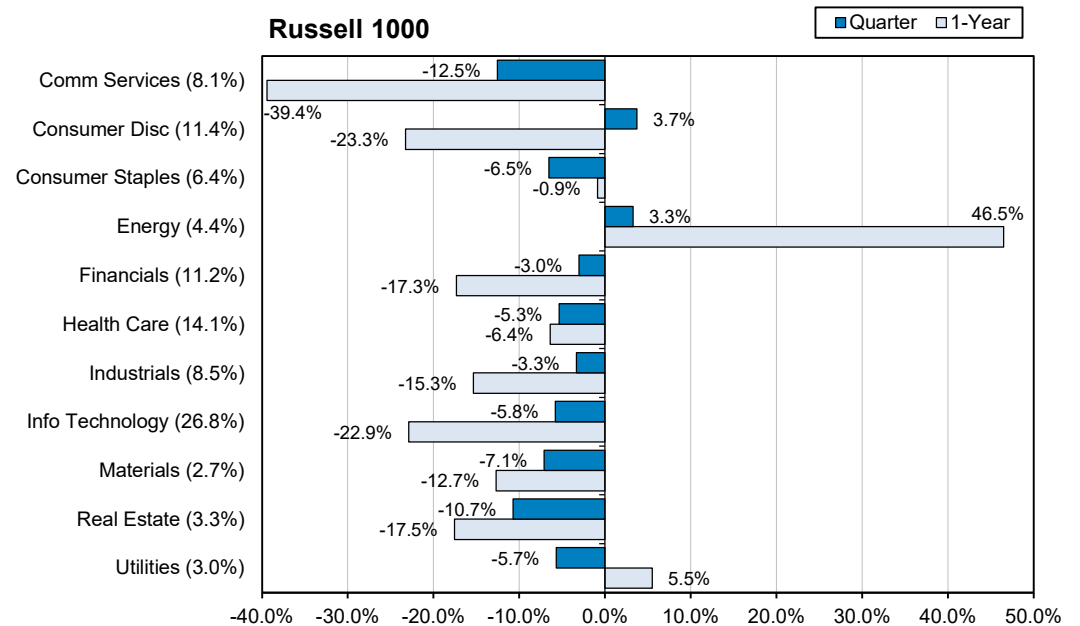
- Volatility was high during the 3rd quarter as broad US equity markets rose sharply before falling to close the period with negative results across both the style and market capitalization spectrums. Leadership switched during the quarter with small cap stocks outperforming, followed by mid and large cap issues. The Russell 2000 Index declined by -2.2% for the quarter while the Russell Mid Cap Index and the Russell 1000 Index fell by -3.4% and -4.6%, respectively.
- Performance across styles and market capitalizations was disparate during the quarter. Large, mid, and small cap growth stocks all outperformed their value counterparts. For the period, the Russell 2000 Growth Index was the best relative performing style index, posting a return of 0.0%. Large and mid cap value stocks were the laggards during the period with the Russell Large Cap Value Index and Russell Mid Cap Value Index falling by -5.6% and -4.9%, respectively.
- Performance across all market capitalizations and styles was negative over the trailing 1-year period. Unlike the 3rd quarter, large cap stocks outperformed mid and small cap stocks for the year. The Russell 1000 Index return of -17.2% for the year, significantly outperformed both its mid and small cap growth index counterparts. The outlier during the period was the Russell 2000 Index which returned -23.5%.
- There was wide performance dispersion within across all style-based indexes. Value significantly outperformed growth over the year. Within large cap stocks, the Russell 1000 Value returned -11.4% compared to -22.6% for the Russell 1000 Growth benchmark. The Russell Mid Cap Value Index returned -13.6% while the Russell 2000 Value Index returned -17.7% for the period. In comparison, the Russell Mid Cap Growth Index returned -29.5%, while the Russell 2000 Growth Index declined by -29.3%.



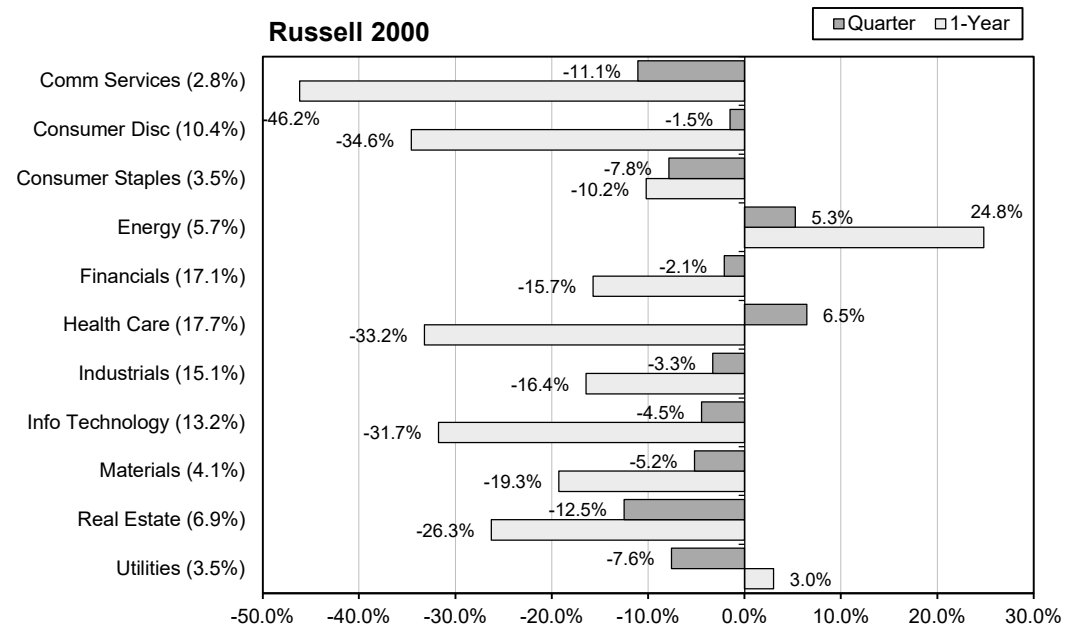
Source: Investment Metrics



- Economic sector performance was negative across nine of the eleven large cap economic sectors for the 3rd quarter. Four sectors outpaced the return of the broad index on a relative basis during the period.
- Consumer Discretionary (3.7%) and Energy (3.3%) were the only sectors with positive absolute performance during the period. Additionally, Financials (-3.0%) and Industrials (-3.3%) outperformed the broad index. Strong consumer demand acted as a tailwind for consumer-related stocks during the quarter. Energy continued its relative outperformance as the price of oil remained elevated.
- For the full year, six sectors exceeded the return of the broad large cap benchmark: Energy (46.5%), Utilities (5.5%), Consumer Staples (-0.9%), Health Care (-6.4%), Materials (-12.7%), and Industrials (-15.3%). The weakest economic sector performance in the Russell 1000 for the year was Communication Services which declined by returns (-39.4%).



- Small cap sector performance was also mixed during the quarter with two economic sectors posting positive performance relative to return of the broader Russell 2000 Index (-2.2%). Health Care (6.5%), and Energy (5.3%) were the best performing sectors for the period. Real Estate (-12.5%), and Communication Services (-11.1%) were the worst performing sectors for the quarter.
- For the trailing 1-year period, six of the eleven sectors outpaced the broad benchmark's return. Not surprisingly, sector performance was led by Energy (24.8%), Utilities (3.0%), Consumer Staples (-10.2%), Financials (-15.7%), and Industrials (-16.4%). The weakest sector over the full year was Communication Services (-46.2%), followed by Consumer Discretionary (-34.6%).



Source: Morningstar Direct  
 As a result of the GICS classification changes on 9/28/2018 and certain associated reporting limitations, sector performance represents backward looking performance for the prior year of each sector's current constituency, post creation of the Communication Services sector.



**The Market Environment**  
**Top 10 Index Weights & Quarterly Performance for the Russell 1000 & 2000**  
As of September 30, 2022

Top 10 Weighted Stocks				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Apple Inc	6.31%	1.22%	-1.79%	Information Technology
Microsoft Corp	5.21%	-9.12%	-16.69%	Information Technology
Amazon.com Inc	3.00%	6.39%	-31.20%	Consumer Discretionary
Tesla Inc	2.02%	18.17%	2.61%	Consumer Discretionary
Alphabet Inc Class A	1.72%	-12.22%	-28.45%	Communication Services
Alphabet Inc Class C	1.55%	-12.09%	-27.85%	Communication Services
Berkshire Hathaway Inc Class B	1.44%	-2.20%	-2.17%	Financials
UnitedHealth Group Inc	1.41%	-1.36%	30.94%	Health Care
Johnson & Johnson	1.28%	-7.35%	3.82%	Health Care
Exxon Mobil Corp	1.09%	2.91%	55.15%	Energy

Top 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Signify Health Inc Ordinary Shares	0.01%	111.23%	63.12%	Health Care
First Solar Inc	0.04%	94.14%	38.56%	Information Technology
Wolfspeed Inc	0.04%	62.90%	28.03%	Information Technology
Penumbra Inc	0.02%	52.26%	-28.86%	Health Care
Oak Street Health Inc Ordinary Shares	0.01%	49.15%	-42.35%	Health Care
Sarepta Therapeutics Inc	0.03%	47.47%	19.53%	Health Care
Constellation Energy Corp	0.08%	45.54%	N/A	Energy
The Trade Desk Inc Class A	0.08%	42.64%	-15.01%	Information Technology
Nutanix Inc Class A	0.01%	42.38%	-44.75%	Information Technology
Enphase Energy Inc	0.11%	42.12%	85.02%	Energy

Bottom 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Sotera Health Co Ordinary Shares	0.00%	-65.2%	-73.9%	Health Care
Novavax Inc	0.00%	-64.6%	-91.2%	Health Care
Spectrum Brands Holdings Inc	0.00%	-52.1%	-58.4%	Consumer Staples
AMC Entertainment Holdings Inc	0.01%	-48.6%	-81.7%	Communication Services
WeWork Inc	0.00%	-47.2%	N/A	Real Estate
The Scotts Miracle Gro Co A	0.01%	-45.4%	-70.1%	Materials
AppLovin Corp Ordinary Shares	0.01%	-43.4%	-73.1%	Information Technology
Azenta Inc	0.01%	-40.6%	-58.1%	Health Care
NCR Corp	0.01%	-38.9%	-51.0%	Information Technology
Enhabit Inc Shs	0.00%	-38.9%	N/A	Health Care

Top 10 Weighted Stocks				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
ShockWave Medical Inc	0.45%	45.5%	35.1%	Health Care
Biohaven Pharmaceutical Holding Co	0.43%	3.7%	8.8%	Health Care
Chart Industries Inc	0.31%	10.1%	-3.5%	Industrials
Karuna Therapeutics Inc	0.30%	77.8%	83.9%	Health Care
Apellis Pharmaceuticals Inc	0.28%	51.0%	107.2%	Health Care
Murphy USA Inc	0.28%	18.2%	65.3%	Consumer Discretionary
Texas Roadhouse Inc	0.27%	19.8%	-2.4%	Consumer Discretionary
SouthState Corp	0.27%	3.2%	8.5%	Financials
RBC Bearings Inc	0.27%	12.4%	-2.1%	Industrials
EMCOR Group Inc	0.27%	12.3%	0.5%	Information Technology

Top 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Akero Therapeutics Inc	0.04%	260.3%	52.3%	Health Care
Forma Therapeutics Holdings Inc	0.03%	189.6%	-14.0%	Health Care
Velo3D Inc	0.01%	185.5%	-52.9%	Industrials
Ventyx Biosciences Inc	0.04%	185.4%	N/A	Health Care
Verve Therapeutics Inc	0.06%	124.8%	-26.9%	Health Care
AN2 Therapeutics Inc	0.00%	124.3%	N/A	Health Care
Prothena Corp PLC	0.10%	123.3%	-14.9%	Health Care
Target Hospitality Corp Class A	0.02%	121.0%	238.3%	Consumer Discretionary
1Life Healthcare Inc Ordinary Shares	0.14%	118.8%	-15.3%	Health Care
Global Blood Therapeutics Inc	0.19%	113.1%	167.3%	Health Care

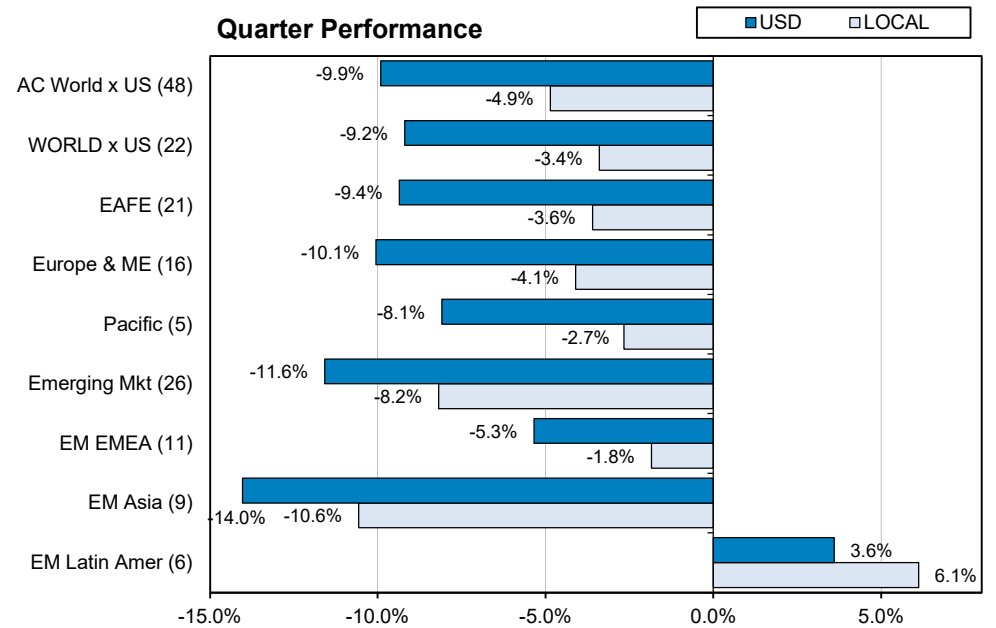
Bottom 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Leafly Holdings Inc	0.00%	-84.9%	0.0%	Communication Services
VistaGen Therapeutics Inc	0.00%	-82.7%	N/A	Health Care
Faraday Future Intelligent Electric Inc	0.00%	-75.5%	N/A	Consumer Discretionary
SelectQuote Inc Ordinary Shares	0.00%	-70.6%	-94.4%	Financials
IronNet Inc	0.00%	-68.8%	N/A	Information Technology
Core Scientific Inc Ord Shs - Class A	0.00%	-67.9%	N/A	Consumer Discretionary
Rockley Photonics Holdings Ltd	0.00%	-67.4%	N/A	Information Technology
Loyalty Ventures Inc Ordinary Shares	0.00%	-66.1%	0.0%	Communication Services
Cryptyde Inc	0.00%	-65.9%	0.0%	Materials
Vintage Wine Estates Inc	0.00%	-64.8%	-72.9%	Consumer Staples

Source: Morningstar Direct



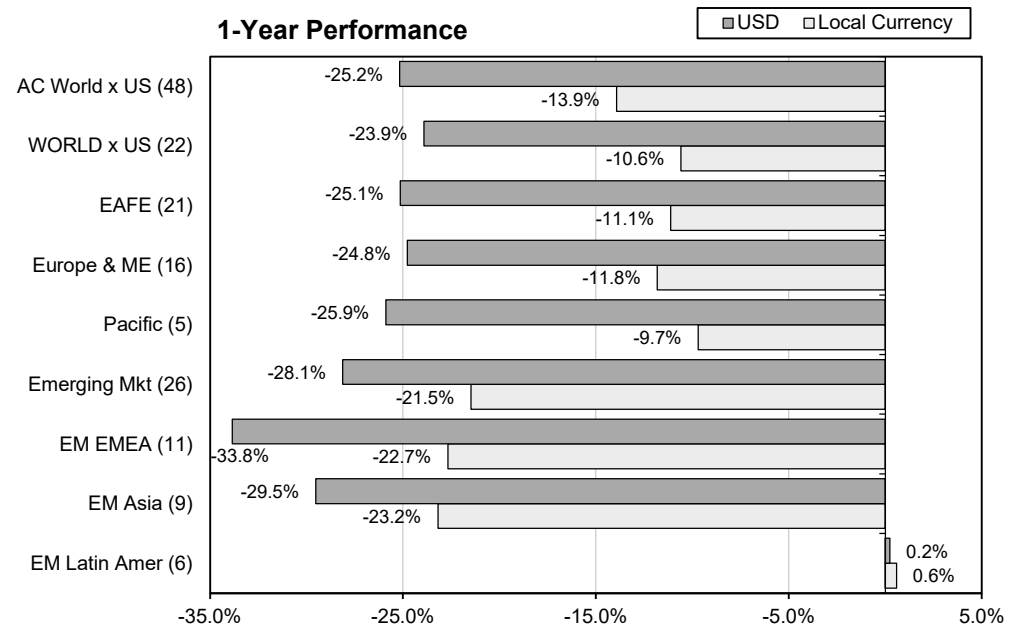
- Most developed and emerging market international equity indexes tracked in the chart posted negative returns in both US dollar (USD) and local currency (LC) terms for the 3rd quarter. The outlier during the period was the Latin America region. Higher commodity prices and demand benefited export-driven countries like Brazil. The developed market MSCI EAFE Index returned -9.4% in USD and -3.6% in LC terms for the period, while the MSCI Emerging Markets Index declined by -11.6% in USD and -8.2% in LC terms.

**Quarter Performance**



- The trailing 1-year results for international developed and emerging markets were broadly negative across most regions and currencies. The MSCI EAFE Index returned -25.1% in USD for the year and -11.1% in LC terms. Similarly, returns across emerging markets were broadly lower with the exception being Latin America with the MSCI Emerging Markets Index declining by -28.1% in USD and -21.5% in LC terms. Latin America regional index's return were the outlier, rising by 0.2% in USD and 0.6% in LC term. In contrast, performance in the EMEA regional benchmark significantly detracted from emerging market index performance with the EMEA Index returning -33.8% in USD and -22.7% in LC terms, respectively, due primarily to concerns related to Ukraine.

**1-Year Performance**



Source: MSCI Global Index Monitor (Returns are Net)





**The Market Environment**  
**US Dollar International Index Attribution & Country Detail**  
As of September 30, 2022

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	4.8%	-13.7%	-28.6%
Consumer Discretionary	11.3%	-9.8%	-32.3%
Consumer Staples	11.3%	-7.1%	-17.3%
Energy	4.9%	-5.0%	6.0%
Financials	17.6%	-9.6%	-22.1%
Health Care	13.5%	-10.6%	-19.8%
Industrials	15.0%	-8.3%	-31.5%
Information Technology	7.9%	-8.3%	-38.9%
Materials	7.5%	-8.9%	-21.3%
Real Estate	2.8%	-13.1%	-29.1%
Utilities	3.4%	-13.3%	-20.3%
<b>Total</b>	<b>100.0%</b>	<b>-9.4%</b>	<b>-25.1%</b>

MSCI - ACWixUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	6.1%	-16.5%	-32.0%
Consumer Discretionary	11.4%	-13.0%	-32.3%
Consumer Staples	9.4%	-6.4%	-16.7%
Energy	6.2%	-6.3%	-5.0%
Financials	20.7%	-7.9%	-18.3%
Health Care	9.6%	-11.0%	-23.5%
Industrials	12.1%	-8.2%	-28.7%
Information Technology	10.8%	-12.1%	-39.3%
Materials	8.2%	-7.9%	-21.1%
Real Estate	2.4%	-14.5%	-29.8%
Utilities	3.4%	-10.9%	-16.0%
<b>Total</b>	<b>100.0%</b>	<b>-9.9%</b>	<b>-25.2%</b>

MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	9.7%	-19.3%	-36.2%
Consumer Discretionary	14.0%	-18.7%	-33.7%
Consumer Staples	6.6%	-4.5%	-17.8%
Energy	5.3%	-2.6%	-30.1%
Financials	22.6%	-5.1%	-14.3%
Health Care	3.9%	-13.8%	-42.8%
Industrials	5.8%	-9.9%	-20.8%
Information Technology	18.3%	-15.5%	-36.1%
Materials	8.7%	-7.4%	-26.3%
Real Estate	2.0%	-19.3%	-31.9%
Utilities	3.2%	-4.3%	-8.0%
<b>Total</b>	<b>100.0%</b>	<b>-11.6%</b>	<b>-28.1%</b>

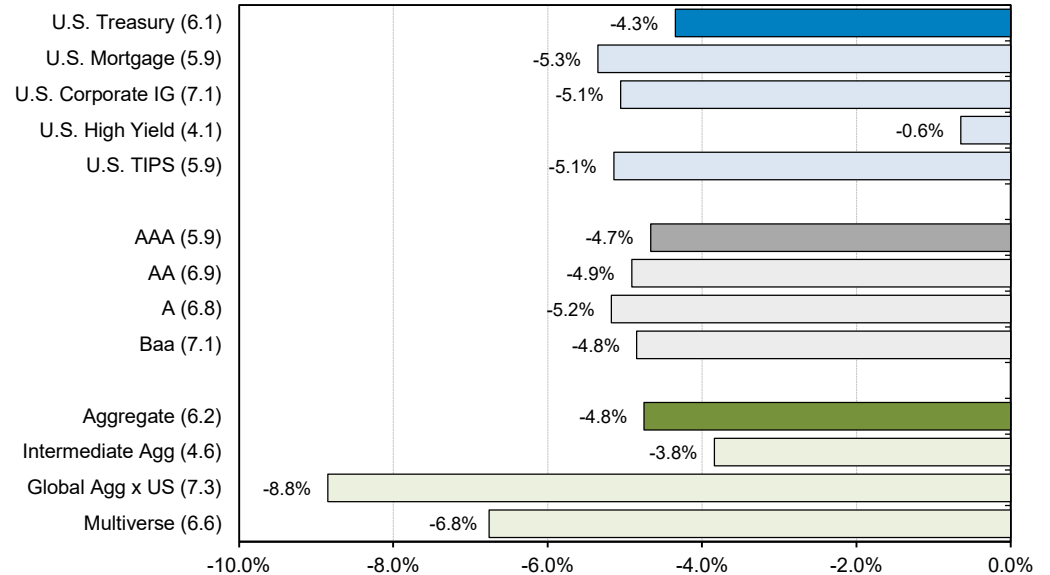
Country	MSCI-EAFE Weight	MSCI-ACWixUS Weight	Quarter Return	1-Year Return
Japan	22.6%	14.1%	-7.7%	-29.3%
United Kingdom	15.5%	9.7%	-10.8%	-14.1%
France	11.3%	7.1%	-8.9%	-24.0%
Switzerland	10.7%	6.7%	-7.5%	-16.5%
Australia	8.0%	5.0%	-6.7%	-16.4%
Germany	7.6%	4.7%	-12.6%	-37.1%
Netherlands	4.1%	2.6%	-10.7%	-38.2%
Sweden	3.4%	2.1%	-8.8%	-35.7%
Hong Kong	3.0%	1.9%	-17.0%	-22.3%
Denmark	2.6%	1.7%	-12.3%	-23.5%
Spain	2.4%	1.5%	-14.1%	-25.6%
Italy	2.3%	1.4%	-8.5%	-28.5%
Singapore	1.6%	1.0%	-1.5%	-22.1%
Belgium	1.0%	0.6%	-13.2%	-27.3%
Finland	1.0%	0.6%	-7.2%	-25.0%
Norway	0.8%	0.5%	-15.3%	-20.7%
Israel	0.8%	0.5%	-1.9%	-21.8%
Ireland	0.6%	0.4%	-5.5%	-38.9%
Portugal	0.2%	0.1%	-11.0%	-12.9%
Austria	0.2%	0.1%	-15.2%	-40.9%
New Zealand	0.2%	0.1%	-8.6%	-33.4%
<b>Total EAFE Countries</b>	<b>100.0%</b>	<b>62.5%</b>	<b>-9.4%</b>	<b>-25.1%</b>
Canada		8.2%	-7.8%	-12.6%
<b>Total Developed Countries</b>		<b>70.7%</b>	<b>-9.2%</b>	<b>-23.9%</b>
China		9.2%	-22.5%	-35.4%
Taiwan		4.0%	-14.5%	-30.5%
India		4.5%	6.5%	-9.9%
Korea		3.1%	-16.4%	-40.7%
Brazil		1.7%	8.5%	4.3%
Saudi Arabia		1.4%	-0.1%	1.9%
South Africa		1.0%	-12.3%	-19.2%
Mexico		0.7%	-5.4%	-7.4%
Thailand		0.6%	-2.9%	-6.8%
Indonesia		0.6%	7.8%	14.3%
Malaysia		0.4%	-7.1%	-15.9%
United Arab Emirates		0.4%	-2.5%	5.1%
Qatar		0.4%	3.1%	12.7%
Kuwait		0.3%	-5.5%	6.4%
Philippines		0.2%	-13.6%	-26.3%
Poland		0.2%	-25.1%	-51.9%
Chile		0.2%	3.2%	0.6%
Turkey		0.1%	16.3%	3.8%
Peru		0.1%	-0.9%	3.0%
Greece		0.1%	-7.5%	-25.2%
Colombia		0.0%	-18.5%	-23.6%
Czech Republic		0.0%	-19.2%	-9.8%
Hungary		0.0%	-15.0%	-54.3%
Egypt		0.0%	-1.3%	-28.8%
<b>Total Emerging Countries</b>		<b>29.3%</b>	<b>-11.6%</b>	<b>-28.1%</b>
<b>Total ACWixUS Countries</b>		<b>100.0%</b>	<b>-9.9%</b>	<b>-25.2%</b>

Source: Morningstar Direct, MSCI Global Index Monitor (Returns are Net in USD)  
As a result of the GICS classification changes on 9/28/2018 and certain associated reporting limitations, sector performance represents backward looking performance for the prior year of each sector's current constituency, post creation of the Communication Services sector.

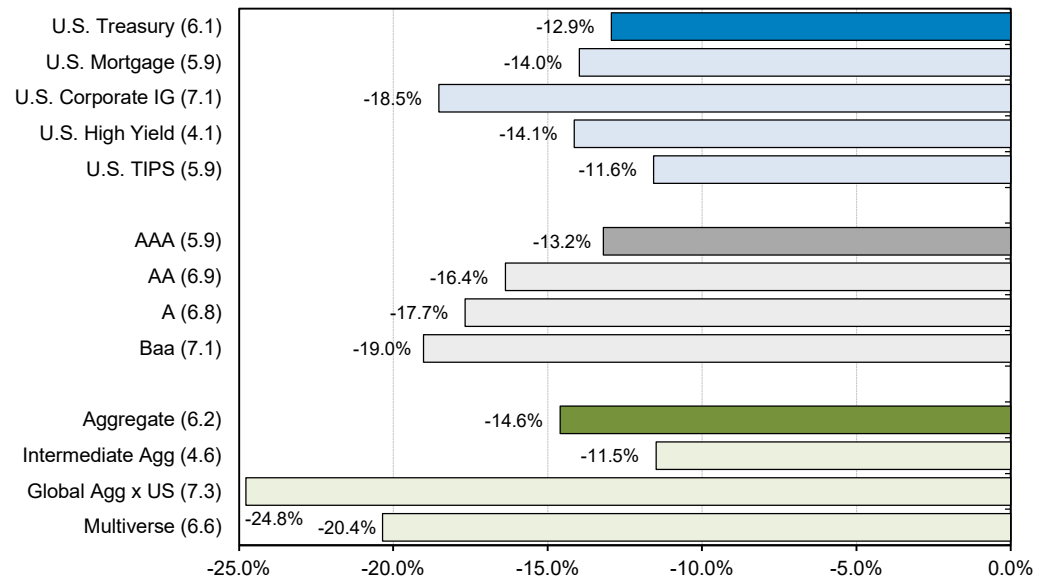


- Fixed income market results were broadly negative during the 3rd quarter. Investors' concerns about rising inflation, combined with expectations of higher US interest rates, detracted from performance. As a result, US Treasury yields continued to rise across the maturity curve throughout the quarter.
- The return for the BB US Aggregate Bond Index, the bellwether investment grade benchmark, was down -4.8% for the period.
- Performance across the investment grade index's segments was also negative during the period with the US Corporate Investment Grade bonds returning -5.1% and the US Mortgage index component posting a return of -5.3%.
- High yield bonds outperformed their investment grade counterparts, but still declined by -0.6%. US TIPS, which have delivered strong performance in recent periods, posted a decline of -5.1% as investors' expectations of future inflation declined.
- Outside of domestic markets, the BB Global Aggregate ex US Index posted a return of -8.8% for the quarter. Like domestic bonds, global bond index performance was negatively impacted by rising interest rates and a strengthening USD, which acted as a drag on domestic index returns.
- Over the trailing 1-year period, domestic investment grade benchmark performance was negative, led lower by investment grade corporate bonds (-18.5%), followed by mortgage-backed bonds (-14.0%), US Treasury bonds (-12.9%), and US TIPS (-11.6%). The bellwether Bloomberg US Aggregate Bond Index (-14.6%) declined for the year.
- Lower quality high yield corporate bonds outperformed their investment grade counterparts on a relative basis with the Bloomberg US High Yield Index returning -14.1% for the period.
- Performance for non-US bonds was broadly negative for the year with the developed market Bloomberg Global Aggregate ex US Index falling by -24.9%. The combination of rising interest rates overseas, persistent inflation, and USD strength hindered index performance for the year.

**Quarter Performance**



**1-Year Performance**

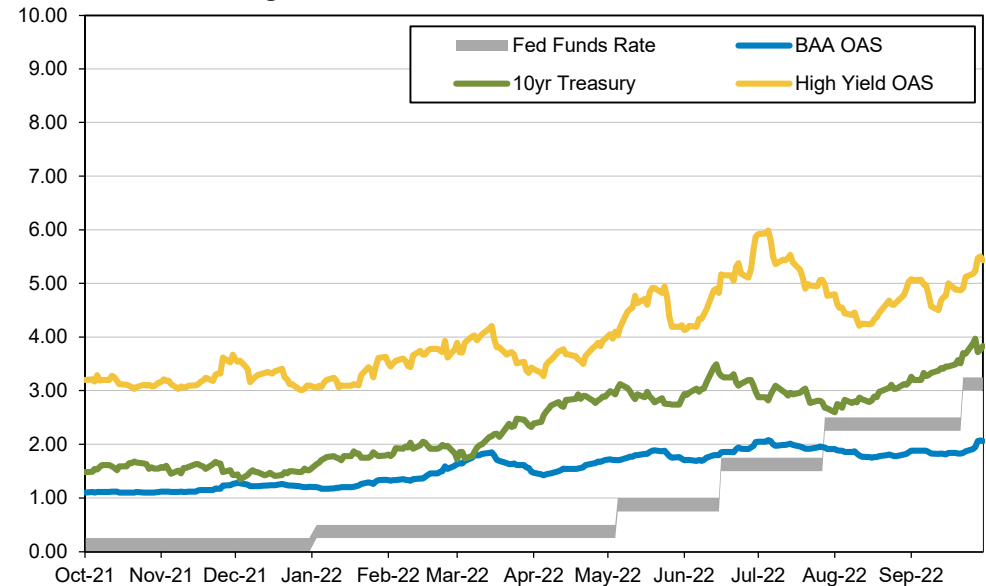


Source: Bloomberg

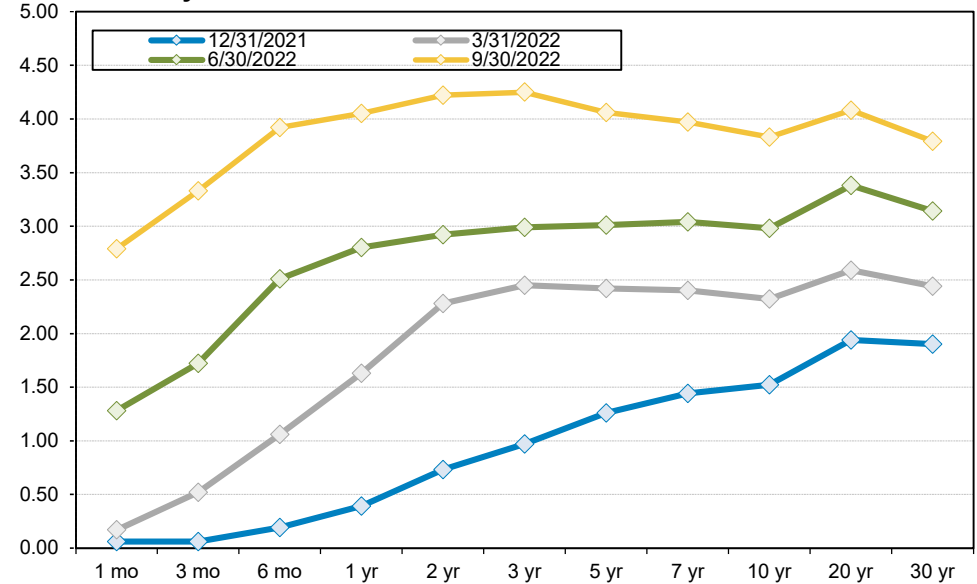


- The gray band across the graph illustrates the range of the current Fed Funds Rate. In the 3rd quarter this year, the Fed raised its target rate range from 1.75% to 3.25%. During its recent September meeting, the Federal Open Market Committee (FOMC) stated it intends to continue to remove liquidity from the market by raising interest rates and also allowing bonds held on its balance sheet to mature without reinvesting those proceeds. Importantly, the FOMC stated that it will remain vigilant in its fight against persistently higher inflation.
- The yield on the US 10-year Treasury (green line) ended the period higher as concerns over the pace of inflation, combined with the Fed's announced rate increase, drove yields higher. Interest rates continued to climb during the quarter, reaching a high of roughly 4.00% during the latter part of September 2022, before settling at 3.83% at the end of the month.
- The blue line illustrates changes in the BAA OAS (Option Adjusted Spread). This measure quantifies the additional yield premium that investors require to purchase and hold non-US Treasury investment grade issues. For the full year, the spread widened slightly from 1.10% to 2.06%. High Yield OAS was largely unchanged during the year as spreads rose from 3.17% to 5.43%. High Yield spreads reached as high as 5.80% in early July before trading lower the remainder of the quarter.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four quarters. Short-term rates continued to rise during the 3rd quarter as the FOMC continued raising rates to combat rising inflation. Both intermediate and longer-term rates were modestly higher across the curve, albeit less dramatically than short-term rates. The curve remained inverted between 2-year rates and 10-year rates. Said differently, the short-term rate was higher than the long-term rate. Historically, a persistent inversion of these two key rates has been an indication of a future recession withing 6- to 24-months.

1-Year Trailing Market Rates



Treasury Yield Curve



Source: US Department of Treasury, FRED (Federal Reserve of St. Louis)

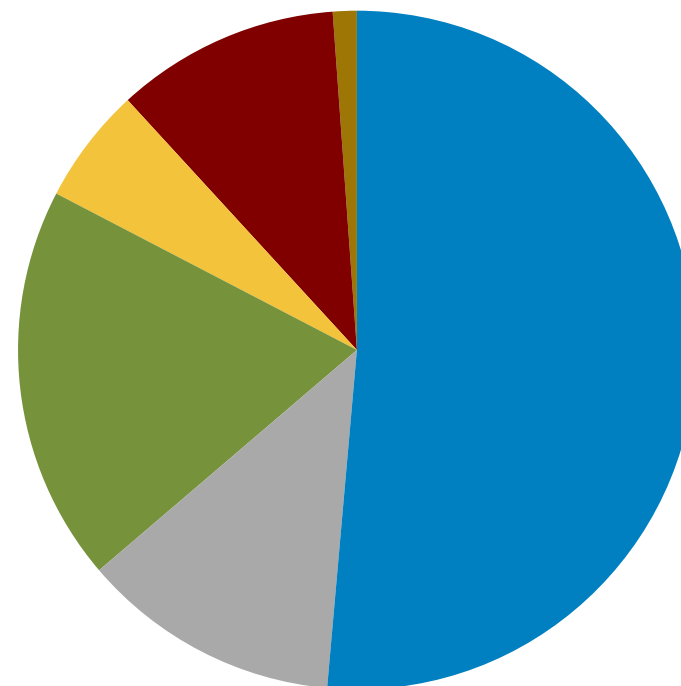
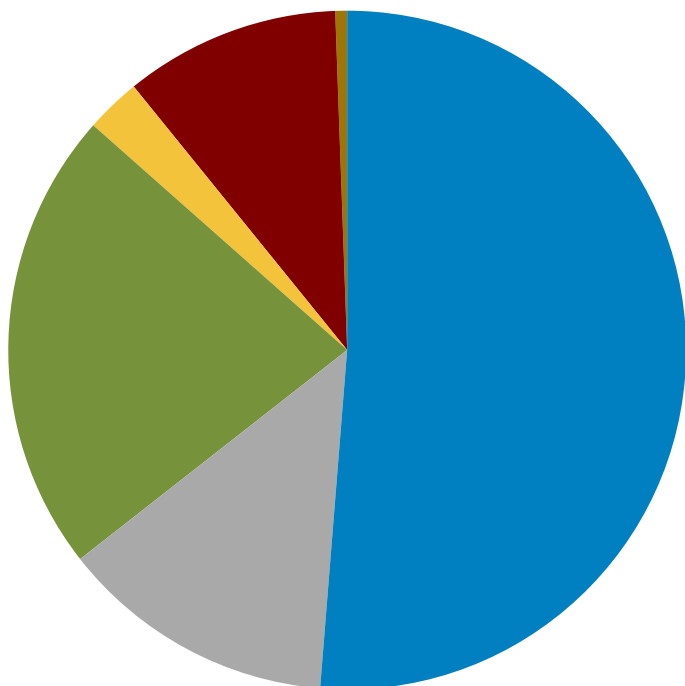


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Asset Allocation By Segment as of  
 June 30, 2022 : \$54,467,032

Asset Allocation By Segment as of  
 September 30, 2022 : \$52,617,810

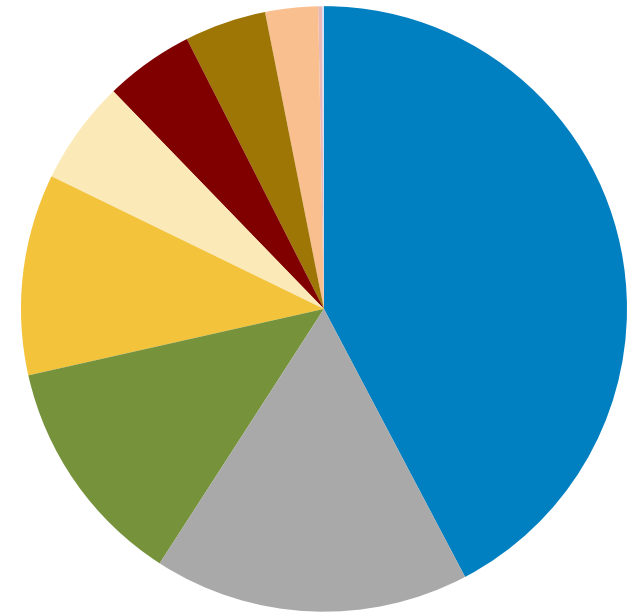
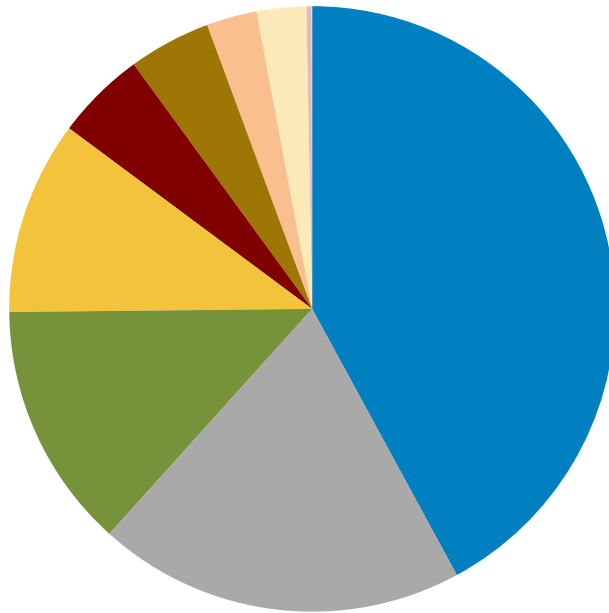


Allocation			Allocation		
Segments	Market Value	Allocation	Segments	Market Value	Allocation
Domestic Equity	27,926,038	51.3	Domestic Equity	27,045,781	51.4
International Equity	7,173,089	13.2	International Equity	6,503,680	12.4
Domestic Fixed Income	12,025,255	22.1	Domestic Fixed Income	9,926,457	18.9
Other Fixed Income	1,436,274	2.6	Other Fixed Income	2,919,844	5.5
Real Estate	5,599,684	10.3	Real Estate	5,619,568	10.7
Cash Equivalent	306,693	0.6	Cash Equivalent	602,480	1.1



Asset Allocation By Manager as of  
 June 30, 2022 : \$54,467,032

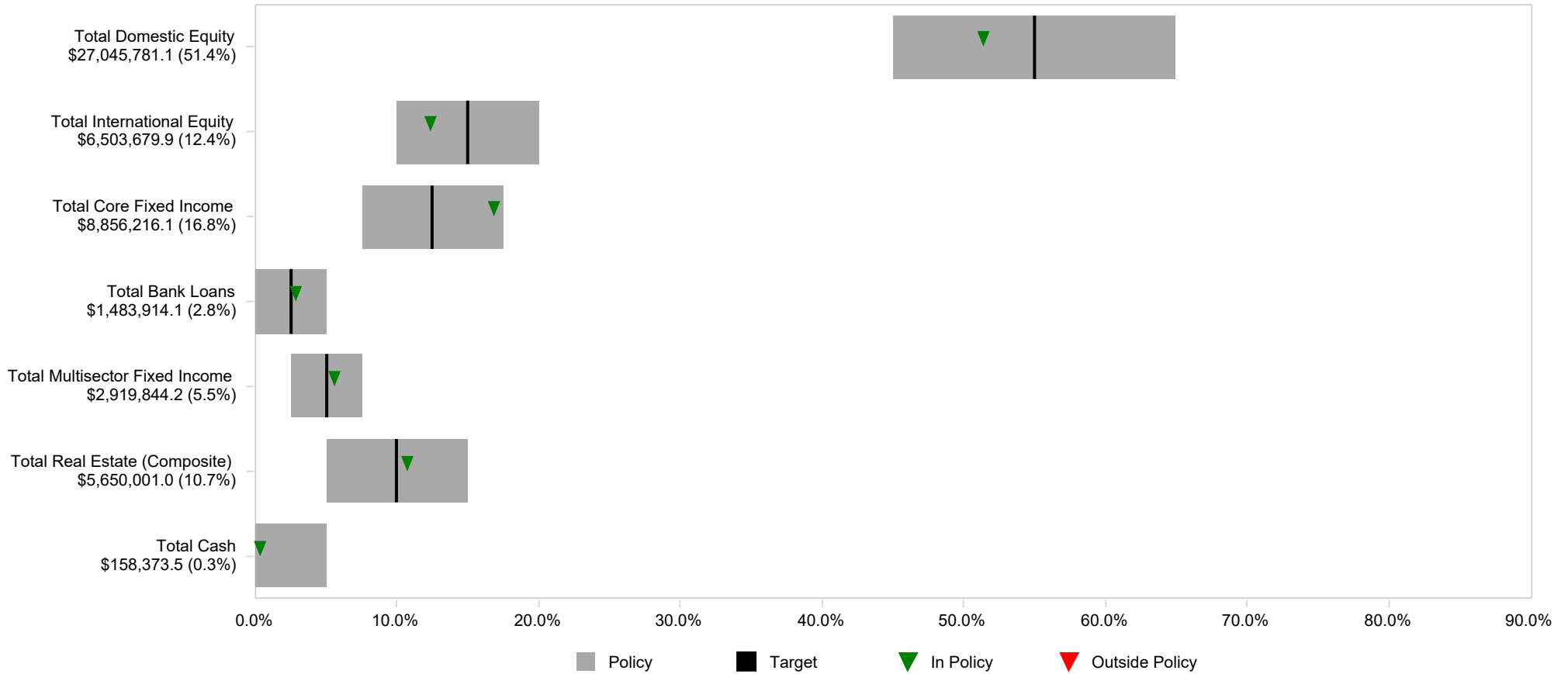
Asset Allocation By Manager as of  
 September 30, 2022 : \$52,617,810



Allocation			Allocation		
	Market Value	Allocation		Market Value	Allocation
Vanguard Total Stock Index (VITSX)	22,921,015	42.1	Vanguard Total Stock Index (VITSX)	22,252,842	42.3
Garcia Hamilton	10,669,717	19.6	Garcia Hamilton	8,856,216	16.8
EuroPacific Growth R6 (RERGX)	7,173,089	13.2	EuroPacific Growth R6 (RERGX)	6,503,680	12.4
Clarion (Core Real Estate)	5,628,958	10.3	Clarion (Core Real Estate)	5,650,001	10.7
American Beacon SC Value R6 (AASRX)	2,614,821	4.8	Apollo Total Return Fund	2,919,844	5.5
Conestoga Small Cap I (CCALX)	2,390,201	4.4	American Beacon SC Value R6 (AASRX)	2,503,896	4.8
Pacific Funds Floating Rate (PLFRX)	1,462,898	2.7	Conestoga Small Cap I (CCALX)	2,289,043	4.4
Apollo Total Return Fund	1,436,274	2.6	Pacific Funds Floating Rate (PLFRX)	1,483,914	2.8
Mutual Fund Cash	145,240	0.3	Mutual Fund Cash	100,785	0.2
Frost Bank Cash Account	24,820	0.0	Frost Bank Cash Account	57,589	0.1



Executive Summary



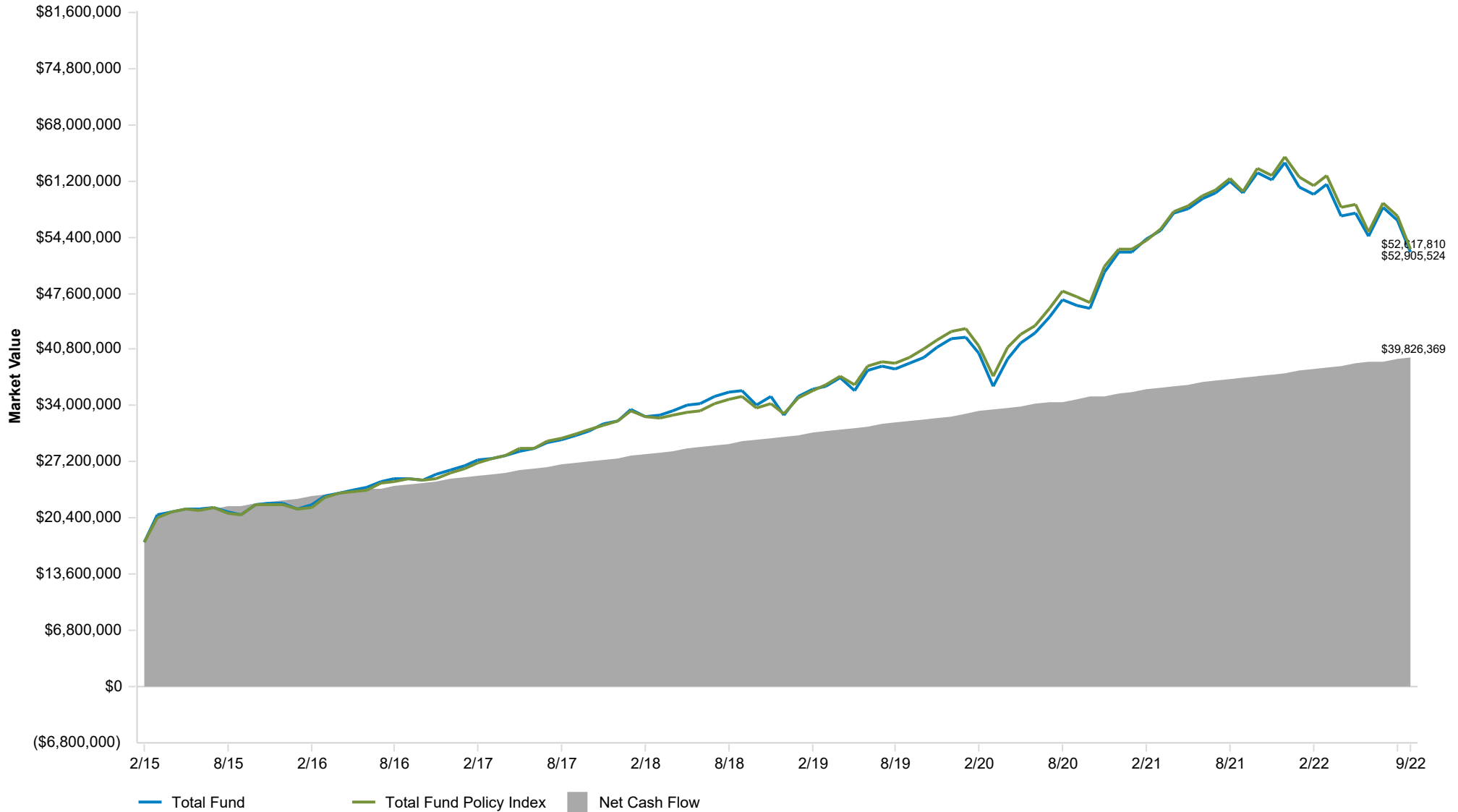
Asset Allocation Compliance

	Asset Allocation \$	Current Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)	Target Rebal. (\$000)
<b>Total Fund</b>	<b>52,617,810</b>	<b>100.0</b>	<b>N/A</b>	<b>N/A</b>	<b>100.0</b>	<b>-</b>
Total Domestic Equity	27,045,781	51.4	45.0	65.0	55.0	1,894,014
Total International Equity	6,503,680	12.4	10.0	20.0	15.0	1,388,992
Total Core Fixed Income	8,856,216	16.8	7.5	17.5	12.5	-2,278,990
Total Bank Loans	1,483,914	2.8	0.0	5.0	2.5	-168,469
Total Multisector Fixed Income	2,919,844	5.5	2.5	7.5	5.0	-288,954
Total Real Estate (Composite)	5,650,001	10.7	5.0	15.0	10.0	-388,220
Total Cash	158,373	0.3	0.0	5.0	0.0	-158,373



**Schedule of Investable Assets**  
**Total Fund**  
 Since Inception Ending September 30, 2022

**Schedule of Investable Assets**



**Schedule of Investable Assets**

Periods Ending	Beginning Market Value \$	Net Cash Flow \$	Ending Market Value \$
Inception	17,541,325	22,285,044	52,617,810





The Woodlands Firefighters' Retirement System  
Financial Reconciliation

1 Quarter Ending September 30, 2022

Financial Reconciliation One Quarter									
	Market Value 07/01/2022	Net Transfers	Contributions	Distributions	Management Fees	Other Expenses	Income	Apprec./ Deprec.	Market Value 09/30/2022
<b>Total Fund</b>	<b>54,467,032</b>	-	<b>788,954</b>	<b>-132,054</b>	<b>-15,370</b>	<b>-38,540</b>	<b>258,675</b>	<b>-2,710,888</b>	<b>52,617,810</b>
<b>Total Domestic Equity</b>	<b>27,926,038</b>	<b>400,000</b>	-	-	-	-	<b>98,284</b>	<b>-1,378,540</b>	<b>27,045,781</b>
Vanguard Total Stock Index (VITSX)	22,921,015	400,000	-	-	-	-	98,284	-1,166,457	22,252,842
American Beacon SC Value R6 (AASRX)	2,614,821	-	-	-	-	-	-	-110,925	2,503,896
Conestoga Small Cap I (CCALX)	2,390,201	-	-	-	-	-	-	-101,158	2,289,043
<b>Total International Developed Equity</b>	<b>7,173,089</b>	-	-	-	-	-	-	<b>-669,409</b>	<b>6,503,680</b>
EuroPacific Growth R6 (RERGX)	7,173,089	-	-	-	-	-	-	-669,409	6,503,680
<b>Total Core Fixed Income</b>	<b>10,669,717</b>	<b>-1,250,000</b>	-	-	-	<b>-796</b>	<b>76,852</b>	<b>-639,556</b>	<b>8,856,216</b>
Garcia Hamilton	10,669,717	-1,250,000	-	-	-	-796	76,852	-639,556	8,856,216
<b>Total Bank Loans</b>	<b>1,462,898</b>	-	-	-	-	-	<b>22,994</b>	<b>-1,978</b>	<b>1,483,914</b>
Pacific Funds Floating Rate (PLFRX)	1,462,898	-	-	-	-	-	22,994	-1,978	1,483,914
<b>Total Multisector Fixed Income</b>	<b>1,436,274</b>	<b>1,482,166</b>	-	-	-	-	<b>17,834</b>	<b>-16,430</b>	<b>2,919,844</b>
Apollo Total Return Fund	1,436,274	1,482,166	-	-	-	-	17,834	-16,430	2,919,844
<b>Total Real Estate</b>	<b>5,628,958</b>	-	-	-	<b>-15,370</b>	-	<b>41,388</b>	<b>-4,975</b>	<b>5,650,001</b>
Clarion	5,628,958	-	-	-	-15,370	-	41,388	-4,975	5,650,001
<b>Total Cash</b>	<b>170,059</b>	<b>-632,166</b>	<b>788,954</b>	<b>-132,054</b>	-	<b>-37,744</b>	<b>1,323</b>	-	<b>158,373</b>
Frost Bank Cash Account	24,820	166,000	-	-132,054	-	-1,354	177	-	57,589
Mutual Fund Cash	145,240	-798,166	788,954	-	-	-36,390	1,146	-	100,785



The Woodlands Firefighters' Retirement System  
Financial Reconciliation

Year To Date Ending September 30, 2022

Financial Reconciliation Year to Date									
	Market Value 01/01/2022	Net Transfers	Contributions	Distributions	Management Fees	Other Expenses	Income	Apprec./ Deprec.	Market Value 09/30/2022
<b>Total Fund</b>	<b>63,441,556</b>	<b>-</b>	<b>2,330,652</b>	<b>-280,088</b>	<b>-57,473</b>	<b>-136,425</b>	<b>718,024</b>	<b>-13,398,436</b>	<b>52,617,810</b>
<b>Total Domestic Equity</b>	<b>36,202,504</b>	<b>-250,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>274,277</b>	<b>-9,181,000</b>	<b>27,045,781</b>
Vanguard Total Stock Index (VITSX)	29,247,917	250,000	-	-	-	-	274,277	-7,519,352	22,252,842
American Beacon SC Value R6 (AASRX)	3,586,523	-500,000	-	-	-	-	-	-582,627	2,503,896
Conestoga Small Cap I (CCALX)	3,368,064	-	-	-	-	-	-	-1,079,021	2,289,043
<b>Total International Developed Equity</b>	<b>8,485,942</b>	<b>950,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>39,605</b>	<b>-2,971,866</b>	<b>6,503,680</b>
EuroPacific Growth R6 (RERGX)	8,485,942	950,000	-	-	-	-	39,605	-2,971,866	6,503,680
<b>Total Core Fixed Income</b>	<b>12,116,613</b>	<b>-1,750,000</b>	<b>-</b>	<b>-</b>	<b>-14,488</b>	<b>-2,509</b>	<b>201,305</b>	<b>-1,694,705</b>	<b>8,856,216</b>
Garcia Hamilton	12,116,613	-1,750,000	-	-	-14,488	-2,509	201,305	-1,694,705	8,856,216
<b>Total Bank Loans</b>	<b>1,536,887</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>54,292</b>	<b>-107,265</b>	<b>1,483,914</b>
Pacific Funds Floating Rate (PLFRX)	1,536,887	-	-	-	-	-	54,292	-107,265	1,483,914
<b>Total Multisector Fixed Income</b>	<b>-</b>	<b>2,982,166</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17,834</b>	<b>-80,156</b>	<b>2,919,844</b>
Apollo Total Return Fund	-	2,982,166	-	-	-	-	17,834	-80,156	2,919,844
<b>Total Real Estate</b>	<b>4,927,376</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-42,985</b>	<b>-</b>	<b>129,054</b>	<b>636,556</b>	<b>5,650,001</b>
Clarion	4,927,376	-	-	-	-42,985	-	129,054	636,556	5,650,001
<b>Total Cash</b>	<b>172,234</b>	<b>-1,932,166</b>	<b>2,330,652</b>	<b>-280,088</b>	<b>-</b>	<b>-133,916</b>	<b>1,657</b>	<b>-</b>	<b>158,373</b>
Frost Bank Cash Account	30,383	311,000	-	-280,088	-	-3,944	238	-	57,589
Mutual Fund Cash	141,851	-2,243,166	2,330,652	-	-	-129,972	1,419	-	100,785



**The Woodlands Firefighters' Retirement System**  
**Asset Allocation & Performance Trailing Returns**  
As of September 30, 2022

Asset Allocation & Performance	Allocation		All Performance Data is Net of Fees(%)														
	Market Value	%	QTR		YTD		1 YR		2 YR		3 YR		5 YR		Inception	Inception Date	
<b>Total Fund (Net)</b>	<b>52,617,810</b>	<b>100.0</b>	<b>-4.45</b>	<b>(51)</b>	<b>-19.74</b>	<b>(53)</b>	<b>-15.60</b>	<b>(45)</b>	<b>2.15</b>	<b>(23)</b>	<b>4.76</b>	<b>(18)</b>	<b>5.01</b>	<b>(30)</b>	<b>4.97</b>	<b>(43)</b>	<b>03/01/2015</b>
Total Fund Policy Index			-4.80	(68)	-20.13	(60)	-15.36	(42)	1.44	(34)	4.51	(24)	5.16	(25)	5.10	(36)	
All Public Plans-Total Fund (Net)			-4.44		-19.66		-16.08		0.47		3.38		4.50		4.74		
<b>New Portfolio Structure 10/1/19</b>	<b>52,617,810</b>	<b>100.0</b>	<b>-4.45</b>		<b>-19.74</b>		<b>-15.60</b>		<b>2.15</b>		<b>4.76</b>		<b>-</b>		<b>4.76</b>		<b>10/01/2019</b>
Total Fund Policy Index			-4.80		-20.13		-15.36		1.44		4.51		5.16		4.51		
<b>Total Equity</b>	<b>33,549,461</b>	<b>63.8</b>	<b>-5.43</b>		<b>-26.38</b>		<b>-21.56</b>		<b>2.12</b>		<b>5.40</b>		<b>5.82</b>		<b>6.32</b>		<b>03/01/2015</b>
<b>Total Domestic Equity</b>	<b>27,045,781</b>	<b>51.4</b>	<b>-4.43</b>		<b>-24.95</b>		<b>-18.56</b>		<b>4.93</b>		<b>7.09</b>		<b>-</b>		<b>6.69</b>		<b>07/01/2019</b>
Vanguard Total Stock Index (VITSX)	22,252,842	42.3	-4.46	(41)	-24.88	(59)	-18.00	(60)	4.08	(47)	7.61	(28)	-		7.36	(30)	07/01/2019
CRSP U.S. Total Market TR Index			-4.44	(39)	-24.86	(58)	-17.98	(59)	4.09	(47)	7.60	(28)	8.56	(-)	7.36	(30)	
IM U.S. Multi-Cap Core Equity (MF) Median			-4.63		-24.30		-17.30		3.97		6.41		-		6.33		
American Beacon SC Value R6 (AASRX)	2,503,896	4.8	-4.24	(36)	-18.88	(32)	-13.40	(31)	18.00	(59)	5.76	(51)	-		4.95	(60)	07/01/2019
Russell 2000 Value Index			-4.61	(42)	-21.12	(74)	-17.69	(86)	16.16	(80)	4.72	(75)	2.87	(-)	4.17	(78)	
IM U.S. Small Cap Value Equity (MF) Median			-5.41		-19.93		-15.25		18.57		5.76		-		5.32		
Conestoga Small Cap I (CCALX)	2,289,043	4.4	-4.23	(87)	-32.04	(67)	-28.62	(43)	-0.77	(42)	2.86	(79)	-		1.48	(71)	07/01/2019
Russell 2000 Growth Index			0.24	(24)	-29.28	(40)	-29.27	(54)	-2.91	(65)	2.94	(78)	3.60	(-)	1.37	(74)	
IM U.S. Small Cap Growth Equity (MF) Median			-1.36		-30.40		-29.12		-1.49		4.73		-		2.86		
<b>Total International Developed Equity</b>	<b>6,503,680</b>	<b>12.4</b>	<b>-9.33</b>		<b>-32.02</b>		<b>-32.78</b>		<b>-8.42</b>		<b>-1.18</b>		<b>-</b>		<b>-1.57</b>		<b>07/01/2019</b>
EuroPacific Growth R6 (RERGX)	6,503,680	12.4	-9.33	(27)	-32.10	(92)	-32.87	(100)	-8.48	(95)	-1.25	(44)	-		-1.64	(43)	07/01/2019
MSCI AC World ex USA (Net)			-9.91	(44)	-26.50	(33)	-25.17	(43)	-3.70	(46)	-1.52	(48)	-0.81	(-)	-1.95	(49)	
IM International Large Cap Core Equity (MF) Median			-10.18		-27.74		-25.40		-3.98		-1.80		-		-2.05		

Returns for periods greater than one year are annualized. Returns are expressed as percentages.



The Woodlands Firefighters' Retirement System  
Asset Allocation & Performance Trailing Returns

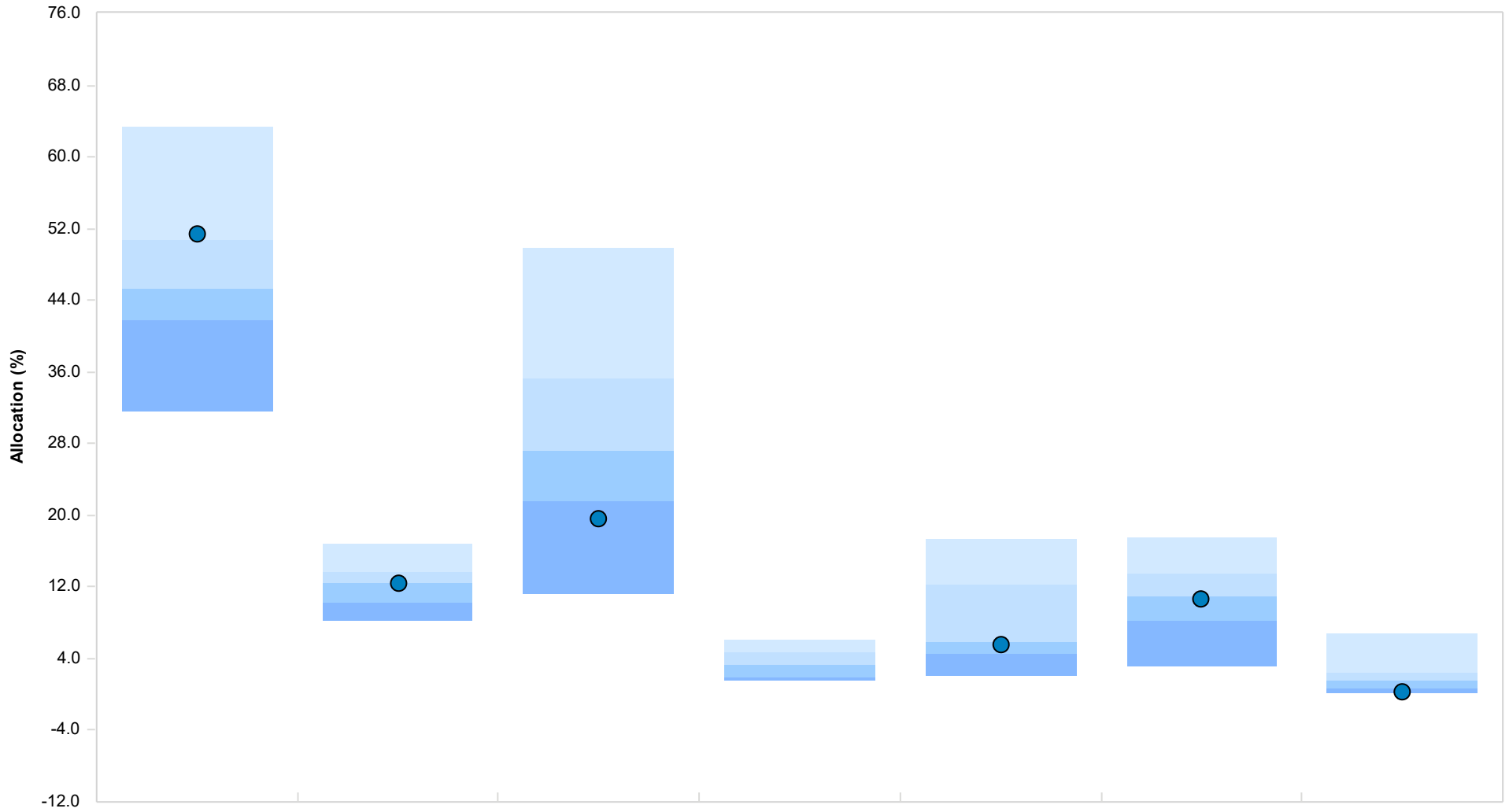
As of September 30, 2022

	Allocation		All Performance Data is Net of Fees(%)							
	Market Value	%	QTR	YTD	1 YR	2 YR	3 YR	5 YR	Inception	Inception Date
<b>Total Fixed Income</b>	<b>13,259,974</b>	<b>25.2</b>	<b>-3.98</b>	<b>-11.32</b>	<b>-11.27</b>	<b>-6.26</b>	<b>-2.26</b>	<b>-0.09</b>	<b>0.50</b>	<b>03/01/2015</b>
<b>Total Core Fixed Income</b>	<b>8,856,216</b>	<b>16.8</b>	<b>-5.35</b>	<b>-12.89</b>	<b>-12.90</b>	<b>-7.56</b>	<b>-2.94</b>	<b>-</b>	<b>-2.02</b>	<b>07/01/2019</b>
Garcia Hamilton	8,856,216	16.8	-5.35 (97)	-12.78 (7)	-12.74 (6)	-7.30 (40)	-2.72 (51)	-	-1.81 (51)	07/01/2019
Blmbg. U.S. Aggregate Index			-4.75 (73)	-14.61 (69)	-14.60 (66)	-8.00 (80)	-3.26 (95)	-0.27 (-)	-2.34 (96)	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-4.57	-14.42	-14.36	-7.56	-2.70	-	-1.81	
<b>Total Bank Loans</b>	<b>1,483,914</b>	<b>2.8</b>	<b>1.44</b>	<b>-3.45</b>	<b>-2.73</b>	<b>1.99</b>	<b>1.33</b>	<b>-</b>	<b>1.60</b>	<b>07/01/2019</b>
Pacific Funds Floating Rate (PLFRX)	1,483,914	2.8	1.44 (18)	-3.45 (13)	-2.73 (11)	1.99 (31)	1.33 (24)	-	1.61 (22)	07/01/2019
Credit Suisse Leveraged Loan Index			1.18 (37)	-3.32 (11)	-2.63 (10)	2.77 (15)	2.12 (2)	3.00 (-)	2.24 (2)	
IM U.S. Bank Loans (MF) Median			1.05	-4.58	-4.19	1.40	0.79	-	0.95	
<b>Total Multisector Fixed Income</b>	<b>2,919,844</b>	<b>5.5</b>	<b>0.37</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-3.90</b>	<b>04/01/2022</b>
Apollo Total Return Fund	2,919,844	5.5	0.37	-	-	-	-	-	-3.90	04/01/2022
Blmbg. Global Multiverse			-6.76	-19.78	-20.34	-10.95	-5.63	-2.26	-14.61	
<b>Total Real Estate</b>	<b>5,650,001</b>	<b>10.7</b>	<b>0.65 (44)</b>	<b>15.56 (1)</b>	<b>24.59 (1)</b>	<b>20.09 (28)</b>	<b>13.80 (16)</b>	<b>-</b>	<b>13.80 (16)</b>	<b>10/01/2019</b>
NCREIF Fund Index-ODCE (VW)			0.52 (57)	13.08 (39)	22.09 (17)	18.30 (51)	12.37 (50)	10.24 (-)	12.37 (50)	
IM U.S. Open End Private Real Estate (SA+CF) Median			0.58	12.57	20.33	18.30	12.37	-	12.37	
Clarion	5,650,001	10.7	0.65 (44)	15.56 (1)	24.59 (1)	20.09 (28)	13.80 (16)	-	13.80 (16)	10/01/2019
NCREIF Fund Index-ODCE (VW)			0.52 (57)	13.08 (39)	22.09 (17)	18.30 (51)	12.37 (50)	10.24 (-)	12.37 (50)	
IM U.S. Open End Private Real Estate (SA+CF) Median			0.58	12.57	20.33	18.30	12.37	-	12.37	
<b>Total Cash</b>	<b>158,373</b>	<b>0.3</b>	<b>0.61</b>	<b>0.75</b>	<b>0.76</b>	<b>0.41</b>	<b>0.61</b>	<b>-</b>	<b>0.75</b>	<b>07/01/2019</b>
Frost Bank Cash Account	57,589	0.1	0.63	0.79	0.80	0.41	0.60	-	0.72	07/01/2019
Mutual Fund Cash	100,785	0.2	0.60	0.75	0.75	0.39	0.60	-	0.73	07/01/2019

Returns for periods greater than one year are annualized. Returns are expressed as percentages.



Plan Sponsor TF Asset Allocation vs. All Public Plans-Total Fund



	US Equity	Global ex-US Equity	US Fixed	Global ex-US Fixed	Alternatives	Total Real Estate	Cash & Equivalents
● Total Fund	51.40 (22)	12.36 (53)	19.65 (82)	N/A	5.55 (57)	10.74 (55)	0.30 (85)
5th Percentile	63.37	16.74	49.87	6.12	17.36	17.44	6.72
1st Quartile	50.74	13.64	35.21	4.74	12.20	13.44	2.42
Median	45.26	12.45	27.10	3.29	5.86	11.08	1.45
3rd Quartile	41.67	10.28	21.52	1.85	4.56	8.13	0.61
95th Percentile	31.50	8.15	11.21	1.47	1.98	3.14	0.11

Parentheses contain percentile rankings.  
Calculation based on <Periodicity> periodicity.



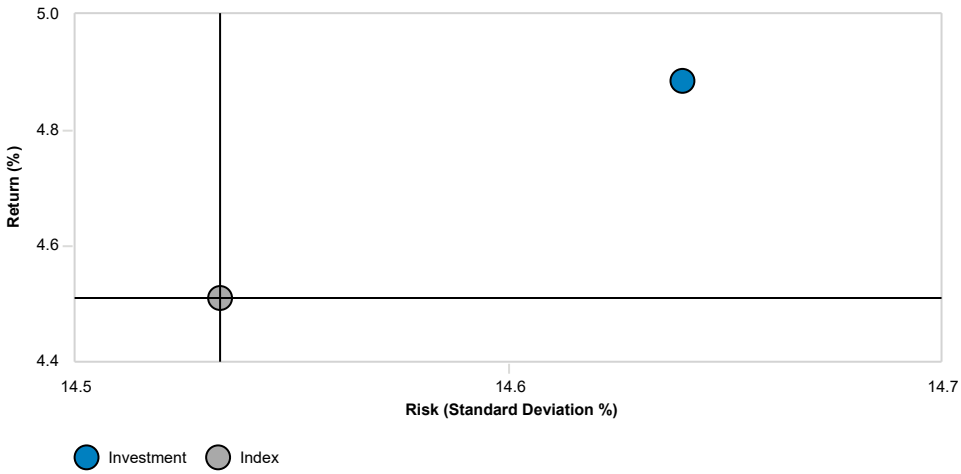
**Historical Statistics 3 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	4.89	14.64	0.36	100.91	8	99.07	4
Index	4.51	14.53	0.33	100.00	8	100.00	4

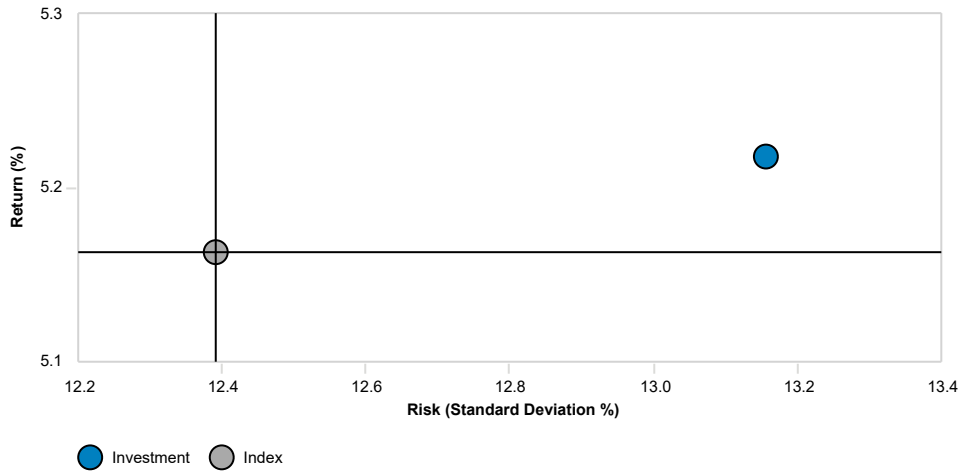
**Historical Statistics 5 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	5.22	13.16	0.36	105.45	14	106.62	6
Index	5.16	12.39	0.37	100.00	14	100.00	6

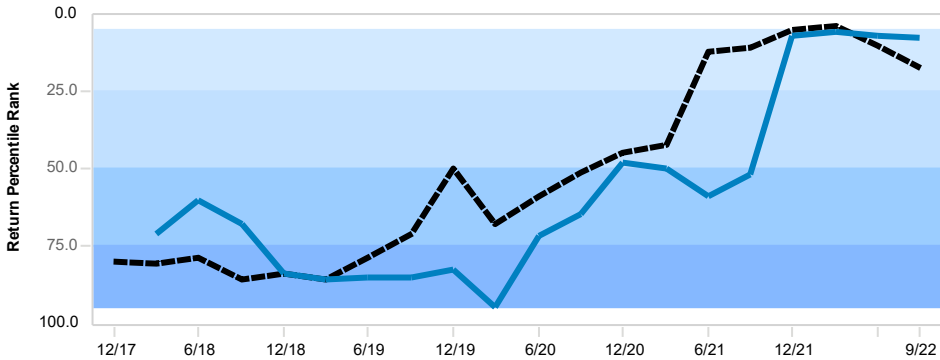
**Risk and Return 3 Years**



**Risk and Return 5 Years**

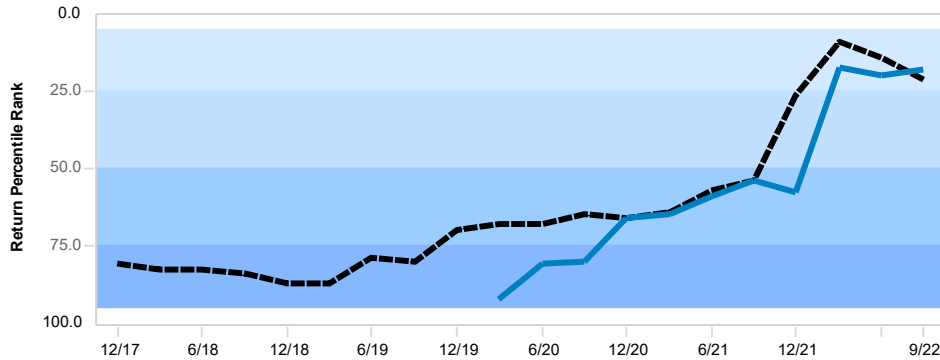


**3 Year Rolling Percentile Rank All Public Plans-Total Fund**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	19	4 (21%)	2 (11%)	7 (37%)	6 (32%)
Index	20	6 (30%)	3 (15%)	4 (20%)	7 (35%)

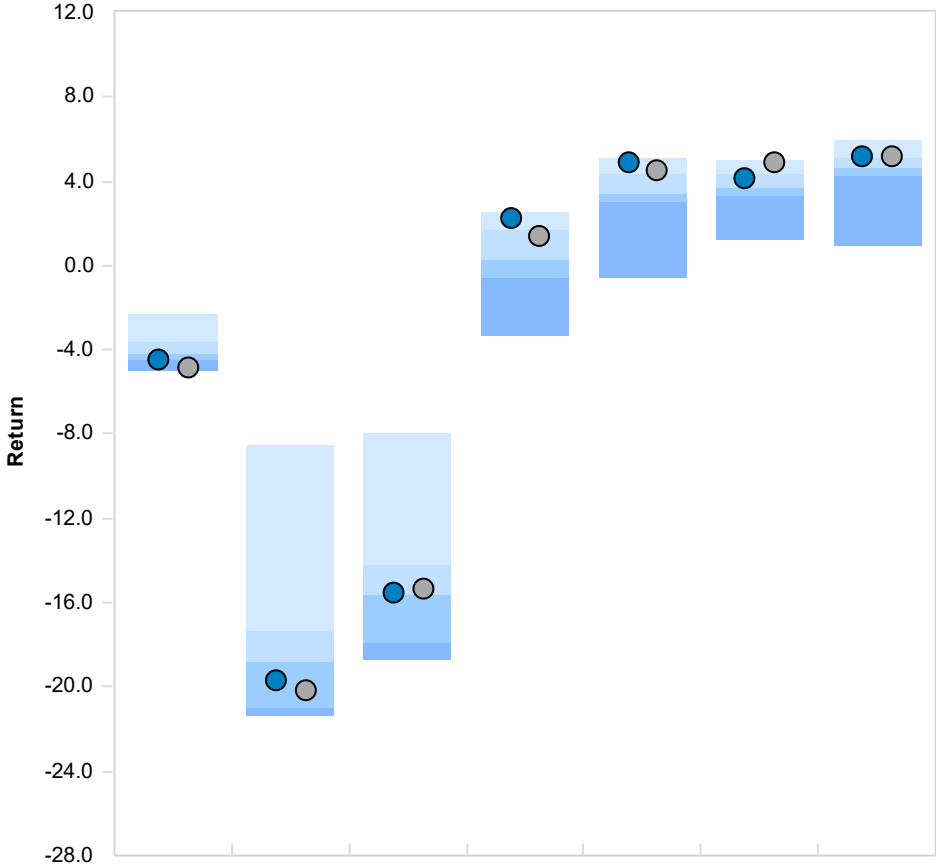
**5 Year Rolling Percentile Rank All Public Plans-Total Fund**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	11	3 (27%)	0 (0%)	5 (45%)	3 (27%)
Index	20	3 (15%)	1 (5%)	8 (40%)	8 (40%)

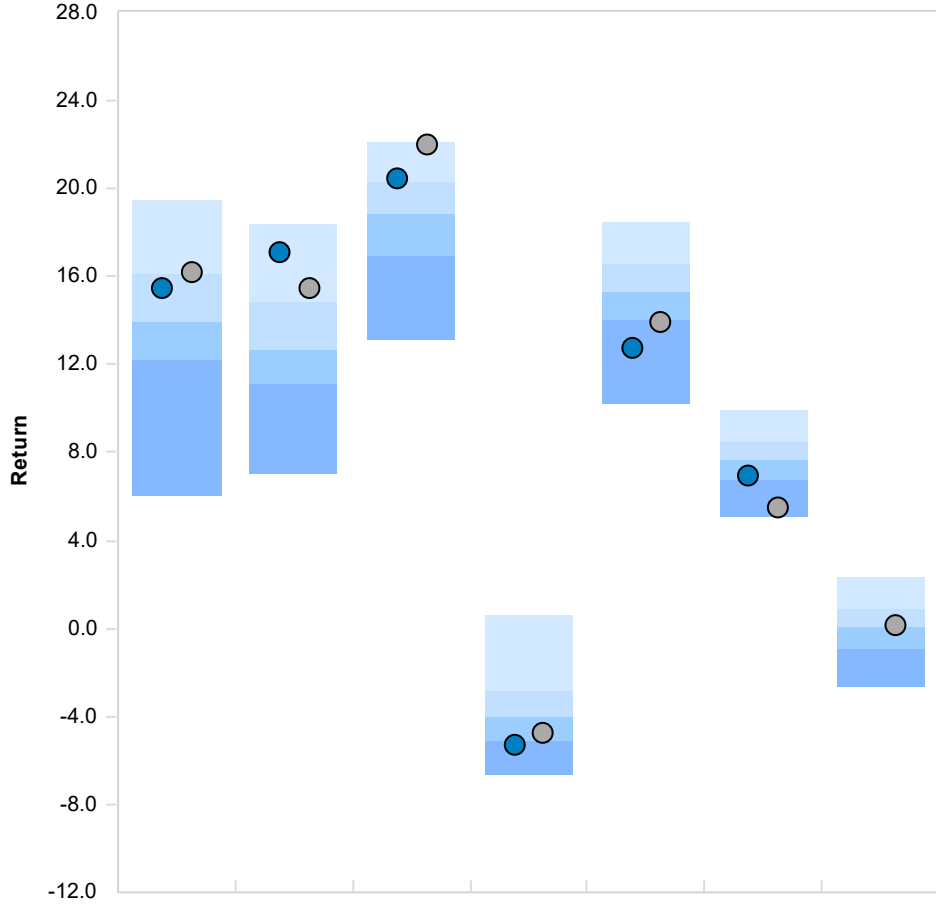


**Peer Group Analysis - All Public Plans-Total Fund**



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	-4.42 (76)	-19.66 (61)	-15.49 (50)	2.29 (11)	4.89 (8)	4.16 (30)	5.22 (18)
● Index	-4.80 (81)	-20.13 (63)	-15.36 (49)	1.44 (28)	4.51 (17)	4.88 (10)	5.16 (21)
Median	-4.22	-18.84	-15.61	0.25	3.39	3.71	4.66

**Peer Group Analysis - All Public Plans-Total Fund**



	2021	2020	2019	2018	2017	2016	2015
● Investment	15.48 (31)	17.15 (8)	20.46 (22)	-5.28 (79)	12.72 (89)	7.00 (71)	N/A
● Index	16.24 (24)	15.50 (18)	22.02 (6)	-4.75 (66)	13.90 (77)	5.47 (94)	0.13 (49)
Median	13.94	12.70	18.86	-4.05	15.33	7.64	0.07

**Comparative Performance**

	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021
Investment	-11.25 (80)	-5.29 (77)	5.19 (20)	0.14 (45)	5.77 (32)	3.64 (39)
Index	-12.16 (95)	-4.50 (57)	5.98 (7)	0.04 (51)	6.06 (21)	3.38 (47)
Median	-10.01	-4.27	4.33	0.05	5.44	3.27



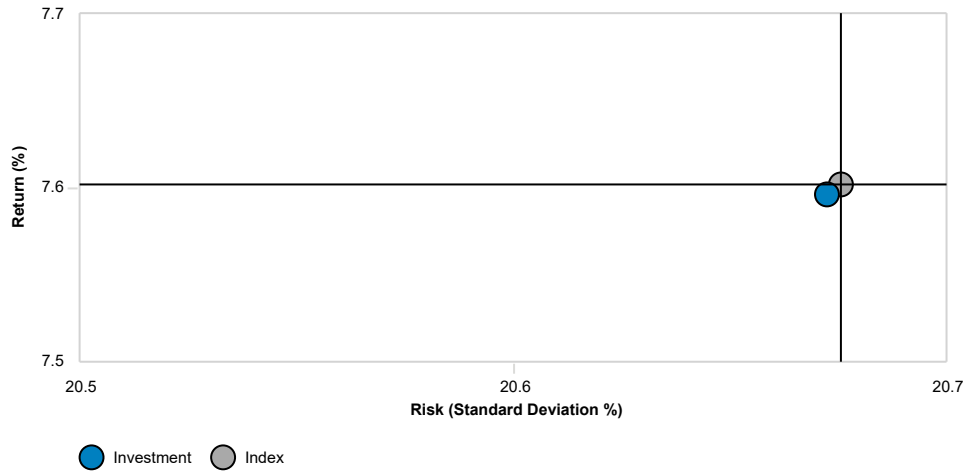
**Historical Statistics 3 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	7.60	20.67	0.43	99.99	7	100.00	5
Index	7.60	20.68	0.43	100.00	7	100.00	5

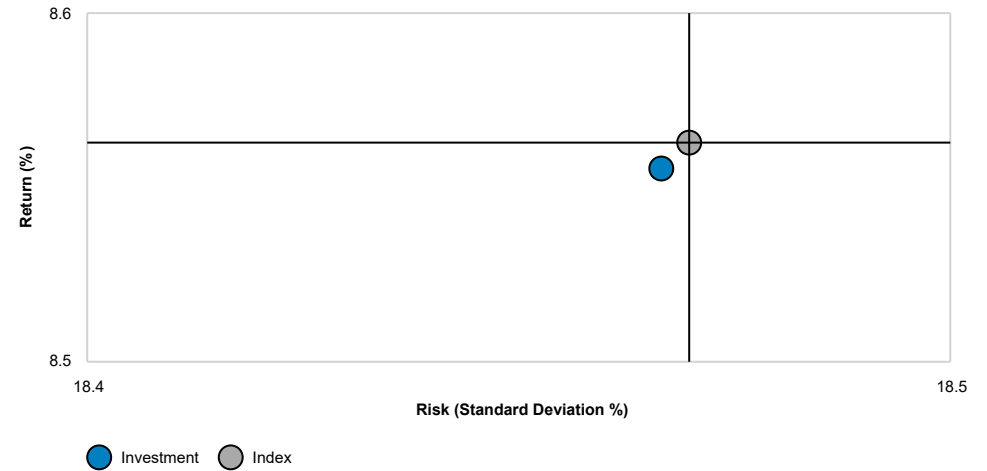
**Historical Statistics 5 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	8.56	18.47	0.48	99.97	13	100.00	7
Index	8.56	18.47	0.48	100.00	13	100.00	7

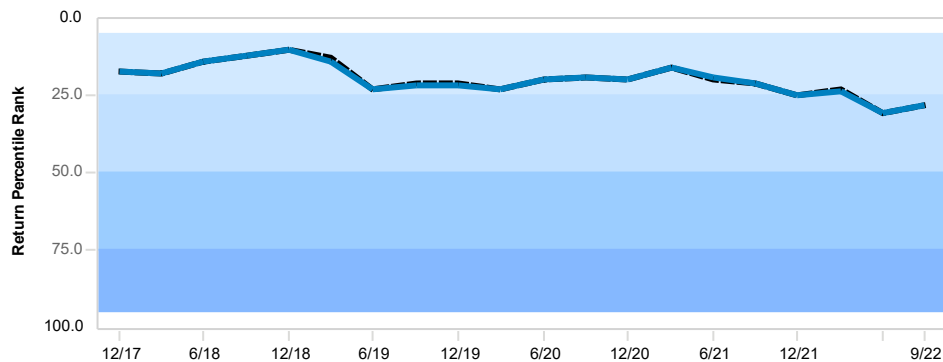
**Risk and Return 3 Years**



**Risk and Return 5 Years**

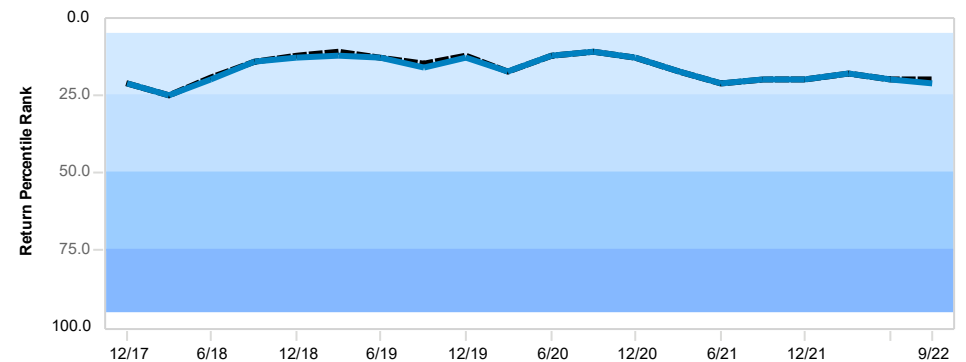


**3 Year Rolling Percentile Rank IM U.S. Multi-Cap Core Equity (MF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	18 (90%)	2 (10%)	0 (0%)	0 (0%)
Index	20	18 (90%)	2 (10%)	0 (0%)	0 (0%)

**5 Year Rolling Percentile Rank IM U.S. Multi-Cap Core Equity (MF)**

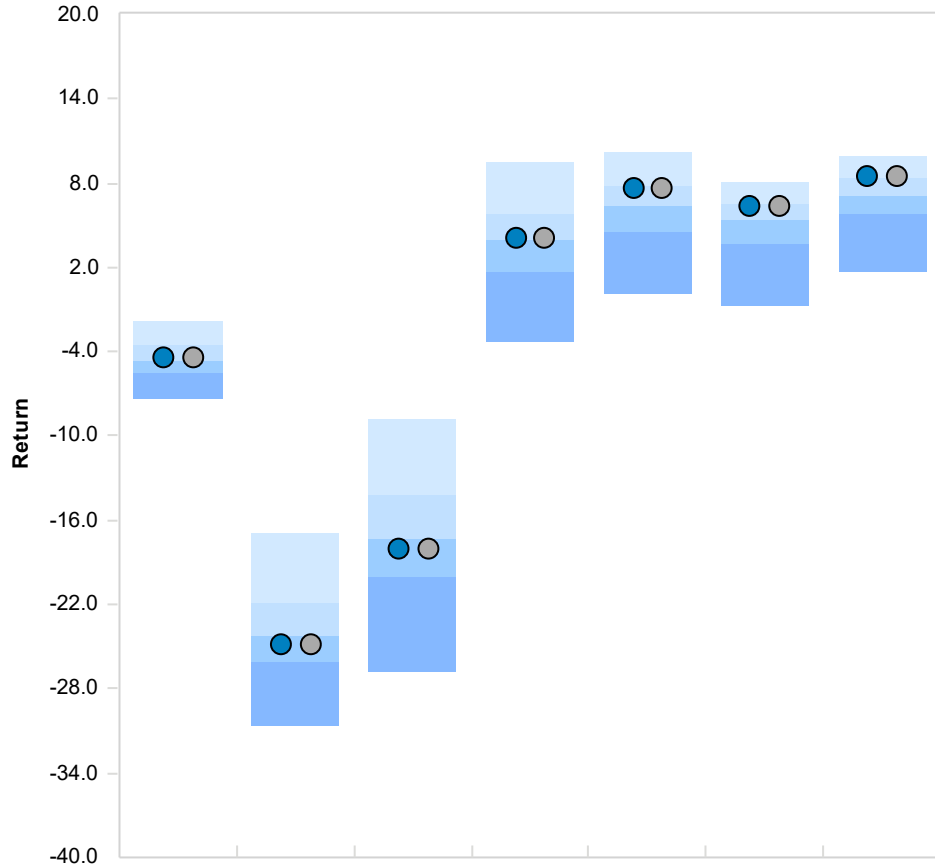


	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)
Index	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)





**Peer Group Analysis - IM U.S. Multi-Cap Core Equity (MF)**



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	-4.46 (41)	-24.89 (59)	-18.01 (60)	4.07 (47)	7.60 (28)	6.40 (30)	8.56 (21)
● Index	-4.44 (39)	-24.86 (58)	-17.98 (59)	4.09 (47)	7.60 (28)	6.41 (29)	8.56 (20)
Median	-4.63	-24.30	-17.30	3.97	6.41	5.38	7.12

**Peer Group Analysis - IM U.S. Multi-Cap Core Equity (MF)**



	Oct-2021 To Sep-2022	Oct-2020 To Sep-2021	Oct-2019 To Sep-2020	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017
● Investment	-18.01 (60)	32.10 (35)	15.01 (24)	2.89 (38)	17.62 (22)	18.64 (43)
● Index	-17.98 (59)	32.11 (35)	14.99 (25)	2.92 (36)	17.62 (22)	18.64 (43)
Median	-17.30	30.66	11.15	1.49	15.61	18.24

**Comparative Performance**

	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021
Investment	-16.84 (78)	-5.46 (43)	9.16 (49)	-0.06 (41)	8.29 (30)	6.43 (52)
Index	-16.85 (79)	-5.44 (42)	9.16 (50)	-0.06 (41)	8.29 (30)	6.43 (52)
Median	-15.83	-5.87	9.15	-0.23	7.66	6.44



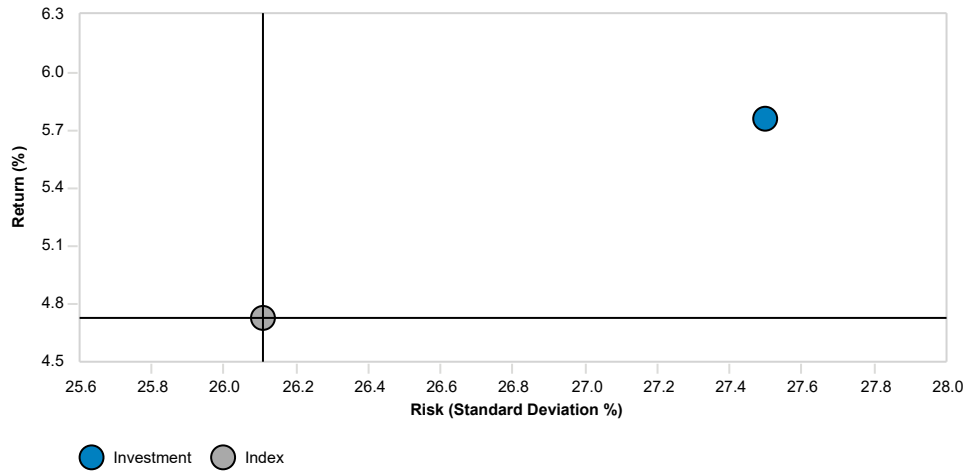
**Historical Statistics 3 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	5.76	27.50	0.33	104.97	7	101.56	5
Index	4.72	26.11	0.29	100.00	7	100.00	5

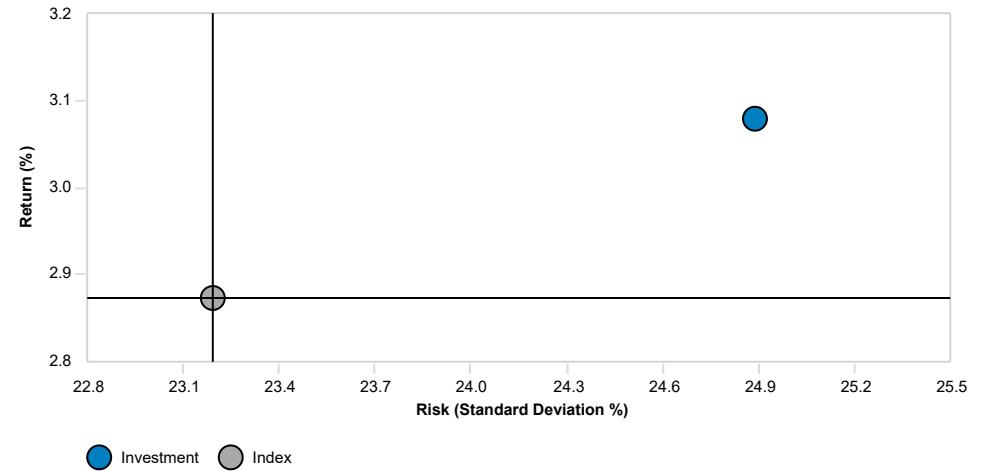
**Historical Statistics 5 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	3.08	24.89	0.21	107.21	12	106.27	8
Index	2.87	23.19	0.19	100.00	12	100.00	8

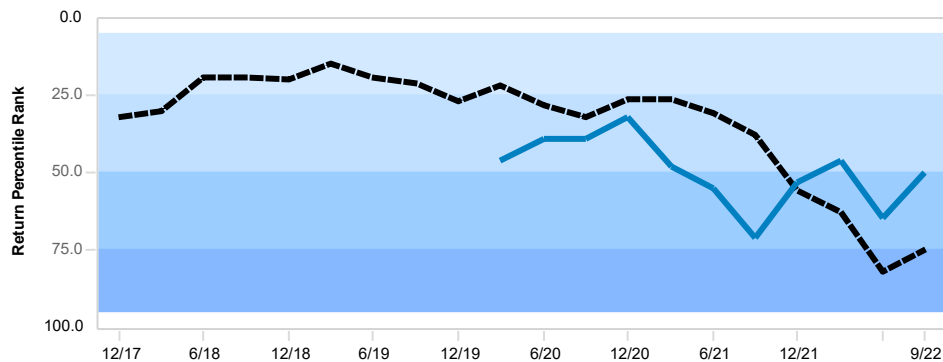
**Risk and Return 3 Years**



**Risk and Return 5 Years**

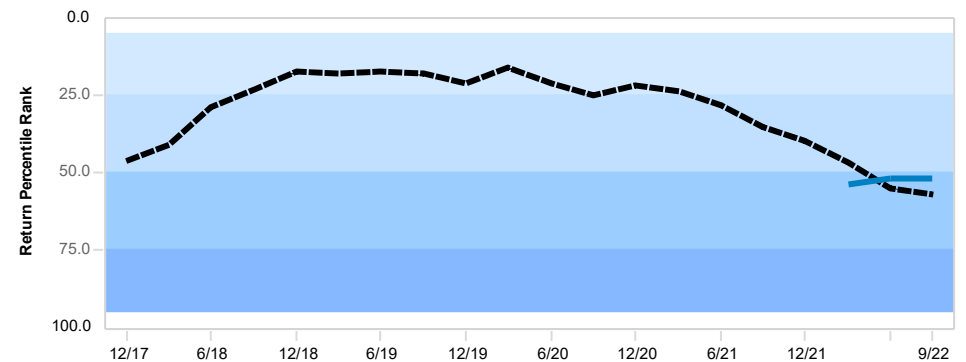


**3 Year Rolling Percentile Rank IM U.S. Small Cap Value Equity (MF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	11	0 (0%)	7 (64%)	4 (36%)	0 (0%)
Index	20	7 (35%)	9 (45%)	3 (15%)	1 (5%)

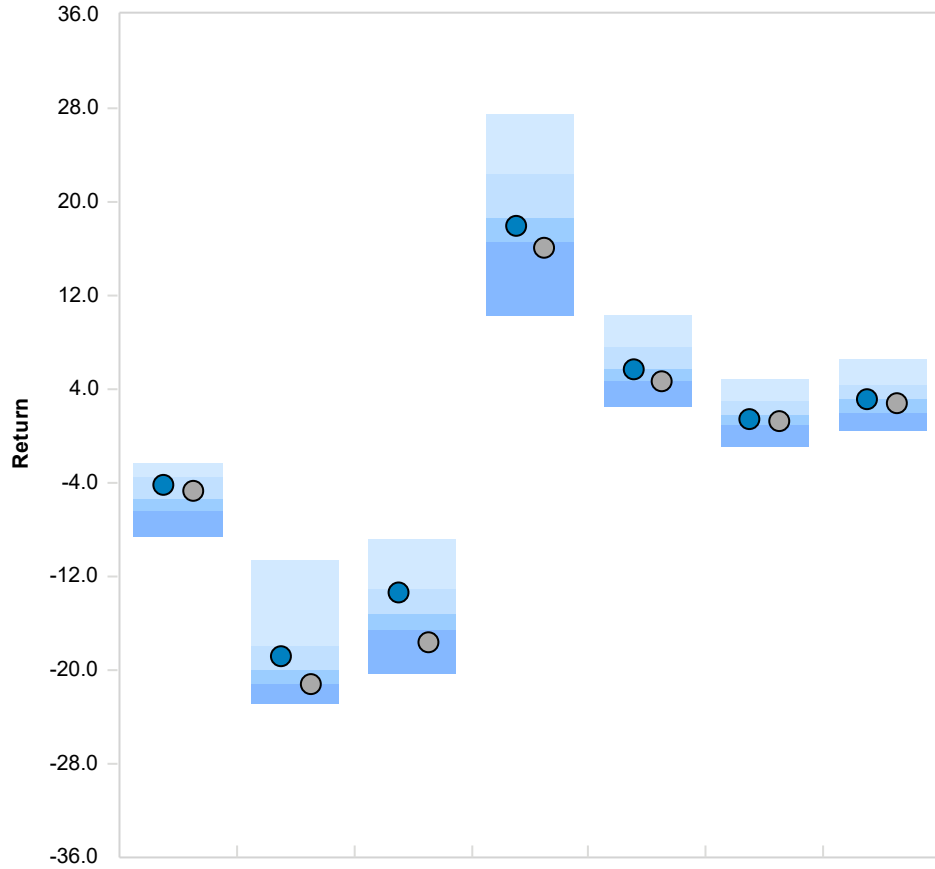
**5 Year Rolling Percentile Rank IM U.S. Small Cap Value Equity (MF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	3	0 (0%)	0 (0%)	3 (100%)	0 (0%)
Index	20	11 (55%)	7 (35%)	2 (10%)	0 (0%)

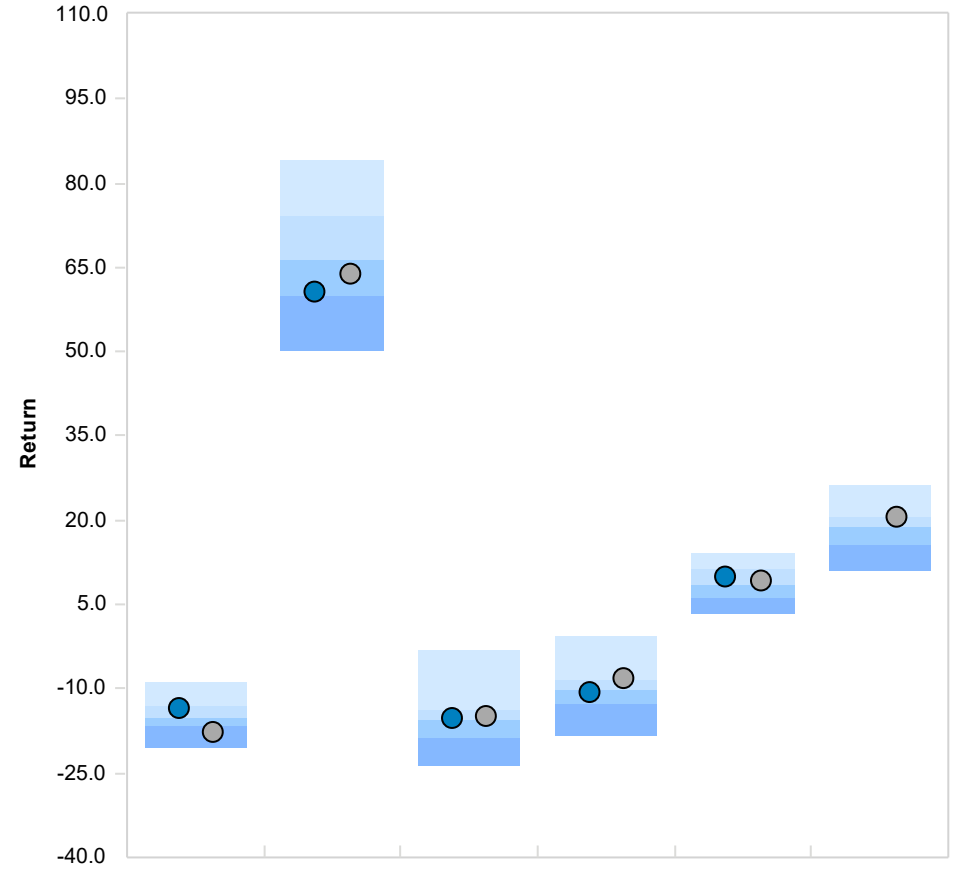


**Peer Group Analysis - IM U.S. Small Cap Value Equity (MF)**



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	-4.24 (36)	-18.88 (32)	-13.40 (31)	18.00 (59)	5.76 (50)	1.42 (61)	3.08 (52)
● Index	-4.61 (42)	-21.12 (74)	-17.69 (86)	16.16 (80)	4.72 (75)	1.32 (64)	2.87 (57)
Median	-5.41	-19.93	-15.25	18.57	5.76	1.82	3.19

**Peer Group Analysis - IM U.S. Small Cap Value Equity (MF)**



	Oct-2021 To Sep-2022	Oct-2020 To Sep-2021	Oct-2019 To Sep-2020	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017
● Investment	-13.40 (31)	60.78 (72)	-15.04 (43)	-10.56 (53)	10.00 (35)	N/A
● Index	-17.69 (86)	63.92 (59)	-14.88 (40)	-8.24 (22)	9.33 (45)	20.55 (26)
Median	-15.25	66.23	-15.41	-10.36	8.73	18.90

**Comparative Performance**

	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021
Investment	-14.63 (69)	-0.77 (32)	6.75 (34)	-2.05 (53)	2.47 (84)	19.66 (77)
Index	-15.28 (83)	-2.40 (63)	4.36 (72)	-2.98 (81)	4.56 (46)	21.17 (63)
Median	-13.89	-1.70	5.80	-1.84	4.36	22.30



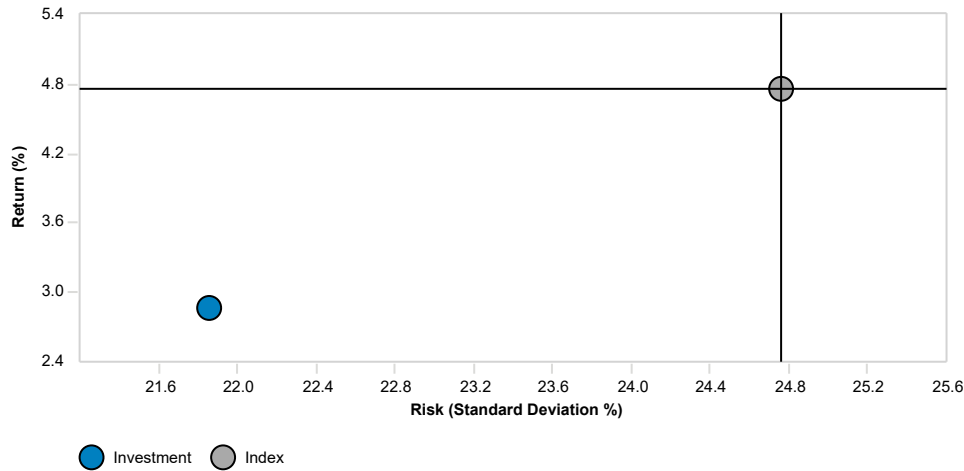
**Historical Statistics 3 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.86	21.86	0.21	82.21	8	86.07	4
Index	4.76	24.76	0.29	100.00	7	100.00	5

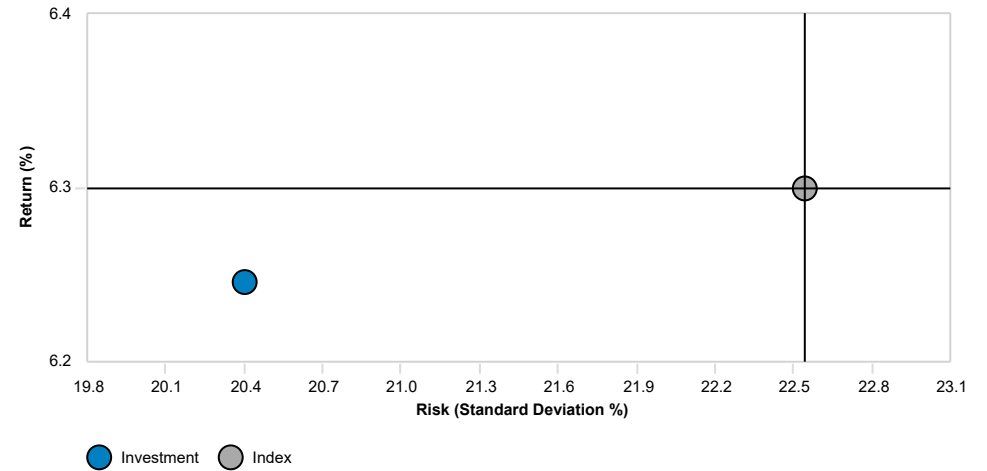
**Historical Statistics 5 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	6.25	20.40	0.34	90.38	14	89.08	6
Index	6.30	22.54	0.33	100.00	13	100.00	7

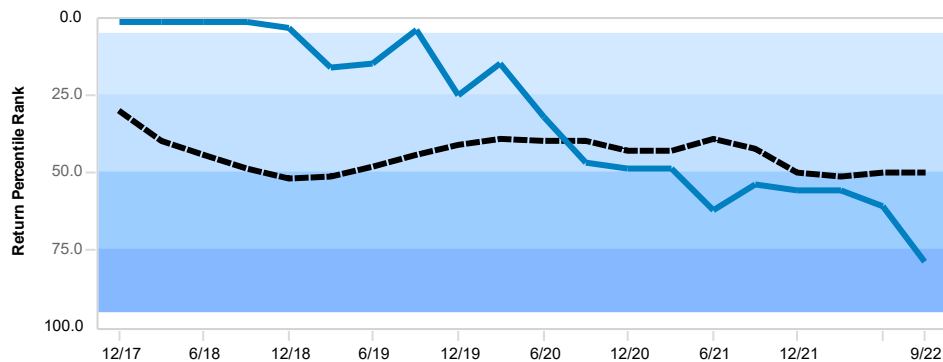
**Risk and Return 3 Years**



**Risk and Return 5 Years**

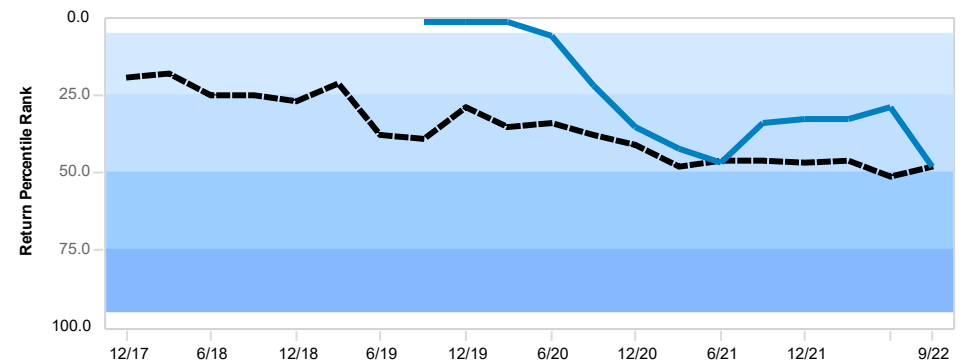


**3 Year Rolling Percentile Rank IM U.S. Small Cap Growth Equity (MF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	10 (50%)	4 (20%)	5 (25%)	1 (5%)
Index	20	0 (0%)	17 (85%)	3 (15%)	0 (0%)

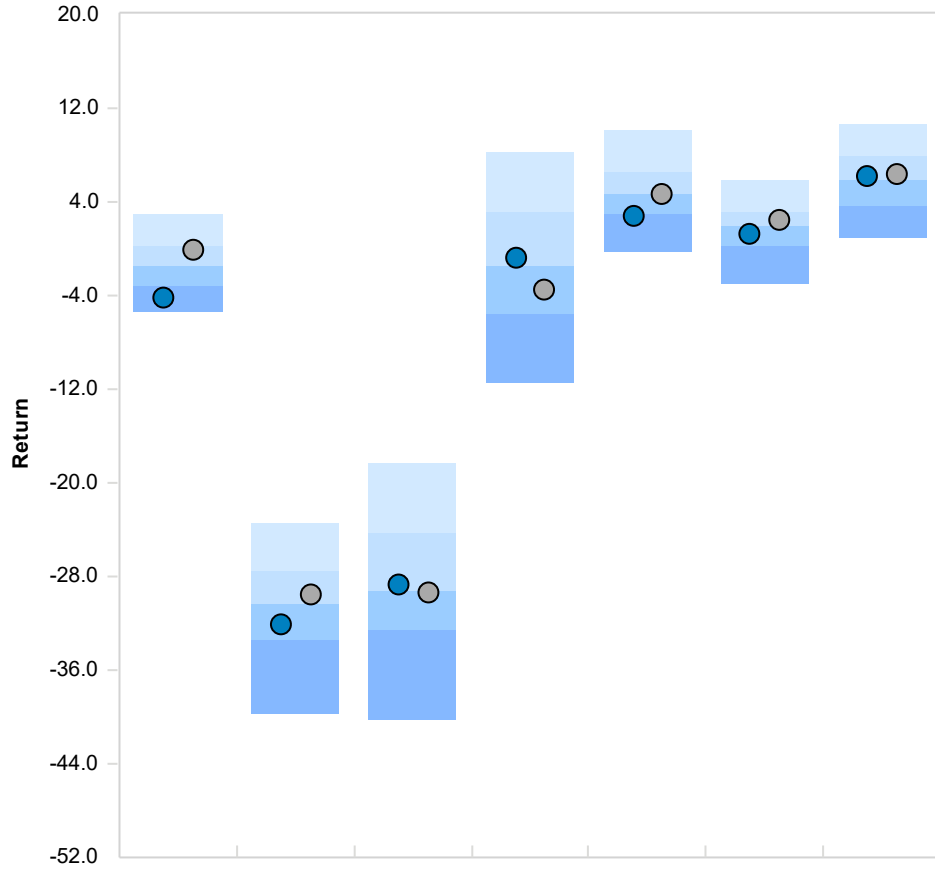
**5 Year Rolling Percentile Rank IM U.S. Small Cap Growth Equity (MF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	13	5 (38%)	8 (62%)	0 (0%)	0 (0%)
Index	20	5 (25%)	14 (70%)	1 (5%)	0 (0%)

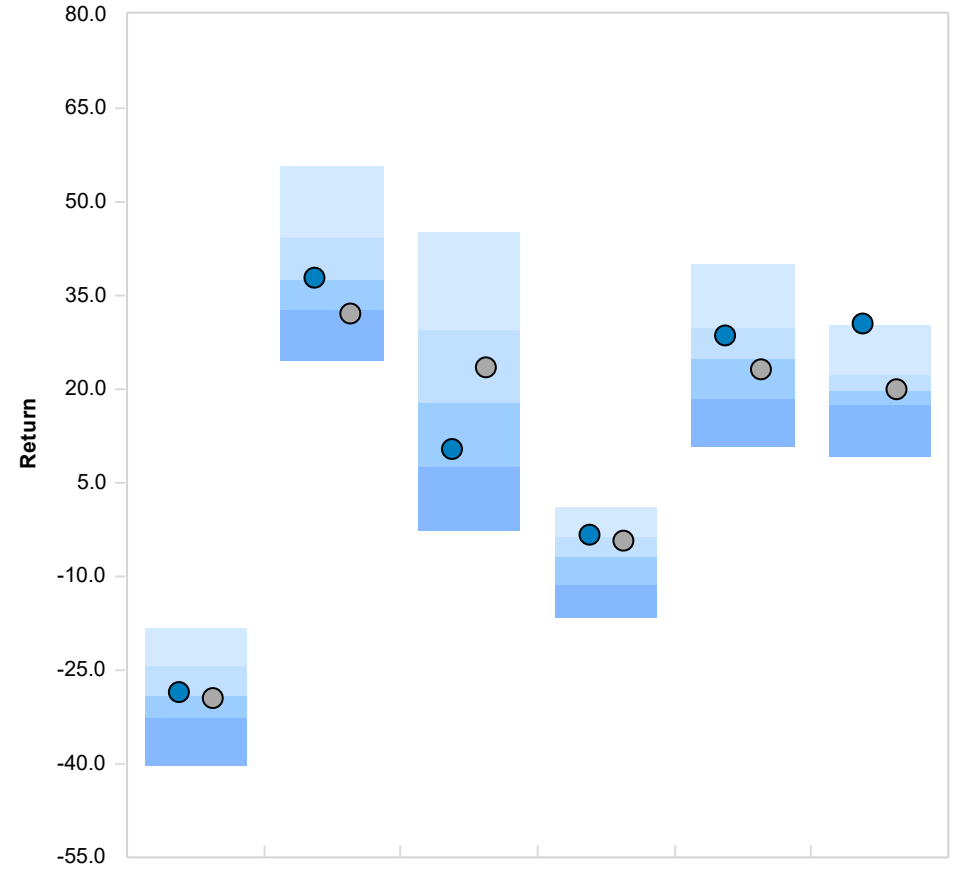


**Peer Group Analysis - IM U.S. Small Cap Growth Equity (MF)**



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	-4.23 (87)	-32.04 (67)	-28.62 (43)	-0.77 (42)	2.86 (79)	1.26 (58)	6.25 (48)
● Index	-0.12 (32)	-29.54 (45)	-29.39 (56)	-3.47 (68)	4.76 (50)	2.47 (39)	6.30 (48)
Median	-1.36	-30.40	-29.12	-1.49	4.73	1.90	5.95

**Peer Group Analysis - IM U.S. Small Cap Growth Equity (MF)**



	Oct-2021 To Sep-2022	Oct-2020 To Sep-2021	Oct-2019 To Sep-2020	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017
● Investment	-28.62 (43)	37.96 (48)	10.53 (67)	-3.39 (24)	28.75 (31)	30.43 (5)
● Index	-29.39 (56)	31.98 (80)	23.37 (38)	-4.11 (29)	23.13 (58)	20.07 (45)
Median	-29.12	37.60	17.66	-6.83	24.92	19.62

**Comparative Performance**

	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021
Investment	-16.23 (20)	-15.28 (72)	5.02 (25)	4.02 (2)	3.44 (72)	2.97 (69)
Index	-19.55 (56)	-12.30 (44)	0.20 (71)	-3.53 (75)	6.04 (28)	2.49 (76)
Median	-19.15	-12.81	2.47	-1.97	4.71	5.17



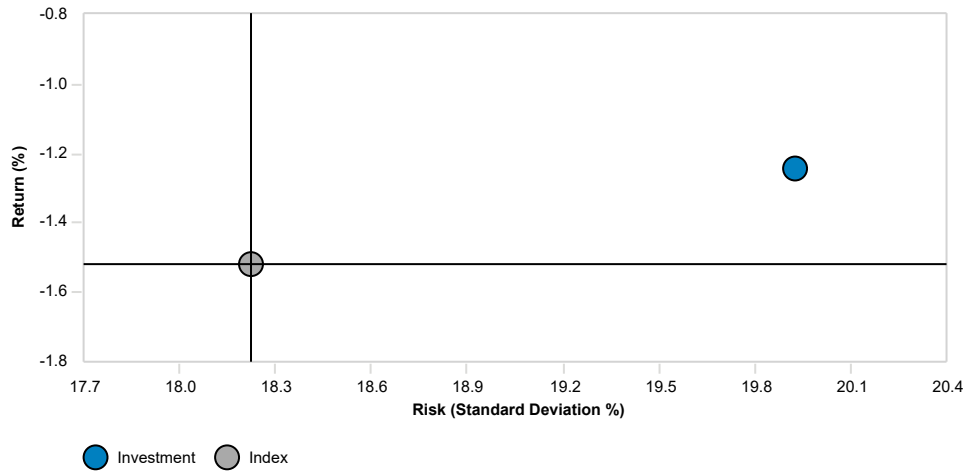
**Historical Statistics 3 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	-1.24	19.93	0.01	110.18	5	107.80	7
Index	-1.52	18.22	-0.02	100.00	7	100.00	5

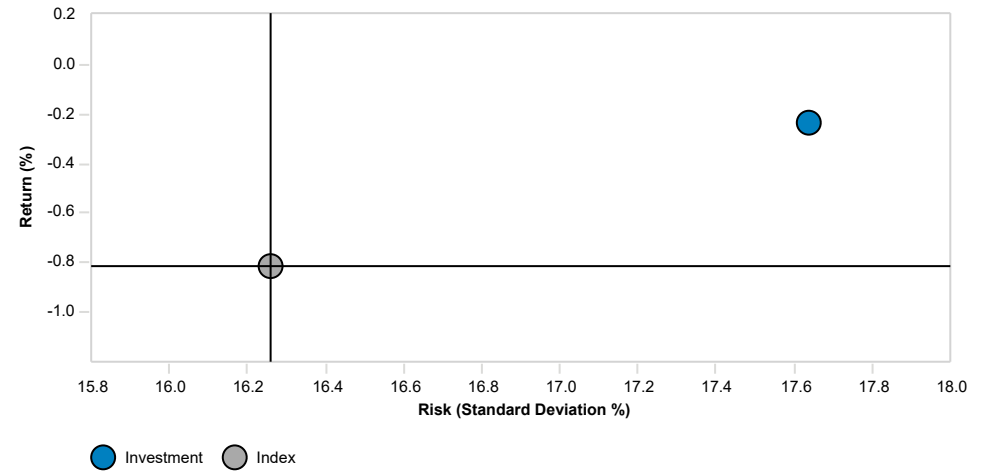
**Historical Statistics 5 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	-0.23	17.64	0.01	107.31	9	103.73	11
Index	-0.81	16.26	-0.04	100.00	11	100.00	9

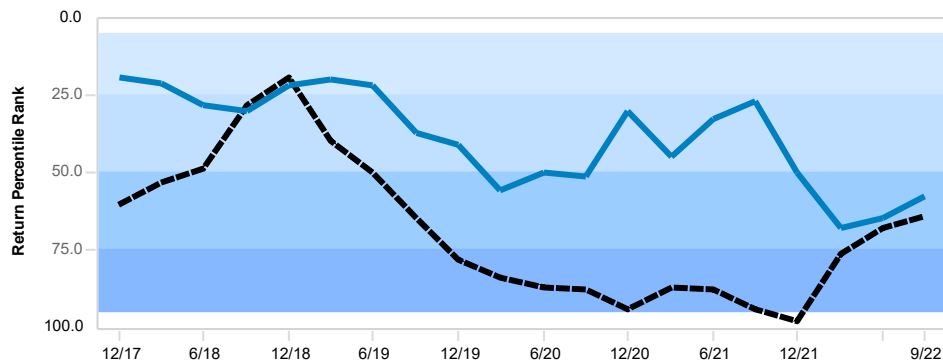
**Risk and Return 3 Years**



**Risk and Return 5 Years**

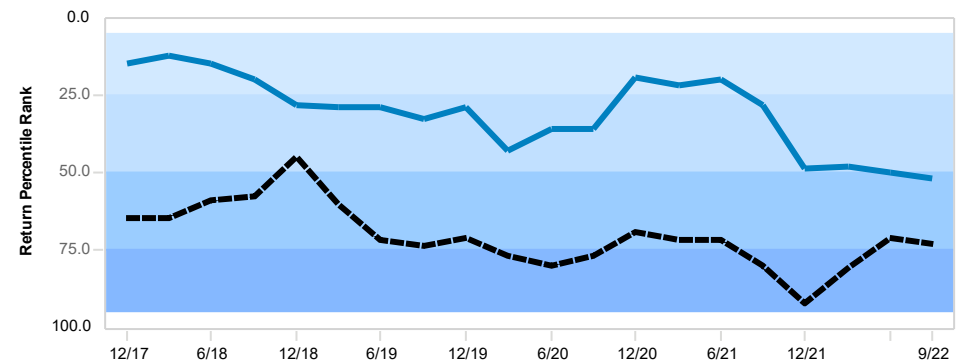


**3 Year Rolling Percentile Rank IM International Large Cap Growth Equity (MF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	5 (25%)	10 (50%)	5 (25%)	0 (0%)
Index	20	1 (5%)	4 (20%)	5 (25%)	10 (50%)

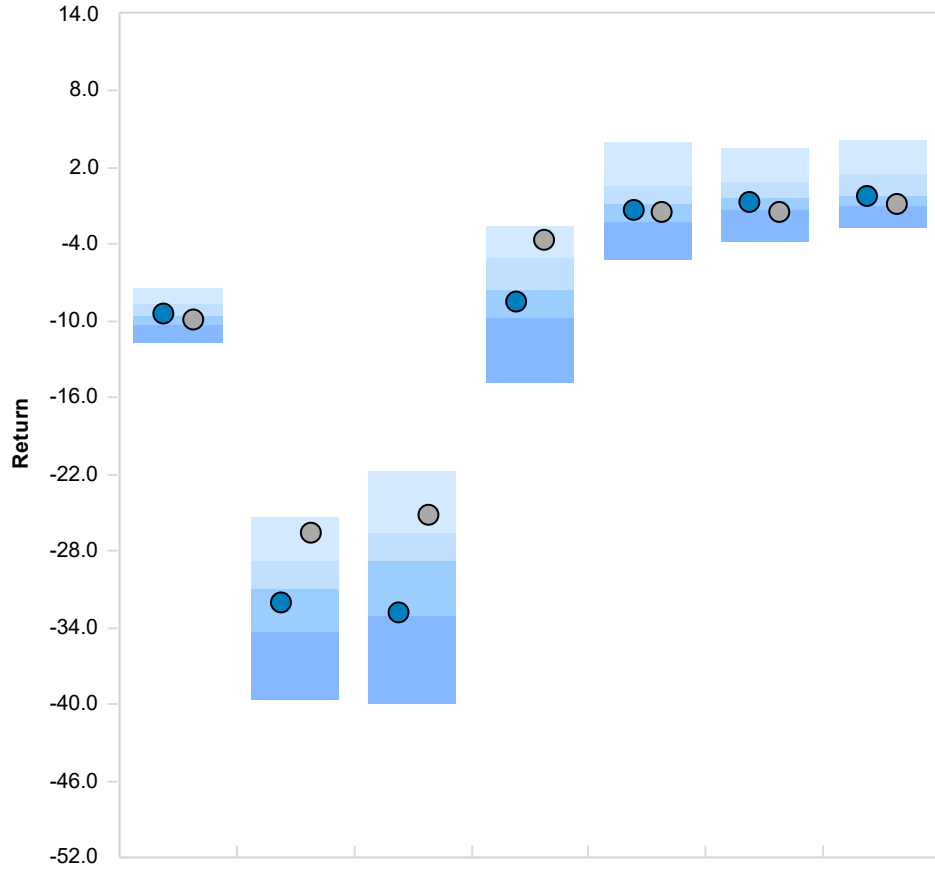
**5 Year Rolling Percentile Rank IM International Large Cap Growth Equity (MF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	7 (35%)	12 (60%)	1 (5%)	0 (0%)
Index	20	0 (0%)	1 (5%)	13 (65%)	6 (30%)

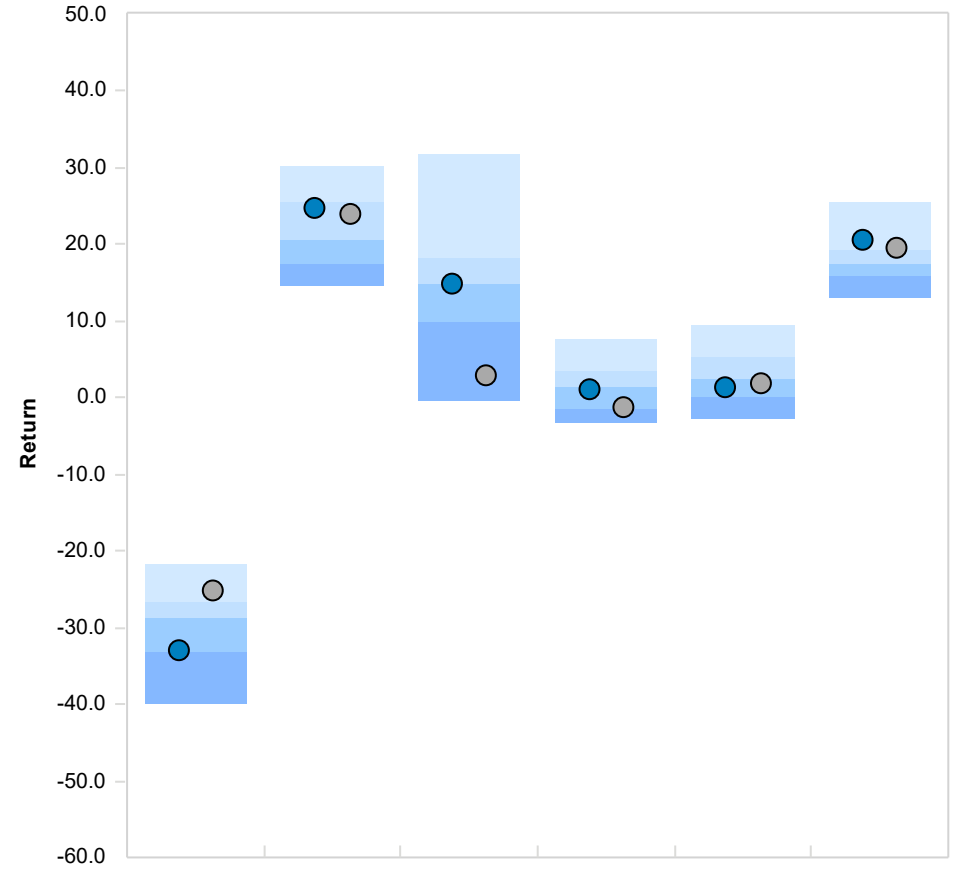


**Peer Group Analysis - IM International Large Cap Growth Equity (MF)**



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	-9.33 (39)	-32.09 (58)	-32.85 (73)	-8.47 (61)	-1.24 (58)	-0.65 (57)	-0.23 (52)
● Index	-9.91 (67)	-26.50 (9)	-25.17 (10)	-3.70 (16)	-1.52 (64)	-1.45 (78)	-0.81 (73)
Median	-9.57	-30.90	-28.73	-7.55	-0.84	-0.34	-0.14

**Peer Group Analysis - IM International Large Cap Growth Equity (MF)**



	Oct-2021 To Sep-2022	Oct-2020 To Sep-2021	Oct-2019 To Sep-2020	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017
● Investment	-32.85 (73)	24.76 (27)	14.97 (50)	1.14 (54)	1.47 (62)	20.63 (8)
● Index	-25.17 (10)	23.92 (32)	3.00 (91)	-1.23 (73)	1.76 (59)	19.61 (20)
Median	-28.73	20.62	14.87	1.35	2.48	17.62

**Comparative Performance**

	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021
Investment	-14.65 (49)	-12.24 (59)	-1.13 (92)	-2.35 (57)	6.97 (25)	-0.43 (79)
Index	-13.73 (32)	-5.44 (5)	1.82 (74)	-2.99 (68)	5.48 (67)	3.49 (13)
Median	-14.68	-10.99	3.17	-1.61	6.34	0.74



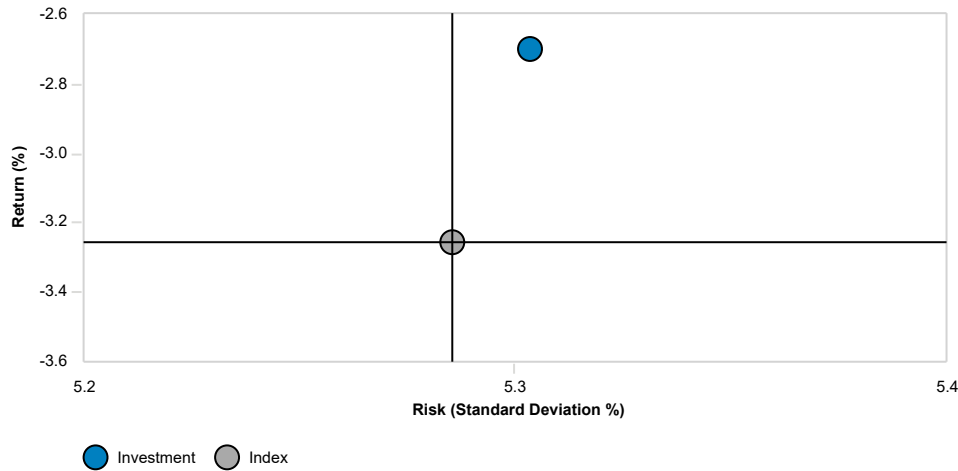
**Historical Statistics 3 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	-2.70	5.30	-0.59	103.27	5	95.23	7
Index	-3.26	5.29	-0.70	100.00	8	100.00	4

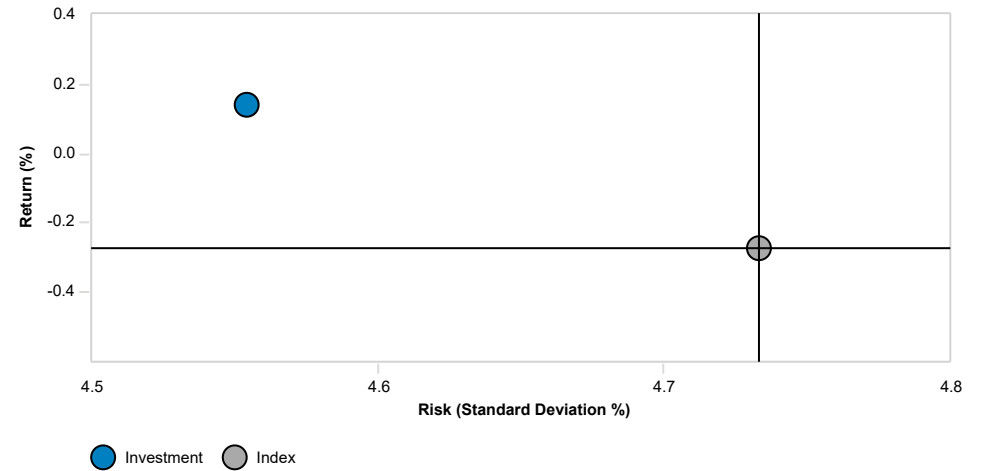
**Historical Statistics 5 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	0.14	4.55	-0.20	94.65	11	88.12	9
Index	-0.27	4.73	-0.28	100.00	14	100.00	6

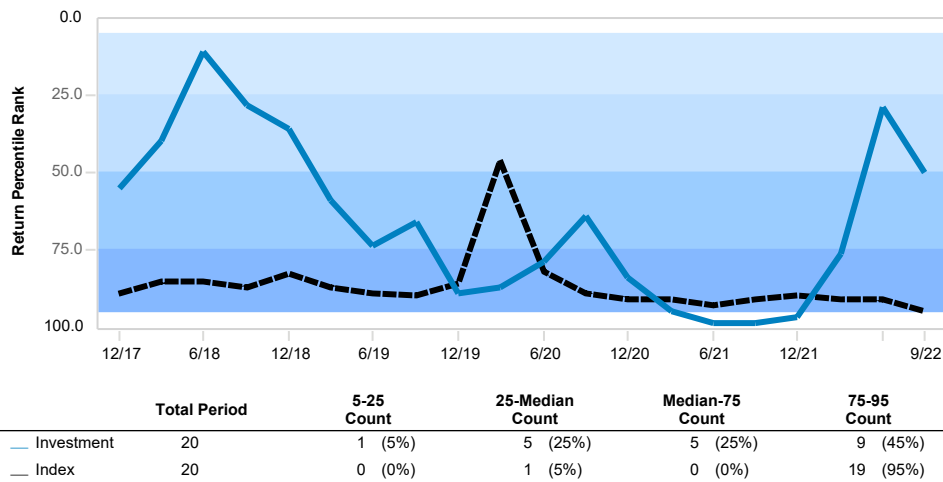
**Risk and Return 3 Years**



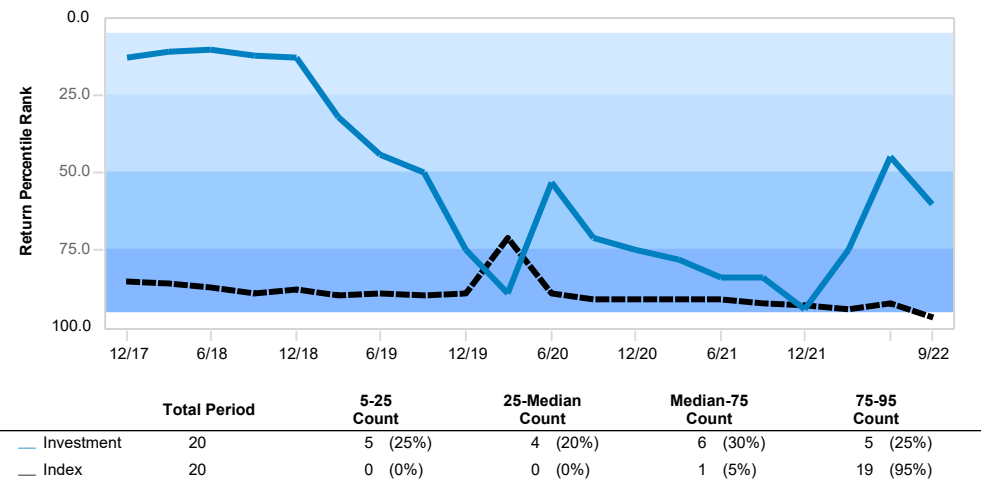
**Risk and Return 5 Years**



**3 Year Rolling Percentile Rank IM U.S. Broad Market Core Fixed Income (SA+CF)**

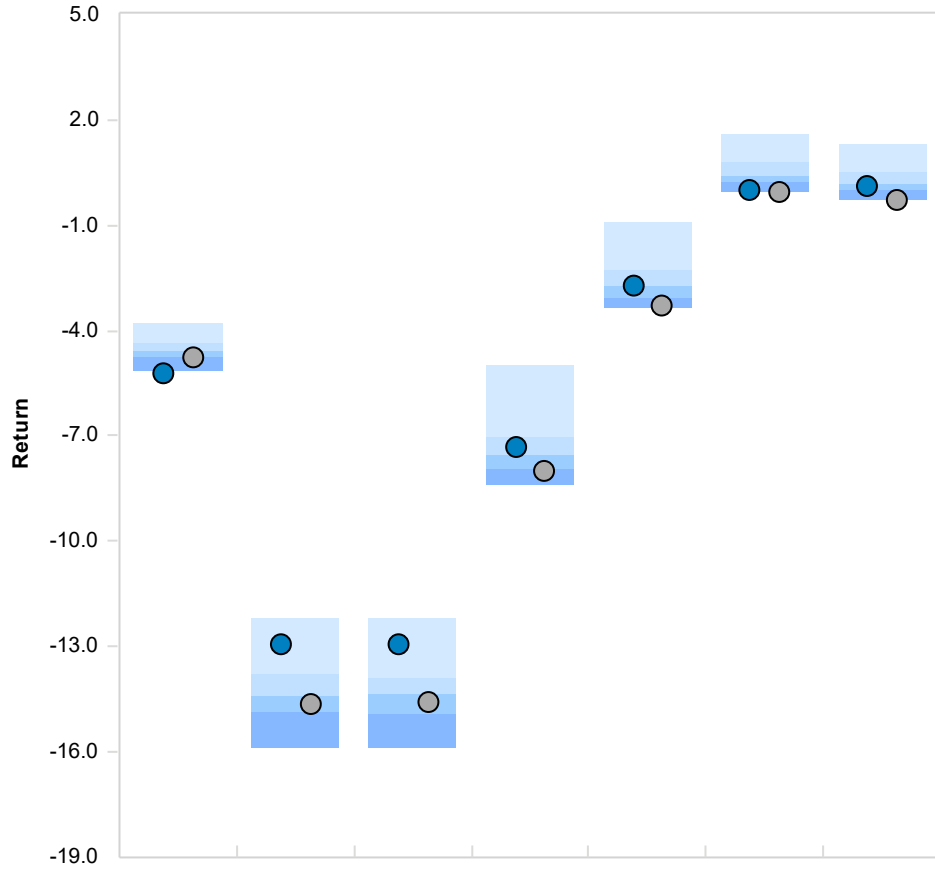


**5 Year Rolling Percentile Rank IM U.S. Broad Market Core Fixed Income (SA+CF)**



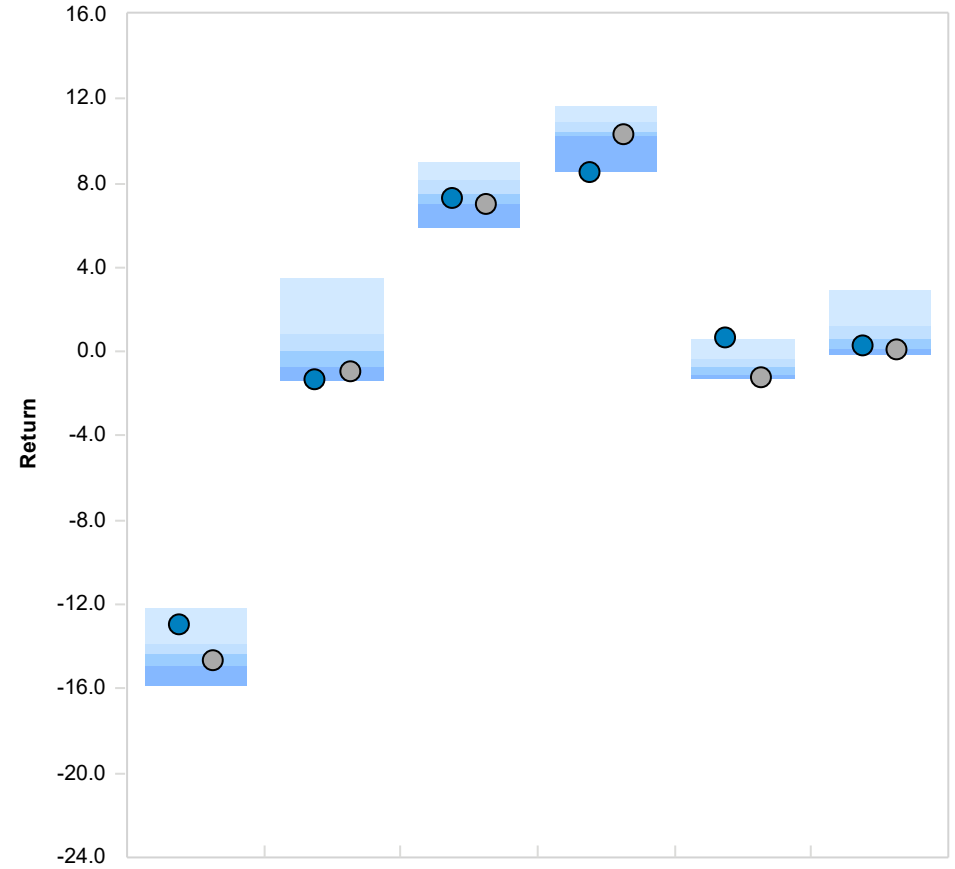


**Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (SA+CF)**



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	-5.20 (96)	-12.90 (8)	-12.95 (8)	-7.32 (40)	-2.70 (50)	0.00 (92)	0.14 (60)
● Index	-4.75 (73)	-14.61 (69)	-14.60 (66)	-8.00 (80)	-3.26 (95)	-0.03 (94)	-0.27 (97)
Median	-4.57	-14.42	-14.36	-7.56	-2.70	0.42	0.18

**Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (SA+CF)**



	Oct-2021 To Sep-2022	Oct-2020 To Sep-2021	Oct-2019 To Sep-2020	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017
● Investment	-12.95 (8)	-1.34 (95)	7.25 (59)	8.54 (95)	0.73 (4)	0.31 (68)
● Index	-14.60 (66)	-0.90 (84)	6.98 (76)	10.30 (69)	-1.22 (87)	0.07 (84)
Median	-14.36	-0.02	7.53	10.42	-0.75	0.63

**Comparative Performance**

	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021
Investment	-3.92 (8)	-4.38 (3)	-0.05 (55)	-0.06 (91)	1.26 (98)	-3.23 (56)
Index	-4.69 (38)	-5.93 (70)	0.01 (33)	0.05 (69)	1.83 (86)	-3.38 (69)
Median	-4.82	-5.81	-0.04	0.10	1.99	-3.18



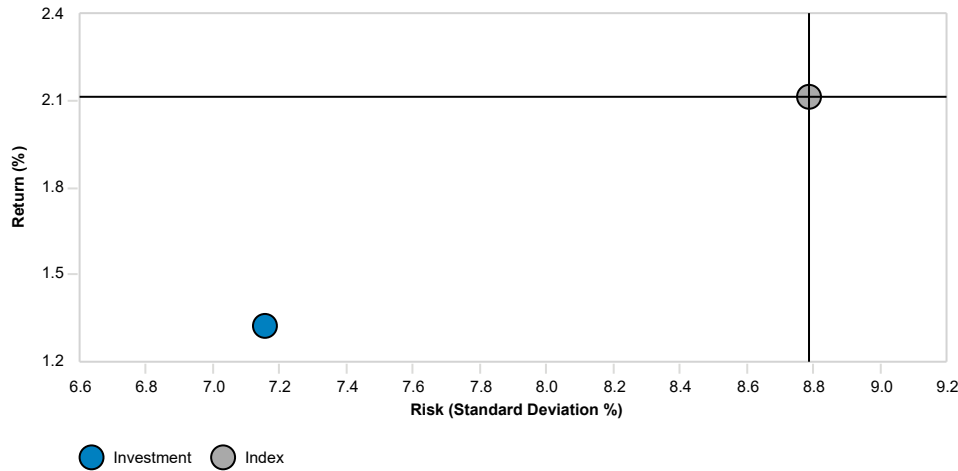
**Historical Statistics 3 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	1.33	7.16	0.14	79.88	10	85.64	2
Index	2.12	8.78	0.21	100.00	9	100.00	3

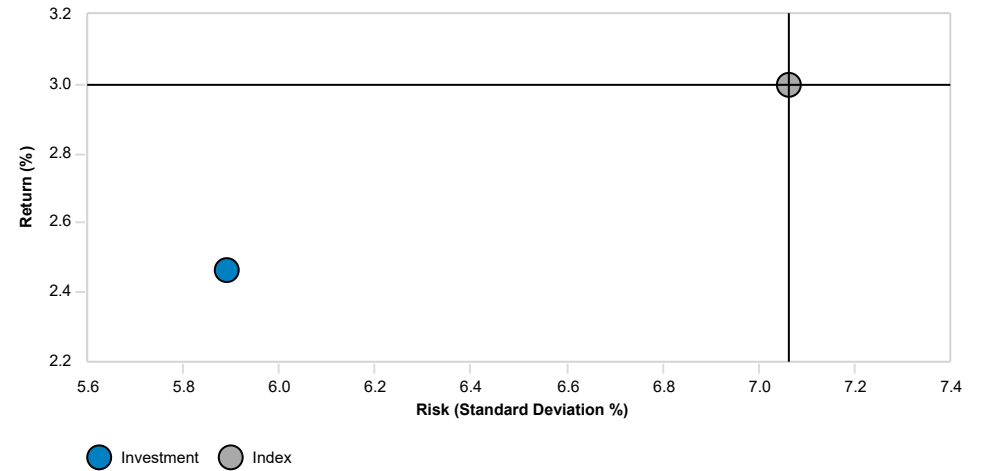
**Historical Statistics 5 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.46	5.89	0.25	85.87	17	88.86	3
Index	3.00	7.06	0.29	100.00	16	100.00	4

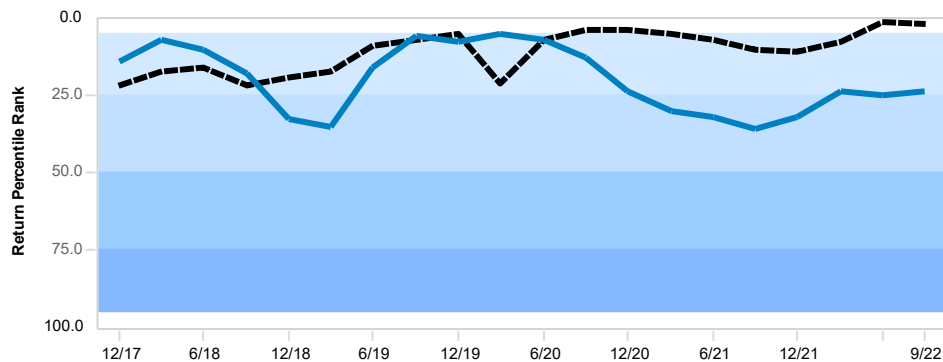
**Risk and Return 3 Years**



**Risk and Return 5 Years**

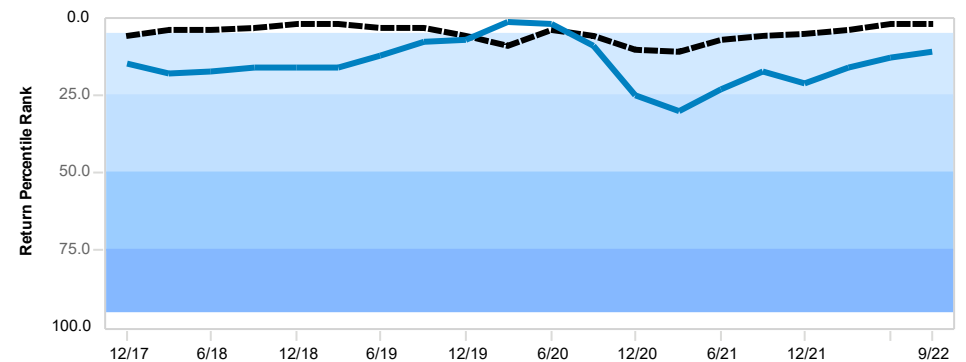


**3 Year Rolling Percentile Rank IM U.S. Bank Loans (MF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	14 (70%)	6 (30%)	0 (0%)	0 (0%)
Index	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)

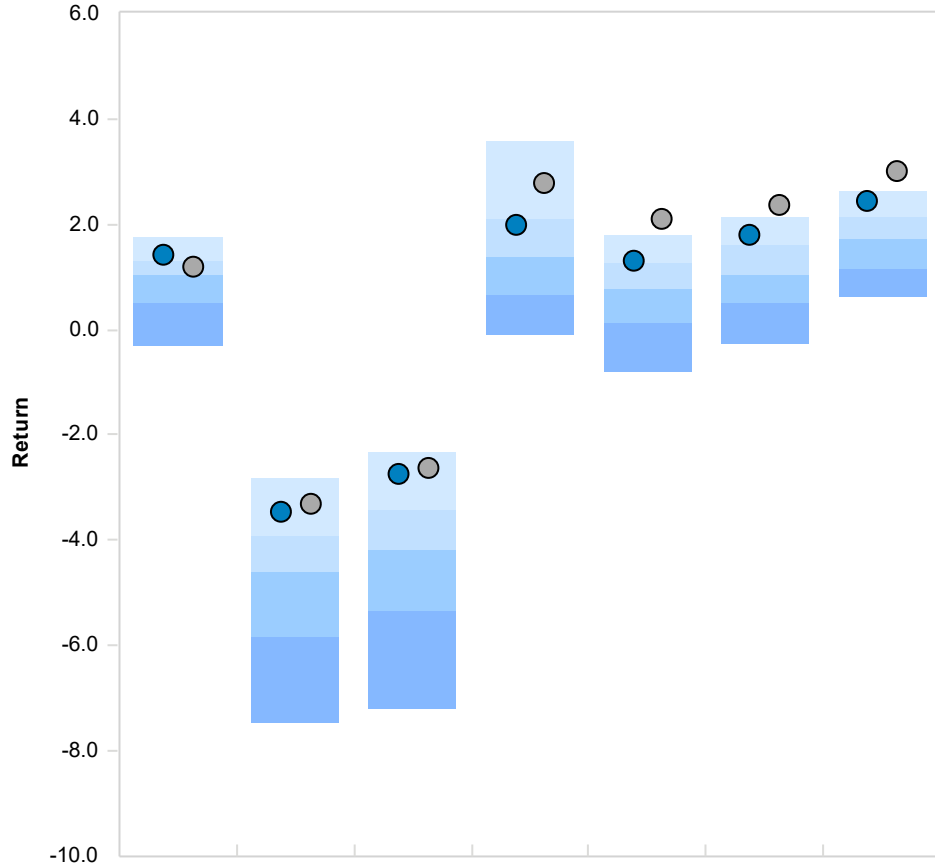
**5 Year Rolling Percentile Rank IM U.S. Bank Loans (MF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	19 (95%)	1 (5%)	0 (0%)	0 (0%)
Index	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)

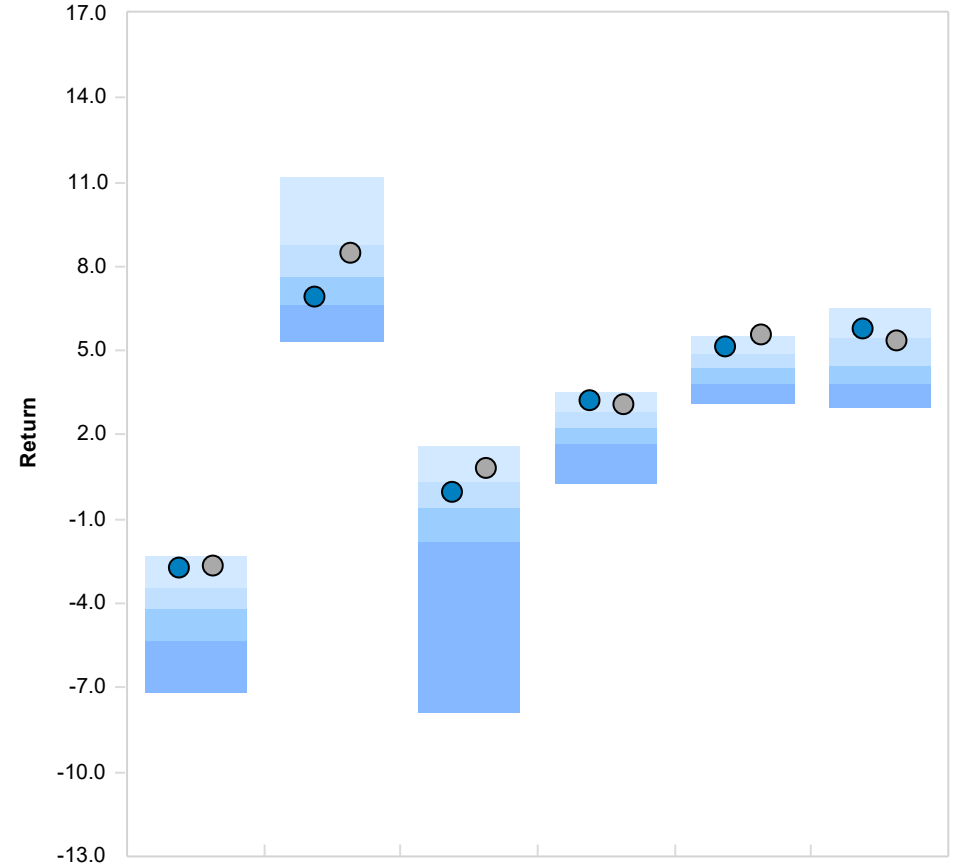


**Peer Group Analysis - IM U.S. Bank Loans (MF)**



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	1.41 (19)	-3.45 (13)	-2.74 (12)	1.99 (30)	1.33 (24)	1.79 (16)	2.46 (11)
● Index	1.18 (37)	-3.32 (11)	-2.63 (10)	2.77 (15)	2.12 (2)	2.36 (1)	3.00 (2)
Median	1.05	-4.58	-4.19	1.40	0.79	1.06	1.71

**Peer Group Analysis - IM U.S. Bank Loans (MF)**



	Oct-2021 To Sep-2022	Oct-2020 To Sep-2021	Oct-2019 To Sep-2020	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017
● Investment	-2.74 (12)	6.95 (69)	0.01 (32)	3.21 (15)	5.18 (13)	5.81 (17)
● Index	-2.63 (10)	8.46 (31)	0.83 (15)	3.11 (18)	5.58 (5)	5.36 (26)
Median	-4.19	7.64	-0.61	2.24	4.37	4.48

**Comparative Performance**

	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021
Investment	-4.82 (26)	0.02 (6)	0.74 (13)	0.93 (41)	1.56 (24)	1.32 (68)
Index	-4.36 (7)	-0.10 (11)	0.72 (15)	1.13 (15)	1.45 (37)	2.01 (20)
Median	-5.27	-0.52	0.49	0.87	1.36	1.58



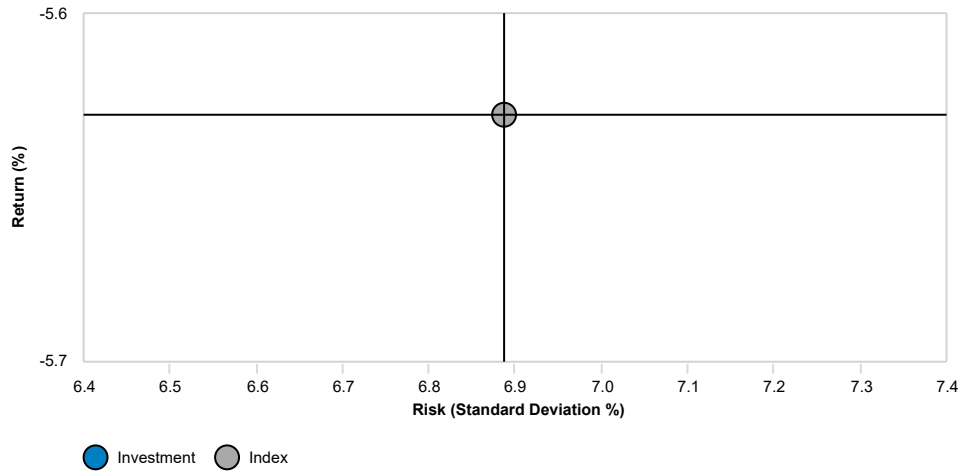
**Historical Statistics 3 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Index	-5.63	6.89	-0.88	100.00	5	100.00	7

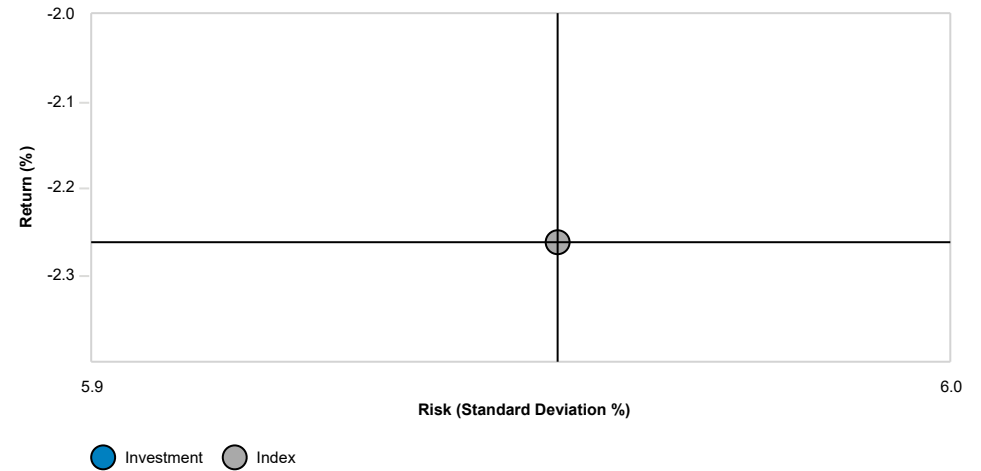
**Historical Statistics 5 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Index	-2.26	5.95	-0.55	100.00	11	100.00	9

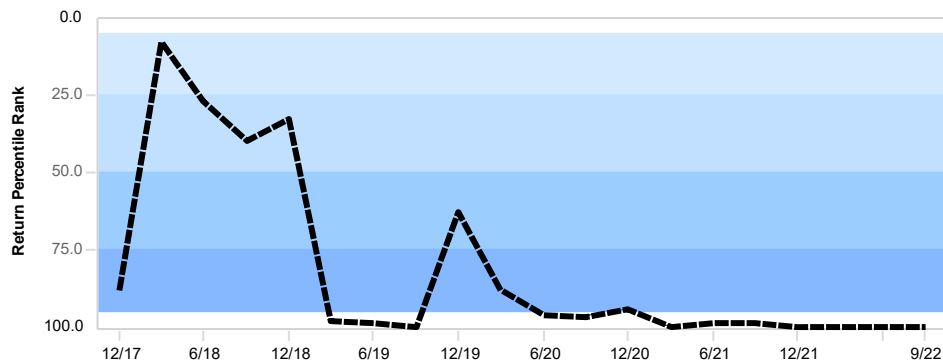
**Risk and Return 3 Years**



**Risk and Return 5 Years**

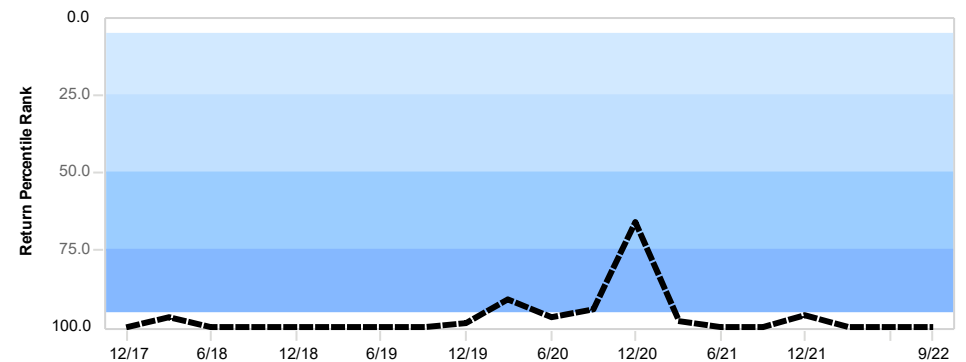


**3 Year Rolling Percentile Rank IM U.S. Broad Market Fixed Income (SA+CF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	0	0	0	0	0
Index	20	1 (5%)	3 (15%)	1 (5%)	15 (75%)

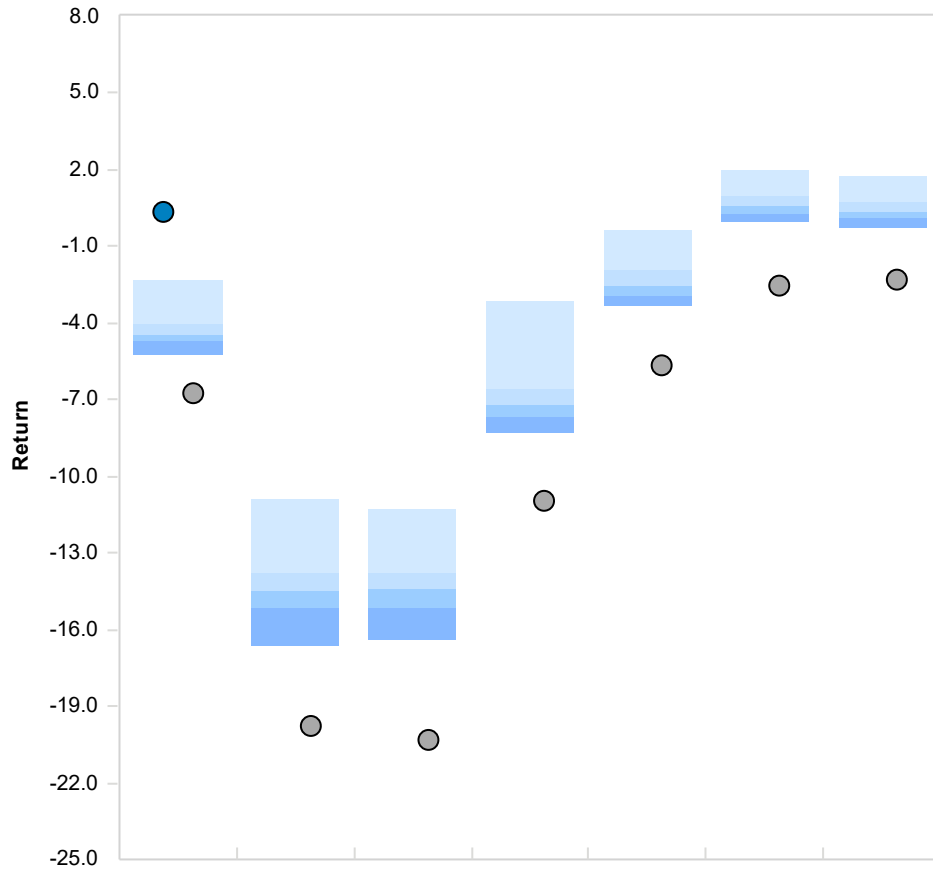
**5 Year Rolling Percentile Rank IM U.S. Broad Market Fixed Income (SA+CF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	0	0	0	0	0
Index	20	0 (0%)	0 (0%)	1 (5%)	19 (95%)

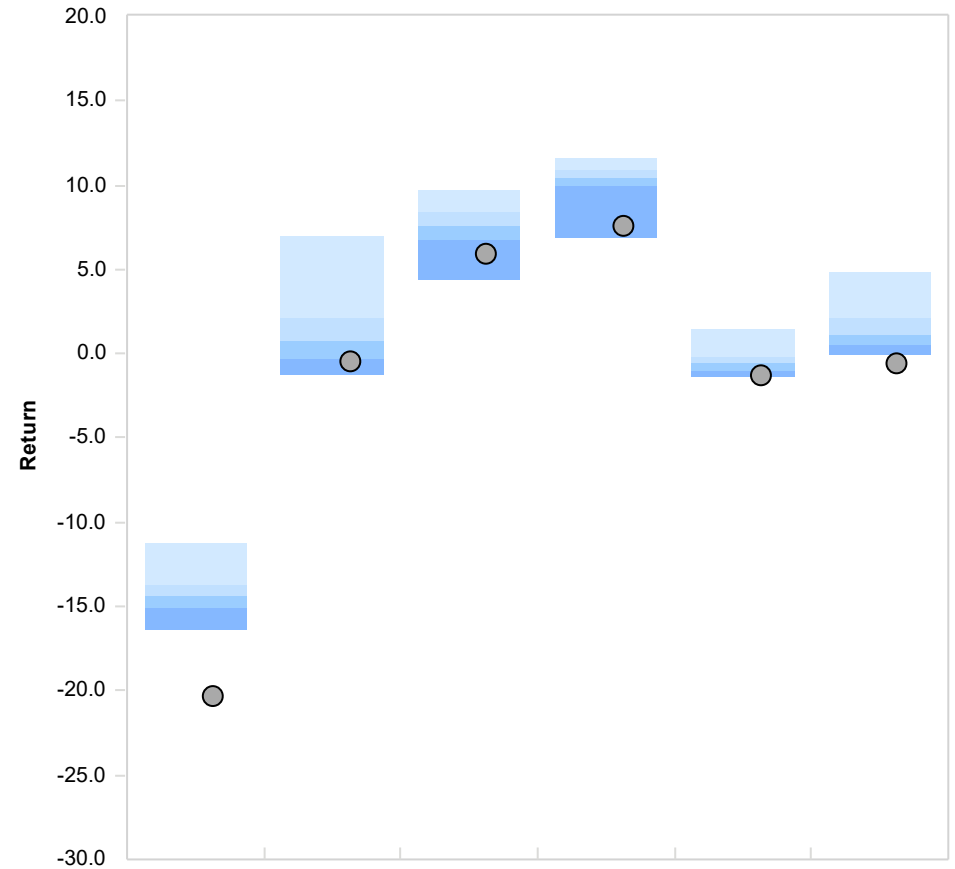


**Peer Group Analysis - IM U.S. Broad Market Fixed Income (SA+CF)**



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Investment	0.37 (1)	N/A	N/A	N/A	N/A	N/A	N/A
● Index	-6.76 (99)	-19.78 (100)	-20.34 (100)	-10.95 (100)	-5.63 (100)	-2.50 (100)	-2.26 (100)
Median	-4.46	-14.43	-14.39	-7.21	-2.51	0.56	0.33

**Peer Group Analysis - IM U.S. Broad Market Fixed Income (SA+CF)**



	Oct-2021 To Sep-2022	Oct-2020 To Sep-2021	Oct-2019 To Sep-2020	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017
● Investment	N/A	N/A	N/A	N/A	N/A	N/A
● Index	-20.34 (100)	-0.45 (78)	5.99 (89)	7.54 (92)	-1.32 (95)	-0.56 (100)
Median	-14.39	0.71	7.57	10.39	-0.61	1.05

**Comparative Performance**

	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021
Investment	-4.25 (14)	N/A	N/A	N/A	N/A	N/A
Index	-8.43 (99)	-6.05 (77)	-0.70 (99)	-0.91 (100)	1.45 (96)	-4.34 (97)
Median	-5.05	-5.80	0.00	0.14	2.15	-2.96



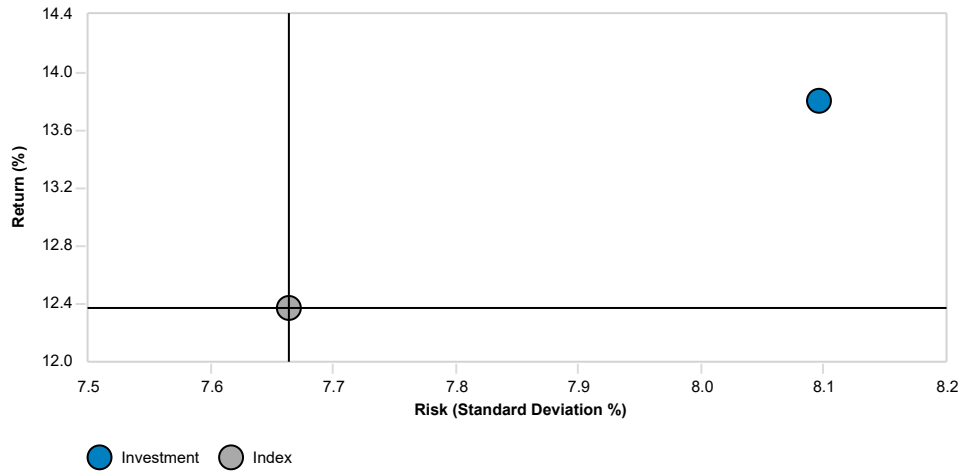
**Historical Statistics 3 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	13.80	8.10	1.57	111.18	11	116.86	1
Index	12.37	7.66	1.48	100.00	11	100.00	1

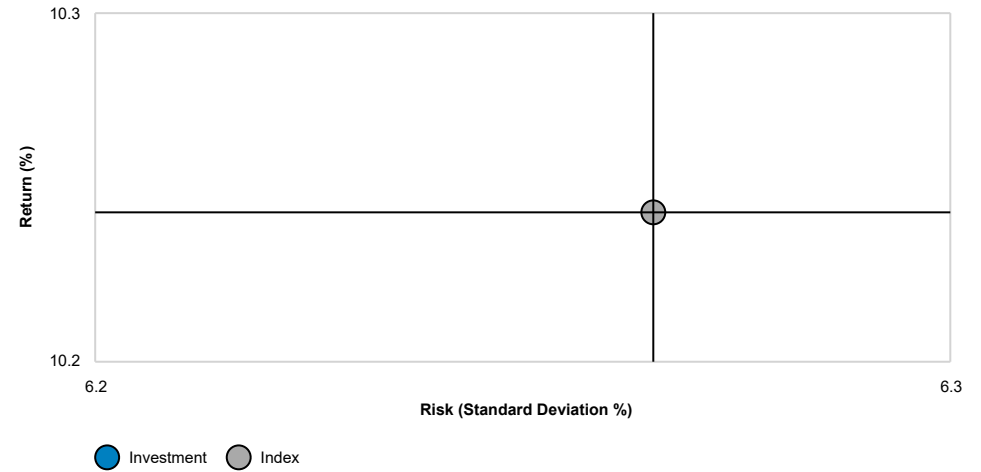
**Historical Statistics 5 Years**

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Index	10.24	6.27	1.40	100.00	19	100.00	1

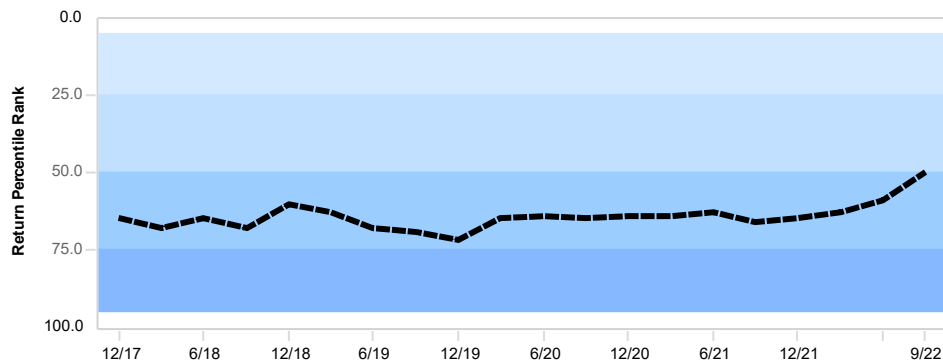
**Risk and Return 3 Years**



**Risk and Return 5 Years**

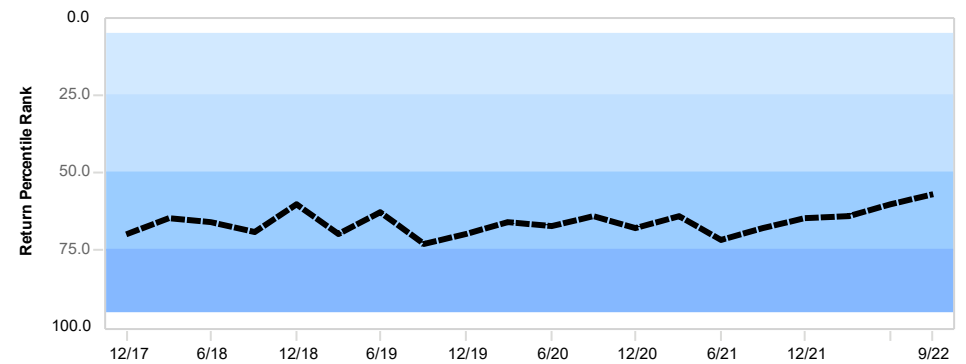


**3 Year Rolling Percentile Rank IM U.S. Open End Private Real Estate (SA+CF)**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	1	1 (100%)	0 (0%)	0 (0%)	0 (0%)
Index	20	0 (0%)	1 (5%)	19 (95%)	0 (0%)

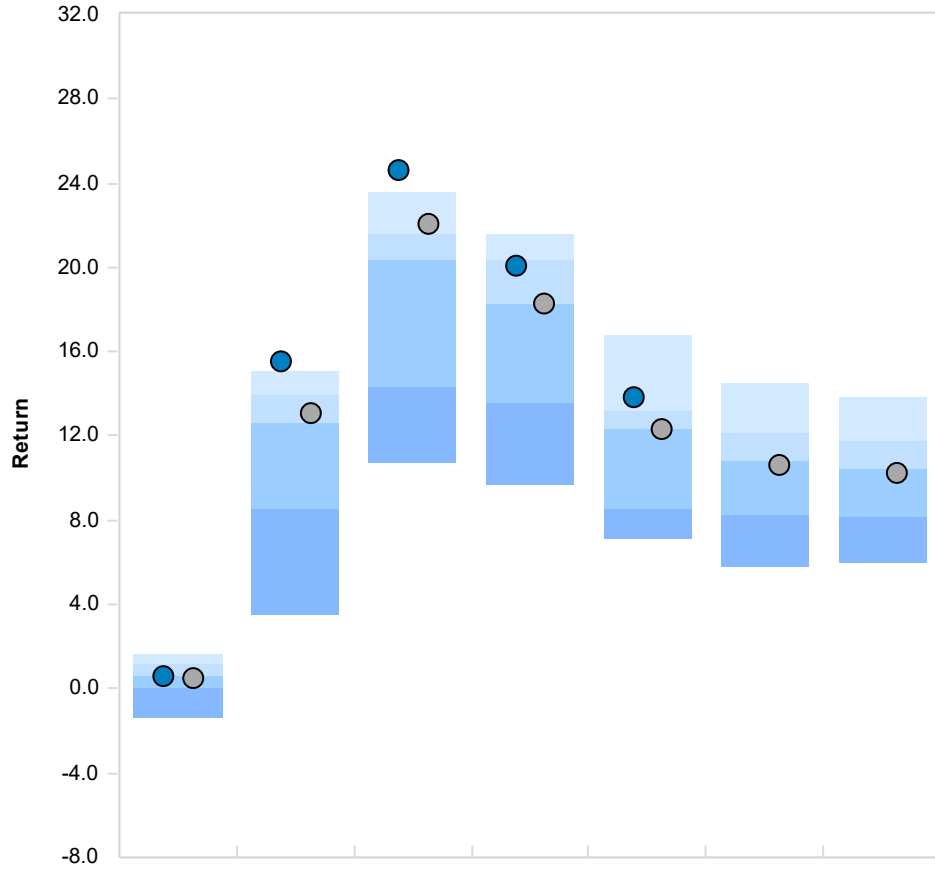
**5 Year Rolling Percentile Rank IM U.S. Open End Private Real Estate (SA+CF)**



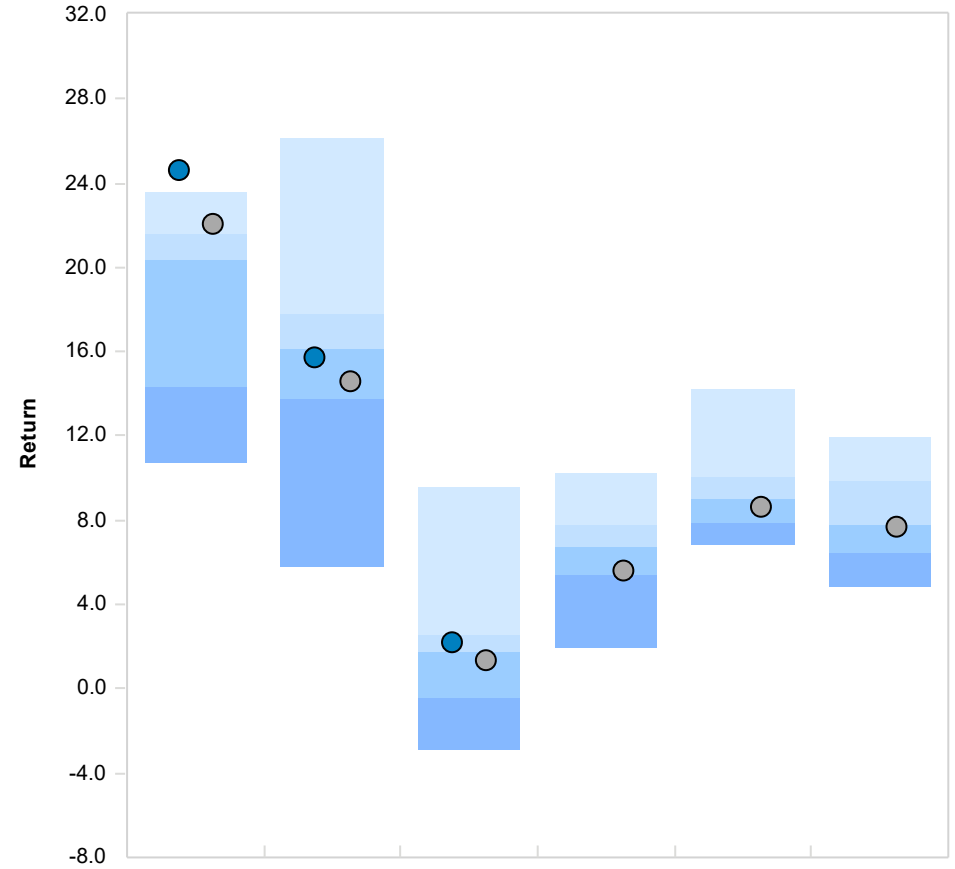
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	0	0	0	0	0
Index	20	0 (0%)	0 (0%)	20 (100%)	0 (0%)



**Peer Group Analysis - IM U.S. Open End Private Real Estate (SA+CF)**



**Peer Group Analysis - IM U.S. Open End Private Real Estate (SA+CF)**



**Comparative Performance**

	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021
Investment	7.27 (11)	7.04 (47)	7.82 (43)	6.08 (60)	4.63 (34)	2.22 (41)
Index	4.77 (35)	7.37 (35)	7.97 (41)	6.63 (43)	3.93 (64)	2.11 (50)
Median	4.21	6.96	7.57	6.33	4.17	2.10



**The Woodlands Firefighters' Retirement System**  
**Comparative Performance Trailing Performance Composite Returns**  
As of September 30, 2022

Comparative Performance								
	QTR	YTD	1 YR	2 YR	3 YR	5 YR	Inception	Inception Date
<b>Domestic Equity</b>								
<b>Vanguard Total Stock Index (VITSX)</b>	-4.46	-24.89	-18.01	4.07	7.60	8.56	7.57	08/01/1997
CRSP U.S. Total Market TR Index	-4.44	-24.86	-17.98	4.09	7.60	8.56	N/A	
<b>American Beacon SC Value R6 (AASRX)</b>	-4.24	-18.88	-13.40	18.00	5.76	3.08	3.45	03/01/2017
Russell 2000 Value Index	-4.61	-21.12	-17.69	16.16	4.72	2.87	3.45	
<b>Conestoga Small Cap I (CCALX)</b>	-4.23	-32.04	-28.62	-0.77	2.86	6.25	9.95	09/01/2014
Russell 2000 Growth Index	0.24	-29.28	-29.27	-2.91	2.94	3.60	5.94	
<b>International Equity</b>								
<b>EuroPacific Growth R6 (REGRX)</b>	-9.33	-32.09	-32.85	-8.47	-1.24	-0.23	5.50	06/01/2009
MSCI AC World ex USA (Net)	-9.91	-26.50	-25.17	-3.70	-1.52	-0.81	4.28	
<b>Core Fixed Income</b>								
<b>Garcia Hamilton (Gross of Fees)</b>	-5.20	-12.90	-12.95	-7.32	-2.70	0.14	5.34	01/01/1992
Blmbg. U.S. Aggregate Index	-4.75	-14.61	-14.60	-8.00	-3.26	-0.27	4.62	
<b>Bank Loans</b>								
<b>Pacific Funds Floating Rate (PLFRX)</b>	1.41	-3.45	-2.74	1.99	1.33	2.46	3.75	07/01/2011
Credit Suisse Leveraged Loan Index	1.18	-3.32	-2.63	2.77	2.12	3.00	3.88	
<b>Real Estate</b>								
<b>Clarion Lion Properties Fund</b>	0.60	15.58	24.60	20.61	14.13	11.85	8.58	04/01/2000
NCREIF Fund Index-ODCE (VW)	0.52	13.08	22.09	18.30	12.37	10.24	8.70	

Returns for periods greater than one year are annualized. Returns are expressed as percentages.





**The Woodlands Firefighters' Retirement System**  
**Comparative Performance Calendar Year Composite Returns**  
As of September 30, 2022

Comparative Performance	YTD	2021	2020	2019	2018	2017	2016	2015
<b>Domestic Equity</b>								
<b>Vanguard Total Stock Index (VITSX)</b>	<b>-24.89</b>	<b>25.73</b>	<b>21.00</b>	<b>30.81</b>	<b>-5.16</b>	<b>21.17</b>	<b>12.67</b>	<b>0.42</b>
CRSP U.S. Total Market TR Index	-24.86	25.72	20.99	30.84	-5.17	21.19	12.68	0.40
<b>American Beacon SC Value R6 (AASRX)</b>	<b>-18.88</b>	<b>28.21</b>	<b>4.03</b>	<b>23.50</b>	<b>-15.59</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Russell 2000 Value Index	-21.12	28.27	4.63	22.39	-12.86	7.84	31.74	-7.47
<b>Conestoga Small Cap I (CCALX)</b>	<b>-32.04</b>	<b>16.37</b>	<b>30.59</b>	<b>25.42</b>	<b>0.81</b>	<b>28.74</b>	<b>14.30</b>	<b>8.26</b>
Russell 2000 Growth Index	-29.28	2.83	34.63	28.48	-9.31	22.17	11.32	-1.38
<b>International Developed Equity</b>								
<b>EuroPacific Growth R6 (RERGX)</b>	<b>-32.09</b>	<b>2.84</b>	<b>25.27</b>	<b>27.40</b>	<b>-14.91</b>	<b>31.17</b>	<b>1.01</b>	<b>-0.48</b>
MSCI AC World ex USA (Net)	-26.50	7.82	10.65	21.51	-14.20	27.19	4.50	-5.66
<b>Core Fixed Income</b>								
<b>Garcia Hamilton (Gross of Fees)</b>	<b>-12.90</b>	<b>-2.11</b>	<b>8.10</b>	<b>7.25</b>	<b>0.97</b>	<b>3.81</b>	<b>3.17</b>	<b>0.84</b>
Blmbg. U.S. Aggregate Index	-14.61	-1.55	7.51	8.72	0.01	3.54	2.65	0.55
<b>Bank Loans</b>								
<b>Pacific Funds Floating Rate (PLFRX)</b>	<b>-3.45</b>	<b>4.62</b>	<b>1.59</b>	<b>8.30</b>	<b>0.41</b>	<b>4.33</b>	<b>8.91</b>	<b>0.75</b>
Credit Suisse Leveraged Loan Index	-3.32	5.41	2.78	8.16	1.14	4.25	9.87	-0.41
<b>Real Estate</b>								
<b>Clarion Lion Properties Fund</b>	<b>15.58</b>	<b>23.38</b>	<b>2.24</b>	<b>7.26</b>	<b>9.66</b>	<b>8.99</b>	<b>9.09</b>	<b>15.71</b>
NCREIF Fund Index-ODCE (VW)	13.08	22.17	1.19	5.34	8.35	7.62	8.77	15.02

Returns for periods greater than one year are annualized. Returns are expressed as percentages.



**Woodlands Fire Retirement System**  
**Fee Analysis**  
As of September 30, 2022

	Estimated Annual Fee (%)	Market Value (\$)	Estimated Annual Fee (\$)	Fee Schedule
Vanguard Total Stock Index (VITSX)	0.03	22,252,842	6,676	0.03 % of Assets
American Beacon SC Value R6 (AASRX)	0.78	2,503,896	19,530	0.78 % of Assets
Conestoga Small Cap I (CCALX)	0.90	2,289,043	20,601	0.90 % of Assets
<b>Total Domestic Equity</b>	<b>0.17</b>	<b>27,045,781</b>	<b>46,808</b>	
EuroPacific Growth R6 (RERGX)	0.49	6,503,680	31,868	0.49 % of Assets
<b>Total International Equity</b>	<b>0.49</b>	<b>6,503,680</b>	<b>31,868</b>	
Garcia Hamilton	0.25	8,856,216	22,141	0.25 % of First \$25 M 0.20 % of Next \$25 M 0.18 % of Next \$50 M 0.15 % of Next \$100 M 0.12 % Thereafter
Pacific Funds Floating Rate (PLFRX)	0.72	1,483,914	10,684	0.72 % of Assets
Apollo Total Return Fund	0.80	2,919,844	23,359	0.80 % of First \$100 M 0.75 % of Next \$100 M 0.70 % Thereafter
<b>Total Fixed Income</b>	<b>0.42</b>	<b>13,259,974</b>	<b>56,183</b>	
Clarion (Core Real Estate)	1.25	5,650,001	70,625	1.25 % of Assets
<b>Total Real Estate</b>	<b>1.25</b>	<b>5,650,001</b>	<b>70,625</b>	
Frost Bank Cash Account		57,589	-	
Mutual Fund Cash		100,785	-	
<b>Total Cash</b>		<b>158,373</b>	<b>-</b>	
<b>Total Fund</b>	<b>0.39</b>	<b>52,617,810</b>	<b>205,484</b>	

AndCo Consulting fees are \$45,000/year (8 bps as of 3/31/2021).



<b>Total Fund Compliance:</b>	Yes	No	N/A
1. The Total Plan return equaled or exceeded the 7% actuarial earnings assumption over the trailing three year period.		✓	
2. The Total Plan return equaled or exceeded the 7% actuarial earnings assumption over the trailing five year period.		✓	
3. The Total Plan return equaled or exceeded the 7% actuarial earnings assumption over the trailing ten year period.			✓
4. The Total Plan return equaled or exceeded the total plan benchmark over the trailing three year period.	✓		
5. The Total Plan return equaled or exceeded the total plan benchmark over the trailing five year period.		✓	
6. The Total Plan return equaled or exceeded the total plan benchmark over the trailing ten year period.			✓
7. The Total Plan return ranked within the top 50th percentile of its peer group over the trailing three year period.	✓		
8. The Total Plan return ranked within the top 50th percentile of its peer group over the trailing five year period.	✓		
9. The Total Plan return ranked within the top 50th percentile of its peer group over the trailing ten year period.			✓

<b>Equity Compliance:</b>	Yes	No	N/A
1. All investments are U.S. dollar denominated except for certain equities and sovereign foreign bonds as delineated in Permitted Asset Classes.	✓		
2. Less than or equal to 5% of the voting securities of any corporation are owned.	✓		
3. Securities have not been purchased on margin or leverage excluding alternative investments.	✓		
4. Short sale transactions have not been executed except by approved alternative investment managers.	✓		
5. Transactions in financial futures have not been executed unless used to equitize cash, reduce risk, or by approved alternative investment managers.	✓		
6. Less than or equal to 30% of the aggregated equity portfolio is invested in any one sector of the MSCI World at market.	✓		
7. Less than or equal to 5% of the aggregated equity portfolio is invested in securities of any one company at market.	✓		
8. Privately held securities are not included in the Plan except by approved alternative investment managers.	✓		
9. Options have not been traded except for covered calls or put hedges on a one to one ratio.	✓		

<b>Fixed Income Compliance:</b>	Yes	No	N/A
1. All investments are U.S. dollar denominated except for certain equities and sovereign foreign bonds as delineated in Permitted Asset Classes.	✓		
2. Commercial paper rated P1 by Moody's or A1 or A2 by Standard & Poor's.			✓
3. Privately held securities are not included in the Plan except by approved alternative investment managers.	✓		

<b>Manager Compliance*:</b>	<b>Vang. Total Stk**</b>			<b>Am. Beacon</b>			<b>Conestoga</b>			<b>EuroPacific</b>			<b>Garcia Hamilton</b>			<b>Pacific Funds</b>			
	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	
1. Manager outperformed the index over the trailing three year period.			✓	✓				✓			✓						✓		
2. Manager outperformed the index over the trailing five year period.			✓	✓				✓			✓							✓	
3. Manager ranked above the 50th percentile over the trailing three year period.			✓		✓			✓				✓					✓		
4. Manager ranked above the 50th percentile over the trailing five year period.			✓		✓		✓				✓						✓		
5. Less than four consecutive quarters of under performance relative to the benchmark.			✓	✓			✓			✓			✓				✓		
6. Three year volatility less than the index, as measured by standard deviation.			✓		✓		✓				✓						✓		
7. Five year volatility less than the index, as measured by standard deviation.			✓		✓		✓				✓						✓		

\*Historical manager data was used to complete this portion of the questionnaire being that funds have performance history of less than 3 years.

\*\* Index Fund



Manager Compliance:	Clarion			Apollo														
	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
1. Manager outperformed the index over the trailing three year period.	✓					✓												
2. Manager outperformed the index over the trailing five year period.			✓			✓												
3. Manager ranked above the 50th percentile over the trailing three year period.	✓					✓												
4. Manager ranked above the 50th percentile over the trailing five year period.			✓			✓												
5. Less than four consecutive quarters of under performance relative to the benchmark.	✓					✓												
6. Three year volatility less than the index, as measured by standard deviation.		✓				✓												
7. Five year volatility less than the index, as measured by standard deviation.			✓			✓												

\*Historical manager data was used to complete this portion of the questionnaire being that funds have performance history of less than 3 years.

\*\* Index Fund



**Historical Hybrid Composition**

<b>Allocation Mandate</b>	<b>Weight (%)</b>
<b>Jan-1973</b>	
MSCI World (net)	60.00
Bloomberg Intermediate US Govt/Credit Idx	40.00
<b>Jun-2019</b>	
Russell 3000 Index	62.50
MSCI AC World ex USA (Net)	15.00
Blmbg. U.S. Aggregate Index	22.50
<b>Oct-2019</b>	
Russell 3000 Index	55.00
MSCI AC World ex USA (Net)	15.00
Blmbg. U.S. Aggregate Index	22.50
NCREIF Fund Index-ODCE (VW)	7.50
<b>Mar-2022</b>	
Russell 3000 Index	55.00
MSCI AC World ex USA (Net)	15.00
Blmbg. U.S. Aggregate Index	20.00
NCREIF Fund Index-ODCE (VW)	7.50
Blmbg. Global Multiverse	2.50
<b>Sep-2022</b>	
Russell 3000 Index	55.00
MSCI AC World ex USA (Net)	15.00
Blmbg. U.S. Aggregate Index	20.00
NCREIF Fund Index-ODCE (VW)	10.00

Policy Index will be updated to reflect November 2021 IPS benchmark allocation once commitment to Carlyle CPI is called.



- Historical data through April 2019 was provided by South Texas Money Management.
- Assets were transferred to Frost Bank as the new custodian in the months of May, June and July 2019.
- Performance and cash flow data as of May 2019 is calculated by AndCo using custodial statements from Pershing and Frost Bank.

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<b>Active Return</b>	- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.
<b>Alpha</b>	- A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.
<b>Beta</b>	- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.
<b>Consistency</b>	- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.
<b>Distributed to Paid In (DPI)</b>	- The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.
<b>Down Market Capture</b>	- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance
<b>Downside Risk</b>	- A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.
<b>Excess Return</b>	- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.
<b>Excess Risk</b>	- A measure of the standard deviation of a portfolio's performance relative to the risk free return.
<b>Information Ratio</b>	- This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.
<b>Public Market Equivalent (PME)</b>	- Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.
<b>R-Squared</b>	- The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.
<b>Return</b>	- Compounded rate of return for the period.
<b>Sharpe Ratio</b>	- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.
<b>Standard Deviation</b>	- A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.
<b>Total Value to Paid In (TVPI)</b>	- The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life
<b>Tracking Error</b>	- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.
<b>Treynor Ratio</b>	- Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.
<b>Up Market Capture</b>	- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.



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AndCo compiled this report for the sole use of the client for which it was prepared. AndCo is responsible for evaluating the performance results of the Total Fund along with the investment advisors by comparing their performance with indices and other related peer universe data that is deemed appropriate. AndCo uses the results from this evaluation to make observations and recommendations to the client.

AndCo uses time-weighted calculations which are founded on standards recommended by the CFA Institute. The calculations and values shown are based on information that is received from custodians. AndCo analyzes transactions as indicated on the custodian statements and reviews the custodial market values of the portfolio. As a result, this provides AndCo with a reasonable basis that the investment information presented is free from material misstatement. This methodology of evaluating and measuring performance provides AndCo with a practical foundation for our observations and recommendations. Nothing came to our attention that would cause AndCo to believe that the information presented is significantly misstated.

This performance report is based on data obtained by the client's custodian(s), investment fund administrator, or other sources believed to be reliable. While these sources are believed to be reliable, the data providers are responsible for the accuracy and completeness of their statements. Clients are encouraged to compare the records of their custodian(s) to ensure this report fairly and accurately reflects their various asset positions.

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