

Investment Performance Review  
Period Ending December 31, 2021

# Employees' Retirement System of the City of Norfolk

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On behalf of everyone at AndCo, we want to Thank You for the opportunity to serve and the trust you place in us! 2021 marked another unique year as society continued to deal with the effects of the global pandemic. While this environment caused all organizations to reassess their business models and service approach, AndCo has remained steadfast in our belief and conviction that the best way to service our valued clients is within a model that is independent, singularly focused, customized, and passionately delivered. These four AndCo principles drive our service approach and desire to exceed your expectations. We take our role as your consultant and trusted advisor seriously and will continue working hard to maintain your confidence.

Looking back at 2021, we would like to provide a brief update on the firm. We advise on approximately \$123 billion in client assets, as of June 30, 2021. 2021 also marked the 21st straight year of revenue growth for the firm. We continue to reinvest 100% of our net profits back into the organization so that we can continue to evolve and adapt within a market environment that is constantly changing and challenging. Put simply, stasis is not an effective strategy, and we are convicted in our belief that a firm not focused on moving forward in our industry is moving backward.

To execute on our commitment, we continued to make personnel and technology investments within the firm. Our personnel investments focused on further enhancing departmental service levels and narrowing perceived gaps. We continued to invest in our proprietary software system to more effectively and efficiently compile and share information across departments and ultimately better serve our clients. We also continued to build out our internal site (the intranet) so colleagues could stay connected with the firm and gain a deeper understanding of standard operating procedures and collectively service our clients the AndCo way. Our intranet also helped strengthen our internal brand and culture by pushing out a variety of daily firm updates, videos, and interactive posts to increase team member bonds to our values, core philosophies, and ultimately, brought the firm closer together. We believe these connections are increasingly important in the COVID environment when many team members remain wholly or partially remote and we will continue to explore innovative ways to be together in 2022.

As we start 2022, we are 87 team members strong with plans to grow. We are targeting several new positions for the year as we thoughtfully continue to invest in our firm to provide the quality services you expect from AndCo. These talent enhancements cover multiple departments including Research and Client Solutions, which will strengthen our alternative and public market research as well as our client service. We are also looking to add team members to our Consulting, Finance, Marketing, and IT departments.

While adding so many resources to a firm our size is a significant investment, it is one we embrace due to the impact we believe it will have on our ability to continue serving our clients at a high level and push us closer to our vision of being a transformational organization viewed as the leader in our industry.

At the beginning of each year, we discuss the AndCo partnership and, when earned, announce new partners. This year I am thrilled to share two new team members were named partners at AndCo – Brian Green and Kerry Richardville. Brian has been with the firm for over 6 years and is currently a consultant based out of our Detroit, Michigan office. Kerry has been with AndCo for over 5 years and is a consultant based in Orlando. We could not be happier for both Brian and Kerry or more grateful for the contributions they have made to AndCo since joining the firm. Brian and Kerry represent what it means to be an AndCo team member, and we are honored and fortunate to have them serving our clients. With the addition of Brian and Kerry, we have 13 partners representing various departments at AndCo, which provides diverse perspectives and insight. Our growing partnership group continues to strengthen AndCo and reaffirm our belief that 100% employee management is vital to protecting our mission, vision, values, and the long-term success of our organization. We enter 2022 with an unwavering commitment to serve you the best we possibly can.

Coming off a year that provided many of our clients record returns, we recognize results going forward may be more challenging to obtain. Please know we will continue to invest and evolve our firm in aiming to meet these realities. We do not take any client relationship for granted and will continue to work tirelessly to serve, earn your trust, add value, and exceed your expectations. We are honored and humbled you have chosen AndCo as your partner.

In closing, and as we have stated since our rebrand in 2017, our name, AndCo, reminds us of who we work for every day - “Our Client” &Co. You will always be first in our service model. As we continue to discuss strategic decisions and reinvestments regarding our firm, please know that our decisions are filtered through the following question: “How does this keep our clients’ interests first?” If it doesn’t meet this standard, we don’t do it - it’s that simple.

Thank you again for your valued partnership and the opportunity to serve you. Happy New Year!



Mike Welker, CFA  
CEO



# Organizational Chart

## PARTNERSHIP

**Mike Welker, CFA®**  
**Brian Green**  
**Bryan Bakardjiev, CFA®**  
**Dan Johnson**  
**Dan Osika, CFA®**  
**Donna Sullivan**  
**Evan Scussel, CFA®, CAIA®**

**Jacob Peacock, CPFA**  
**Jason Purdy**  
**Kerry Richardville, CFA®**  
**Kim Spurlin, CPA**  
**Steve Gordon**  
**Troy Brown, CFA®**

## LEADERSHIP & MANAGEMENT

**Mike Welker, CFA®**  
CEO

**Bryan Bakardjiev, CFA®**  
COO

**Kim Spurlin, CPA**  
CFO

**Sara Searle**  
CCO

**Stacie Runion**  
CHRO

**Steve Gordon**  
Partner

**Troy Brown, CFA®**  
Executive Director

**Brooke Wilson, CIPM®**  
Client Solutions Director

**Dan Johnson**  
Consulting Director

**Daniel Kwasny, CIPM®**  
Client Solutions Director

**Evan Scussel, CFA®, CAIA®**  
Research Director

**Jack Evatt**  
Consulting Director

**Jacob Peacock, CPFA**  
Consulting Director

**Jason Purdy**  
I.T. Director

**Molly Halcom**  
Marketing Director

**Philip Schmitt**  
Research Director

**Rachel Brignoni, MHR**  
People & Culture Director

## INVESTMENT POLICY COMMITTEE

**Mike Welker, CFA®**  
**Bryan Bakardjiev, CFA®**  
**Troy Brown, CFA®**  
**Sara Searle**

## CONSULTING

**Annette Bidart**  
**Brad Hess, CFA®, CPFA**  
**Brendon Vavrica, CFP®**  
**Brian Green**  
**Chris Kuhn, CFA®, CAIA®**  
**Christiaan Brokaw, CFA®**  
**Dave West, CFA®**  
**Doug Anderson**  
**Gwelda Swilley**  
**Ian Jones**  
**James Ross**  
**Jeff Kuchta, CFA®, CPFA**  
**Jennifer Brozstek**

**Jennifer Gainfort, CFA®, CPFA**  
**John Mellinger**  
**John Thinnies, CFA®, CAIA®**  
**Jon Breth, CFP®**  
**Justin Lauver, Esq.**  
**Kevin Vandolder, CFA®**  
**Kerry Richardville, CFA®**  
**Mary Nye**  
**Michael Fleiner**  
**Michael Holycross, CIMA®**  
**Mike Bostler**

**Oleg Sydyak, CFA®, FSA, EA**  
**Paul Murray, CPFA**  
**Peter Brown**  
**Tim Nash**  
**Tim Walters**  
**Tony Kay**  
**Tyler Grumbles, CFA®, CIPM®, CAIA®**

## CLIENT SOLUTIONS

**Donna Sullivan**  
**Albert Sauerland**  
**Amy Foster**  
**David Gough, CPFA**  
**Don Delaney**

**Donnell Lehrer, CPFA**  
**Grace Niebrzydowski**  
**James Reno**  
**Jeff Pruniski**  
**Joe Carter, CPFA**

**Julio Garcia Rengifo**  
**Kim Hummel**  
**Meghan Haines**  
**Misha Bell**  
**Yoon Lee-Choi**

## OPERATIONS

**FINANCE**  
**Kahjeelia Pope**  
**Robert Marquetti**

**COMPLIANCE**  
**Allen Caldwell**  
**Thay Arroyo**

**H.R.**  
**Sara Schmedinghoff**

**OPERATIONS**  
**Jerry Camel**

**MARKETING**  
**Dan Osika, CFA®**  
**John Rodak, CIPM®**  
**Kayleigh Greaser**  
**Kim Goodearl**  
**Lauren Kaufmann**

## RESEARCH

**Ben Baldridge, CFA®, CAIA®**  
Private & Hedged Fixed Income

**Chester Wyche**  
Real Estate & Real Assets

**Dan Lomelino, CFA®**  
Fixed Income

**David Julier**  
Real Estate & Real Assets

**Elizabeth Wolfe**  
Capital Markets & Asset Allocation

**Evan Scussel, CFA®, CAIA®**  
Private & Public Equity

**Joseph Ivaszuk**  
Operational Due Diligence

**Josue Christiansen, CFA®, CIPM®**  
Public Equity

**Julie Baker, CFA®, CAIA®**  
Private & Hedged Equity

**Justin Ellsesser, CFA®, CAIA®**  
Private Equity

**Kevin Laake, CFA®, CAIA®**  
Private Equity

**Michael Kosoff**  
Hedge Funds

**Philip Schmitt**  
Fixed Income & Capital Markets

**Ryan McCuskey**  
Real Estate & Real Assets

**Zac Chichinski, CFA®, CIPM®**  
Public Equity



**87**  
EMPLOYEES

**38** ADVANCED  
DEGREES

**23** CFA®

**8** CAIA®

**8** CPFA

**6** CIPM®



## **4th Quarter 2021 Market Environment**



## **The Economy**

- The US economy faced headwinds from the Omicron variant during the quarter which likely had a negative impact on economic growth. Fortunately, despite higher transmission rates, the variant appears to be less likely to result in hospitalizations or significant health risks.
- Even with the variant, the demand for goods and services remained strong during the quarter and market expectations for 4th quarter US GDP growth range from 4% to 7%.
- The US labor market is nearing full employment with the unemployment rate falling to 3.9% in December. The pace of job growth slowed during the quarter with a three-month average of roughly +365,000. Despite the continued improvement in the labor market, workers are continuing to leave their employers in record numbers. This condition means the number of jobs available exceeds the number of unemployed workers. As a result, wage growth remains strong as employers compete to fill job openings.
- Persistently higher inflation readings forced the Fed to announce it was planning to end its bond purchase program earlier than expected. In addition, the Fed's December statement suggested that it could also begin raising short-term interest rates sooner than expected.

## **Equity (Domestic and International)**

- US equities rose to all-time highs during the 4th quarter as investors expressed optimism about future economic growth and continued monetary support from the Fed. Large cap growth was the best performing domestic segment of the equity market relative to other US market capitalizations and styles.
- International equities lagged far behind their US counterparts during the 4th quarter. A key contributor to the muted performance was US dollar strength, which rose against both the Euro and Yen developed market currencies and most emerging market currencies. Emerging markets came under pressure as the Chinese property developer Evergrande defaulted during the quarter.

## **Fixed Income**

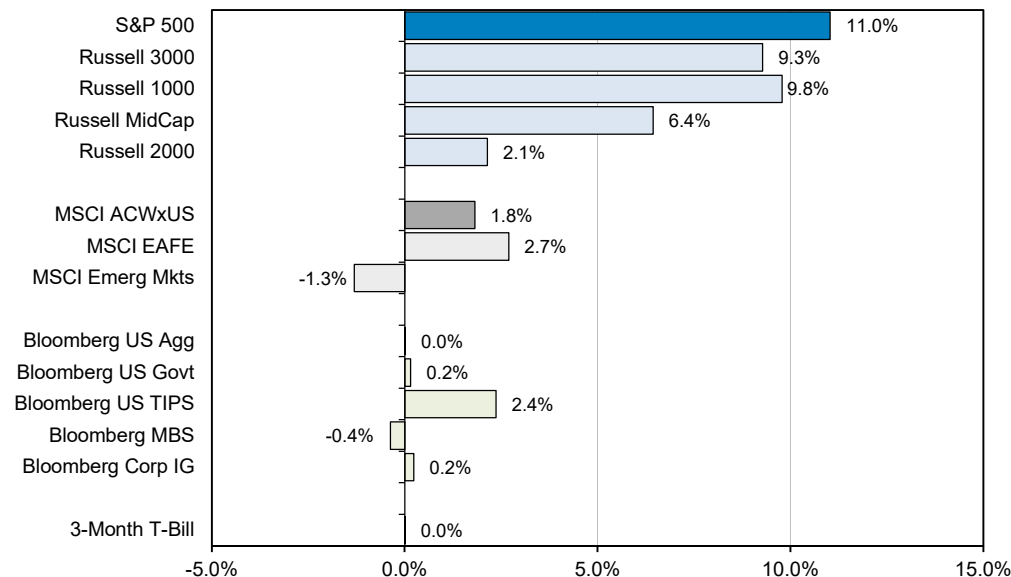
- The combination of concerns related to the potential for rising US interest rates and persistent inflation acted as headwinds for fixed income performance during the quarter. US interest rates moved modestly higher during the quarter with the US 10-Year Treasury bond rising 2 basis points to close at 1.51%.
- Generally, performance across most bond markets sectors was positive during the quarter, led by US high yield corporate bonds and US Treasury Inflation-Protected Securities (TIPS).
- High yield bond's combination of higher coupons and a shorter maturity profile relative to high quality government bonds was the primary driver of their performance during the period.
- TIPS outperformed all other sectors during the quarter. US inflation remained substantially higher than the Fed's stated 2% long-term target average, and as a result, investors' expectations of future inflation increased.

## **Market Themes**

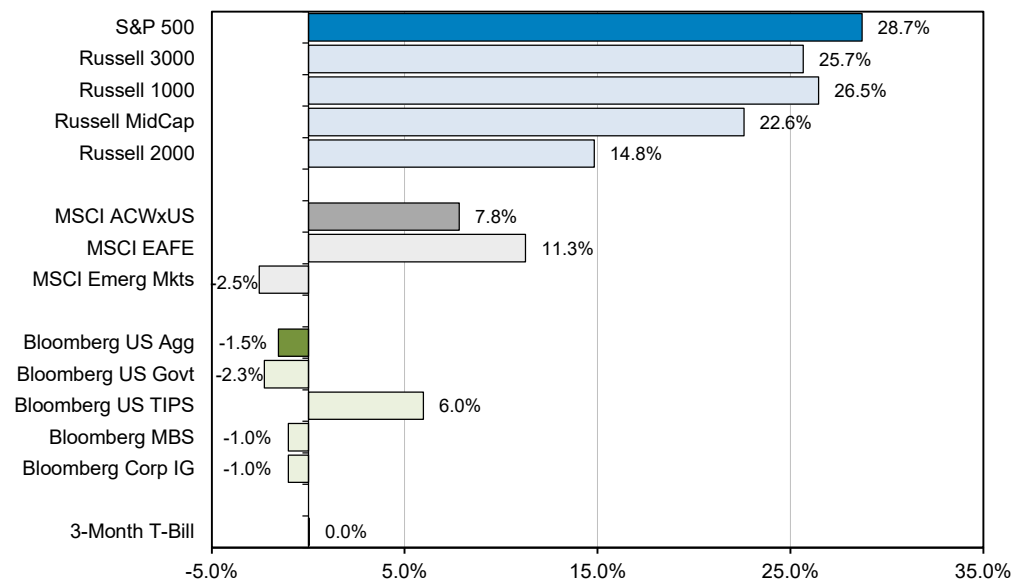
- Global central bank monetary policy diverged somewhat during the quarter as the Fed stated its intention to taper its bond purchases and potentially being raising interest rates in 2022. Both the European Central Bank and the Bank of Japan reiterated their intent to remain accommodative as localized inflation remains low.
- While US economic growth remained strong, overall global economic growth slowed during the quarter primarily due to the rise in pandemic-related cases and shutdowns. It is likely that economic growth could face headwinds in 2022 as central bank stimulus begins to wear off.
- US equity markets – as measured by the S&P 500 Index – experienced their third consecutive year of double-digit positive performance led by large, growth-oriented companies. While equities have historically performed well during periods of rising inflation due to their links with strong economic growth, companies may face headwinds if they are unable to pass along price increases, which would result in lower profit margins.
- Longer-dated fixed income markets were negatively impacted by rising interest rates during the year. Despite the potential for increasing risks due to deteriorating credit conditions, corporate bonds could outperform given their higher coupons and shorter maturity profiles compared to higher quality, longer duration bonds.

- Broad US equity markets experienced strong returns during the 4th quarter of 2021. There were a variety of factors that contributed to performance including improving corporate earnings, increased consumer spending and demand, and continued accommodative monetary support from the Fed. For the period, the S&P 500 large cap benchmark returned 11.0%, compared to 6.4% for the mid-cap and 2.1% for small cap indices.
- Similar to domestic markets, developed market international equities also posted positive results for the 4th quarter, albeit more muted. Europe and the UK were negatively affected by the increase in COVID cases related to the Omicron variant. Emerging markets declined primarily due to concerns related to future economic growth in China and the default of property developer Evergrande. China is the second largest country in the developed market index (9.4%) and its weight dominates the emerging markets index (32.5%). During the period, the MSCI EAFE Index returned of 2.7% while the MSCI Emerging Markets Index declined by -1.3%
- For the quarter, bond market performance was generally muted as concerns about higher interest rates and rising inflation acted as sizable headwinds. The outlier during the period was TIPS, which are highly sensitive to future inflation expectations and posted a return of 2.4%. The Bloomberg Barclays (BB) US Aggregate Index returned 0.0%, for the period, trailing Investment Grade Corporate bonds, which returned 0.2%.
- Developed equity markets were sharply higher over the trailing 1-year period. The combination of Improving economic fundamentals, continued support from the Fed, and improving investor expectations all combined to drive equity markets higher. All broad US equity market indexes traded at near-record levels during the quarter. The S&P 500 large cap stock index led equity market performance for the year with a return of 28.7%. The Russell 2000 small cap index returned a lower, but still strong, 14.8% for the year.
- Over the trailing 1-year period the developed market MSCI EAFE Index return of 11.3% outpaced the MSCI Emerging Markets Index return of -2.5%. While growth in developed markets improved throughout the year, emerging markets were negatively impacted from concerns related to index's dominant country weight to China.
- Bond market returns over the trailing 1-year period were broadly negative as rising interest rates and concerns regarding inflation detracted from performance. TIPS were the lone bright spot in the bond market with the TIPS Index returning 6.0% for the year.

### Quarter Performance



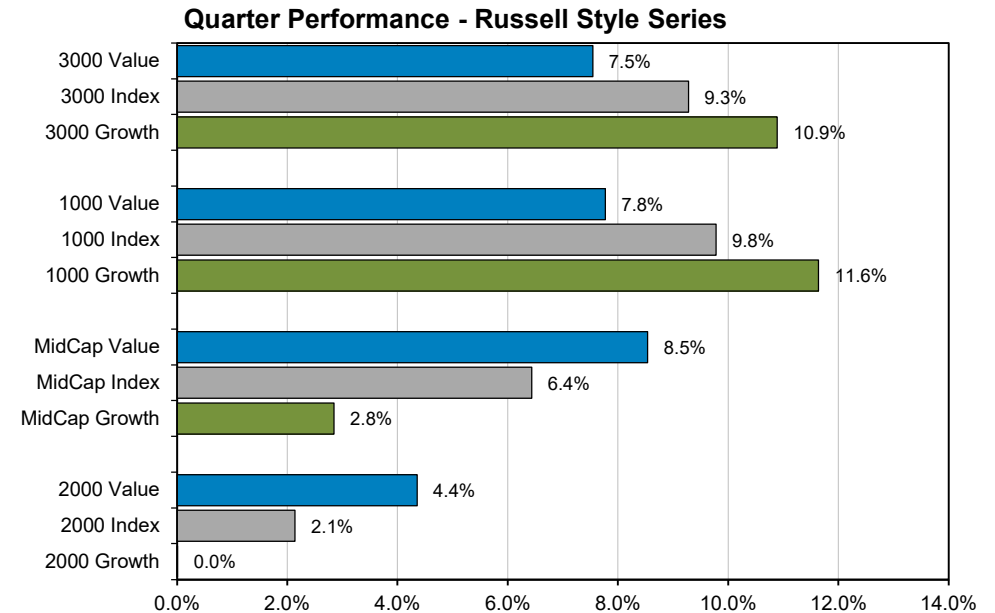
### 1-Year Performance



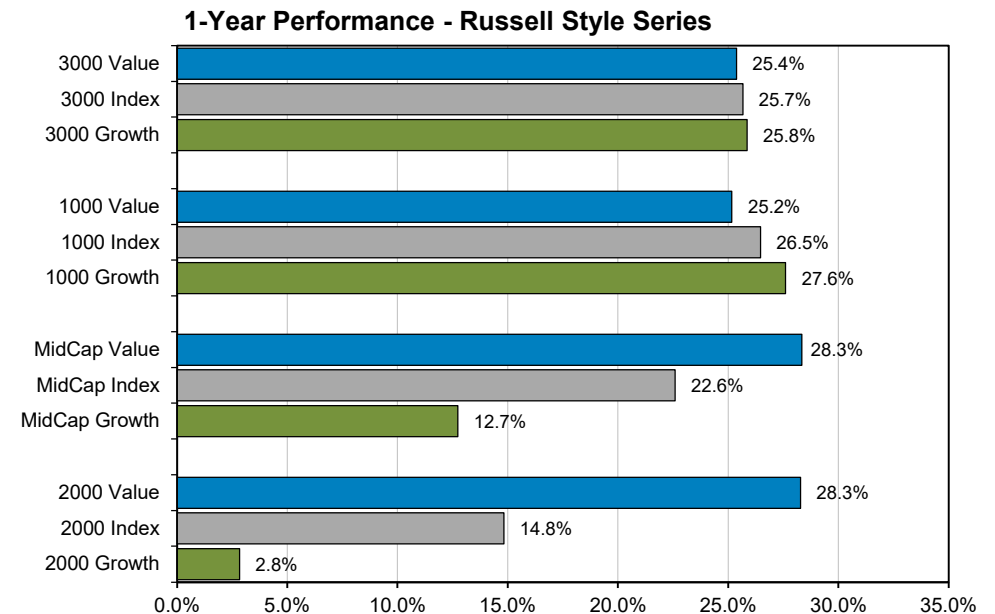
Source: Investment Metrics



- The equity market resumed its solid momentum during the 4th quarter as nearly all US equity benchmarks posted positive returns across both the style and market capitalization spectrums. Large cap stocks continued their leadership followed by mid and small cap issues. The Russell 1000 Index returned a strong 9.8% for the quarter and outpaced a 6.4% return of the Russell Mid Cap Index and a Russell 2000 Index return of 2.1%.
- Performance across styles and market capitalizations was disparate during the quarter. Large cap growth stocks sizably outpaced their value counterparts while mid and small cap value stocks outperformed growth stocks by an even wider margin. For the period, the Russell 1000 Growth Index was the best performing style index, posting a return of 11.6%. Mid cap value index performance was the next best performing segment, returning 8.5% for the quarter. Small cap growth stocks were the laggards during the period with the Russell 2000 Growth Index returning 0.0%.



- Performance across all market capitalizations and styles was broadly robust over the trailing 1-year period. Much like the 4th quarter, the outlier for the year was small cap growth stocks. The Russell 2000 Growth Index return of 2.8% for the year significantly lagged both its mid and large cap growth index counterparts and Russell 2000 Value index return of 28.3%.
- While large cap style returns were relatively similar for the year, there was wide dispersion across mid and small style-based index performance. For the year, the Russell 1000 Growth Index rose by 27.6% compared to a still robust 25.2% return for the Russell 1000 Value Index. Within mid and small cap benchmark performance, value dominated growth by double digits. The Russell 2000 Value Index and Russell Mid Cap Value Index both returned 28.3% for the period. In comparison, the Russell Mid Cap Growth Index returned 12.7%, while the Russell 2000 Growth Index returned only 2.8%.



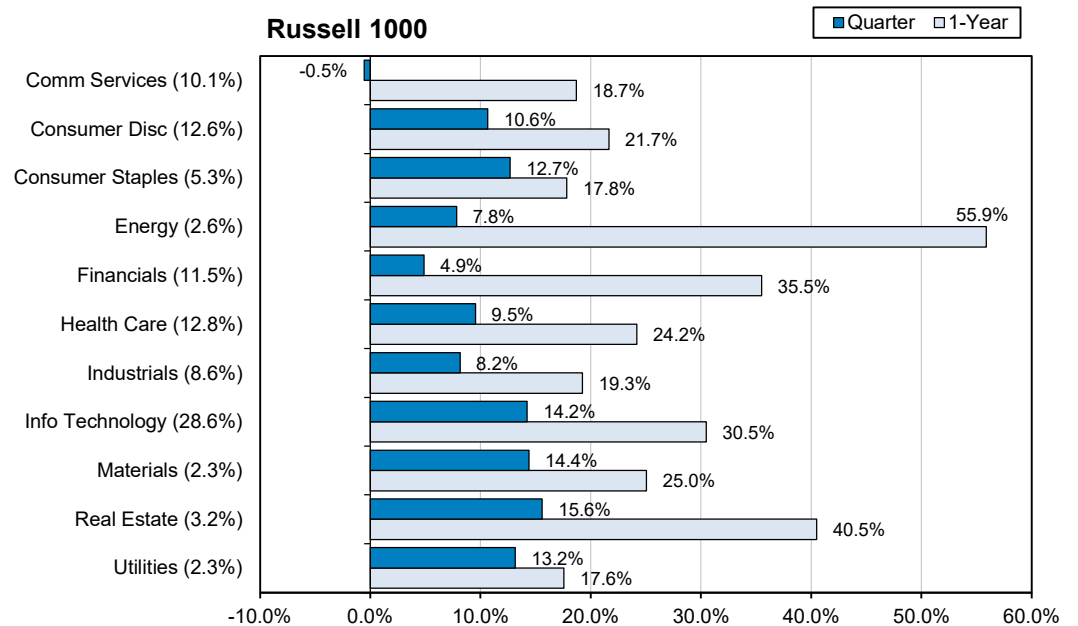
Source: Investment Metrics





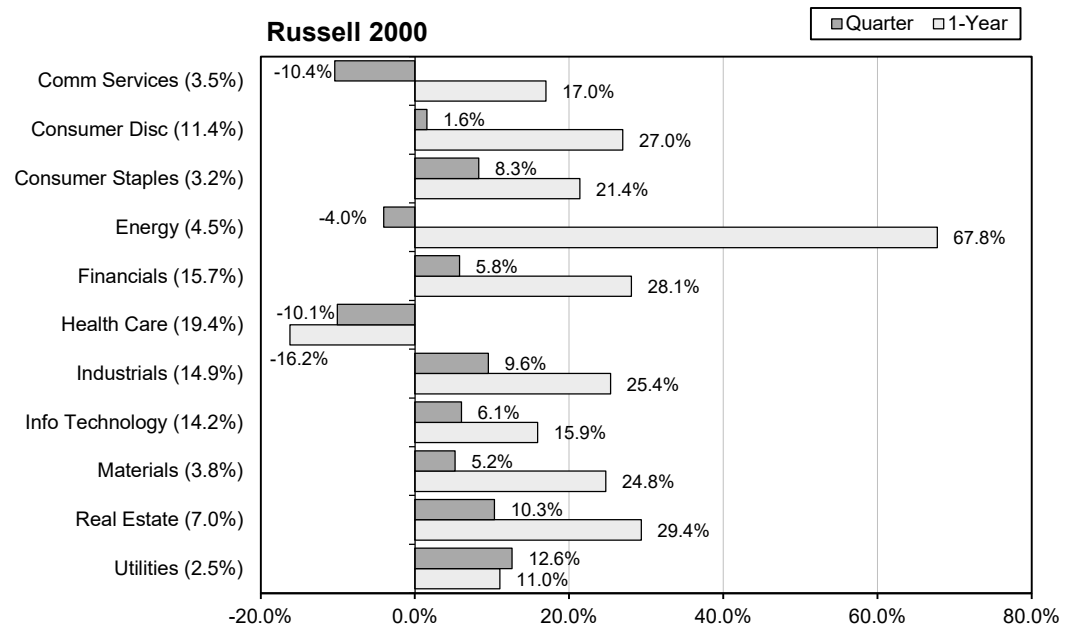
- Economic sector performance was positive across ten of the eleven large cap economic sectors for the 4th quarter. Six sectors outpaced the return of the broad index during the period.
- Economically sensitive sectors like real estate (15.6%), materials (14.4%), information technology (14.2%), and utilities (13.2%) were the best performing sectors for the quarter. In general, companies in sectors with the ability to grow earnings and either guard against, or pass along, inflation experienced the strongest returns. While nearly all sectors experienced positive results, the communication services sector (-0.5%) lagged its peers and was the sole negative performer for the quarter.
- For the full year, four sectors exceeded the return of the broad large cap benchmark: energy (55.9%), real estate (40.5%), financials (35.5%), and information technology (30.5%). The weakest economic sector performance in the Russell 1000 for the year was utilities, which still managed to post a solid return of 17.6%.

**Russell 1000**



- Small cap sector performance was more mixed with eight of the eleven economic sectors posting positive performance for the quarter and seven of them outpacing the return of the broader Russell 2000 Index. Utilities were the best performing sector during the quarter, returning 12.6%. The real estate (10.3%), industrials (9.6%), and consumer staples (8.3%) sectors also performed well during the period.
- For the trailing 1-year period, nine of the eleven sectors outpaced the broad benchmark's return. Outperforming sectors included energy (67.8%), real estate (29.4%), financials (28.1%), consumer discretionary (27.0%), industrials (25.4%), materials (24.8%), consumer staples (21.4%), communication services (17.0%), and information technology (15.9%). The combination of a steadily improving economy, improving corporate fundamentals, easy monetary policy, and rising inflationary pressures were all tailwinds for the robust performance in these sectors.

**Russell 2000**



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 December 31, 2021

Top 10 Weighted Stocks				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Apple Inc	6.11%	25.7%	34.6%	Information Technology
Microsoft Corp	5.65%	19.5%	52.5%	Information Technology
Amazon.com Inc	3.23%	1.5%	2.4%	Consumer Discretionary
Alphabet Inc Class A	1.94%	8.4%	65.3%	Communication Services
Tesla Inc	1.91%	36.3%	49.8%	Consumer Discretionary
Alphabet Inc Class C	1.81%	8.6%	65.2%	Communication Services
Meta Platforms Inc Class A	1.77%	-0.9%	23.1%	Communication Services
NVIDIA Corp	1.57%	42.0%	125.5%	Information Technology
Berkshire Hathaway Inc Class B	1.22%	9.5%	29.0%	Financials
UnitedHealth Group Inc	1.05%	28.9%	45.2%	Health Care

Top 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Arista Networks Inc	0.08%	67.3%	97.9%	Information Technology
Builders FirstSource Inc	0.04%	65.7%	110.0%	Industrials
New Relic Inc	0.01%	53.2%	68.1%	Information Technology
Teradyne Inc	0.06%	49.9%	36.8%	Information Technology
Ciena Corp	0.03%	49.9%	45.6%	Information Technology
ON Semiconductor Corp	0.06%	48.4%	107.5%	Information Technology
Ford Motor Co	0.18%	47.4%	137.5%	Consumer Discretionary
Dollar Tree Inc	0.07%	46.8%	30.1%	Consumer Discretionary
Marvell Technology Inc	0.16%	45.2%	84.6%	Information Technology
Rexford Industrial Realty Inc	0.03%	43.4%	67.8%	Real Estate

Bottom 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Peloton Interactive Inc	0.02%	-58.9%	-76.4%	Consumer Discretionary
Everbridge Inc	0.01%	-55.4%	-54.8%	Information Technology
Chegg Inc	0.01%	-54.9%	-66.0%	Consumer Discretionary
Upstart Holdings Inc Ordinary Shares	0.02%	-52.2%	271.3%	Financials
StoneCo Ltd Class A	0.01%	-51.4%	-79.9%	Information Technology
Vroom Inc Ordinary Shares	0.00%	-51.1%	-73.7%	Consumer Discretionary
Paysafe Ltd Ord Shares - Class A	0.01%	-49.5%	N/A	Information Technology
Virgin Galactic Holdings Inc Shs A	0.01%	-47.1%	-43.6%	Industrials
DraftKings Inc Ord Shares - Class A	0.02%	-43.0%	-41.0%	Consumer Discretionary
DocuSign Inc	0.07%	-40.8%	-31.5%	Information Technology

Top 10 Weighted Stocks				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
AMC Entmt Hldgs Inc Class A	0.47%	-28.5%	1,183.0%	Communication Services
Synaptics Inc	0.38%	61.1%	200.3%	Information Technology
Lattice Semiconductor Corp	0.35%	19.2%	68.2%	Information Technology
EastGroup Properties Inc	0.31%	37.4%	68.4%	Real Estate
BJ's Wholesale Club Holdings Inc	0.31%	21.9%	79.6%	Consumer Staples
Tetra Tech Inc	0.31%	13.8%	47.5%	Industrials
Saia Inc	0.30%	41.6%	86.4%	Industrials
Ovintiv Inc	0.30%	3.0%	138.4%	Energy
Tenet Healthcare Corp	0.29%	23.0%	104.6%	Health Care
WillScot Mobile Mini Holdings Corp	0.29%	28.8%	76.3%	Industrials

Top 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Adicet Bio Inc Ordinary Shares	0.01%	123.1%	24.5%	Health Care
Yellow Corp Ordinary Shares	0.02%	122.9%	184.3%	Industrials
R.R.Donnelley & Sons Co	0.03%	119.1%	398.2%	Industrials
ChemoCentryx Inc	0.07%	112.9%	-41.2%	Health Care
iRhythm Technologies Inc	0.12%	101.0%	-50.4%	Health Care
BlueLinx Holdings Inc	0.03%	95.9%	227.3%	Industrials
Kezar Life Sciences Inc	0.02%	93.5%	220.3%	Health Care
Alpha & Omega Semiconductor Ltd	0.04%	93.1%	156.2%	Information Technology
Protagonist Therapeutics Inc	0.05%	93.0%	69.6%	Health Care
Clearfield Inc	0.03%	91.2%	241.5%	Information Technology

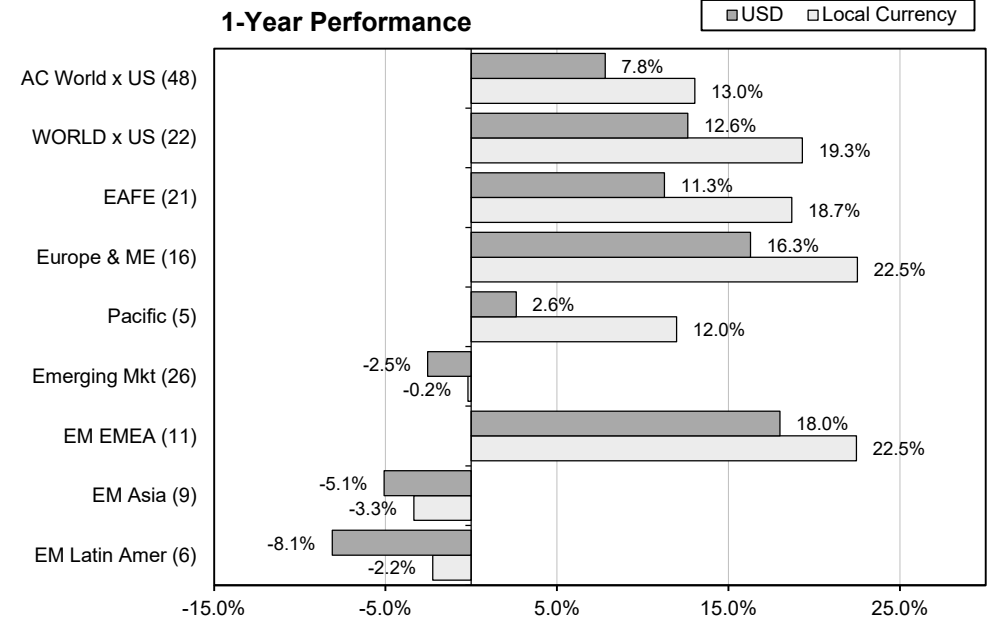
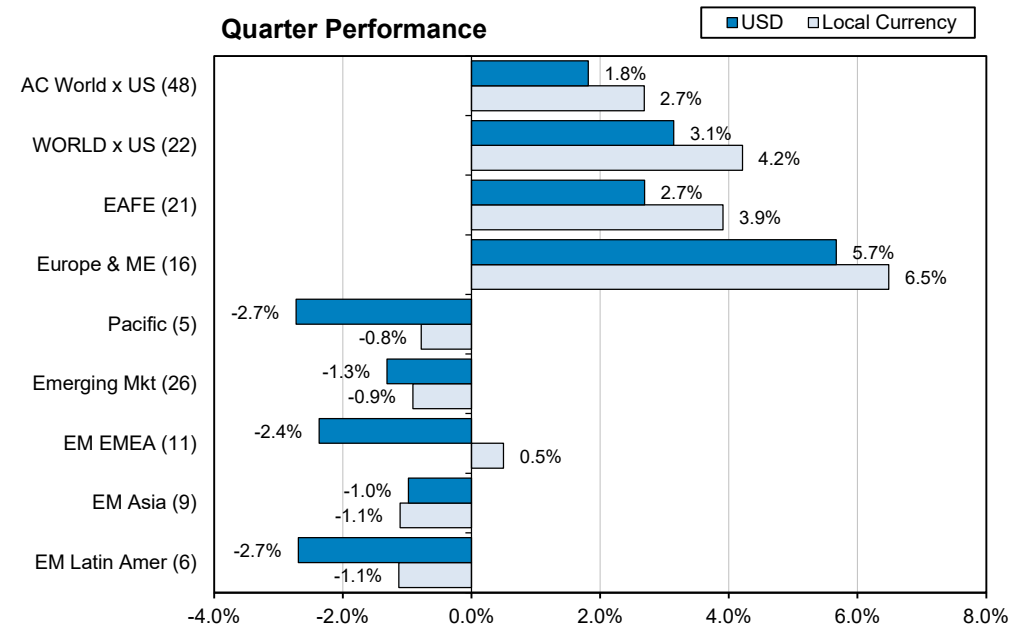
Bottom 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Allakos Inc	0.01%	-90.8%	-93.0%	Health Care
Cortextyme Inc	0.01%	-86.2%	-54.6%	Health Care
Rafael Hldgs Inc Ord Shares - B	0.00%	-83.4%	-78.1%	Real Estate
Adagio Therapeutics Inc Ord Shares	0.01%	-82.8%	N/A	Health Care
Atea Pharmaceuticals Inc Ord Shs	0.02%	-74.5%	-78.6%	Health Care
Eros STX Global Corp	0.00%	-73.9%	-86.8%	Communication Services
Reata Pharmaceuticals Inc A	0.02%	-73.8%	-78.7%	Health Care
Generation Bio Co Ordinary Shares	0.01%	-71.8%	-75.0%	Health Care
BeyondSpring Inc	0.00%	-71.3%	-62.9%	Health Care
Deciphera Pharmaceuticals Inc	0.01%	-71.2%	-82.9%	Health Care

Source: Morningstar Direct



- Most developed market international equity indexes tracked in the chart posted positive returns in both US dollar (USD) and local currency terms for the 4th quarter. The provincial outlier during the period was the Pacific region which declined during the period on concerns about China and the country's future economic growth. The developed market MSCI EAFE Index returned 2.7% in USD and 3.9% in local currency (LC) terms for the period, while the MSCI Emerging Markets Index declined by -1.3% in USD and -0.9% in local currency terms.

- The trailing 1-year results for international developed markets were positive across all regions and currencies. The MSCI EAFE Index returned 11.3% in USD for the year and 18.7% in LC. Returns across emerging markets were more polarized by geography. While the MSCI Emerging Markets Index returned -2.5% in USD and -0.2% in LC, the EMEA (Europe, Middle East, and Africa) regional index's return of 18.0% in USD and 22.5% in LC, rivaled developed regional benchmark performance. In contrast, performance within the Latin America and Asia regional benchmarks detracted from emerging market index performance with the EM Latin America Index returning -8.1% in USD and -2.2% in LC, while EM Asia posted a return of -5.1% in USD and -3.3% in LC.



Source: MSCI Global Index Monitor (Returns are Net)

**The Market Environment**  
**US Dollar International Index Attribution & Country Detail**  
As of December 31, 2021

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	4.5%	-5.6%	-5.7%
Consumer Discretionary	12.5%	2.9%	10.7%
Consumer Staples	10.3%	5.2%	7.3%
Energy	3.4%	-0.5%	22.9%
Financials	16.9%	1.2%	16.6%
Health Care	12.8%	3.0%	8.6%
Industrials	16.2%	2.6%	13.6%
Information Technology	9.7%	3.8%	20.9%
Materials	7.6%	5.9%	10.4%
Real Estate	2.8%	-0.5%	4.1%
Utilities	3.4%	8.8%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>2.7%</b>	<b>11.3%</b>

MSCI - ACWIxUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	6.1%	-2.8%	-6.9%
Consumer Discretionary	12.1%	-0.9%	-6.0%
Consumer Staples	8.6%	3.8%	5.3%
Energy	4.8%	-0.4%	26.0%
Financials	19.2%	1.9%	16.4%
Health Care	9.4%	0.1%	3.7%
Industrials	12.6%	2.6%	12.9%
Information Technology	13.6%	5.2%	15.4%
Materials	8.1%	3.6%	9.7%
Real Estate	2.4%	-2.3%	-2.2%
Utilities	3.1%	6.8%	3.1%
<b>Total</b>	<b>100.0%</b>	<b>1.8%</b>	<b>7.8%</b>

MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	10.7%	-0.5%	-9.1%
Consumer Discretionary	13.5%	-8.2%	-29.1%
Consumer Staples	5.9%	-2.1%	-4.9%
Energy	5.6%	-3.8%	21.0%
Financials	19.4%	-0.4%	8.2%
Health Care	4.2%	-15.4%	-19.8%
Industrials	5.1%	-0.3%	8.4%
Information Technology	22.7%	7.4%	9.9%
Materials	8.6%	-2.9%	9.3%
Real Estate	2.0%	-8.5%	-21.8%
Utilities	2.4%	0.7%	12.4%
<b>Total</b>	<b>100.0%</b>	<b>-1.3%</b>	<b>-2.5%</b>

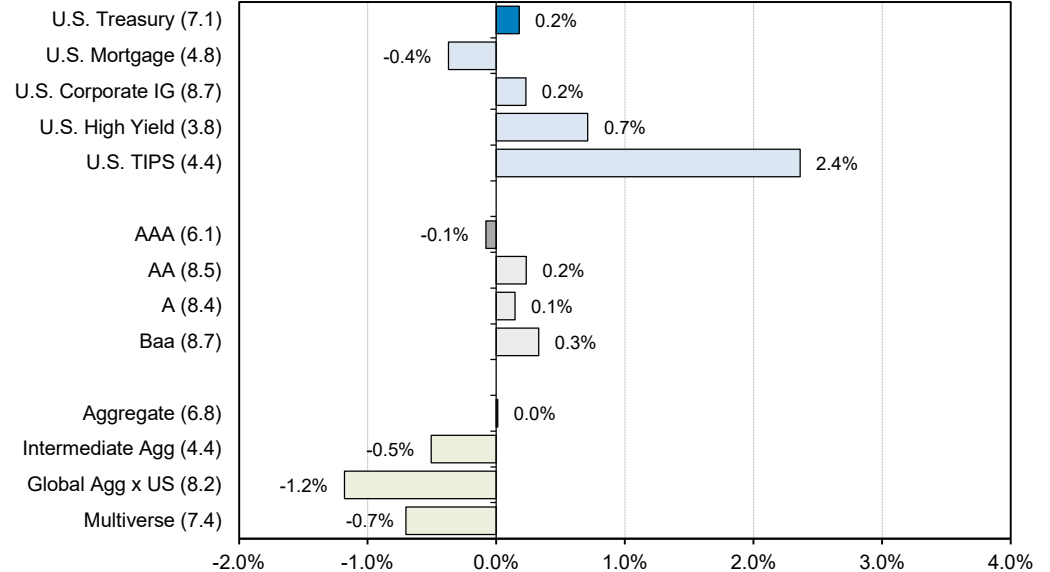
Country	MSCI-EAFE Weight	MSCI-ACWIxUS Weight	Quarter Return	1-Year Return
Japan	22.5%	14.3%	-4.0%	1.7%
United Kingdom	14.6%	9.3%	5.6%	18.5%
France	11.7%	7.5%	7.1%	19.5%
Switzerland	10.5%	6.7%	12.8%	19.3%
Germany	8.9%	5.6%	0.8%	5.3%
Australia	6.9%	4.4%	2.1%	9.4%
Netherlands	4.9%	3.1%	3.5%	27.6%
Sweden	4.0%	2.5%	6.1%	21.9%
Hong Kong	2.8%	1.8%	-3.6%	-3.9%
Denmark	2.7%	1.7%	5.8%	19.1%
Italy	2.5%	1.6%	5.6%	15.0%
Spain	2.2%	1.4%	-1.4%	1.4%
Singapore	1.2%	0.8%	-3.4%	5.7%
Finland	1.0%	0.7%	3.0%	9.0%
Belgium	0.9%	0.6%	1.7%	2.2%
Israel	0.7%	0.5%	7.0%	15.2%
Ireland	0.7%	0.4%	0.6%	8.5%
Norway	0.7%	0.4%	-0.3%	22.0%
Austria	0.2%	0.2%	5.2%	41.5%
New Zealand	0.2%	0.1%	-4.0%	-17.1%
Portugal	0.2%	0.1%	1.9%	0.2%
<b>Total EAFE Countries</b>	<b>100.0%</b>	<b>63.6%</b>	<b>2.7%</b>	<b>11.3%</b>
Canada		7.5%	7.2%	26.0%
<b>Total Developed Countries</b>		<b>71.1%</b>	<b>3.1%</b>	<b>12.6%</b>
China		9.4%	-6.1%	-21.7%
Taiwan		4.7%	8.4%	26.1%
Korea		3.7%	-0.9%	-8.4%
India		3.6%	-0.2%	26.2%
Brazil		1.2%	-6.5%	-17.4%
Russia		1.0%	-9.2%	19.0%
Saudi Arabia		1.0%	-0.7%	37.7%
South Africa		0.9%	-0.5%	3.6%
Mexico		0.6%	6.2%	22.5%
Thailand		0.5%	3.0%	-1.4%
Indonesia		0.4%	6.4%	2.1%
Malaysia		0.4%	1.8%	-6.2%
United Arab Emirates		0.3%	10.3%	50.2%
Poland		0.2%	-2.4%	8.5%
Qatar		0.2%	2.6%	15.2%
Philippines		0.2%	3.7%	-3.9%
Kuwait		0.2%	2.3%	30.9%
Chile		0.1%	-10.5%	-17.3%
Hungary		0.1%	-9.7%	12.1%
Turkey		0.1%	-11.2%	-28.4%
Peru		0.1%	10.4%	-19.9%
Greece		0.1%	-3.6%	8.0%
Colombia		0.1%	-2.7%	-13.8%
Czech Republic		0.0%	12.3%	55.0%
Egypt		0.0%	18.3%	7.5%
Argentina		0.0%	-0.4%	21.0%
Pakistan		0.0%	-2.7%	-24.9%
<b>Total Emerging Countries</b>		<b>28.9%</b>	<b>-1.3%</b>	<b>-2.5%</b>
<b>Total ACWIxUS Countries</b>		<b>100.0%</b>	<b>1.8%</b>	<b>7.8%</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.

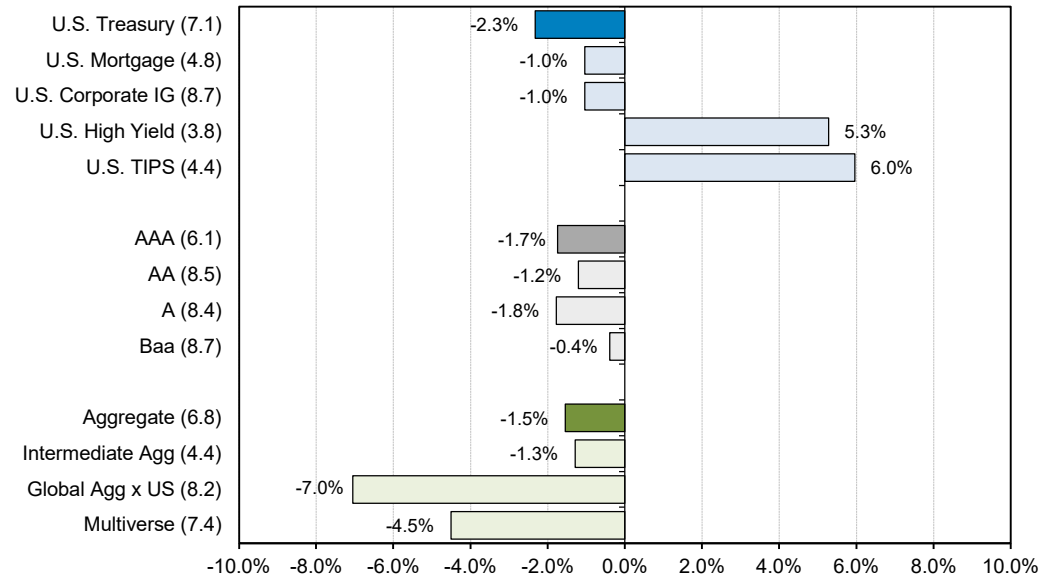


- Fixed income market results were mixed during the 4th quarter. While the Fed remained supportive with bond purchases, concerns about rising inflation and potentially higher interest rates detracted from performance. US Treasury yields were mixed across the maturity curve but remained low.
- The return for the Bloomberg US Aggregate Bond Index, the bellwether investment grade benchmark, was flat for the period at 0.0%.
- Performance across the investment grade index's segments was mixed during the period with the US Corporate Investment Grade bonds returning 0.2% while the US Mortgage index component fell -0.4%.
- US TIPS posted the quarter's strongest bond performance with a return of 2.4%. High yield issues were also positive, posting a return of 0.7%.
- Outside of domestic markets, the BB Global Aggregate ex US Index posted a return of -1.2% for the quarter. Like international stocks, global bond index performance was negatively impacted by the strengthening USD, which acted as a drag on domestic index returns.
- Over the trailing 1-year period, domestic investment grade benchmark performance was skewed lower by higher quality government bonds (-2.3%) as well as negative performance from investment grade corporate (-1.0%) and mortgage-backed (-1.0%) bonds. Aided by higher inflation, only US TIPS managed to generate positive returns during the year with a return of 6.0%. The bellwether Bloomberg US Aggregate Bond Index declined by -1.5% for the year.
- Lower quality high yield bonds delivered solid performance during the year supported by both higher coupons and a lower maturity profile, which acted as tailwinds. The Bloomberg US High Yield Index returned of 5.3% for the period.
- Performance for non-US bonds was broadly negative for the year with the developed market Bloomberg Global Aggregate ex US Index declining by -7.0%. The combination of rising interest rates overseas, a longer maturity profile, and USD strength for the year hindered index performance.

#### Quarter Performance



#### 1-Year Performance

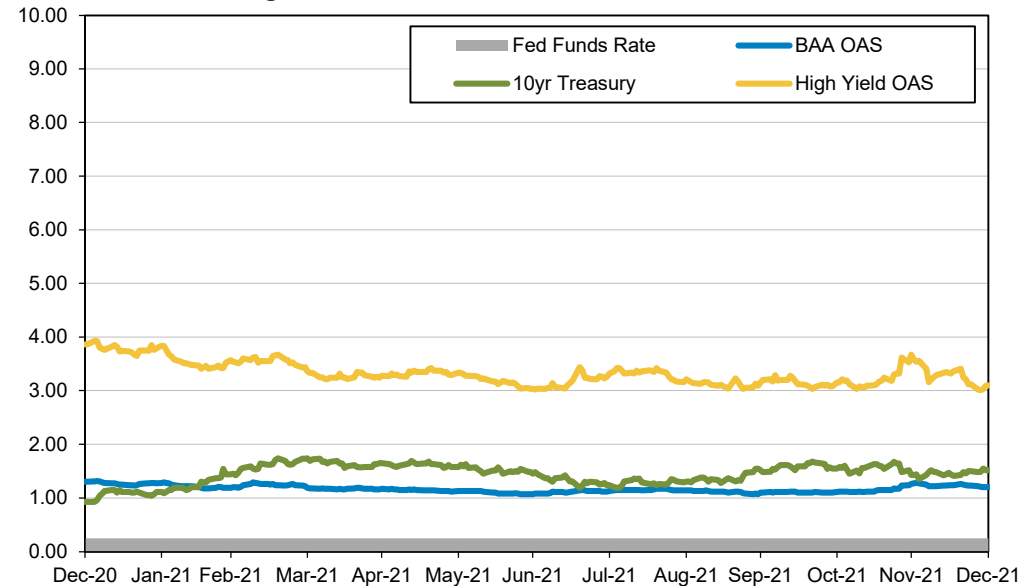


Source: Bloomberg

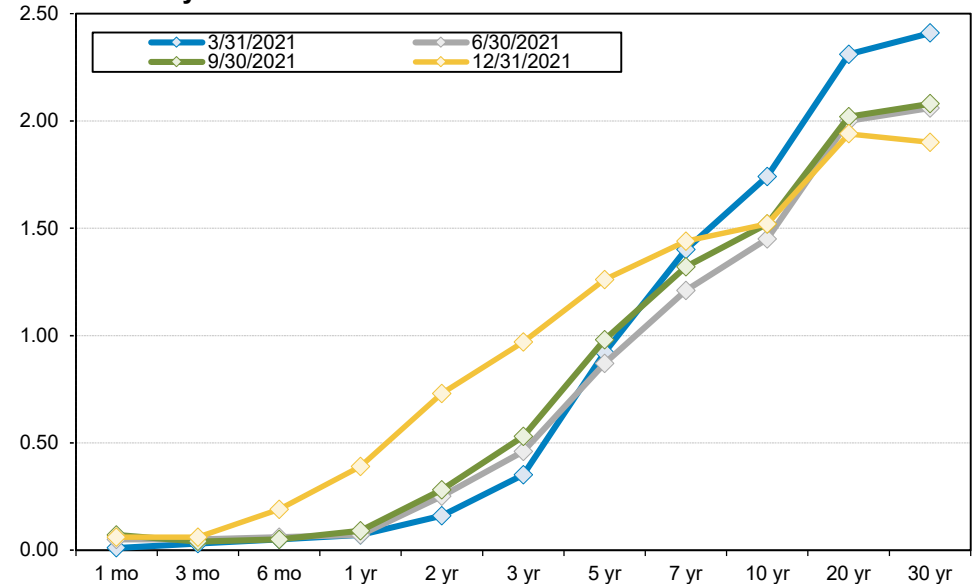


- The gray band across the graph illustrates the range of the current Fed Funds Rate. Over the past year, the Fed's target rate range has remained unchanged at 0.00% to 0.25%. During its recent December meeting, the Federal Open Market Committee (FOMC) stated its intent to keep interest rates unchanged in the near-term, while also signaling that it would end its bond purchase program earlier than expected and foreshadowing that interest rates could begin to rise early next year.
- The yield on the US 10-year Treasury (green line) ended the year higher as economic growth accelerated in anticipation of the Fed beginning the process of normalizing interest rates. After reaching a high of 1.74% during the 1st quarter of 2021, interest rates traded within a narrow range for the remainder of the year. The yield on the US 10-year Treasury was 1.52% on December 31st.
- 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 narrowed slightly from 1.30% to 1.21%. A narrowing of the premium measured by the High Yield OAS showed investors' willingness to take on credit risk during the year as the spread tightened from 3.86% to 3.10% over the course of the year.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four quarters. While short-term rates are largely pinned to the Fed Funds Rate, beginning in the 1st quarter of 2021, intermediate-term interest rates began to move higher as investors' expectations for higher future interest rates increased. In contrast, longer-term interest rates declined throughout the year over concerns that future economic growth may slow due to rising interest rates.

**1-Year Trailing Market Rates**



**Treasury Yield Curve**



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

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## Annual Asset Class Performance

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	YTD
Best	MSCI Emerging Mkts (Net) 39.4 %	Blmbg Barc US Agg 5.2 %	MSCI Emerging Mkts (Net) 78.5 %	Russell 2000 Growth 29.1 %	NCREIF ODCE (EW) (Net) 15.0 %	MSCI Emerging Mkts (Net) 18.2 %	Russell 2000 Growth 43.3 %	S&P 500 13.7 %	NCREIF ODCE (EW) (Net) 14.2 %	Russell 2000 Value 31.7 %	MSCI Emerging Mkts (Net) 37.3 %	NCREIF ODCE (EW) (Net) 7.3 %	Russell 1000 Growth 36.4 %	Russell 1000 Growth 38.5 %	S&P 500 28.7 %
	NCREIF ODCE (EW) (Net) 15.0 %	Blmbg Barc Global Agg Ex USD 4.4 %	Blmbg Barc US Corp High Yield 58.2 %	Russell 2000 Value 24.5 %	Blmbg Barc US Agg 7.8 %	Russell 2000 Value 18.1 %	Russell 2000 Value 34.5 %	Russell 1000 Value 13.5 %	Russell 1000 Growth 5.7 %	Russell 1000 Value 17.3 %	Russell 1000 Growth 30.2 %	Blmbg Barc US Agg 0.0 %	S&P 500 31.5 %	Russell 2000 Growth 34.6 %	Russell 2000 Value 28.3 %
	Russell 1000 Growth 11.8 %	NCREIF ODCE (EW) (Net) -11.1 %	Russell 1000 Growth 37.2 %	MSCI Emerging Mkts (Net) 18.9 %	Blmbg Barc US Corp High Yield 5.0 %	Russell 1000 Value 17.5 %	Russell 1000 Growth 33.5 %	Russell 1000 Growth 13.1 %	S&P 500 1.4 %	Blmbg Barc US Corp High Yield 17.1 %	MSCI EAFE (Net) 25.0 %	Russell 1000 Growth -1.5 %	Russell 2000 Growth 28.5 %	S&P 500 18.4 %	Russell 1000 Growth 27.6 %
	MSCI EAFE (Net) 11.2 %	Strategic Policy -23.5 %	Russell 2000 Growth 34.5 %	Russell 1000 Growth 16.7 %	Blmbg Barc Global Agg Ex USD 4.4 %	MSCI EAFE (Net) 17.3 %	Russell 1000 Value 32.5 %	NCREIF ODCE (EW) (Net) 11.4 %	Blmbg Barc US Agg 0.5 %	S&P 500 12.0 %	Russell 2000 Growth 22.2 %	Blmbg Barc US Corp High Yield -2.1 %	Russell 1000 Value 26.5 %	MSCI Emerging Mkts (Net) 18.3 %	Russell 1000 Value 25.2 %
	Blmbg Barc Global Agg Ex USD 11.0 %	Blmbg Barc US Corp High Yield -26.2 %	MSCI EAFE (Net) 31.8 %	Russell 1000 Value 15.5 %	Russell 1000 Growth 2.6 %	S&P 500 16.0 %	S&P 500 32.4 %	Strategic Policy 6.2 %	MSCI EAFE (Net) -0.8 %	Russell 2000 Growth 11.3 %	S&P 500 21.8 %	Blmbg Barc Global Agg Ex USD -2.1 %	Russell 2000 Value 22.4 %	Strategic Policy 10.8 %	NCREIF ODCE (EW) (Net) 21.9 %
	Strategic Policy 7.2 %	Russell 2000 Value -28.9 %	S&P 500 26.5 %	Blmbg Barc US Corp High Yield 15.1 %	S&P 500 2.1 %	Blmbg Barc US Corp High Yield 15.8 %	MSCI EAFE (Net) 22.8 %	Blmbg Barc US Agg 6.0 %	Russell 2000 Growth -1.4 %	MSCI Emerging Mkts (Net) 11.2 %	Strategic Policy 13.8 %	S&P 500 -4.4 %	MSCI EAFE (Net) 22.0 %	Blmbg Barc Global Agg Ex USD 10.1 %	Strategic Policy 13.9 %
	Russell 2000 Growth 7.0 %	Russell 1000 Value -36.8 %	Russell 2000 Value 20.6 %	NCREIF ODCE (EW) (Net) 15.1 %	Strategic Policy 0.7 %	Russell 1000 Growth 15.3 %	Strategic Policy 14.6 %	Russell 2000 Growth 5.6 %	Strategic Policy -1.9 %	NCREIF ODCE (EW) (Net) 8.4 %	Russell 1000 Value 13.7 %	Strategic Policy -5.8 %	MSCI Emerging Mkts (Net) 18.4 %	MSCI EAFE (Net) 7.8 %	MSCI EAFE (Net) 11.3 %
	Blmbg Barc US Agg 7.0 %	S&P 500 -37.0 %	Strategic Policy 20.4 %	S&P 500 15.1 %	Russell 1000 Value 0.4 %	Russell 2000 Growth 14.6 %	NCREIF ODCE (EW) (Net) 12.4 %	Russell 2000 Value 4.2 %	Russell 1000 Value -3.8 %	Strategic Policy 7.9 %	Blmbg Barc Global Agg Ex USD 10.5 %	Russell 1000 Value -8.3 %	Strategic Policy 17.9 %	Blmbg Barc US Agg 7.5 %	Blmbg Barc US Corp High Yield 5.3 %
	S&P 500 5.5 %	Russell 1000 Growth -38.4 %	Russell 1000 Value 19.7 %	Strategic Policy 12.0 %	Russell 2000 Growth -2.9 %	Strategic Policy 12.1 %	Blmbg Barc US Corp High Yield 7.4 %	Blmbg Barc US Corp High Yield 2.5 %	Blmbg Barc US Corp High Yield -4.5 %	Russell 1000 Growth 7.1 %	Russell 2000 Value 7.8 %	Russell 2000 Growth -9.3 %	Blmbg Barc US Corp High Yield 14.3 %	Blmbg Barc US Corp High Yield 7.1 %	Russell 2000 Growth 2.8 %
	Blmbg Barc US Corp High Yield 1.9 %	Russell 2000 Growth -38.5 %	Blmbg Barc Global Agg Ex USD 7.5 %	MSCI EAFE (Net) 7.8 %	Russell 2000 Value -5.5 %	NCREIF ODCE (EW) (Net) 9.9 %	Blmbg Barc US Agg -2.0 %	MSCI Emerging Mkts (Net) -2.2 %	Blmbg Barc Global Agg Ex USD -6.0 %	Blmbg Barc US Agg 2.6 %	Blmbg Barc US Corp High Yield 7.5 %	Russell 2000 Value -12.9 %	Blmbg Barc US Agg 8.7 %	Russell 2000 Value 4.6 %	Blmbg Barc US Agg -1.5 %
	Russell 1000 Value -0.2 %	MSCI EAFE (Net) -43.4 %	Blmbg Barc US Agg 5.9 %	Blmbg Barc US Agg 6.5 %	MSCI EAFE (Net) -12.1 %	Blmbg Barc US Agg 4.2 %	MSCI Emerging Mkts (Net) -2.6 %	Blmbg Barc Global Agg Ex USD -3.1 %	Russell 2000 Value -7.5 %	Blmbg Barc Global Agg Ex USD 1.5 %	NCREIF ODCE (EW) (Net) 6.9 %	MSCI EAFE (Net) -13.8 %	NCREIF ODCE (EW) (Net) 5.2 %	Russell 1000 Value 2.8 %	MSCI Emerging Mkts (Net) -2.5 %
Worst	Russell 2000 Value -9.8 %	MSCI Emerging Mkts (Net) -53.3 %	NCREIF ODCE (EW) (Net) -31.3 %	Blmbg Barc Global Agg Ex USD 4.9 %	MSCI Emerging Mkts (Net) -18.4 %	Blmbg Barc Global Agg Ex USD 4.1 %	Blmbg Barc Global Agg Ex USD -3.1 %	MSCI EAFE (Net) -4.9 %	MSCI Emerging Mkts (Net) -14.9 %	MSCI EAFE (Net) 1.0 %	Blmbg Barc US Agg 3.5 %	MSCI Emerging Mkts (Net) -14.6 %	Blmbg Barc Global Agg Ex USD 5.1 %	NCREIF ODCE (EW) (Net) 0.8 %	Blmbg Barc Global Agg Ex USD -7.1 %



## **Executive Summary**

HIGHLIGHTS

Winners for the recent quarter

- S&P 500 +11.0%
- Russell 1000 +9.8%
- Russell 3000 +9.3%

Losers for the recent quarter

- MSCI EM -1.3%
- Bloomberg MBS -0.4%

Areas of strength for the recent quarter

- Domestic Equity
- International Markets

Winners for the trailing year

- S&P 500 +28.7%
- Russell 1000 +26.5%
- Russell 3000 +25.7%

Losers for the trailing year

- Bloomberg US Govt -2.3%
- Bloomberg US Agg -1.5%

Areas of strength for the trailing year

- Domestic Equity
- International Markets

COMMENTARY

• Allocation to equities ended the quarter at 55.7%, inside the target range of 45%-65%. Market value for the **Total Fund** was \$1.44 billion by quarter-end versus \$1.40 Billion in the previous quarter. The Total Fund posted a 4.20% return for the trailing quarter and +14.04% for the trailing 12 months. The Total Fund outperformed the Policy Index by 37 bps for the quarter and overperformed its Policy Index by 351 bps over the trailing year. Versus the Strategic Index, the Total Fund overperformed by 19 bps for the quarter and underperformed by 19 bps for the trailing year.

• The **Total Fund** ranked in the 50<sup>th</sup> percentile in the peer universe for the quarter and 42<sup>nd</sup> percentile over the last 12 months.

• The **Global Equity Composite** returned +6.18% for the quarter, outperforming the index by 8 bps and ranking in the 45<sup>th</sup> percentile versus peers. Over the trailing 12 months, the portfolio returned +18.95%, outperforming the benchmark by 73 bps and ranking in the 45<sup>th</sup> percentile of the peer universe.

• The **Fixed Income Composite** returned -0.05% for the quarter, underperforming the Bloomberg Barclays U.S. Aggregate by 6 bps. Over the trailing 12 months, the composite returned -1.21% and outperformed the Index by 34 bps.

• The **Real Estate Composite** returned +8.70% for the quarter and +18.65% for the trailing 12 months.

• The **MLP Composite** returned +2.31% for the quarter, overperforming the index by 176 bps and ranking in the 15<sup>th</sup> percentile versus peers. For the trailing year, the composite has returned +41.07% and has overperformed the benchmark by 90 bps, ranking in the 34<sup>th</sup> percentile versus peers. Since inception, the MLP Composite is ahead of its Alerian MLP Index benchmark by 363 bps and has returned +1.39%.



ACTIVITY FOR THE QUARTER

Raise cash for benefit payments:

October 2021

Harvest - \$5,390,000  
To cash \$6,800,000

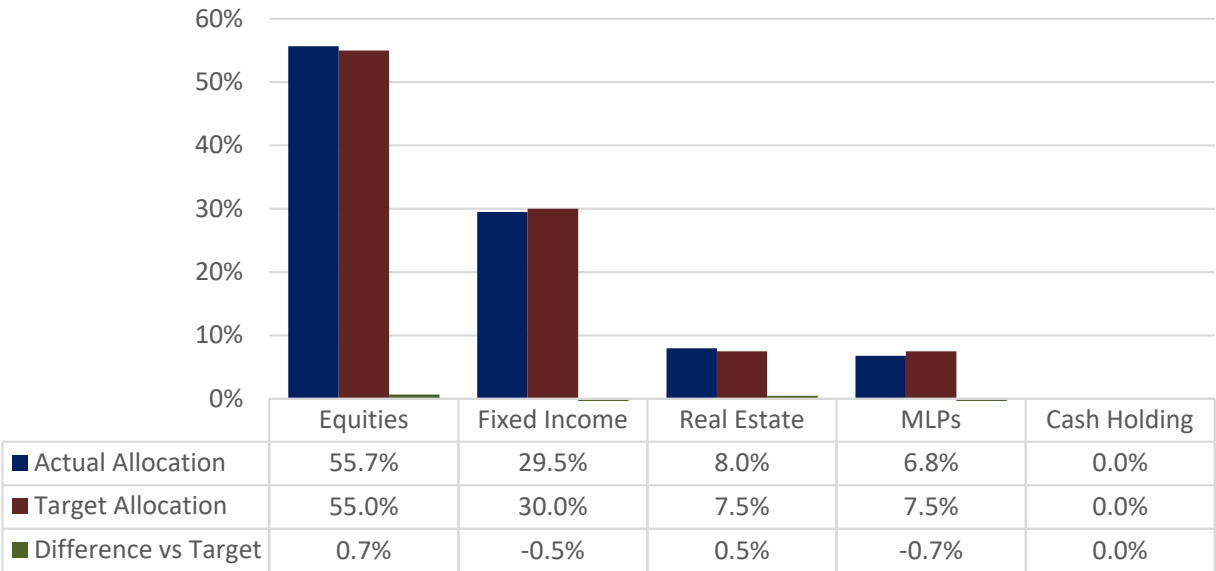
November 2021

Harvest - \$7,100,000  
To cash \$7,332,000

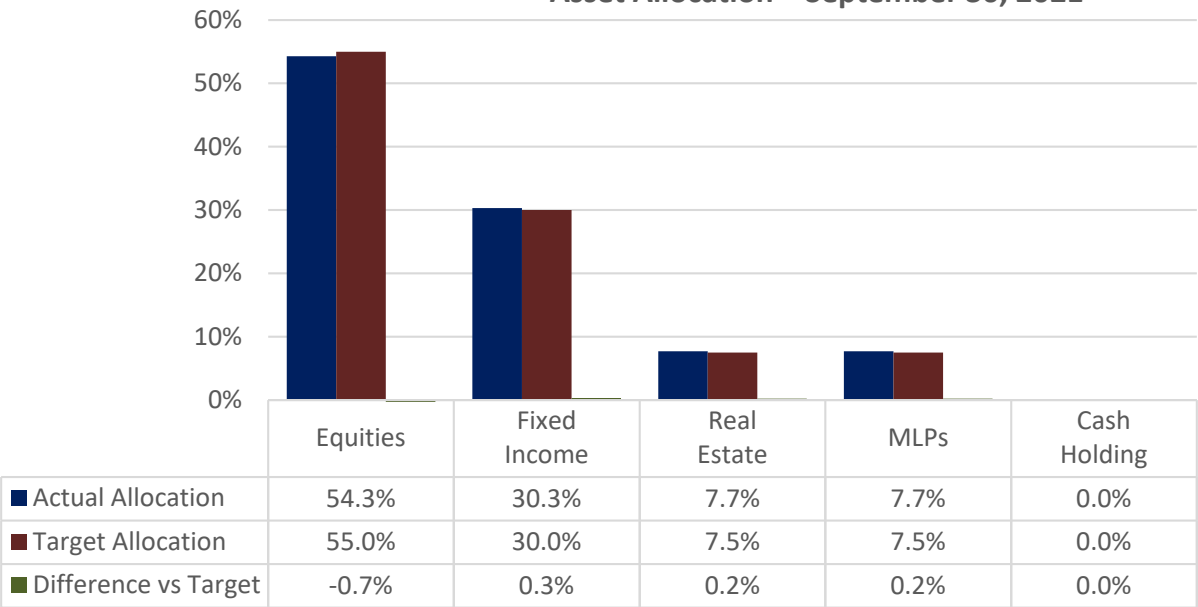
December 2021

SSgA MSCI ACWI IMI - \$7,498,000  
To cash \$7,500,000

Asset Allocation – December 31, 2021

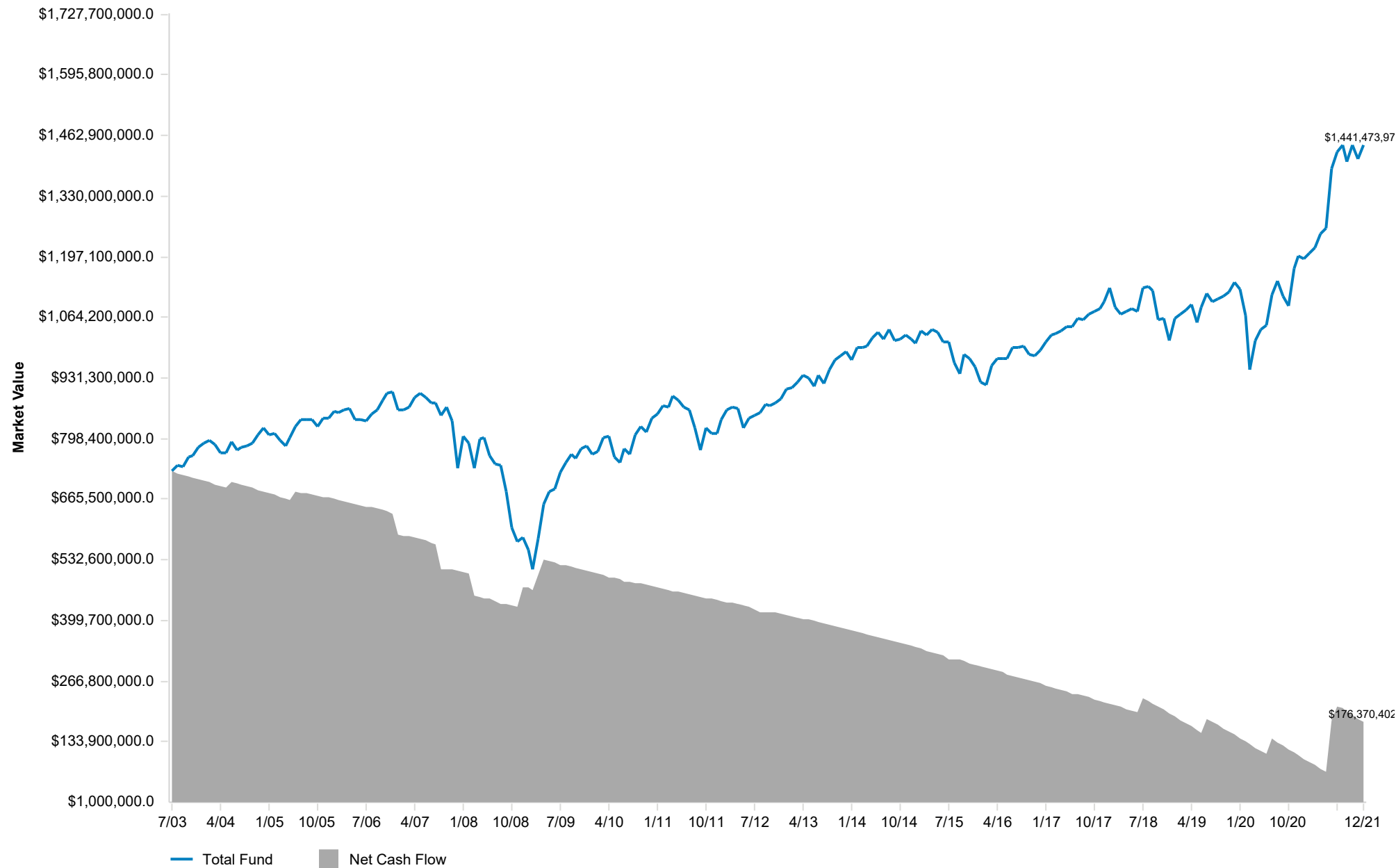


Asset Allocation – September 30, 2021

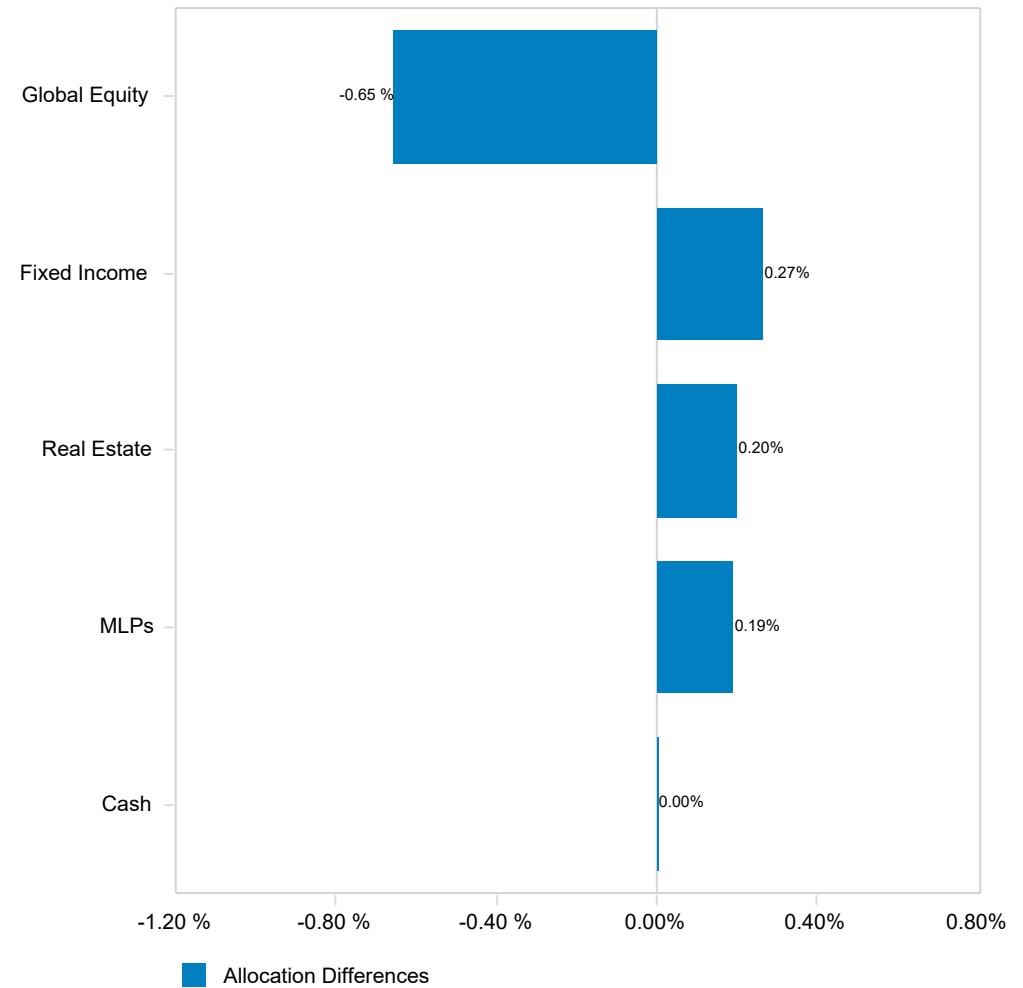
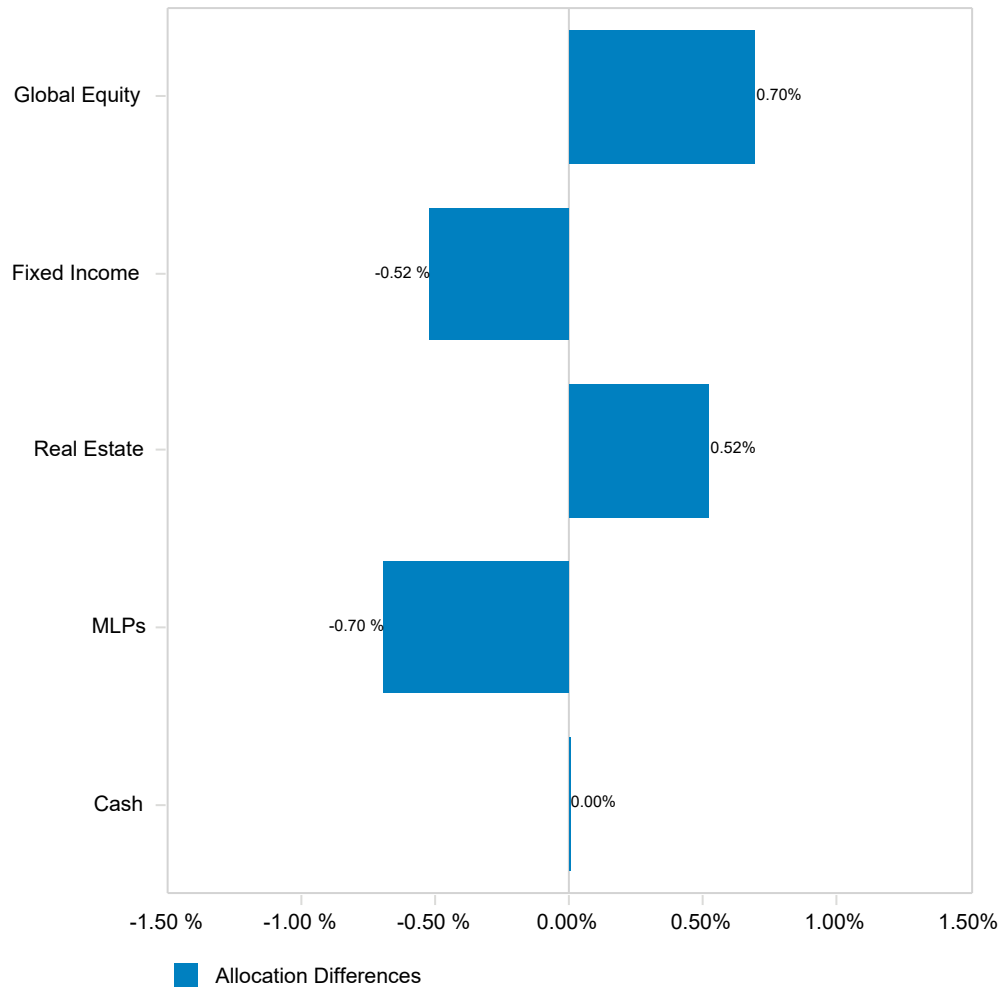


**Total Fund**

Schedule of Investable Assets



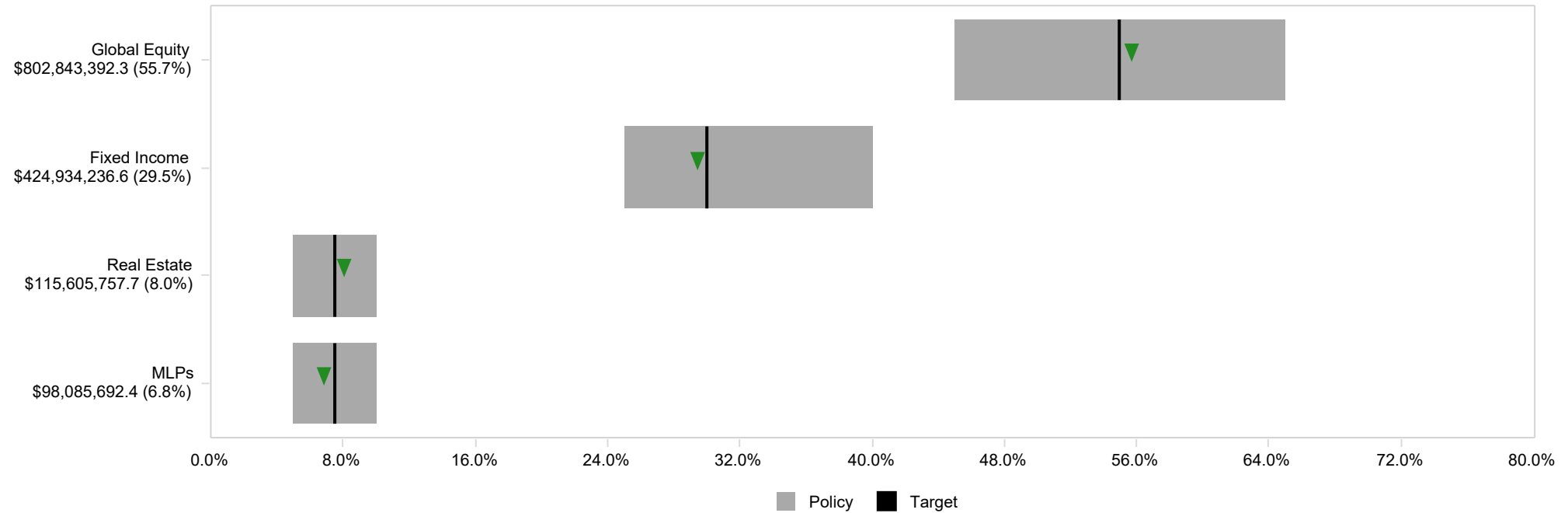
**Employees' Retirement System of the City of Norfolk**  
**Asset Allocation vs. Target Allocation**  
As of December 31, 2021



December 31, 2021				September 30, 2021			
	Market Value \$	Allocation (%)	Target (%)		Market Value \$	Allocation (%)	Target (%)
Global Equity	802,843,392	55.7	55.0	Global Equity	763,429,269	54.3	55.0
Fixed Income	424,934,237	29.5	30.0	Fixed Income	425,166,518	30.3	30.0
Real Estate	115,605,758	8.0	7.5	Real Estate	108,165,577	7.7	7.5
MLPs	98,085,692	6.8	7.5	MLPs	108,003,974	7.7	7.5
Cash	4,899	0.0	0.0	Cash	5,844	0.0	0.0
Total Fund	1,441,473,978	100.0	100.0	Total Fund	1,404,771,182	100.0	100.0



Executive Summary

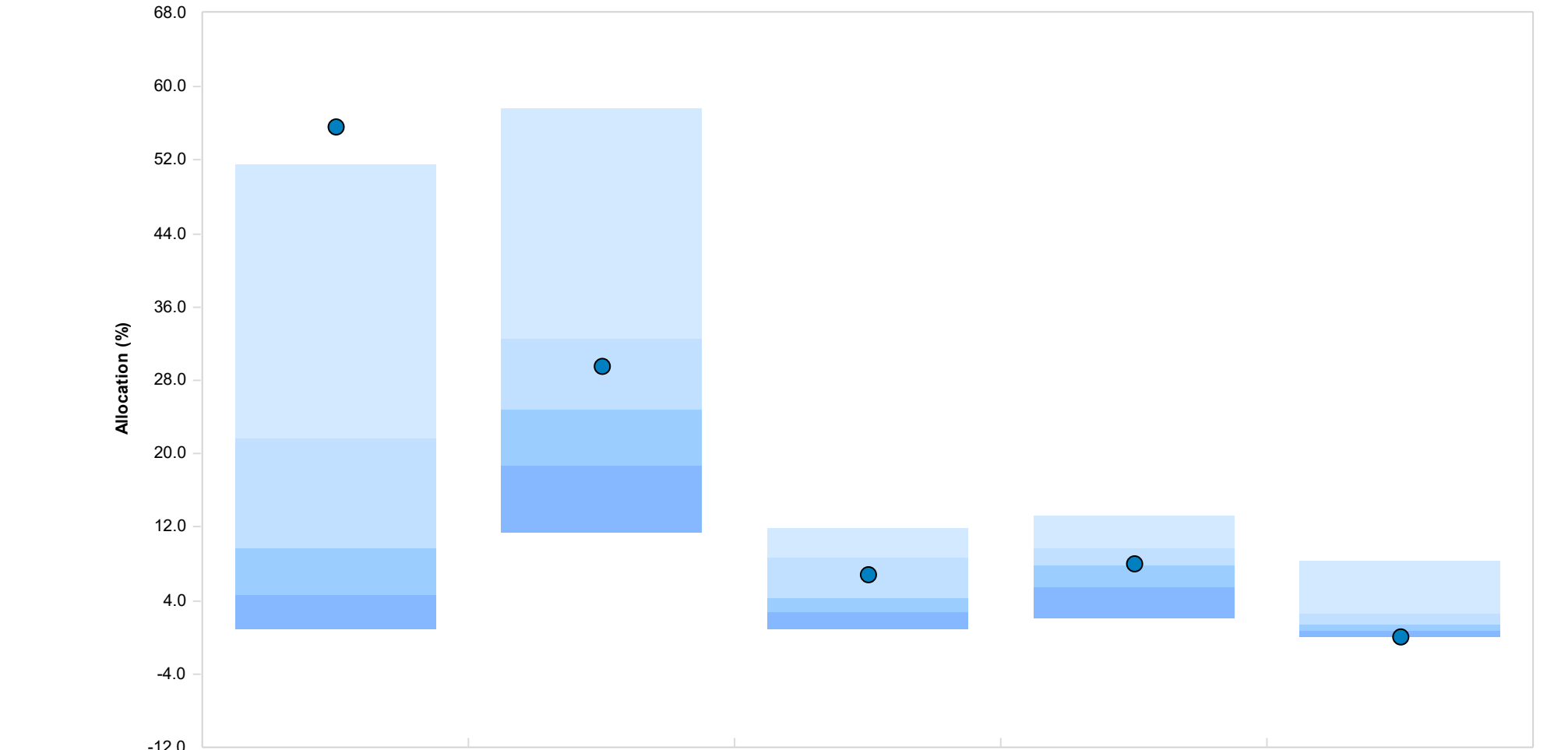


Asset Allocation Compliance

	Asset Allocation \$	Current Allocation (%)	Target Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Rebal. (\$000)
<b>Total Fund</b>	<b>1,441,473,978</b>	<b>100.0</b>	<b>100.0</b>			
Global Equity	802,843,392	55.7	55.0	45.0	65.0	-10,032,704
SSgA MSCI ACWI IMI Index Fund	802,843,392	55.7				
Fixed Income	424,934,237	29.5	30.0	25.0	40.0	7,507,957
PIMCO Total Return	212,759,090	14.8				
SSgA Bond Market Index	212,175,147	14.7				
Real Assets	213,691,450	14.8	15.0			2,529,647
Real Estate	115,605,758	8.0	7.5	5.0	10.0	-7,495,209
JP Morgan Asset Management Strategic Property Fund	52,095,003	3.6				
UBS Trumbull Property Fund	35,519,186	2.5				
Vanguard Real Estate Index (VGSNX)	27,991,569	1.9				
MLPs	98,085,692	6.8	7.5	5.0	10.0	10,024,856
Harvest MLP	49,568,773	3.4				
Tortoise Capital Advisors	48,516,920	3.4				
Cash	4,899	0.0				



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

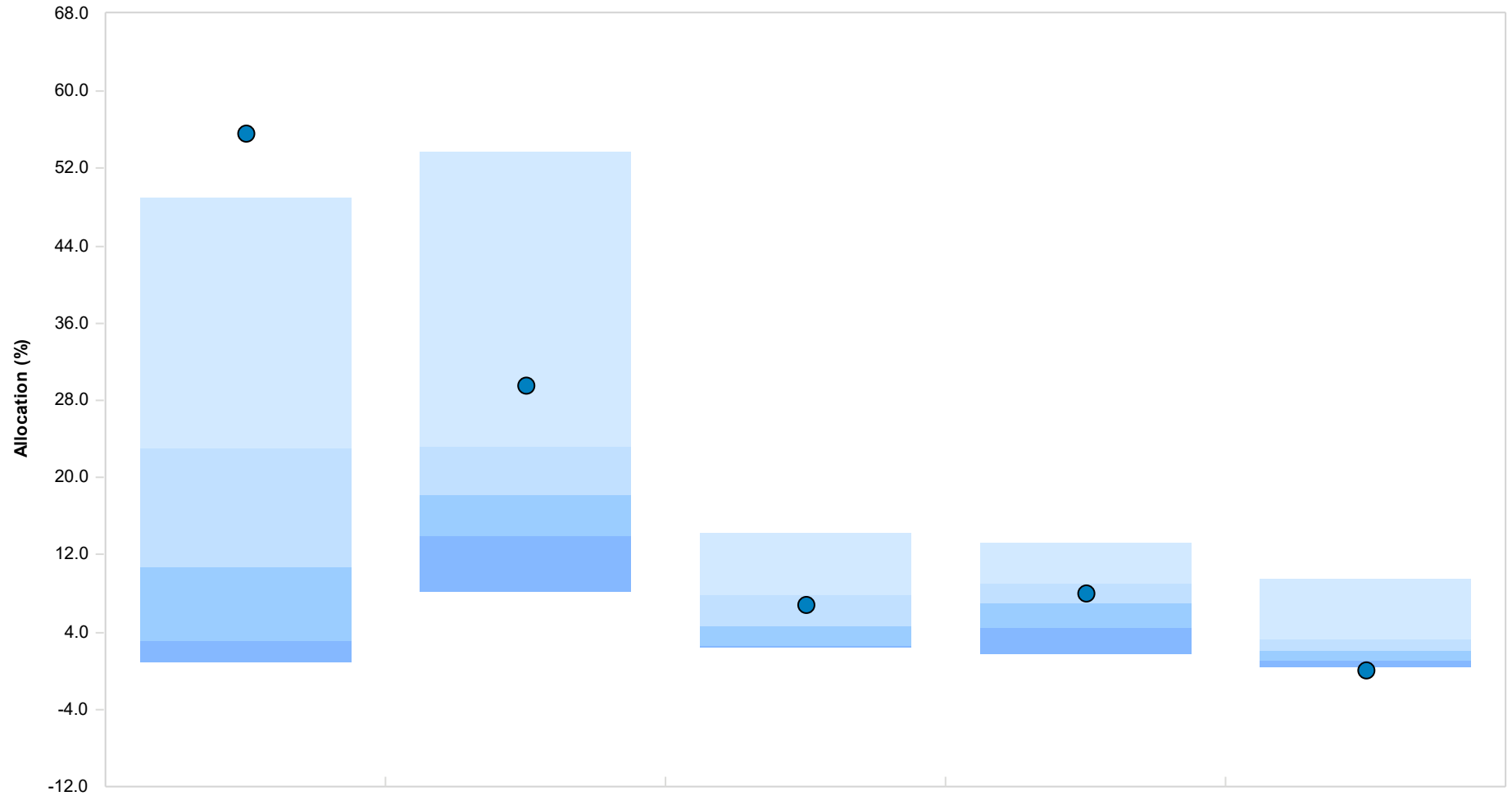


	Global Equity	US Fixed	Real Assets/Commod	Total Real Estate	Cash & Equivalents
● Total Fund Composite*	55.70 (4)	29.48 (35)	6.80 (34)	8.02 (48)	0.00 (100)
5th Percentile	51.51	57.62	11.86	13.21	8.34
1st Quartile	21.66	32.58	8.68	9.77	2.57
Median	9.71	24.72	4.30	7.77	1.36
3rd Quartile	4.56	18.61	2.73	5.40	0.63
95th Percentile	0.95	11.47	0.93	2.11	0.07
Population	31	434	48	309	368

Parentheses contain percentile rankings.



Plan Sponsor TF Asset Allocation vs. All Public Plans > \$1B-Total Fund

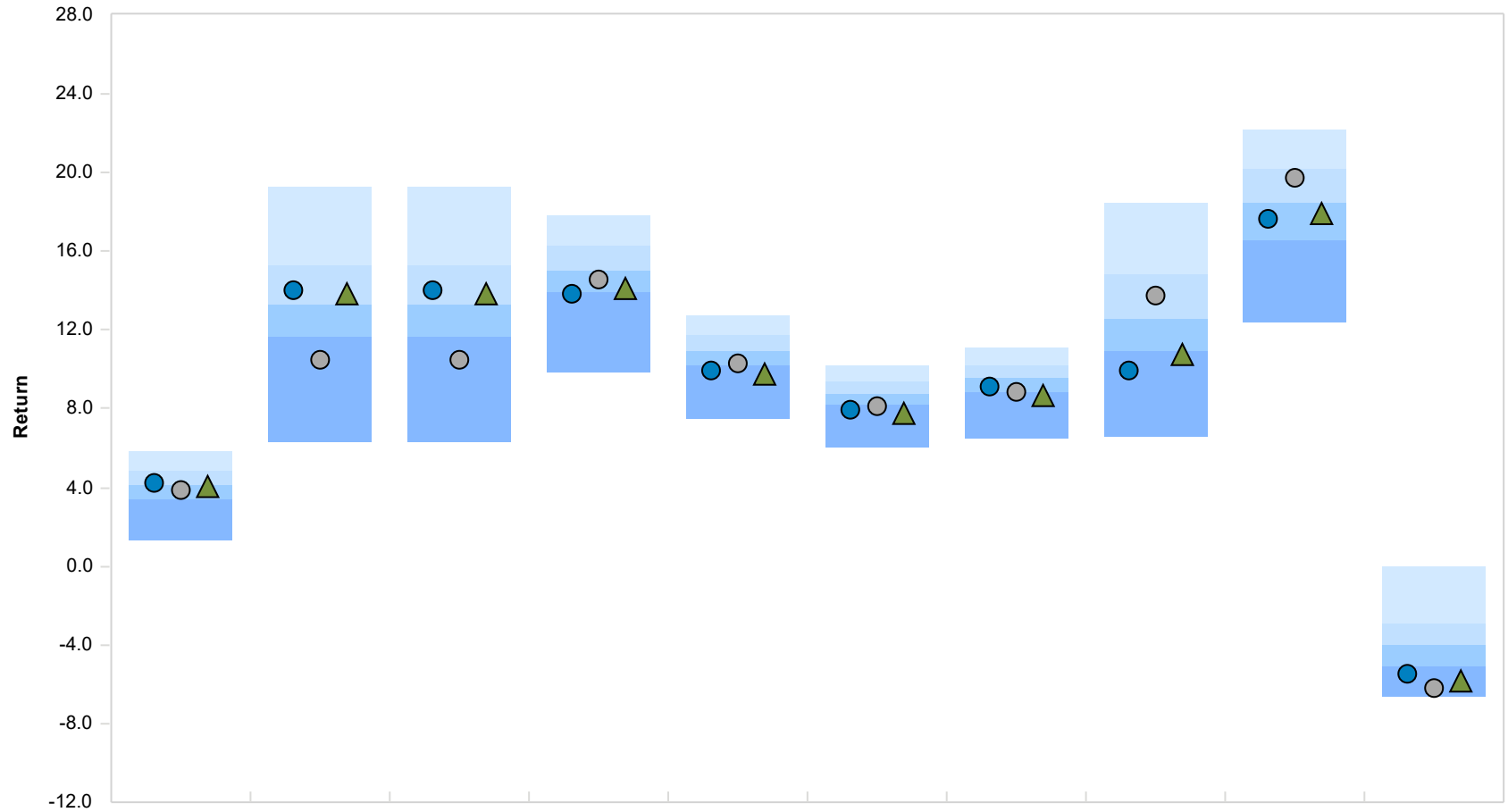


	Global Equity	US Fixed	Real Assets/Commod	Total Real Estate	Cash & Equivalents
● Total Fund Composite*	55.70 (1)	29.48 (12)	6.80 (29)	8.02 (34)	0.00 (100)
5th Percentile	49.08	53.83	14.21	13.28	9.45
1st Quartile	23.11	23.29	7.80	9.02	3.27
Median	10.75	18.11	4.68	6.93	2.06
3rd Quartile	3.04	13.89	2.58	4.38	1.08
95th Percentile	0.84	8.14	2.35	1.70	0.37
Population	10	78	8	70	62

Parentheses contain percentile rankings.



Plan Sponsor Peer Group Analysis vs. All Public Plans-Total Fund

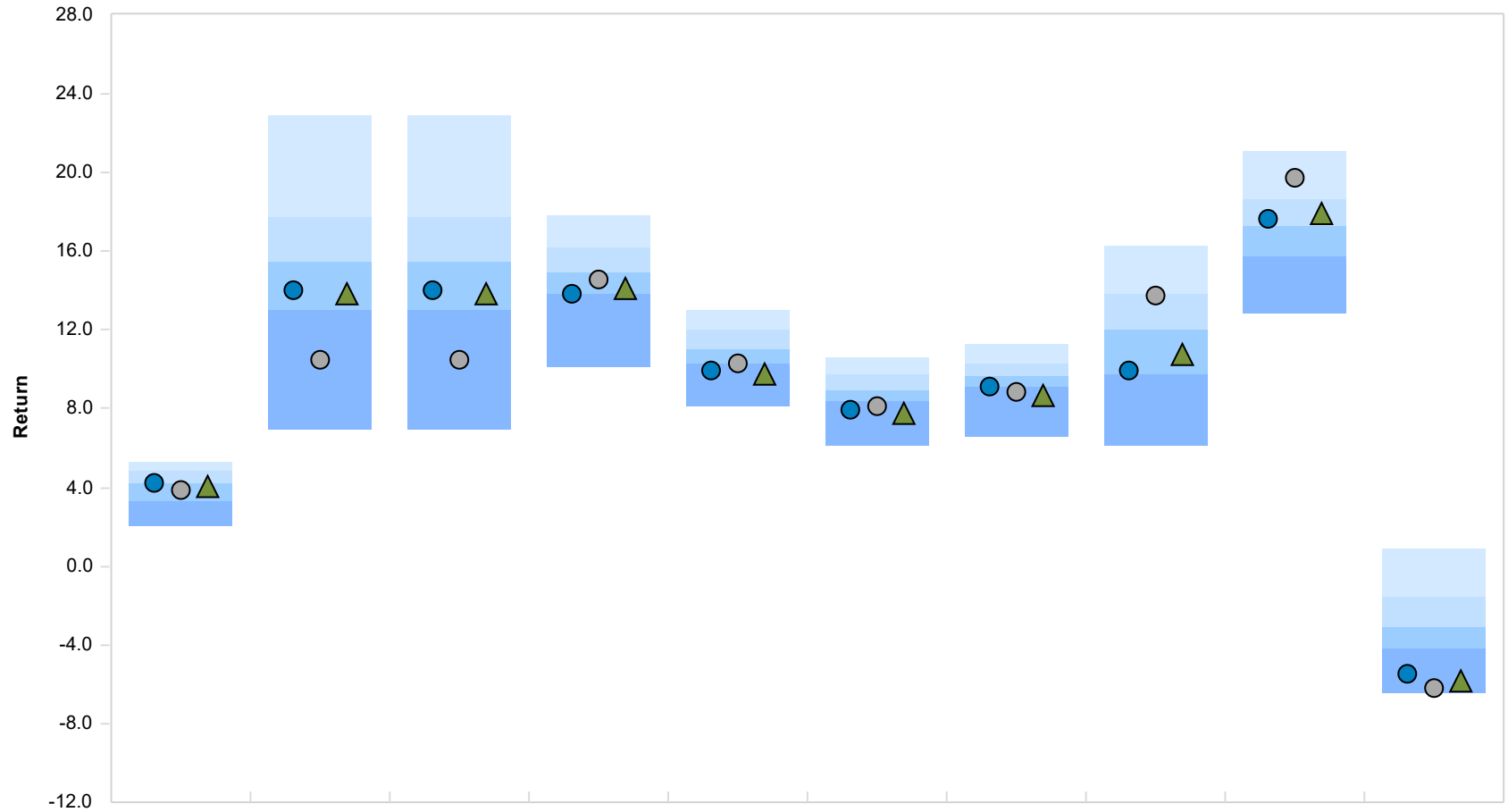


	3 Month	CYTD	1 Year	3 Year	5 Year	7 Year	10 Year	2020	2019	2018
● Total Fund Composite	4.20 (50)	14.04 (42)	14.04 (42)	13.83 (76)	9.94 (81)	7.99 (82)	9.15 (68)	9.92 (82)	17.67 (61)	-5.43 (82)
● Fund Policy (62.5% ACWI/37.5% Agg)	3.83 (64)	10.53 (86)	10.53 (86)	14.61 (61)	10.36 (72)	8.13 (78)	8.85 (77)	13.76 (36)	19.72 (31)	-6.19 (90)
▲ Fund Strategic Index	4.01 (58)	13.85 (46)	13.85 (46)	14.16 (70)	9.78 (84)	7.78 (87)	8.70 (79)	10.81 (76)	17.92 (57)	-5.80 (86)
5th Percentile	5.83	19.32	19.32	17.82	12.74	10.18	11.09	18.44	22.15	-0.07
1st Quartile	4.91	15.33	15.33	16.33	11.78	9.44	10.21	14.83	20.17	-2.90
Median	4.19	13.33	13.33	15.03	10.94	8.77	9.58	12.54	18.49	-4.04
3rd Quartile	3.40	11.67	11.67	13.91	10.19	8.19	8.88	10.93	16.57	-5.12
95th Percentile	1.34	6.28	6.28	9.88	7.52	6.05	6.51	6.56	12.44	-6.69
Population	326	324	324	319	306	290	278	677	702	582

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.



Plan Sponsor Peer Group Analysis vs. All Public Plans > \$1B-Total Fund

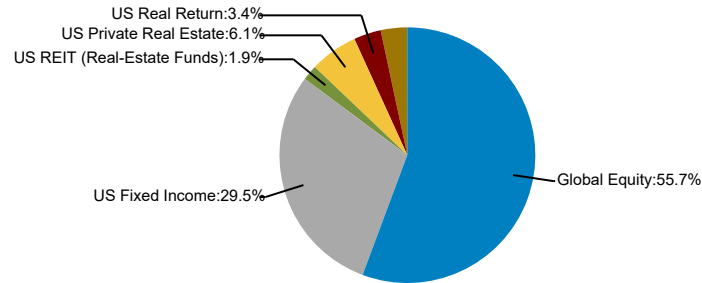


	3 Month	CYTD	1 Year	3 Year	5 Year	7 Year	10 Year	2020	2019	2018
● Total Fund Composite	4.20 (51)	14.04 (63)	14.04 (63)	13.83 (76)	9.94 (86)	7.99 (88)	9.15 (76)	9.92 (74)	17.67 (42)	-5.43 (87)
● Fund Policy (62.5% ACWI/37.5% Agg)	3.83 (65)	10.53 (93)	10.53 (93)	14.61 (60)	10.36 (75)	8.13 (82)	8.85 (82)	13.76 (27)	19.72 (16)	-6.19 (94)
▲ Fund Strategic Index	4.01 (60)	13.85 (67)	13.85 (67)	14.16 (67)	9.78 (88)	7.78 (90)	8.70 (83)	10.81 (67)	17.92 (38)	-5.80 (91)
5th Percentile	5.36	22.89	22.89	17.84	13.01	10.55	11.30	16.27	21.08	0.86
1st Quartile	4.88	17.72	17.72	16.23	12.07	9.73	10.32	13.81	18.68	-1.56
Median	4.23	15.46	15.46	14.95	11.05	8.99	9.67	12.05	17.29	-3.12
3rd Quartile	3.35	13.00	13.00	13.85	10.33	8.38	9.15	9.81	15.75	-4.23
95th Percentile	2.10	6.99	6.99	10.09	8.17	6.18	6.57	6.14	12.87	-6.47
Population	86	85	85	85	84	83	82	220	210	169

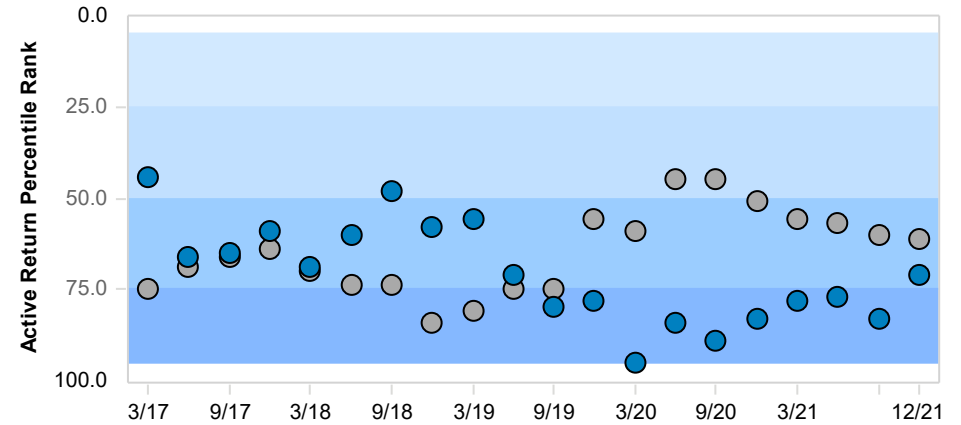
Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.



#### Asset Allocation By Asset Class

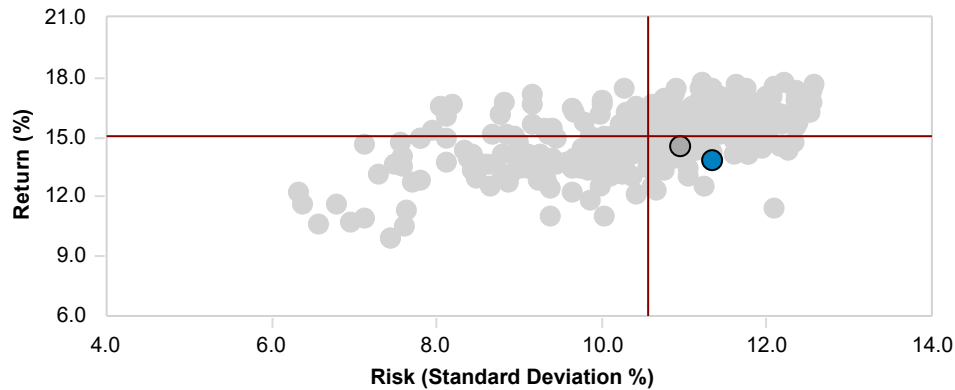


#### Rolling Percentile Ranking vs. All Public Plans-Total Fund



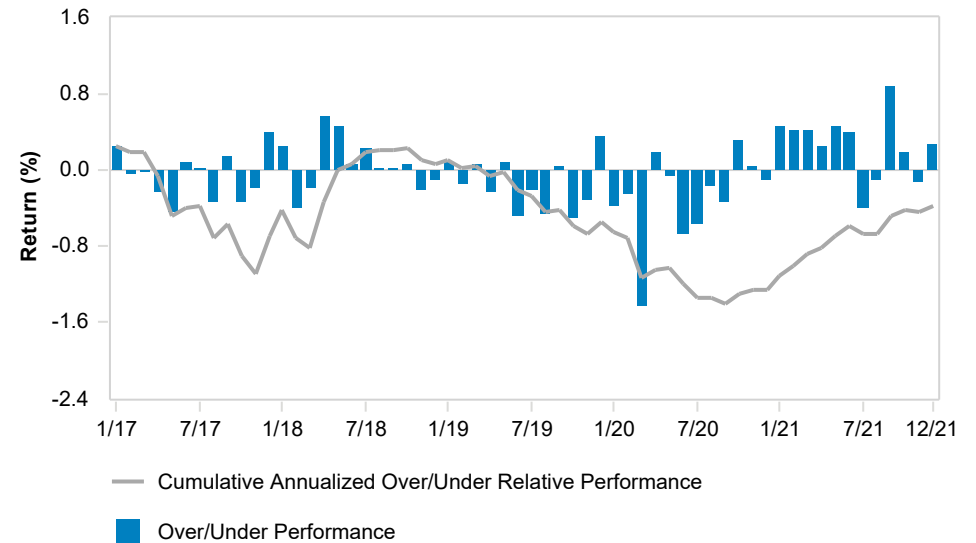
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Total Fund	20	0 (0%)	2 (10%)	9 (45%)	9 (45%)
Total Fund Policy	20	0 (0%)	2 (10%)	16 (80%)	2 (10%)

#### Risk vs. Return (January 1, 2019 - December 31, 2021)



	Return	Standard Deviation
Total Fund	13.83	11.35
Total Fund Policy	14.61	10.94
Median	15.03	10.57

#### Relative Performance vs. Total Fund Policy



**Employees' Retirement System of the City of Norfolk**  
**Asset Allocation & Performance (gross of fees)**

As of December 31, 2021

**Asset Allocation & Performance**

	Market Value \$	%	Performance(%)								
			3 Month	CYTD	1 Year	2 YR	3 Year	5 Year	Since Inception	Inception Date	
Total Fund	1,441,473,978	100.0	4.20 (50)	14.04 (42)	14.04 (42)	11.96 (76)	13.83 (76)	9.94 (81)	8.52 (71)	Oct-1990	
Total Fund Policy			3.83	10.53	10.53	12.13	14.61	10.36	8.46		
Excess Return			0.37	3.51	3.51	-0.17	-0.78	-0.42	0.06		
Total Fund Strategy Index			4.01	13.85	13.85	12.32	14.16	9.78	8.42		
Excess Return			0.19	0.19	0.19	-0.36	-0.33	0.16	0.10		
Global Equity	802,843,392	55.7	6.18 (45)	18.95 (31)	18.95 (31)	17.91 (45)	20.84 (44)	14.67 (42)	9.86 (37)	Oct-1990	
Global Equity Policy			6.10	18.22	18.22	17.23	20.20	14.12	9.91		
Excess Return			0.08	0.73	0.73	0.68	0.64	0.55	-0.05		
Fixed Income	424,934,237	29.5	-0.05 (67)	-1.21 (69)	-1.21 (69)	3.42 (75)	5.05 (82)	3.95 (78)	6.00 (72)	Oct-1990	
Blmbg. U.S. Aggregate Index			0.01	-1.55	-1.55	2.88	4.79	3.57	5.74		
Excess Return			-0.06	0.34	0.34	0.54	0.26	0.38	0.26		
Real Estate	115,605,758	8.0	8.70 (29)	18.65 (78)	18.65 (78)	8.34 (80)	5.90 (88)	6.40 (85)	9.43 (84)	Apr-2011	
NCREIF Fund Index-ODCE (Net)			7.69	21.06	21.06	10.21	8.24	7.75	9.79		
Excess Return			1.01	-2.41	-2.41	-1.87	-2.34	-1.35	-0.36		
MLPs	98,085,692	6.8	2.31 (15)	41.07 (34)	41.07 (34)	1.71 (24)	4.77 (40)	-0.67 (28)	1.39 (35)	Mar-2013	
Alerian MLP Index			0.55	40.17	40.17	-0.02	2.12	-2.70	-2.24		
Excess Return			1.76	0.90	0.90	1.73	2.65	2.03	3.63		
Cash	4,899	0.0									



**Employees' Retirement System of the City of Norfolk**  
**Asset Allocation & Performance (gross of fees)**  
As of December 31, 2021

**Asset Allocation & Performance**

	Market Value \$	Performance(%)								
		3 Month	CYTD	1 Year	2 Year	3 Year	5 Year	Since Inception	Inception Date	
Global Equity										
SSgA MSCI ACWI IMI Index Fund	802,843,392	6.18 (45)	18.66 (33)	18.66 (33)	17.77 (46)	20.74 (45)	14.61 (42)	14.08 (40)		May-2016
MSCI AC World IMI (Net)		6.10	18.22	18.22	17.23	20.20	14.12	13.59		
Excess Return		0.08	0.44	0.44	0.54	0.54	0.49	0.49		
Fixed Income										
PIMCO Total Return	212,759,090	-0.09 (63)	-0.93 (39)	-0.93 (39)	3.85 (39)	5.26 (69)	4.28 (40)	6.39 (10)		Jan-1991
Blmbg. U.S. Aggregate Index		0.01	-1.55	-1.55	2.88	4.79	3.57	5.62		
Excess Return		-0.10	0.62	0.62	0.97	0.47	0.71	0.77		
SSgA Bond Market Index	212,175,147	-0.02 (41)	-1.51 (71)	-1.51 (71)	2.93 (87)	4.83 (88)	3.60 (88)	3.80 (92)		Jan-2009
Blmbg. U.S. Aggregate Index		0.01	-1.55	-1.55	2.88	4.79	3.57	3.78		
Excess Return		-0.03	0.04	0.04	0.05	0.04	0.03	0.02		
Real Estate										
JP Morgan Asset Management Strategic Property Fund	52,095,003	8.12 (33)	20.96 (59)	20.96 (59)	10.76 (62)	8.60 (69)	8.20 (73)	10.75 (70)		Apr-2011
NCREIF Fund Index-ODCE (VW) (Net)		7.69	21.06	21.06	10.21	8.24	7.75	9.79		
Excess Return		0.43	-0.10	-0.10	0.55	0.36	0.45	0.96		
UBS Trumbull Property Fund	35,519,186	5.04 (94)	16.23 (82)	16.23 (82)	5.73 (94)	3.05 (94)	4.47 (94)	7.32 (-)		Dec-2011
NCREIF Fund Index-ODCE (VW) (Net)		7.69	21.06	21.06	10.21	8.24	7.75	9.65		
Excess Return		-2.65	-4.83	-4.83	-4.48	-5.19	-3.28	-2.33		
Vanguard Real Estate Index (VGSNX)	27,991,569	14.99 (68)	-	-	-	-	-	15.79 (74)		Jul-2021
Vanguard Spliced REIT Index		14.94	-	-	-	-	-	15.75		
Excess Return		0.05	-	-	-	-	-	0.04		
MLPs										
Harvest MLP	49,568,773	2.66 (9)	43.50 (16)	43.50 (16)	4.03 (15)	7.07 (18)	0.31 (18)	1.93 (28)		Mar-2013
Alerian MLP Index		0.55	40.17	40.17	-0.02	2.12	-2.70	-2.24		
Excess Return		2.11	3.33	3.33	4.05	4.95	3.01	4.17		
Tortoise Capital Advisors	48,516,920	1.86 (27)	39.36 (69)	39.36 (69)	-0.39 (57)	2.65 (58)	-1.56 (51)	0.32 (47)		Apr-2013
Alerian MLP Index		0.55	40.17	40.17	-0.02	2.12	-2.70	-2.85		
Excess Return		1.31	-0.81	-0.81	-0.37	0.53	1.14	3.17		





**Employees' Retirement System of the City of Norfolk**  
**Asset Allocation & Performance (net of fees)**  
As of December 31, 2021

**Asset Allocation & Performance**

	Market Value \$	%	Performance(%)								Inception Date
			3 Month	CYTD	FYTD	1 Year	2 YR	3 Year	5 Year	Since Inception	
<b>Total Fund</b>	<b>1,441,473,978</b>	<b>100.0</b>	<b>4.18</b>	<b>13.92</b>	<b>3.87</b>	<b>13.92</b>	<b>11.83</b>	<b>13.67</b>	<b>9.76</b>	<b>8.33</b>	<b>Oct-1990</b>
Total Fund Policy			3.83	10.53	3.15	10.53	12.13	14.61	10.36	8.46	
Excess Return			0.35	3.39	0.72	3.39	-0.30	-0.94	-0.60	-0.13	
Total Fund Strategy Index			4.01	13.85	3.50	13.85	12.32	14.16	9.78	8.42	
Excess Return			0.17	0.07	0.37	0.07	-0.49	-0.49	-0.02	-0.09	
Global Equity	802,843,392	55.7	6.17	18.90	5.04	18.90	17.87	20.80	14.63	9.69	Oct-1990
Global Equity Policy			6.10	18.22	4.92	18.22	17.23	20.20	14.12	9.91	
Excess Return			0.07	0.68	0.12	0.68	0.64	0.60	0.51	-0.22	
Fixed Income	424,934,237	29.5	-0.05	-1.27	0.19	-1.27	3.34	4.94	3.83	5.81	Oct-1990
Blmbg. U.S. Aggregate Index			0.01	-1.55	0.06	-1.55	2.88	4.79	3.57	5.74	
Excess Return			-0.06	0.28	0.13	0.28	0.46	0.15	0.26	0.07	
Real Estate	115,605,758	8.0	8.52	17.67	13.09	17.67	7.41	4.97	5.48	8.44	Apr-2011
NCREIF Fund Index-ODCE (Net)			7.69	21.06	14.59	21.06	10.21	8.24	7.75	9.79	
Excess Return			0.83	-3.39	-1.50	-3.39	-2.80	-3.27	-2.27	-1.35	
MLPs	98,085,692	6.8	2.23	40.88	0.87	40.88	1.41	4.31	-1.24	0.79	Mar-2013
Alerian MLP Index			0.55	40.17	-5.19	40.17	-0.02	2.12	-2.70	-2.24	
Excess Return			1.68	0.71	6.06	0.71	1.43	2.19	1.46	3.03	
Cash	4,899	0.0									



**Employees' Retirement System of the City of Norfolk**  
**Asset Allocation & Performance (net of fees)**

As of December 31, 2021

**Asset Allocation & Performance**

	Market Value \$	%	Performance(%)								
			3 Month	CYTD	FYTD	1 Year	2 Year	3 Year	5 Year	Since Inception	Inception Date
Global Equity											
SSgA MSCI ACWI IMI Index Fund	802,843,392	55.7	6.17	18.62	5.04	18.62	17.73	20.70	14.58	14.04	May-2016
MSCI AC World IMI (Net)			6.10	18.22	4.92	18.22	17.23	20.20	14.12	13.59	
Excess Return			0.07	0.40	0.12	0.40	0.50	0.50	0.46	0.45	
Fixed Income											
PIMCO Total Return	212,759,090	14.8	-0.09	-1.03	0.33	-1.03	3.71	5.08	4.07	6.14	Jan-1991
Blmbg. U.S. Aggregate Index			0.01	-1.55	0.06	-1.55	2.88	4.79	3.57	5.62	
Excess Return			-0.10	0.52	0.27	0.52	0.83	0.29	0.50	0.52	
SSgA Bond Market Index	212,175,147	14.7	-0.02	-1.53	0.04	-1.53	2.91	4.81	3.58	3.79	Jan-2009
Blmbg. U.S. Aggregate Index			0.01	-1.55	0.06	-1.55	2.88	4.79	3.57	3.78	
Excess Return			-0.03	0.02	-0.02	0.02	0.03	0.02	0.01	0.01	
Real Estate											
JP Morgan Asset Management Strategic Property Fund	52,095,003	3.6	7.88	19.82	14.86	19.82	9.83	7.63	7.26	9.77	Apr-2011
NCREIF Fund Index-ODCE (VW) (Net)			7.69	21.06	14.59	21.06	10.21	8.24	7.75	9.79	
Excess Return			0.19	-1.24	0.27	-1.24	-0.38	-0.61	-0.49	-0.02	
UBS Trumbull Property Fund	35,519,186	2.5	4.82	15.23	11.09	15.23	4.71	2.09	3.53	6.27	Dec-2011
NCREIF Fund Index-ODCE (VW) (Net)			7.69	21.06	14.59	21.06	10.21	8.24	7.75	9.65	
Excess Return			-2.87	-5.83	-3.50	-5.83	-5.50	-6.15	-4.22	-3.38	
Vanguard Real Estate Index (VGSNX)	27,991,569	1.9	14.96	N/A	15.73	N/A	N/A	N/A	N/A	15.73	Jul-2021
Vanguard Spliced REIT Index			14.94	N/A	15.75	N/A	N/A	N/A	N/A	15.75	
Excess Return			0.02	N/A	-0.02	N/A	N/A	N/A	N/A	-0.02	
MLPs											
Harvest MLP	49,568,773	3.4	2.66	43.42	2.39	43.42	3.90	6.72	-0.19	1.36	Mar-2013
Alerian MLP Index			0.55	40.17	-5.19	40.17	-0.02	2.12	-2.70	-2.24	
Excess Return			2.11	3.25	7.58	3.25	3.92	4.60	2.51	3.60	
Tortoise Capital Advisors	48,516,920	3.4	1.71	38.98	-0.93	38.98	-0.89	2.06	-2.20	-0.32	Apr-2013
Alerian MLP Index			0.55	40.17	-5.19	40.17	-0.02	2.12	-2.70	-2.85	
Excess Return			1.16	-1.19	4.26	-1.19	-0.87	-0.06	0.50	2.53	



**Employees' Retirement System of the City of Norfolk**  
**Asset Allocation & Performance (net of fees)**

As of December 31, 2021

Fiscal Returns										
	Performance(%)									
	Jul-2020 To Jun-2021	Jul-2019 To Jun-2020	Jul-2018 To Jun-2019	Jul-2017 To Jun-2018	Jul-2016 To Jun-2017	Jul-2015 To Jun-2016	Jul-2014 To Jun-2015	Jul-2013 To Jun-2014	Jul-2012 To Jun-2013	Jul-2011 To Jun-2012
<b>Total Fund</b>	<b>25.93</b>	<b>0.59</b>	<b>5.35</b>	<b>7.10</b>	<b>11.66</b>	<b>0.49</b>	<b>1.98</b>	<b>17.30</b>	<b>12.09</b>	<b>0.54</b>
Total Fund Policy	24.13	4.56	6.17	6.77	11.42	0.49	2.16	15.82	10.43	1.12
Excess Return	1.80	-3.97	-0.82	0.33	0.24	0.00	-0.18	1.48	1.66	-0.58
Total Fund Strategy Index	26.49	1.30	5.91	6.25	10.62	0.97	1.54	16.12	11.34	1.30
Excess Return	-0.56	-0.71	-0.56	0.85	1.04	-0.48	0.44	1.18	0.75	-0.76
Global Equity	41.90	1.61	4.97	11.60	19.46	-2.82	2.33	23.89	18.43	-3.51
Global Equity Policy	40.94	1.17	4.56	11.14	19.01	-3.37	2.20	23.86	18.37	-3.83
Excess Return	0.96	0.44	0.41	0.46	0.45	0.55	0.13	0.03	0.06	0.32
Fixed Income	0.24	8.59	7.58	0.18	0.76	5.10	2.38	4.31	-0.15	6.93
Blmbg. U.S. Aggregate Index	-0.34	8.74	7.87	-0.40	-0.31	6.00	1.86	4.37	-0.69	7.47
Excess Return	0.58	-0.15	-0.29	0.58	1.07	-0.90	0.52	-0.06	0.54	-0.54
Real Estate	3.74	-0.28	1.90	6.82	5.89	9.79	11.93	11.24	11.02	10.94
NCREIF Fund Index-ODCE (Net)	7.09	1.33	5.46	7.47	6.90	10.80	13.39	11.74	11.08	11.30
Excess Return	-3.35	-1.61	-3.56	-0.65	-1.01	-1.01	-1.46	-0.50	-0.06	-0.36
MLPs	52.25	-37.78	1.24	-0.49	2.94	-17.50	-11.33	35.63	-	-
Alerian MLP Index	63.98	-41.43	3.09	-4.58	0.40	-13.11	-19.81	21.57	-	-
Excess Return	-11.73	3.65	-1.85	4.09	2.54	-4.39	8.48	14.06	-	-

Cash



Employees' Retirement System of the City of Norfolk

Financial Reconciliation

1 Quarter Ending December 31, 2021

Financial Reconciliation								
	Market Value 10/01/2021	Net Transfers	Contributions	Distributions	Management Fees	Income	Apprec./ Deprec.	Market Value 12/31/2021
<b>Total Fund</b>	<b>1,404,771,182</b>	<b>-</b>	<b>74,882</b>	<b>-21,632,000</b>	<b>-357,289</b>	<b>3,716,518</b>	<b>54,900,685</b>	<b>1,441,473,978</b>
<b>Global Equity</b>	<b>763,429,269</b>	<b>-7,498,000</b>	<b>-</b>	<b>-</b>	<b>-81,775</b>	<b>-</b>	<b>46,993,898</b>	<b>802,843,392</b>
SSgA MSCI ACWI IMI Index Fund	763,429,269	-7,498,000	-	-	-81,775	-	46,993,898	802,843,392
<b>Fixed Income</b>	<b>425,166,518</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-10,680</b>	<b>1,033,786</b>	<b>-1,255,388</b>	<b>424,934,237</b>
PIMCO Total Return	212,943,906	-	-	-	-	1,033,786	-1,218,602	212,759,090
SSgA Bond Market Index	212,222,612	-	-	-	-10,680	-	-36,786	212,175,147
<b>Real Estate</b>	<b>108,165,577</b>	<b>-1,641,116</b>	<b>-</b>	<b>-</b>	<b>-189,953</b>	<b>935,884</b>	<b>8,335,366</b>	<b>115,605,758</b>
JP Morgan Asset Management Strategic Property Fund	48,288,973	-3	-	-	-108,971	451,953	3,463,051	52,095,003
UBS Trumbull Property Fund	35,527,221	-1,641,113	-	-	-74,655	230,841	1,476,891	35,519,186
Vanguard Real Estate Index (VGSNX)	24,349,383	-	-	-	-6,327	253,090	3,395,424	27,991,569
<b>MLPs</b>	<b>108,003,974</b>	<b>-12,490,000</b>	<b>74,882</b>	<b>-</b>	<b>-74,882</b>	<b>1,744,017</b>	<b>827,701</b>	<b>98,085,692</b>
Harvest MLP	60,375,177	-12,490,000	-	-	-	913,195	770,401	49,568,773
Tortoise Capital Advisors	47,628,798	-	74,882	-	-74,882	830,823	57,299	48,516,920
Cash	5,844	21,629,116	-	-21,632,000	-	2,831	-892	4,899



Employees' Retirement System of the City of Norfolk

Financial Reconciliation

July 1, 2021 To December 31, 2021

Financial Reconciliation								
	Market Value 07/01/2021	Net Transfers	Contributions	Distributions	Management Fees	Income	Apprec./ Deprec.	Market Value 12/31/2021
<b>Total Fund</b>	<b>1,390,335,588</b>	<b>-</b>	<b>31,243,961</b>	<b>-34,349,000</b>	<b>-705,901</b>	<b>7,188,546</b>	<b>47,760,784</b>	<b>1,441,473,978</b>
<b>Global Equity</b>	<b>779,940,629</b>	<b>-15,898,000</b>	<b>-</b>	<b>-</b>	<b>-158,275</b>	<b>-</b>	<b>38,959,039</b>	<b>802,843,392</b>
SSgA MSCI ACWI IMI Index Fund	779,940,629	-15,898,000	-	-	-158,275	-	38,959,039	802,843,392
<b>Fixed Income</b>	<b>428,086,879</b>	<b>-4,059,000</b>	<b>76,011</b>	<b>-</b>	<b>-95,911</b>	<b>2,189,928</b>	<b>-1,263,670</b>	<b>424,934,237</b>
PIMCO Total Return	215,989,678	-4,059,000	76,011	-	-76,011	2,189,928	-1,361,516	212,759,090
SSgA Bond Market Index	212,097,201	-	-	-	-19,901	-	97,846	212,175,147
<b>Real Estate</b>	<b>81,594,793</b>	<b>20,644,418</b>	<b>-</b>	<b>-</b>	<b>-376,833</b>	<b>1,684,964</b>	<b>12,058,415</b>	<b>115,605,758</b>
JP Morgan Asset Management Strategic Property Fund	45,356,339	-6	-	-	-215,328	715,588	6,238,410	52,095,003
UBS Trumbull Property Fund	36,238,454	-4,355,575	-	-	-150,921	558,831	3,228,397	35,519,186
Vanguard Real Estate Index (VGSNX)	-	25,000,000	-	-	-10,584	410,545	2,591,608	27,991,569
<b>MLPs</b>	<b>100,706,225</b>	<b>-3,940,000</b>	<b>74,882</b>	<b>-</b>	<b>-74,882</b>	<b>3,310,699</b>	<b>-1,991,232</b>	<b>98,085,692</b>
Harvest MLP	51,807,422	-3,940,000	-	-	-	1,718,860	-17,509	49,568,773
Tortoise Capital Advisors	48,898,803	-	74,882	-	-74,882	1,591,840	-1,973,724	48,516,920
Cash	7,062	3,252,582	31,093,069	-34,349,000	-	2,955	-1,768	4,899



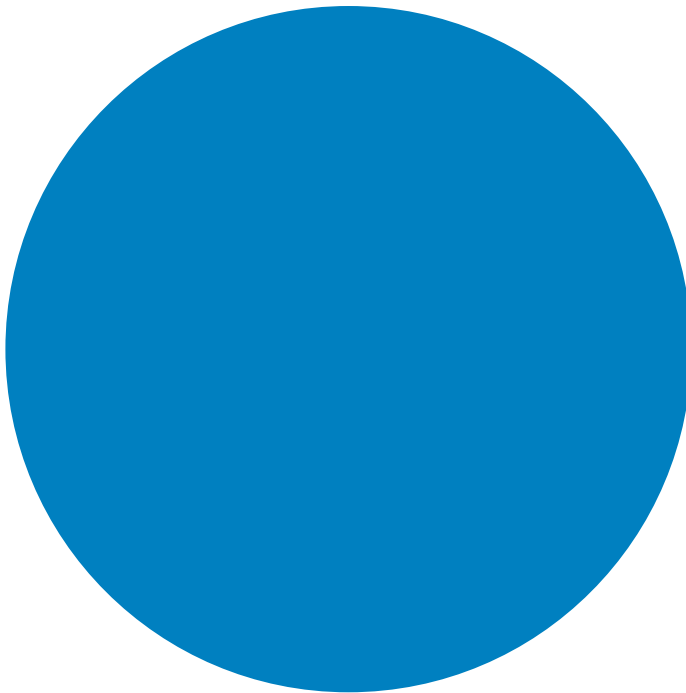
## **Global Equity**

# Employees' Retirement System of the City of Norfolk Global Equity vs. MSCI AC World IMI (Net)

December 31, 2021

## Manager Allocation

December 31, 2021 : \$802,843,392



Market Value

Allocation

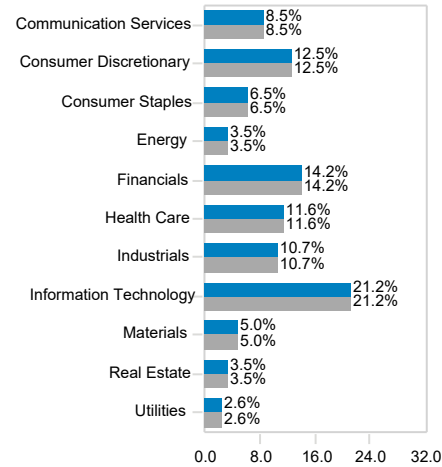
■ SSgA MSCI ACWI IMI Index Fund

802,843,392

100.0

## Sector Allocation - Holdings Based

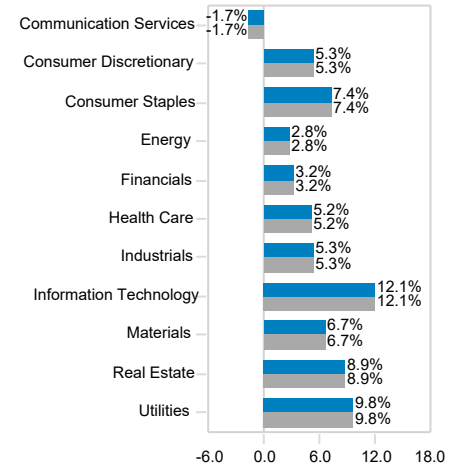
Allocation



■ Global Equity

■ MSCI AC World IMI (Net)

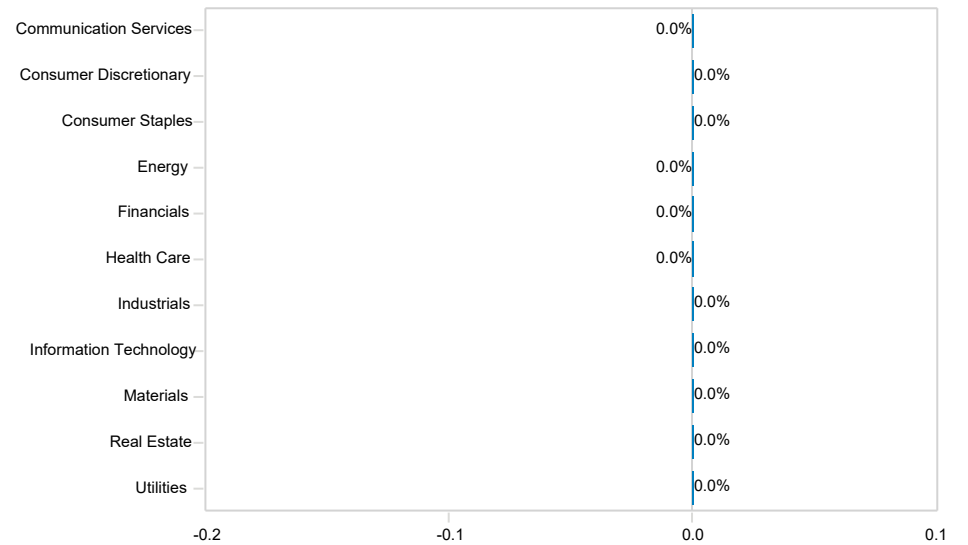
Performance



■ Global Equity

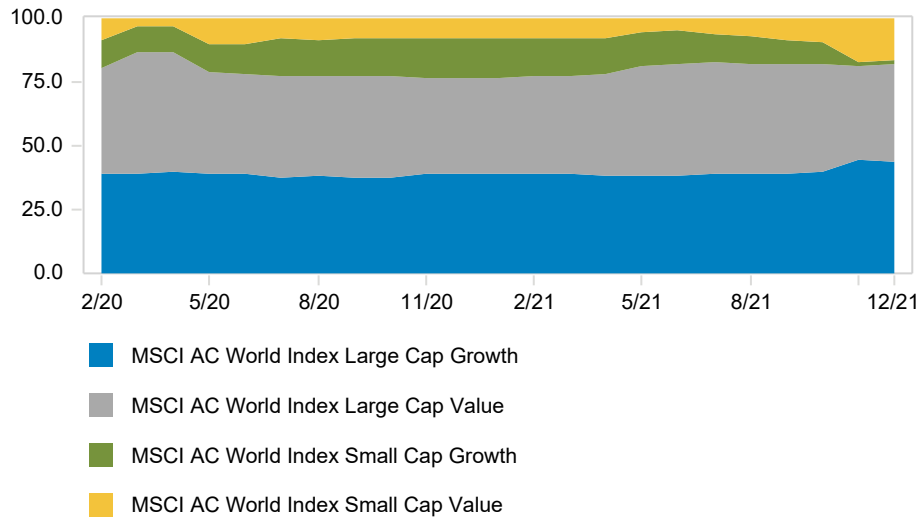
■ MSCI AC World IMI (Net)

## Total Attribution

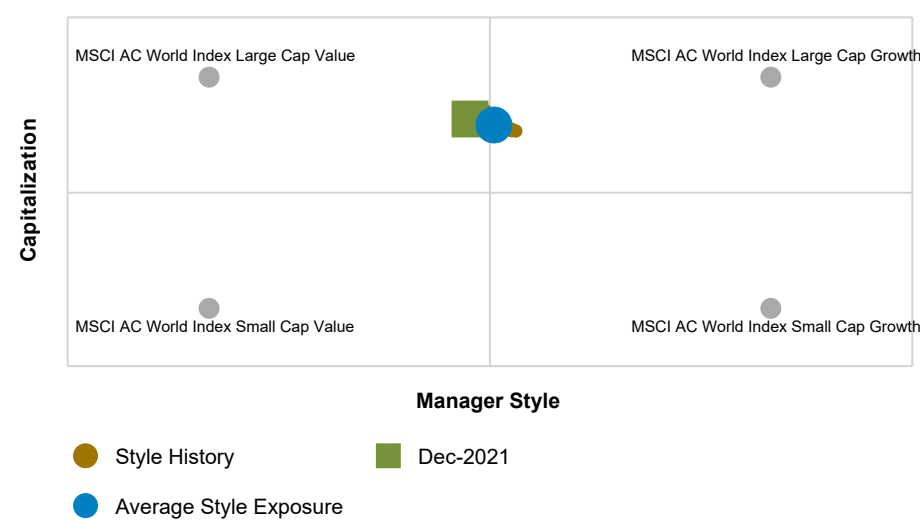




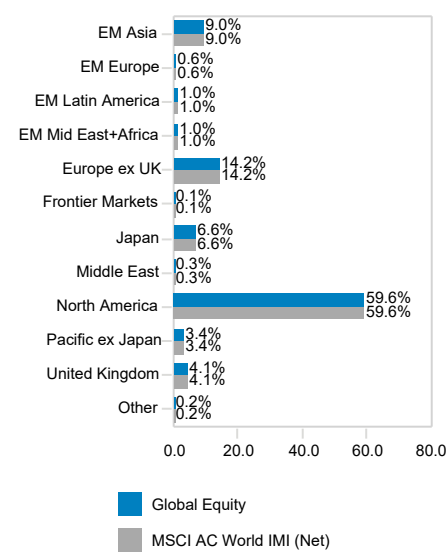
Style Analysis - Returns Based  
Style History(12 Months)



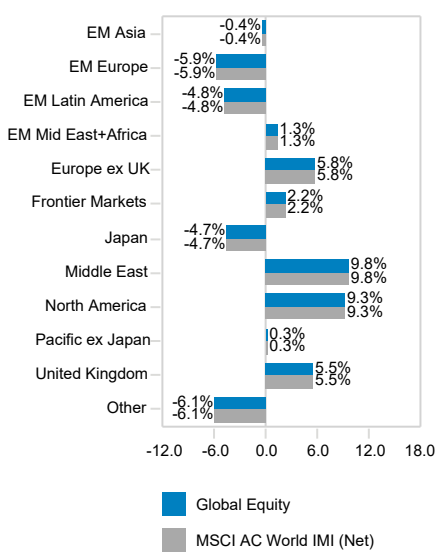
3 Year Style Analysis  
Style Map(12 Months)



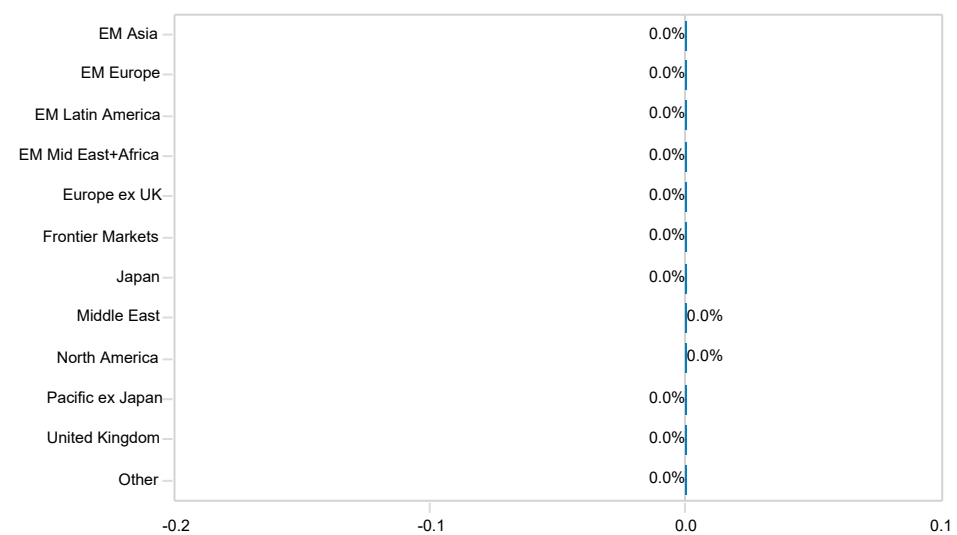
Region Allocation - Holdings Based  
Allocation



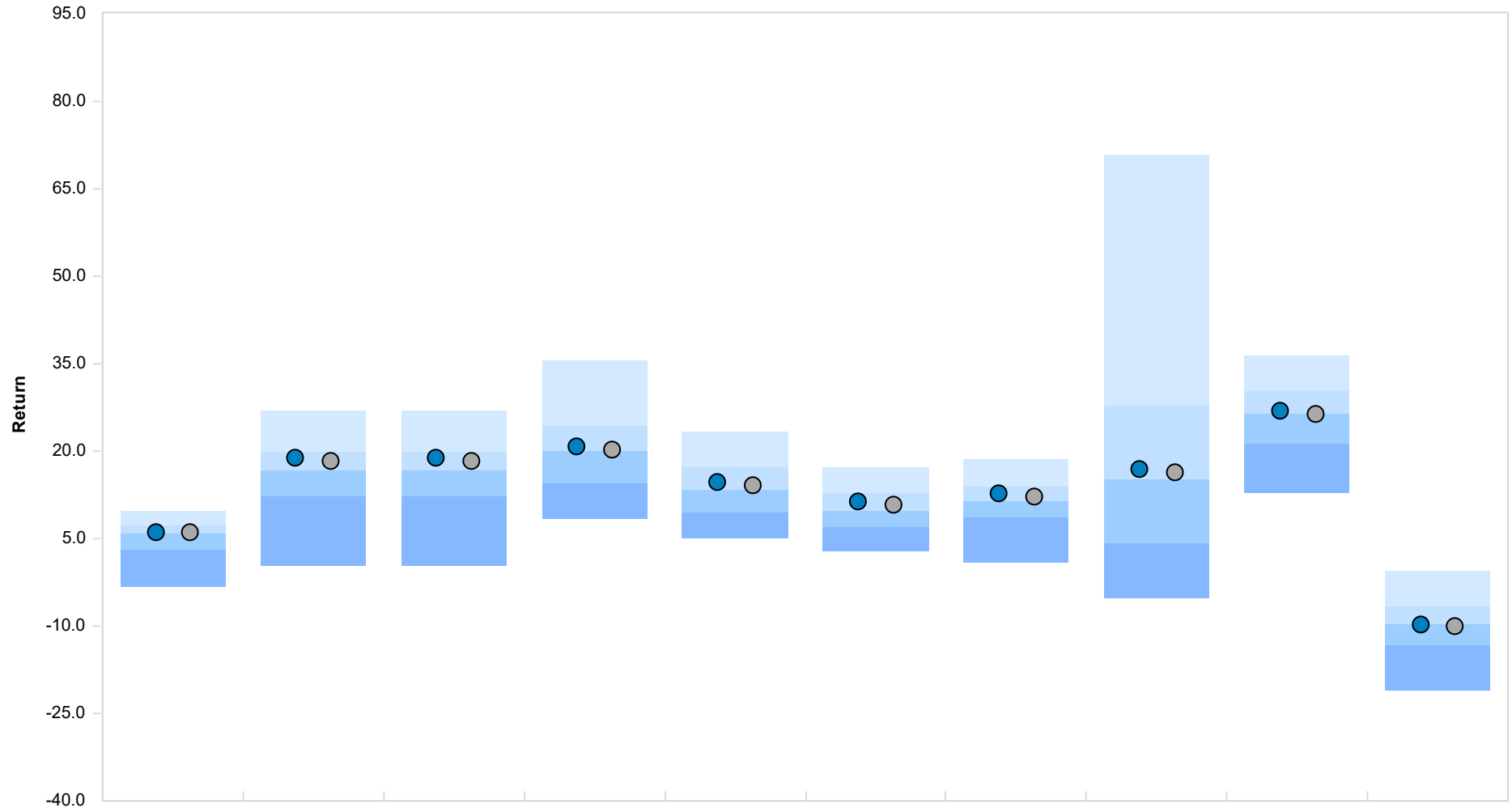
Performance



Total Attribution



Peer Group Analysis



	3 Month	CYTD	1 Year	3 Year	5 Year	7 Year	10 Year	2020	2019	2018
● Global Equity	6.18 (45)	18.95 (31)	18.95 (31)	20.84 (44)	14.67 (42)	11.34 (36)	12.73 (39)	16.88 (44)	26.92 (47)	-9.73 (51)
● Global Equity Policy	6.10 (46)	18.22 (37)	18.22 (37)	20.20 (49)	14.12 (45)	10.84 (41)	12.33 (42)	16.25 (45)	26.35 (51)	-10.08 (55)
5th Percentile	9.73	26.84	26.84	35.51	23.32	17.20	18.49	70.89	36.33	-0.63
1st Quartile	7.27	20.02	20.02	24.42	17.12	12.70	13.97	27.81	30.17	-6.73
Median	5.83	16.54	16.54	19.92	13.32	9.86	11.46	15.26	26.37	-9.72
3rd Quartile	3.06	12.22	12.22	14.36	9.36	6.89	8.59	4.13	21.28	-13.42
95th Percentile	-3.26	0.28	0.28	8.46	4.95	2.78	0.76	-5.23	12.64	-21.07

Parenttheses contain percentile rankings.  
Calculation based on monthly periodicity.



### Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	20.74	17.28	1.12	100.85	9	98.92	3
Index	20.20	17.29	1.10	100.00	9	100.00	3

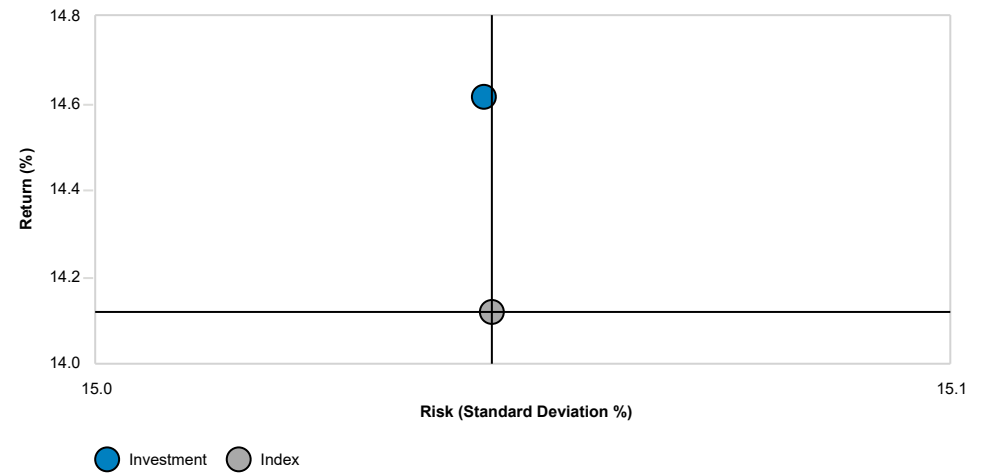
### Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	14.61	15.05	0.91	101.12	15	99.05	5
Index	14.12	15.05	0.88	100.00	15	100.00	5

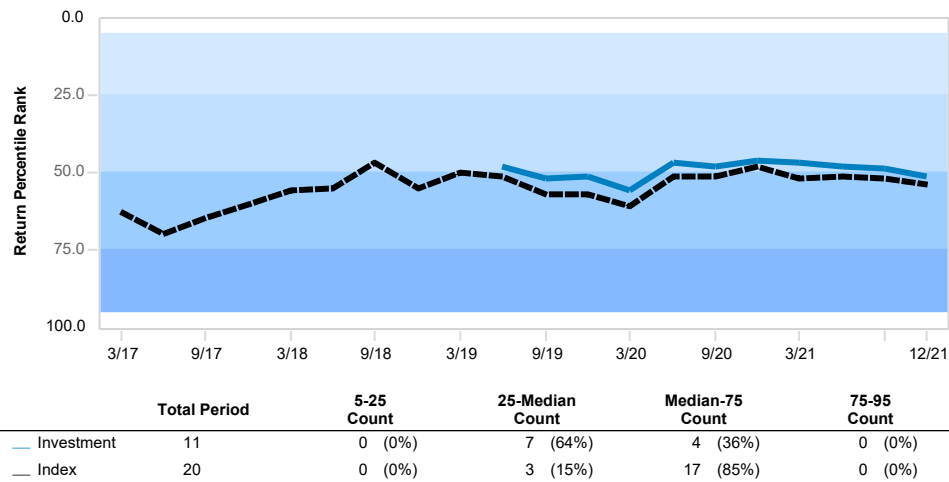
### Risk and Return 3 Years



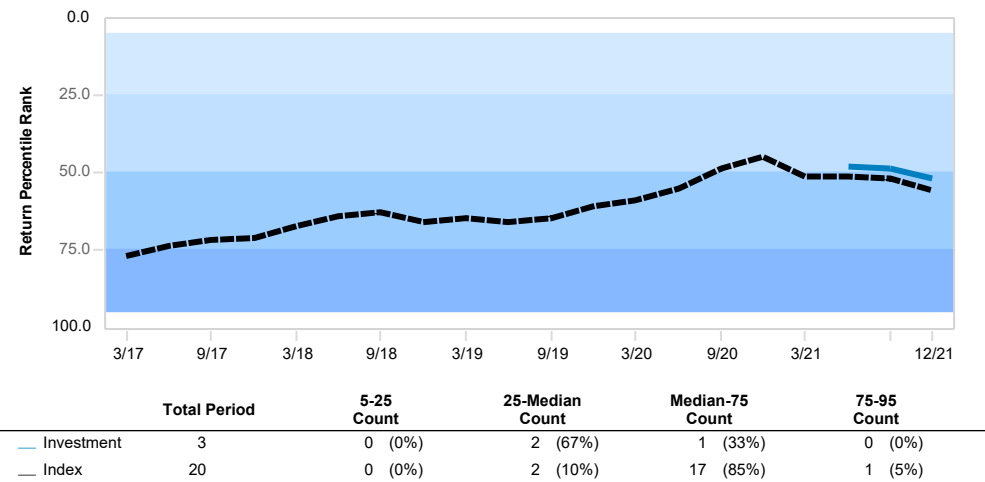
### Risk and Return 5 Years



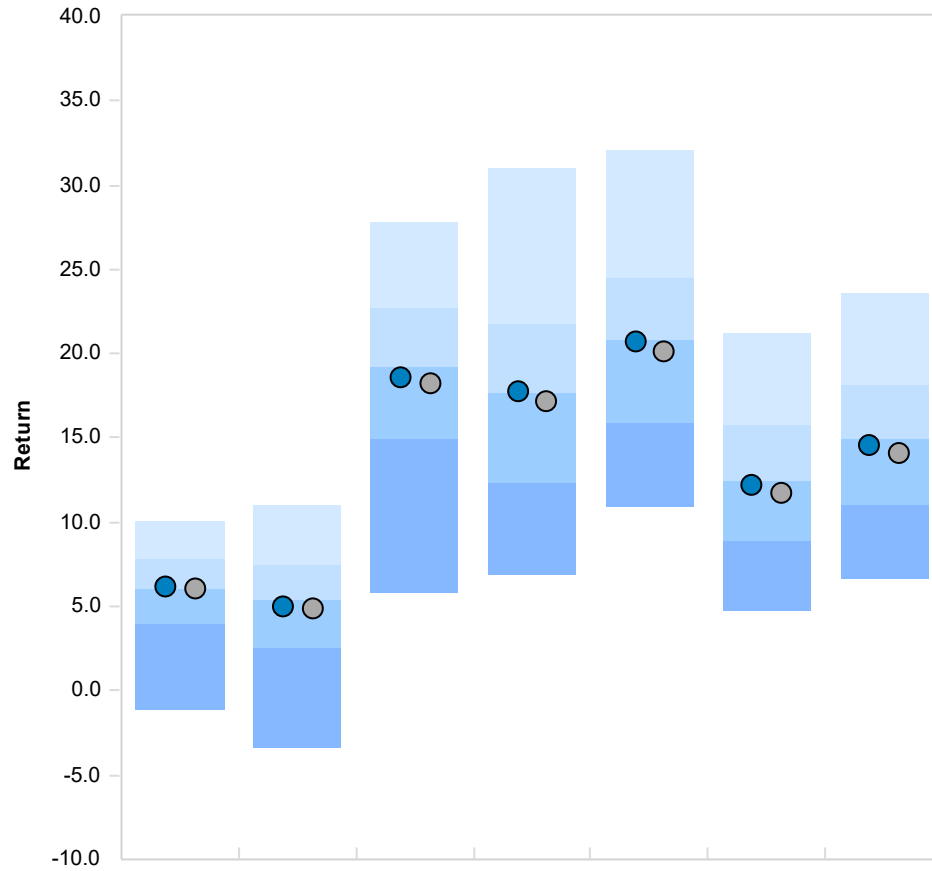
### 3 Year Rolling Percentile Rank IM Global Equity (SA+CF)



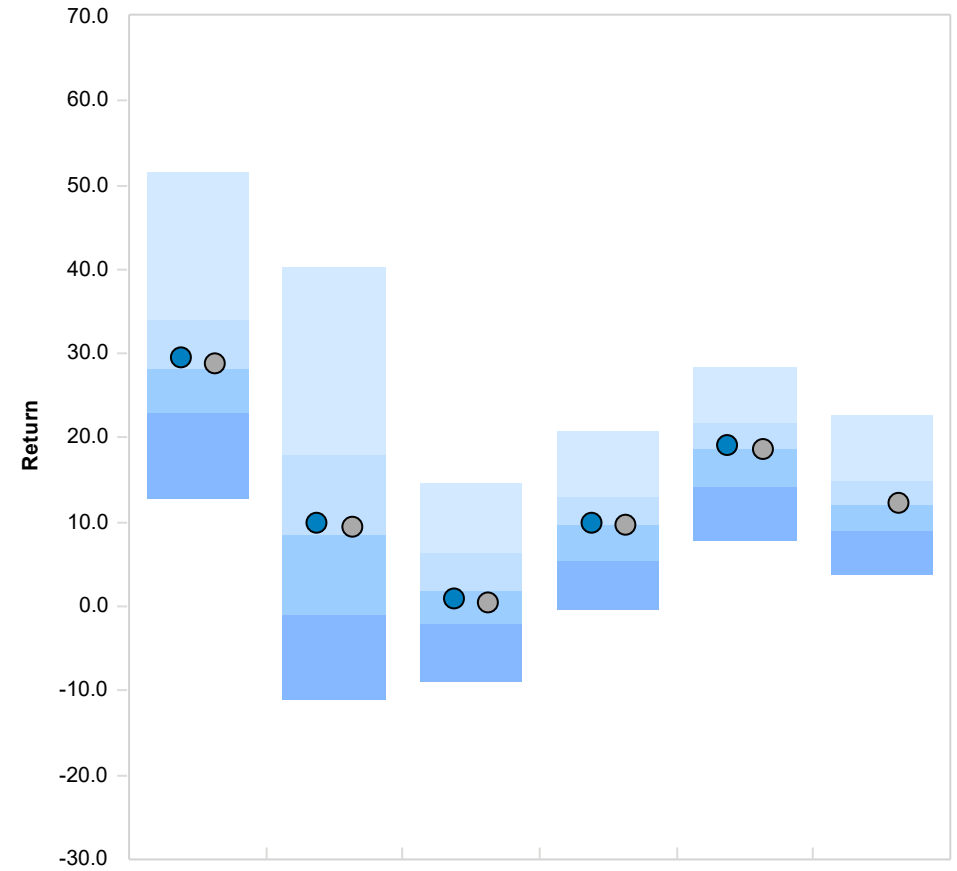
### 5 Year Rolling Percentile Rank IM Global Equity (SA+CF)



**Peer Group Analysis - IM Global Equity (SA+CF)**



**Peer Group Analysis - IM Global Equity (SA+CF)**



**Comparative Performance**

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	-1.05	7.25	5.31	15.91	8.17	19.99
Index	-1.11	7.18	5.14	15.70	8.11	19.83

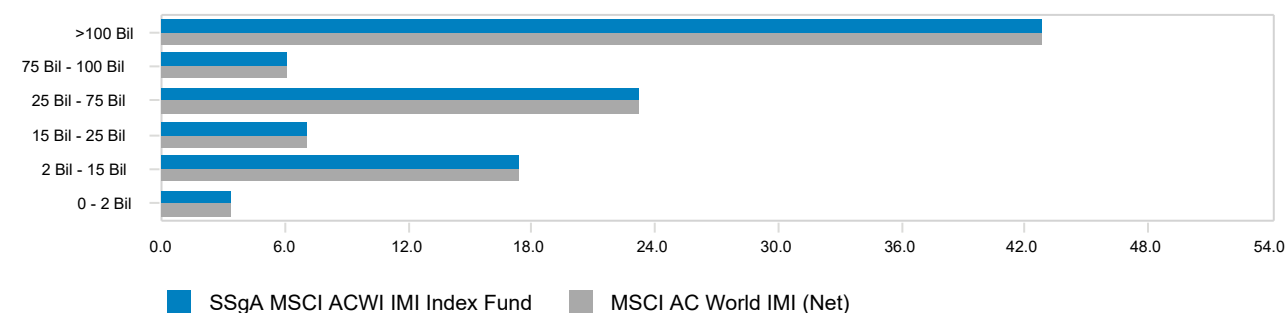
**Portfolio Characteristics (Benchmark: MSCI AC World IMI (Net))**

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	373,927,606,492	373,927,606,612
Median Mkt. Cap (\$)	2,217,021,660	2,217,021,660
Price/Earnings ratio	19.68	19.68
Price/Book ratio	3.69	3.69
5 Yr. EPS Growth Rate (%)	18.51	18.51
Current Yield (%)	1.77	1.77
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	9,309	9,309

**Top Ten Equity Holdings (Benchmark: MSCI AC World IMI (Net))**

	Portfolio (%)	Benchmark (%)	Active (%)	Qtr Rtn (%)
Apple Inc	3.67	3.67	0.00	25.67
Microsoft Corp	3.00	3.00	0.00	19.51
Amazon.com Inc	1.90	1.90	0.00	1.50
Tesla Inc	1.11	1.11	0.00	36.27
Alphabet Inc	1.09	1.09	0.00	8.36
Alphabet Inc	1.04	1.04	0.00	8.57
Meta Platforms Inc	1.00	1.00	0.00	-0.90
NVIDIA Corporation	0.92	0.92	0.00	41.99
Taiwan Semiconductor ORD	0.68	0.68	0.00	7.00
Unitedhealth Group Inc	0.59	0.59	0.00	28.92

**Distribution of Market Capitalization (%)**



**Ten Best Performers**

	Portfolio (%)	Benchmark (%)
Tata Teleservices (Maharashtra) Ltd	0.00	0.00
PT Berkah Beton Sadaya Tbk	0.00	0.00
Brightcom Group Ltd	0.00	0.00
Dubai Financial Market	0.00	0.00
Cowell E Holdings Inc	0.00	0.00
Vidente Co Ltd	0.00	0.00
Wemade Co Ltd	0.00	0.00
Skyworth Group Ltd	0.00	0.00
AVZ Minerals Ltd	0.00	0.00
Wysiwyg Studios Co Ltd	0.00	0.00

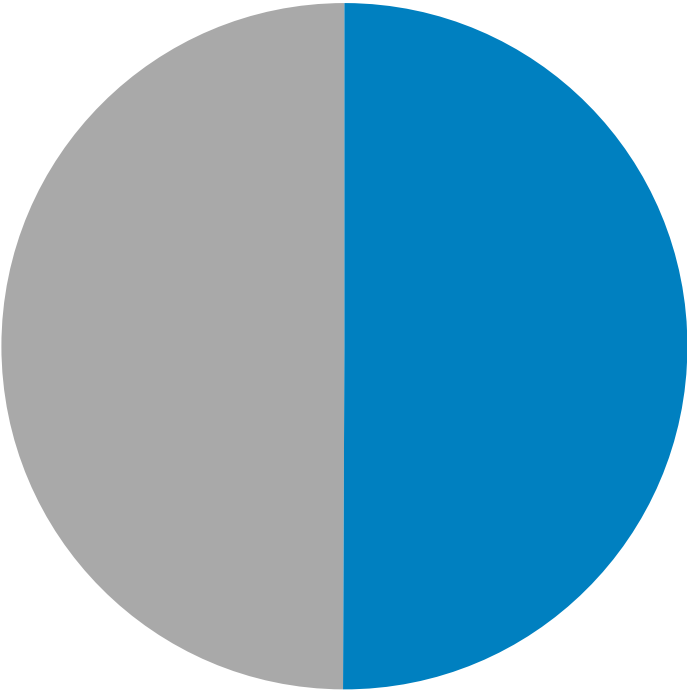
Buy and Hold Sector Attribution	Allocation		Performance		Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Total
Communication Services	8.5	8.5	-1.68	-1.68	0.00	0.00	0.00
Consumer Discretionary	12.5	12.5	5.34	5.34	0.00	0.00	0.00
Consumer Staples	6.5	6.5	7.41	7.41	0.00	0.00	0.00
Energy	3.5	3.5	2.80	2.80	0.00	0.00	0.00
Financials	14.2	14.2	3.18	3.18	0.00	0.00	0.00
Health Care	11.6	11.6	5.23	5.23	0.00	0.00	0.00
Industrials	10.7	10.7	5.30	5.30	0.00	0.00	0.00
Information Technology	21.2	21.2	12.11	12.11	0.00	0.00	0.00
Materials	5.0	5.0	6.71	6.71	0.00	0.00	0.00
Real Estate	3.5	3.5	8.87	8.87	0.00	0.00	0.00
Utilities	2.6	2.6	9.81	9.81	0.00	0.00	0.00
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>6.21</b>	<b>6.21</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**Ten Worst Performers**

	Portfolio (%)	Benchmark (%)
Allakos Inc	0.00	0.00
Cortexyme Inc	0.00	0.00
Shinsun Holdings (Group) Co Ltd	0.00	0.00
ATA IMS Berhad	0.00	0.00
Atea Pharmaceuticals Inc	0.00	0.00
Reata Pharmaceuticals Inc	0.00	0.00
Spire Global Inc	0.00	0.00
Generation Bio Co	0.00	0.00
BeyondSpring Inc	0.00	0.00
Deciphera Pharmaceuticals Inc	0.00	0.00

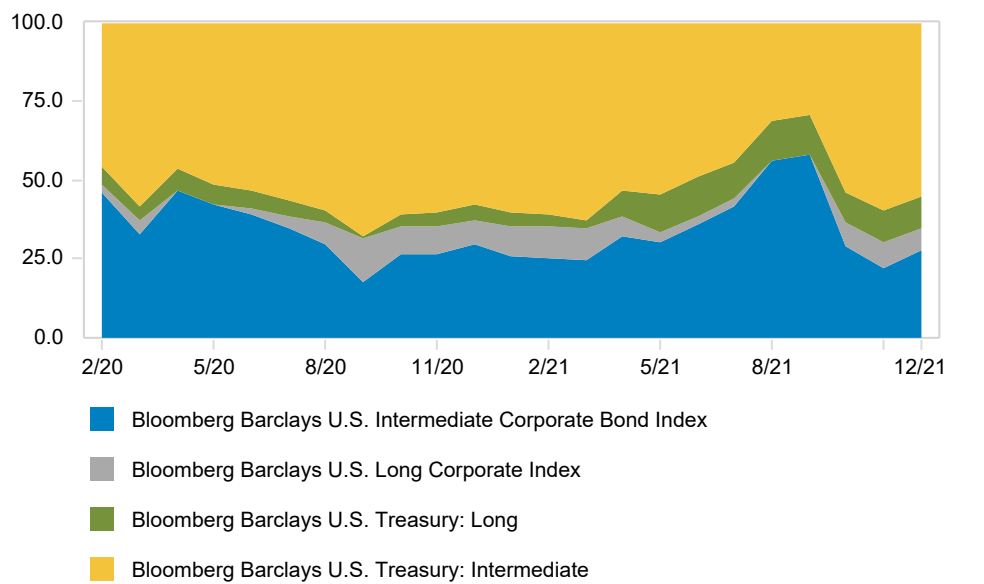
## **Fixed Income**

Manager Allocation
December 31, 2021 : \$424,934,237



	Market Value	Allocation
■ PIMCO Total Return	212,759,090	50.1
■ SSgA Bond Market Index	212,175,147	49.9

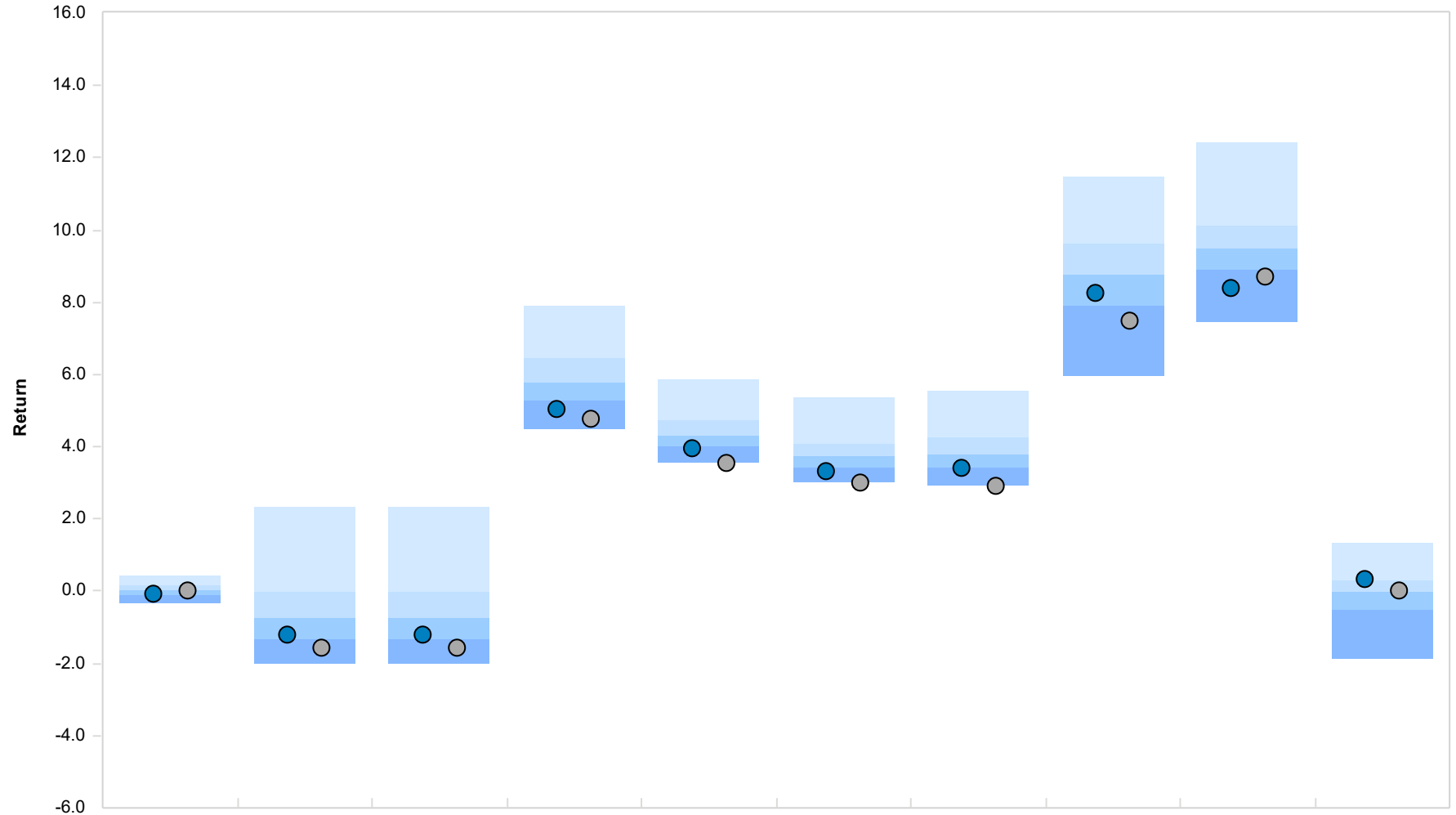
Style Analysis - Returns Based



3 Year Style Analysis



Peer Group Analysis

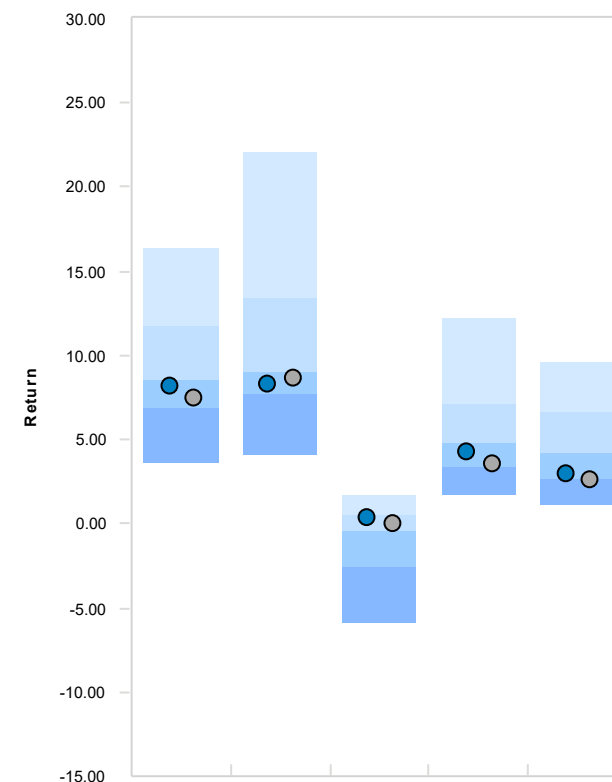
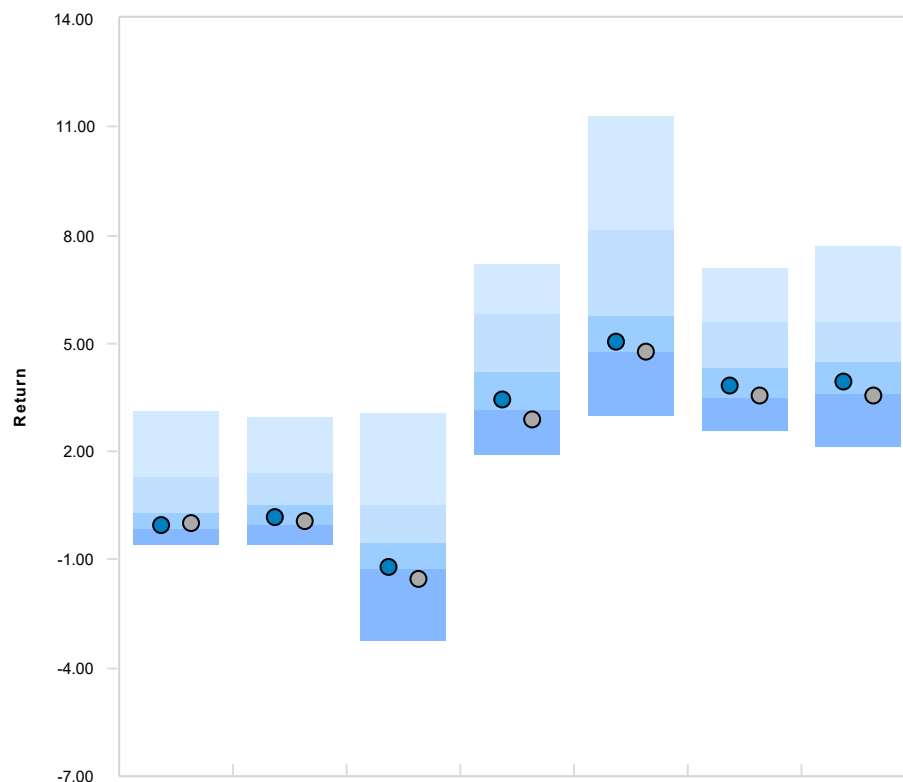


Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.





Plan Sponsor Peer Group Analysis - All Master Trust-US Fixed Income Segment



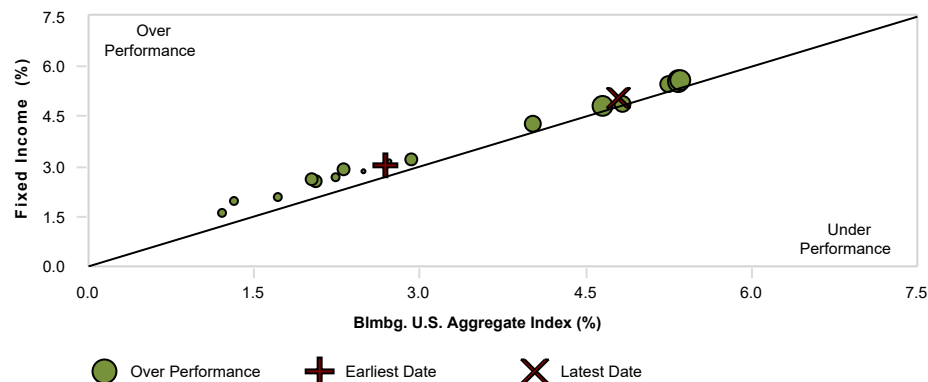
	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Fixed Income	-0.05 (68)	0.21 (61)	-1.21 (75)	3.42 (71)	5.05 (69)	3.85 (68)	3.95 (64)
● Blmbg. U.S. Aggregate Index	0.01 (66)	0.06 (71)	-1.55 (81)	2.88 (82)	4.79 (76)	3.57 (75)	3.57 (76)
Median	0.29	0.52	-0.54	4.20	5.76	4.31	4.50

	2020	2019	2018	2017	2016
● Fixed Income	8.27 (55)	8.39 (64)	0.35 (28)	4.34 (56)	3.05 (69)
● Blmbg. U.S. Aggregate Index	7.51 (66)	8.72 (58)	0.01 (36)	3.54 (69)	2.65 (78)
Median	8.58	9.09	-0.39	4.78	4.24

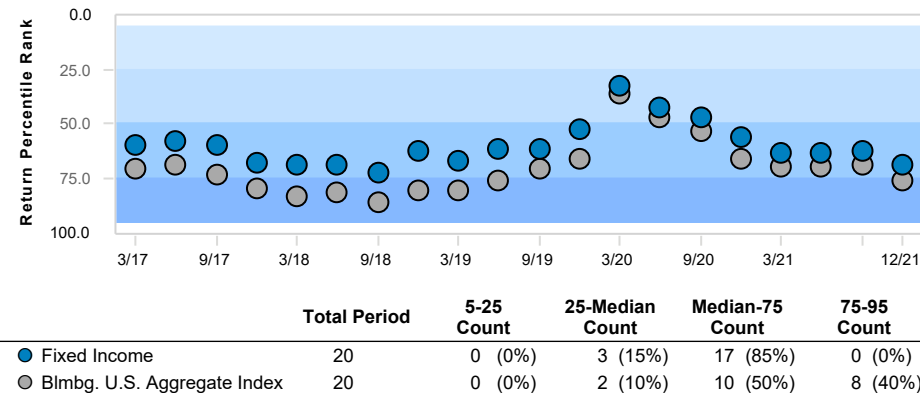
Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Fixed Income	0.26	1.99	-3.34	0.72	1.07	3.36
Blmbg. U.S. Aggregate Index	0.05	1.83	-3.38	0.67	0.62	2.90

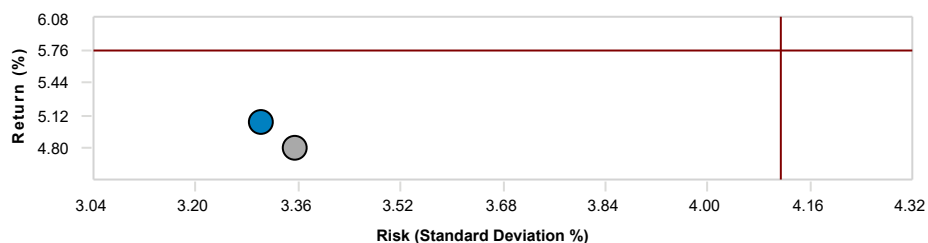
### 3 Yr Rolling Under/Over Performance - 5 Years



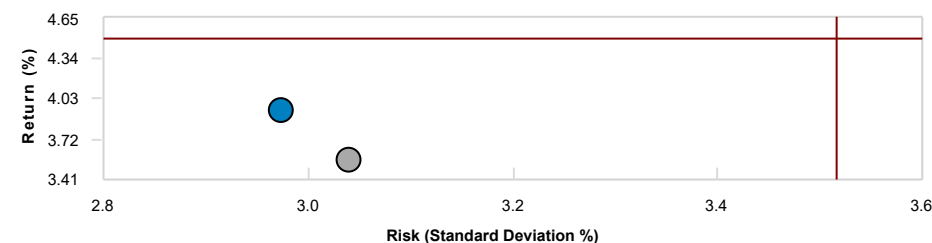
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Fixed Income	0.49	101.59	94.59	0.38	0.50	1.24	0.97	1.49
Blmbg. U.S. Aggregate Index	0.00	100.00	100.00	0.00	N/A	1.15	1.00	1.47

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Fixed Income	0.42	102.72	91.91	0.48	0.88	0.95	0.97	1.43
Blmbg. U.S. Aggregate Index	0.00	100.00	100.00	0.00	N/A	0.81	1.00	1.46

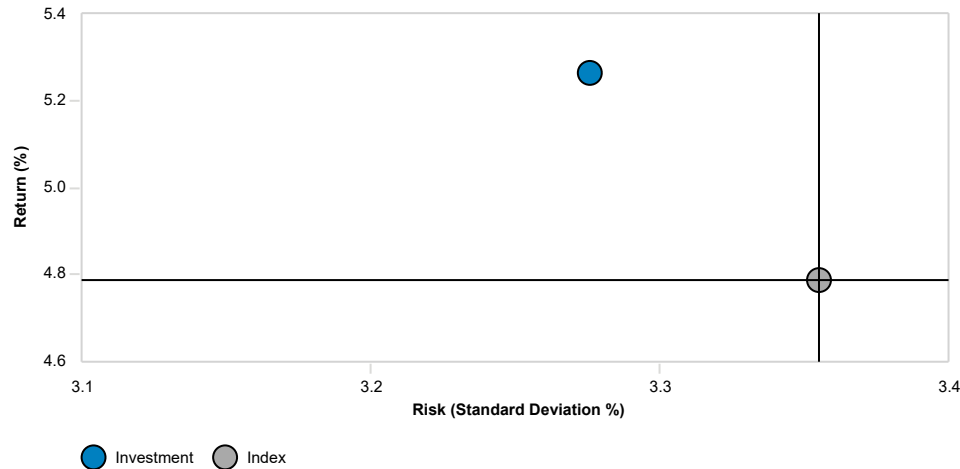
### Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	5.26	3.28	1.30	101.90	10	87.19	2
Index	4.79	3.36	1.15	100.00	11	100.00	1

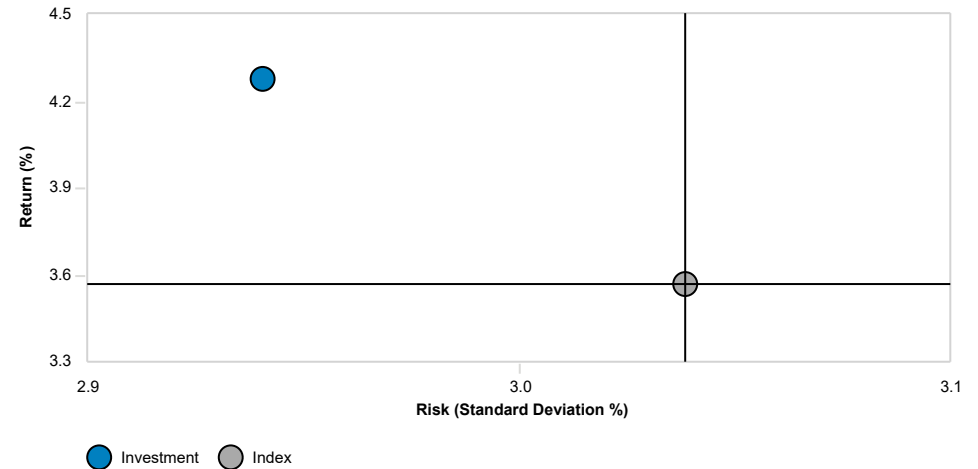
### Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	4.28	2.94	1.06	104.30	17	83.24	3
Index	3.57	3.04	0.81	100.00	17	100.00	3

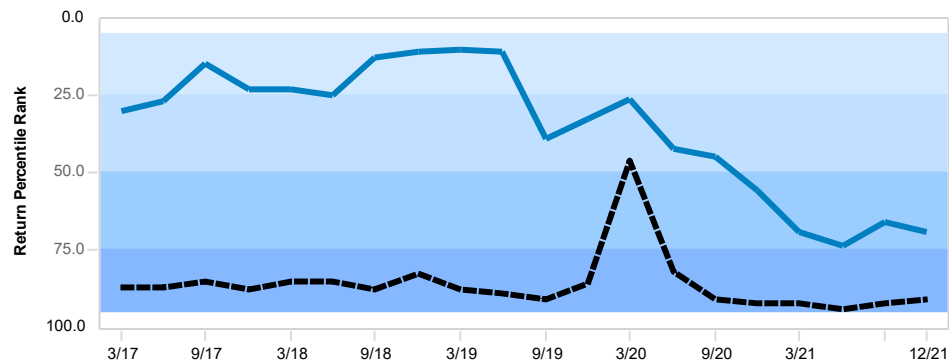
### Risk and Return 3 Years



### Risk and Return 5 Years

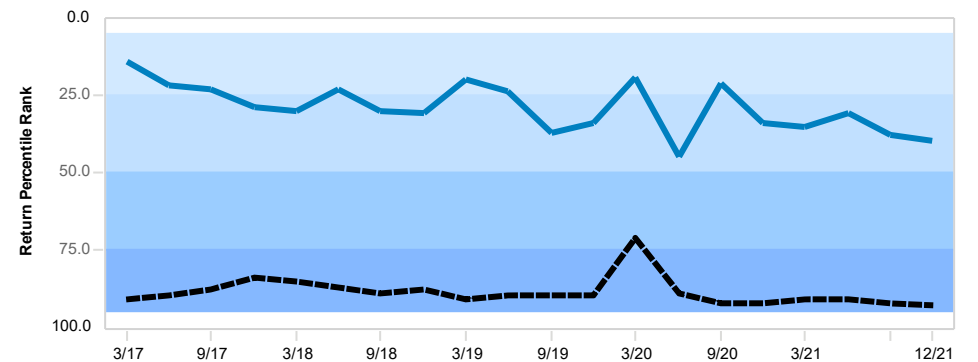


### 3 Year Rolling Percentile Rank IM U.S. Broad Market Core Fixed Income (SA+CF)



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	8 (40%)	7 (35%)	5 (25%)	0 (0%)
Index	20	0 (0%)	1 (5%)	0 (0%)	19 (95%)

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



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	8 (40%)	12 (60%)	0 (0%)	0 (0%)
Index	20	0 (0%)	0 (0%)	1 (5%)	19 (95%)

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

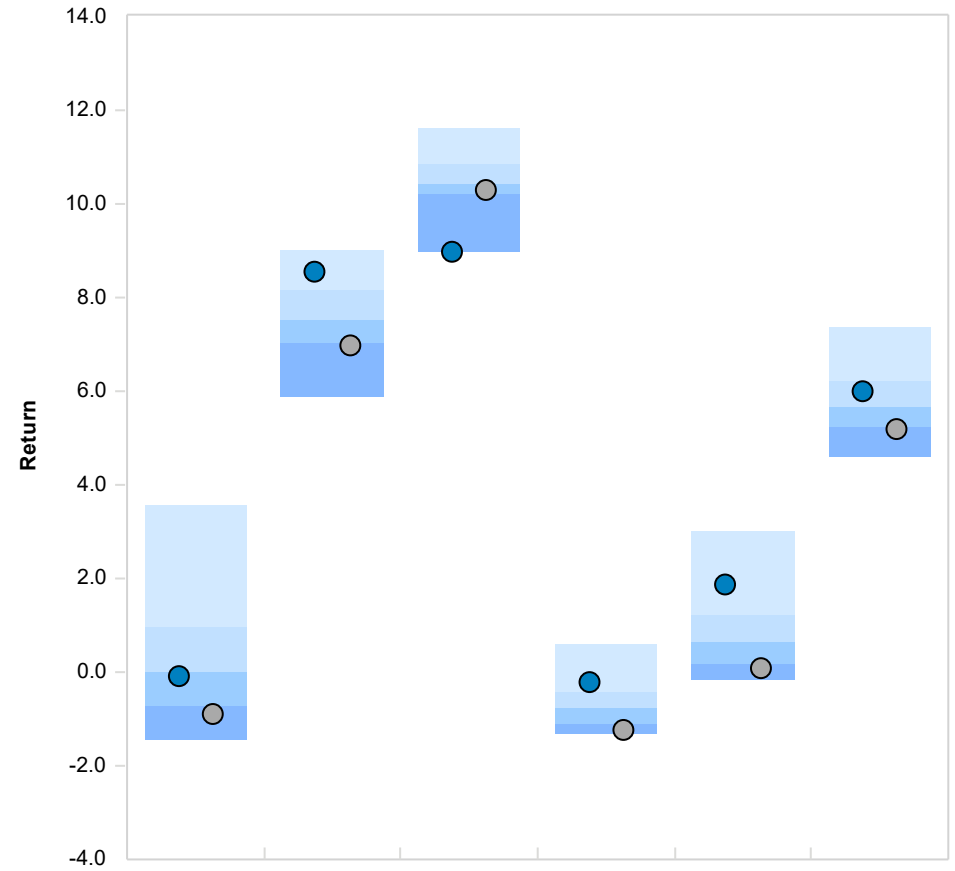


	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	-0.09 (63)	0.37 (8)	-0.93 (39)	3.85 (39)	5.26 (69)	4.09 (57)	4.28 (40)
Index	0.01 (33)	0.06 (45)	-1.55 (72)	2.88 (89)	4.79 (91)	3.57 (91)	3.57 (93)
Median	-0.05	0.03	-1.20	3.75	5.56	4.15	4.13

Comparative Performance

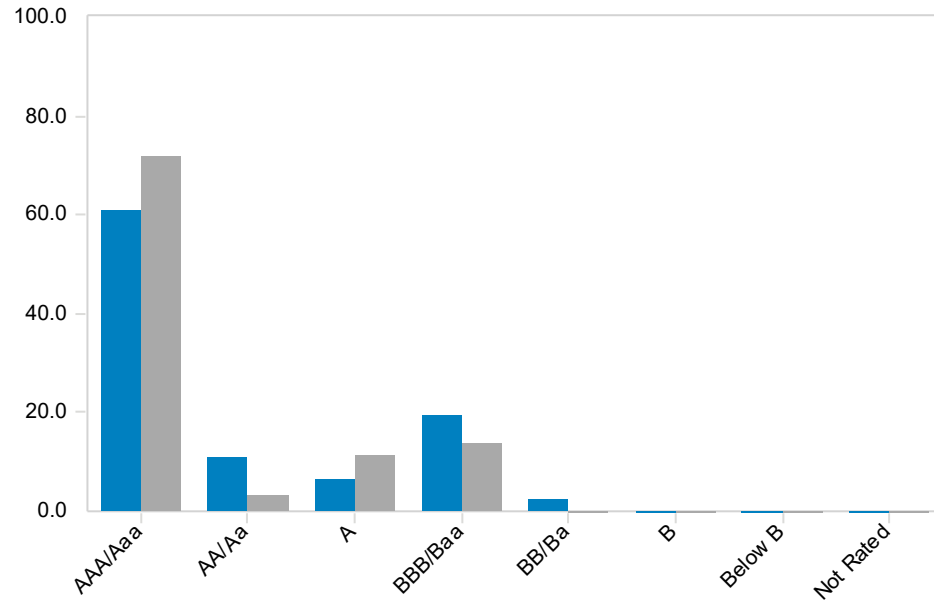
	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	0.45	2.12	-3.34	0.75	1.41	3.71
Index	0.05	1.83	-3.38	0.67	0.62	2.90

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

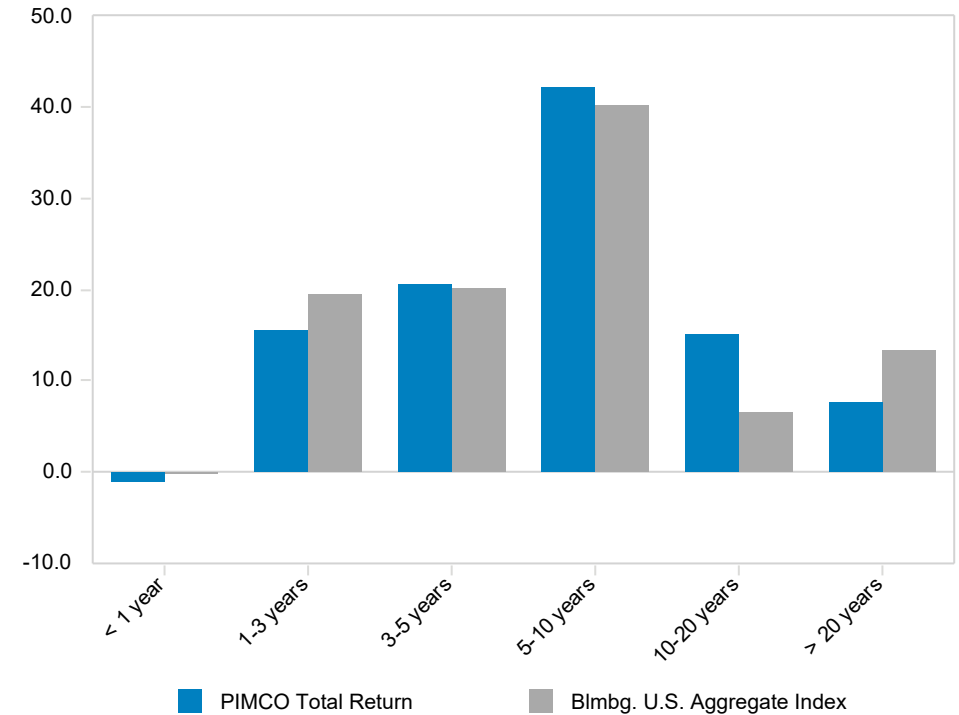


	Oct-2020 To Sep-2021	Oct-2019 To Sep-2020	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016
Investment	-0.10 (55)	8.56 (14)	9.00 (95)	-0.23 (17)	1.89 (11)	5.99 (33)
Index	-0.90 (86)	6.98 (77)	10.30 (69)	-1.22 (88)	0.07 (84)	5.19 (80)
Median	-0.02	7.52	10.43	-0.75	0.63	5.66

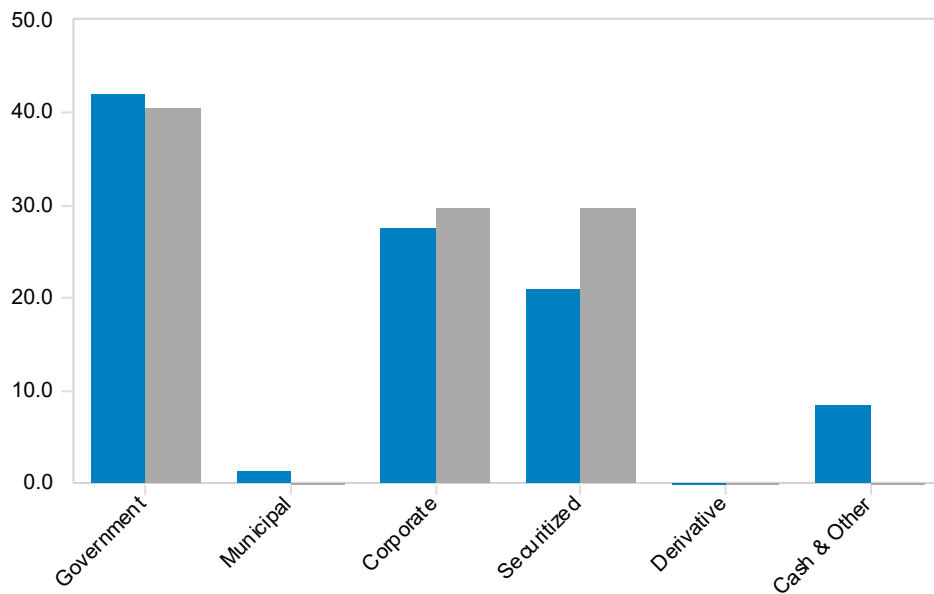
#### Credit Quality Distribution (%)



#### Maturity Distribution (%)



#### Sector Distribution (%)



#### Portfolio Characteristics

	Portfolio	Benchmark
Avg. Maturity	9.44	8.71
Avg. Quality	AA	AA1/AA2
Coupon Rate (%)	2.40	2.43
Yield To Maturity (%)	2.20	1.76
Current Yield	2.24	2.32
Effective Duration	5.84	6.69
Holdings Count	528	12,350

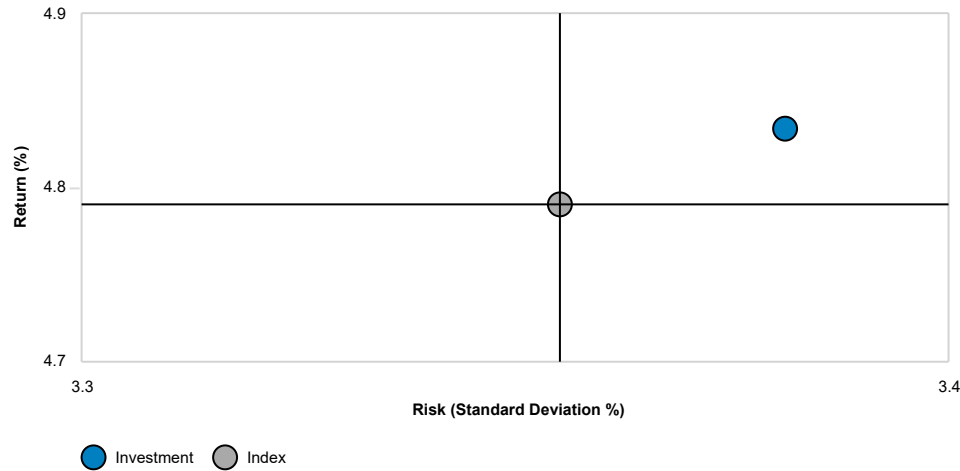
### Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	4.83	3.38	1.15	101.06	10	101.37	2
Index	4.79	3.36	1.15	100.00	11	100.00	1

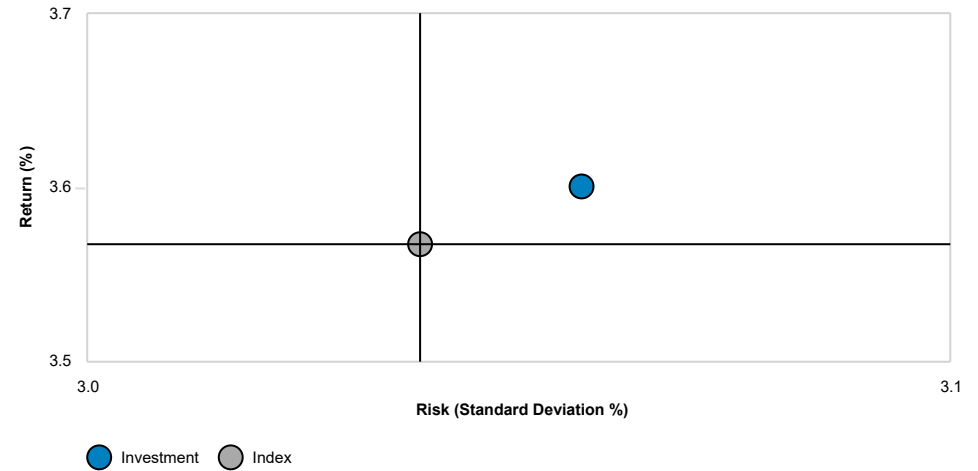
### Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	3.60	3.06	0.82	100.85	16	100.75	4
Index	3.57	3.04	0.81	100.00	17	100.00	3

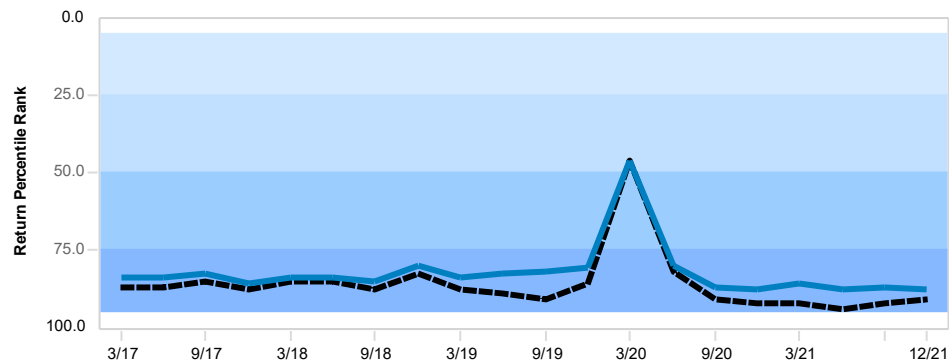
### Risk and Return 3 Years



### Risk and Return 5 Years

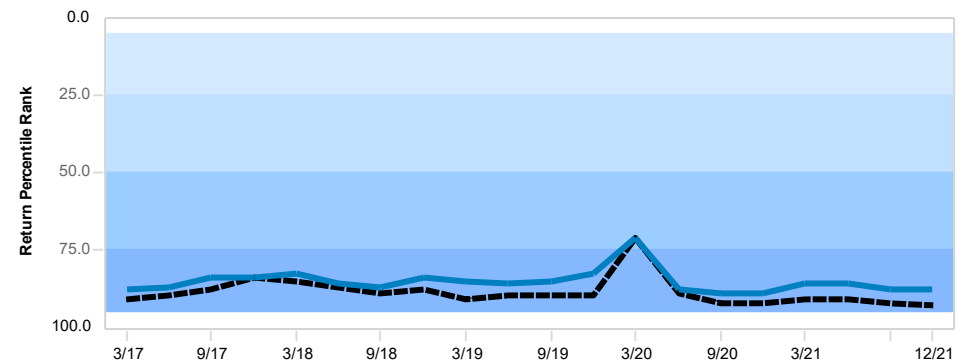


### 3 Year Rolling Percentile Rank IM U.S. Broad Market Core Fixed Income (SA+CF)



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

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

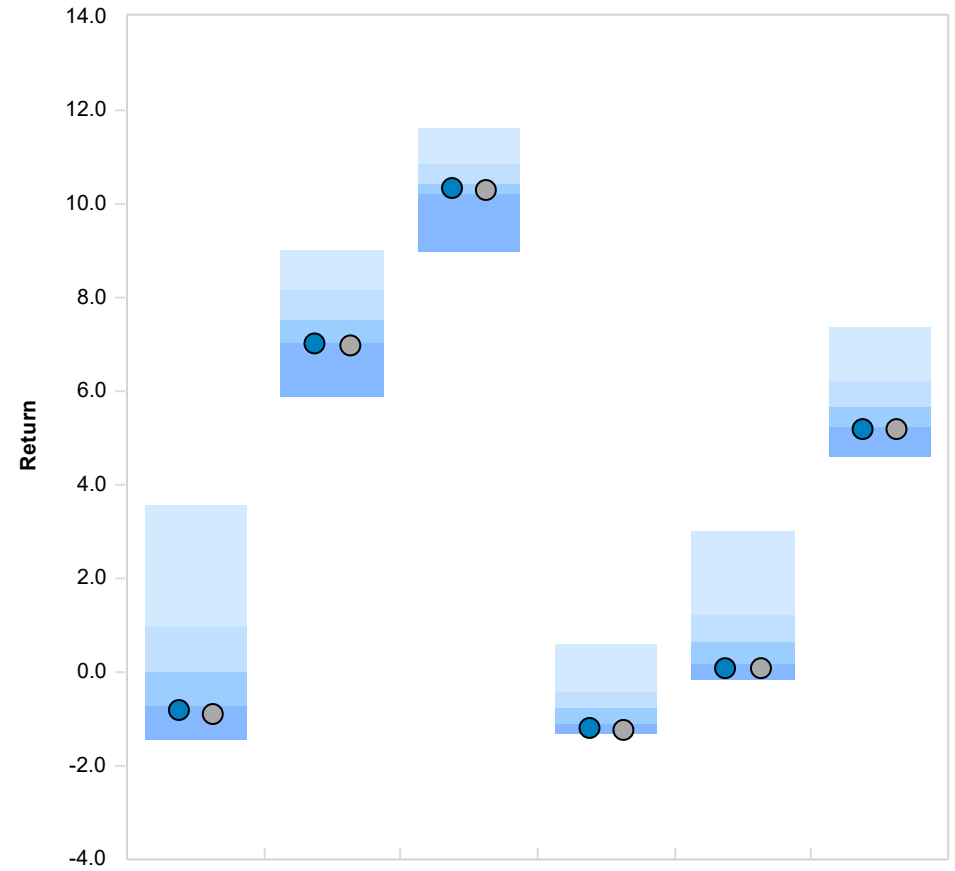


	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	0 (0%)	1 (5%)	19 (95%)
Index	20	0 (0%)	0 (0%)	1 (5%)	19 (95%)

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



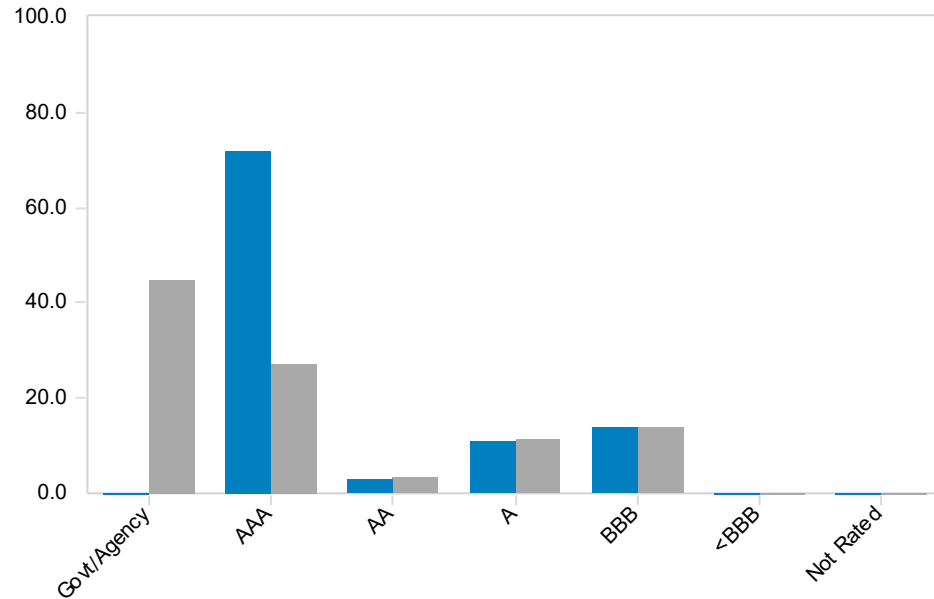
Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (SA+CF)



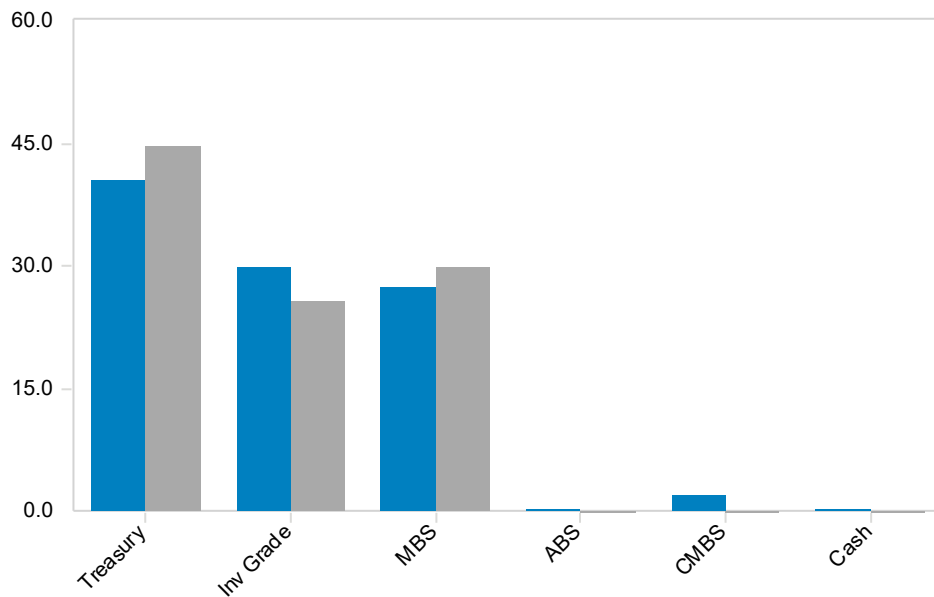
Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	0.06	1.85	-3.35	0.69	0.65	2.99
Index	0.05	1.83	-3.38	0.67	0.62	2.90

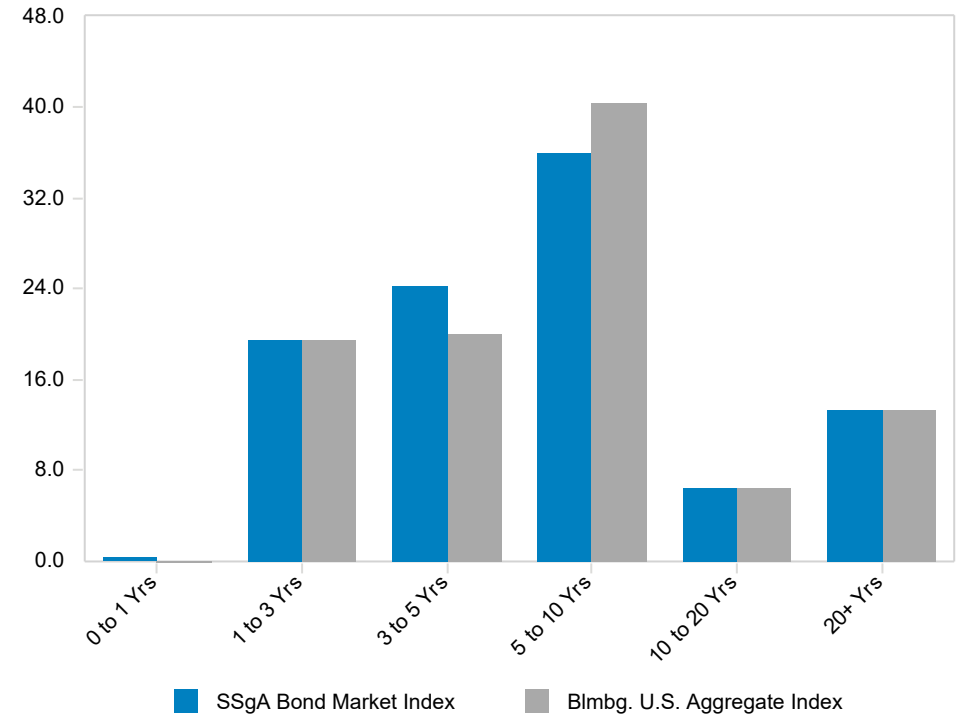
#### Credit Quality Distribution (%)



#### Sector Distribution (%)



#### Maturity Distribution (%)



#### Portfolio Characteristics

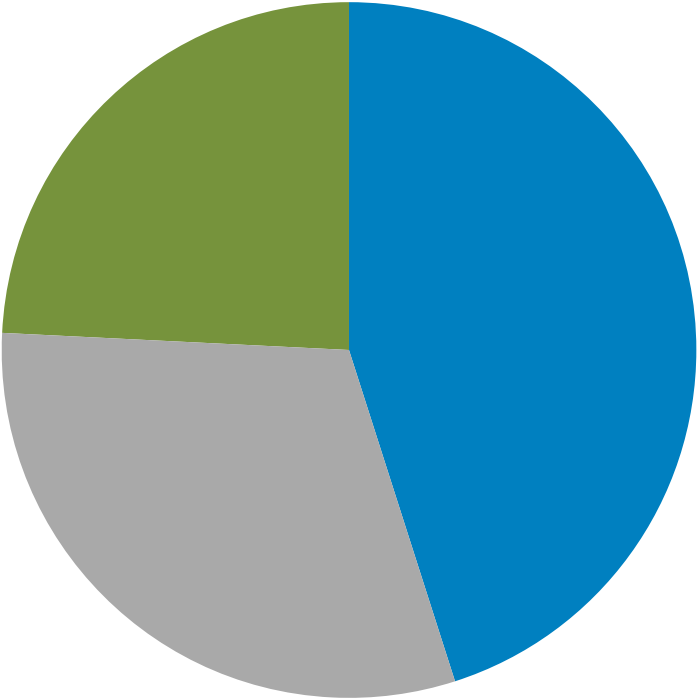
	Portfolio	Benchmark
Avg. Maturity	8.58	8.71
Avg. Quality	Aa2	AA1/AA2
Coupon Rate (%)	2.55	2.43
Yield To Maturity (%)	1.76	1.76
Current Yield	2.33	2.32
Effective Duration	6.78	6.69
Holdings Count	9,291	12,350



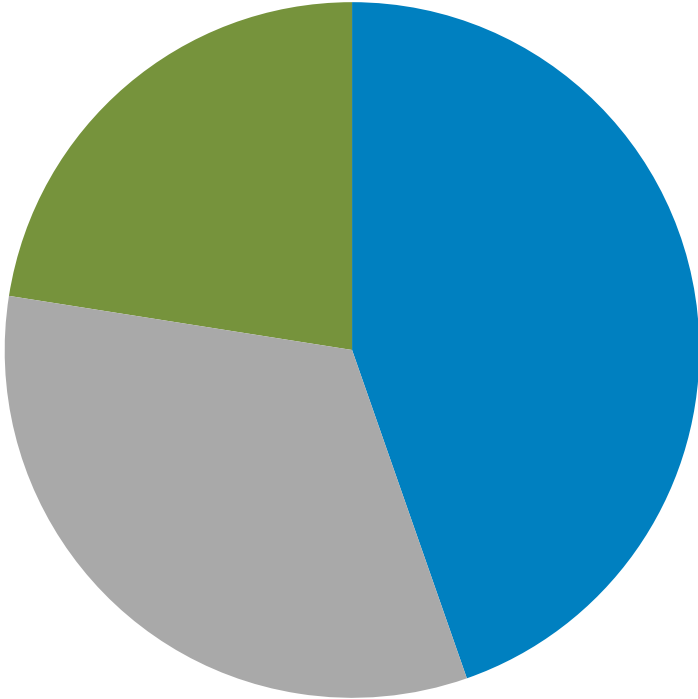
## **Real Estate**

December 31, 2021 : \$115,605,758

September 30, 2021 : \$108,165,577



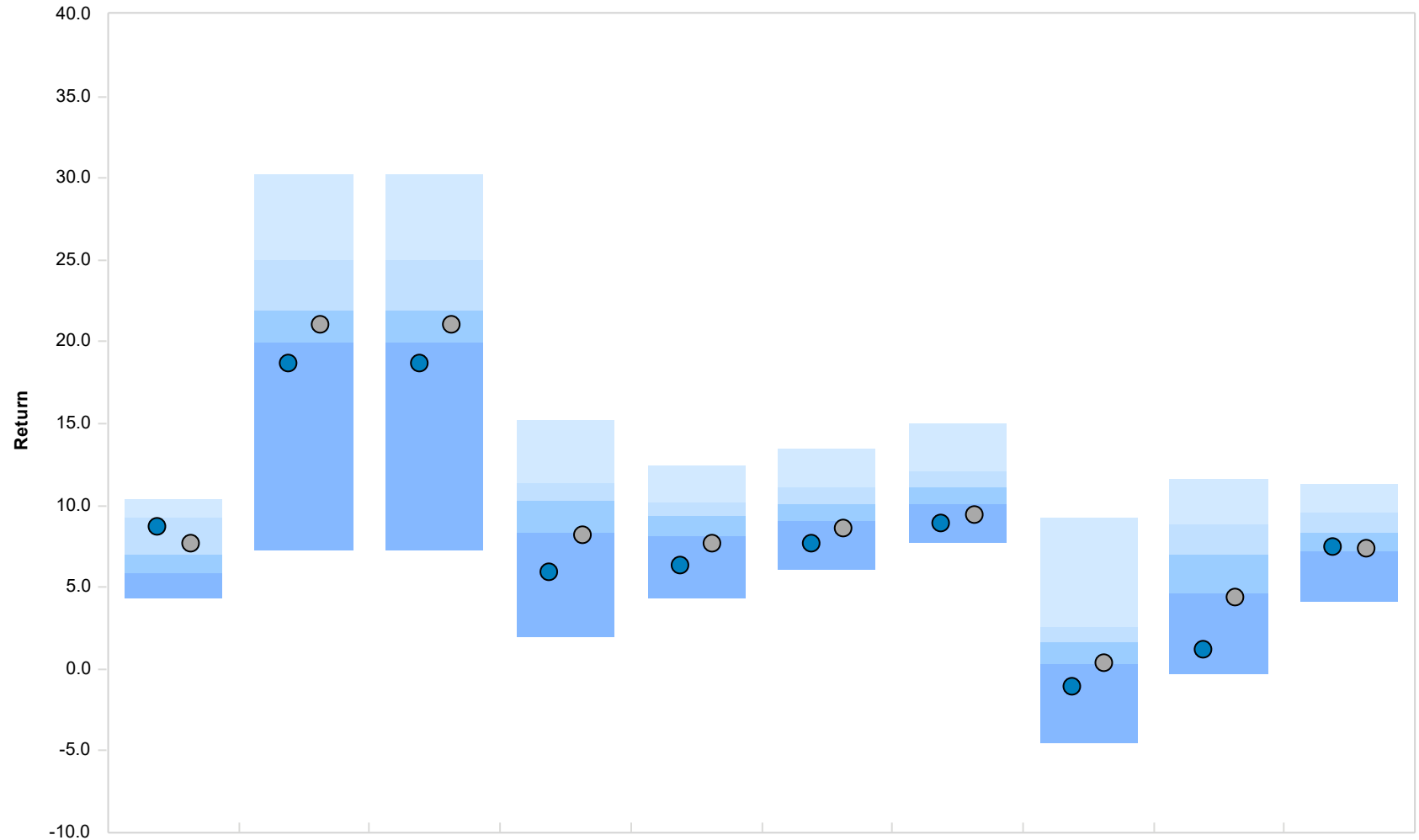
	Market Value	Allocation
JP Morgan Asset Management Strategic Property Fund	52,095,003	45.1
UBS Trumbull Property Fund	35,519,186	30.7
Vanguard Real Estate Index (VGSNX)	27,991,569	24.2



	Market Value	Allocation
JP Morgan Asset Management Strategic Property Fund	48,288,973	44.6
UBS Trumbull Property Fund	35,527,221	32.8
Vanguard Real Estate Index (VGSNX)	24,349,383	22.5



Peer Group Analysis



	3 Month	CYTD	1 Year	3 Year	5 Year	7 Year	10 Year	2020	2019	2018
Real Estate	8.70 (29)	18.65 (78)	18.65 (78)	5.90 (88)	6.40 (85)	7.70 (81)	8.94 (86)	-1.07 (86)	1.18 (94)	7.52 (70)
NCREIF Fund Index-ODCE (VW) (Net)	7.69 (37)	21.06 (57)	21.06 (57)	8.24 (76)	7.75 (77)	8.62 (77)	9.44 (83)	0.34 (75)	4.39 (79)	7.36 (74)
5th Percentile	10.40	30.25	30.25	15.17	12.44	13.43	14.97	9.28	11.62	11.31
1st Quartile	9.29	25.02	25.02	11.41	10.14	11.06	12.16	2.54	8.81	9.57
Median	6.97	21.86	21.86	10.23	9.32	10.04	11.07	1.58	7.02	8.27
3rd Quartile	5.83	19.97	19.97	8.29	8.07	9.00	10.05	0.24	4.57	7.20
95th Percentile	4.32	7.31	7.31	1.90	4.30	6.02	7.65	-4.53	-0.38	4.09

Parenttheses contain percentile rankings.  
Calculation based on quarterly periodicity.

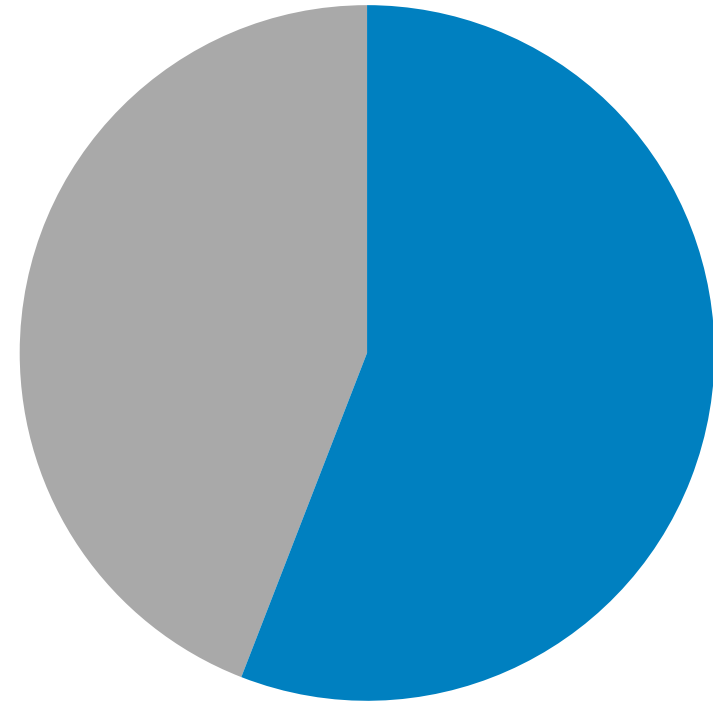
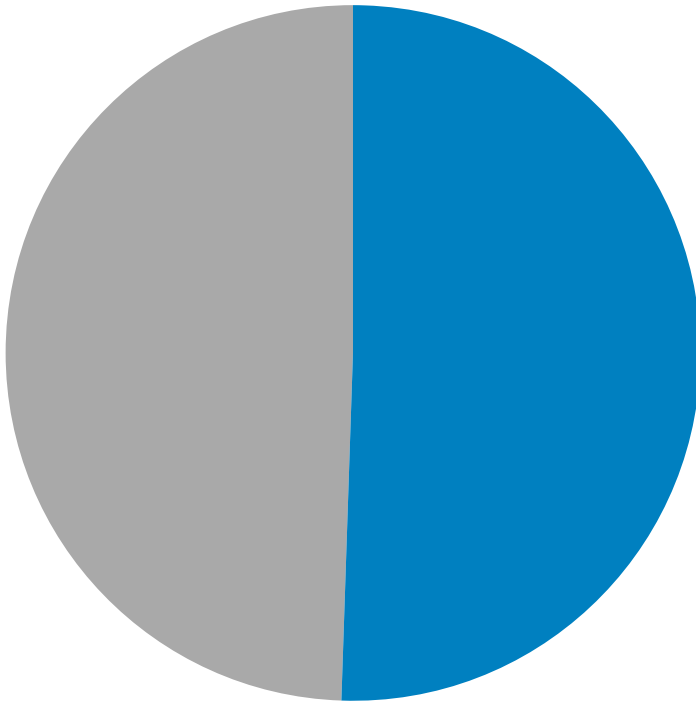


## **Master Limited Partnerships**



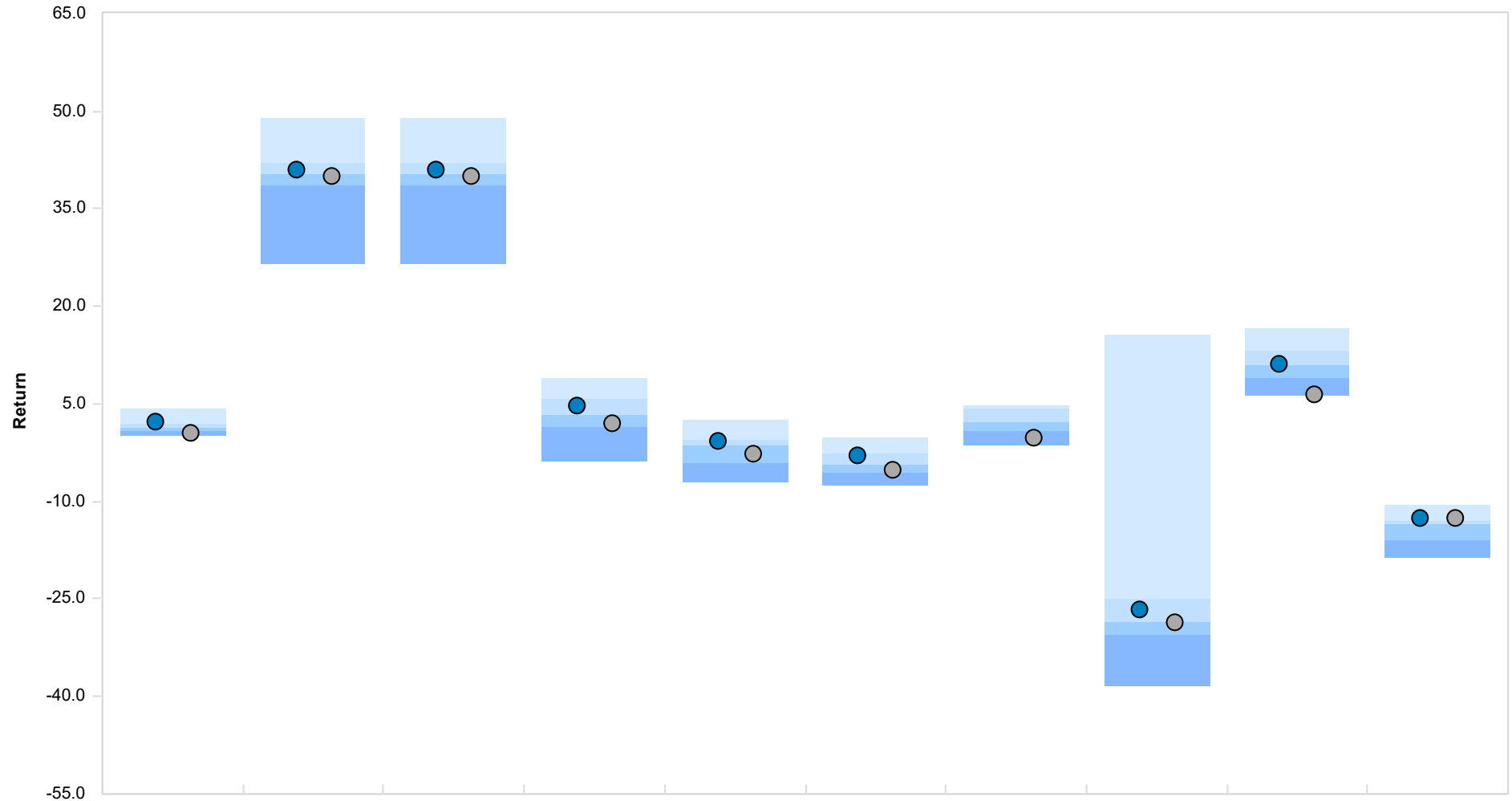
**December 31, 2021 : \$98,085,692**

**September 30, 2021 : \$108,003,974**



	Market Value	Allocation		Market Value	Allocation
■ Harvest MLP	49,568,773	50.5	■ Harvest MLP	60,375,177	55.9
■ Tortoise Capital Advisors	48,516,920	49.5	■ Tortoise Capital Advisors	47,628,798	44.1

Peer Group Analysis

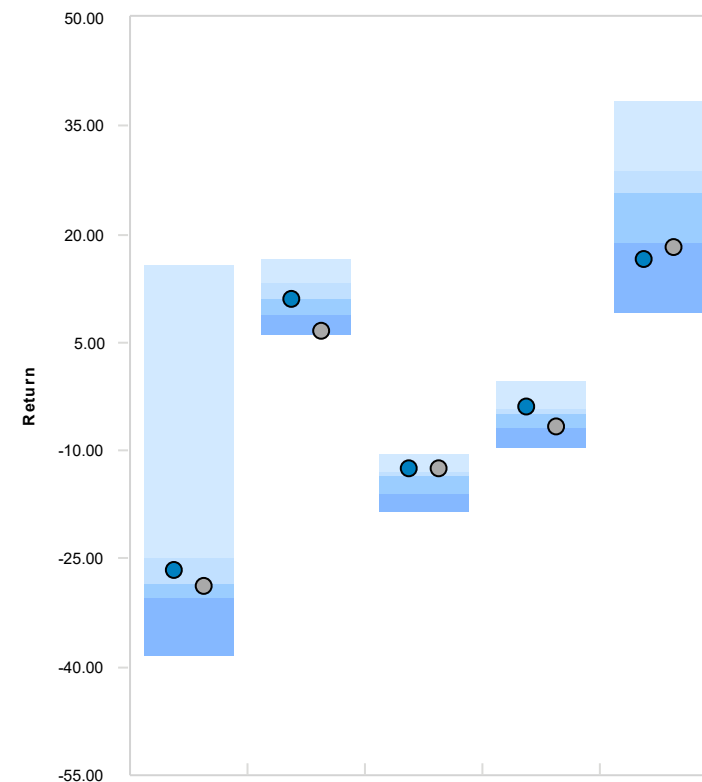
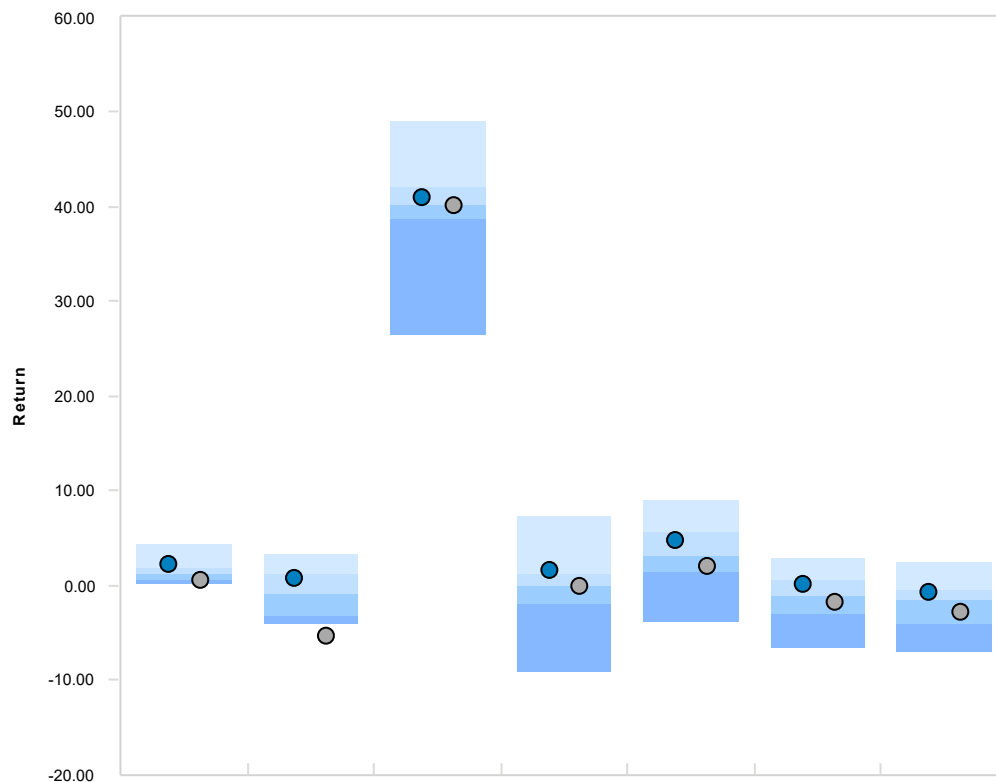


	3 Month	CYTD	1 Year	3 Year	5 Year	7 Year	10 Year	2020	2019	2018
MLPs	2.31 (16)	41.07 (34)	41.07 (34)	4.77 (41)	-0.67 (27)	-3.02 (32)	N/A	-26.67 (28)	11.16 (35)	-12.45 (12)
Alerian MLP Index	0.55 (86)	40.17 (58)	40.17 (58)	2.12 (67)	-2.70 (59)	-5.06 (61)	-0.26 (92)	-28.69 (54)	6.56 (89)	-12.42 (11)
5th Percentile	4.38	48.95	48.95	9.02	2.50	-0.17	4.83	15.73	16.67	-10.56
1st Quartile	1.93	42.16	42.16	5.74	-0.46	-2.74	4.27	-24.94	13.20	-12.99
Median	1.26	40.30	40.30	3.22	-1.52	-4.37	2.30	-28.54	11.00	-13.48
3rd Quartile	0.73	38.69	38.69	1.54	-4.02	-5.62	0.73	-30.51	8.86	-15.97
95th Percentile	0.13	26.53	26.53	-3.81	-7.02	-7.65	-1.45	-38.51	6.17	-18.63

Parenttheses contain percentile rankings.  
Calculation based on monthly periodicity.



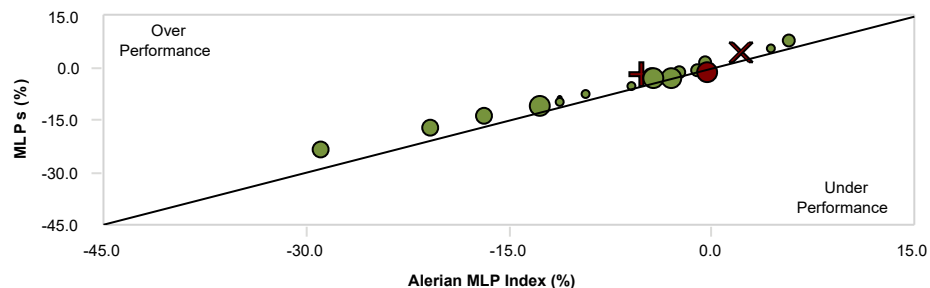
Plan Sponsor Peer Group Analysis - Master Limited Partnerships (SA+CF)



Comparative Performance

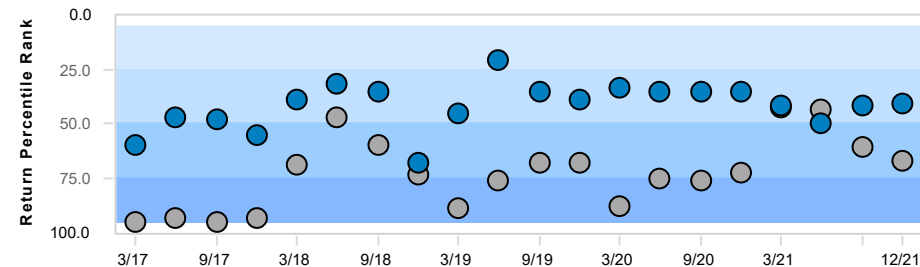
	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
MLPs	-1.33	19.57	16.88	24.76	-12.38	31.60
Alerian MLP Index	-5.71	21.23	21.95	32.45	-16.26	50.18

## 3 Yr Rolling Under/Over Performance - 5 Years



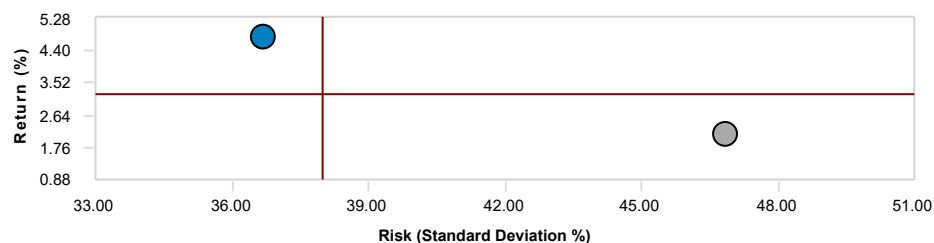
● Over Performance    ● Under Performance  
+ Earliest Date    X Latest Date

## 3 Yr Rolling Percentile Ranking - 5 Years



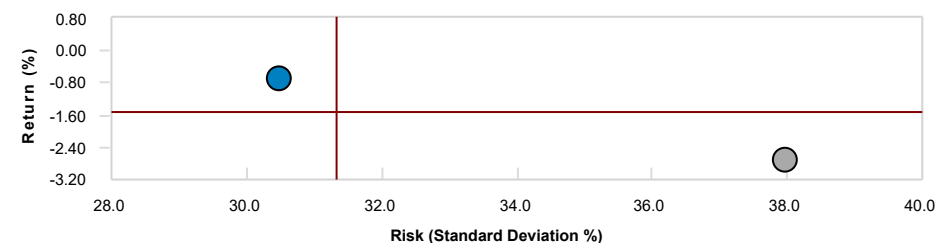
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
● MLPs	20	1 (5%)	16 (80%)	3 (15%)	0 (0%)
● Alerian MLP Index	20	0 (0%)	3 (15%)	9 (45%)	8 (40%)

## Peer Group Scattergram - 3 Years



	Return	Standard Deviation
● MLPs	4.77	36.67
● Alerian MLP Index	2.12	46.86
— Median	3.22	38.01

## Peer Group Scattergram - 5 Years



	Return	Standard Deviation
● MLPs	-0.67	30.46
● Alerian MLP Index	-2.70	37.98
— Median	-1.52	31.33

## Historical Statistics - 3 Years

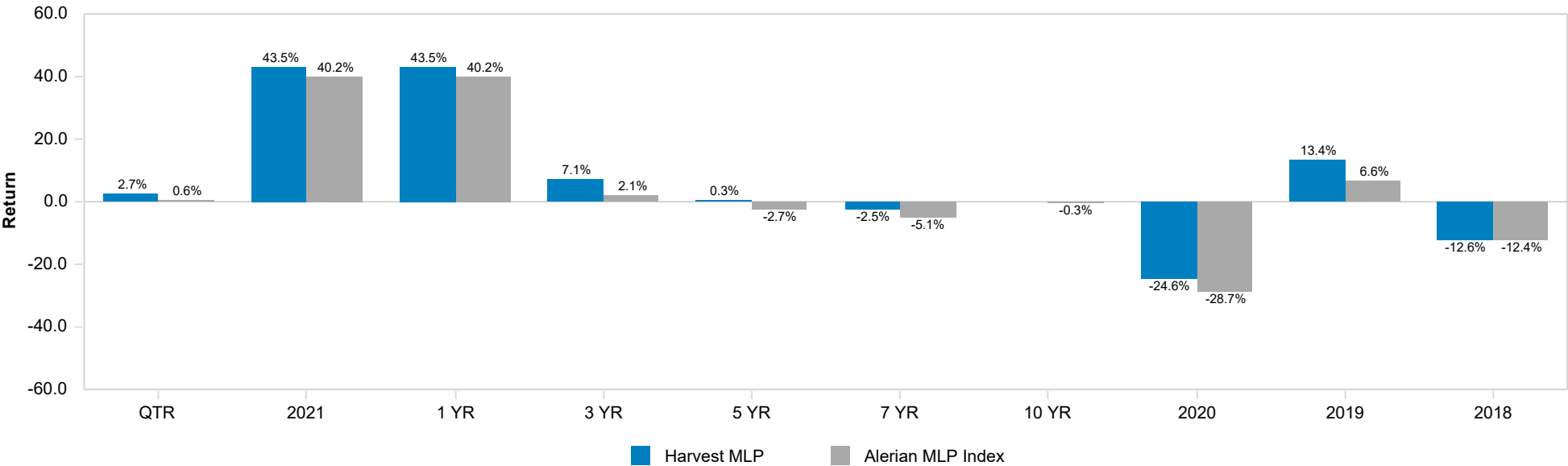
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
MLPs	12.30	83.29	82.08	1.38	-0.15	0.30	0.77	26.13
Alerian MLP Index	0.00	100.00	100.00	0.00	N/A	0.28	1.00	31.23

## Historical Statistics - 5 Years

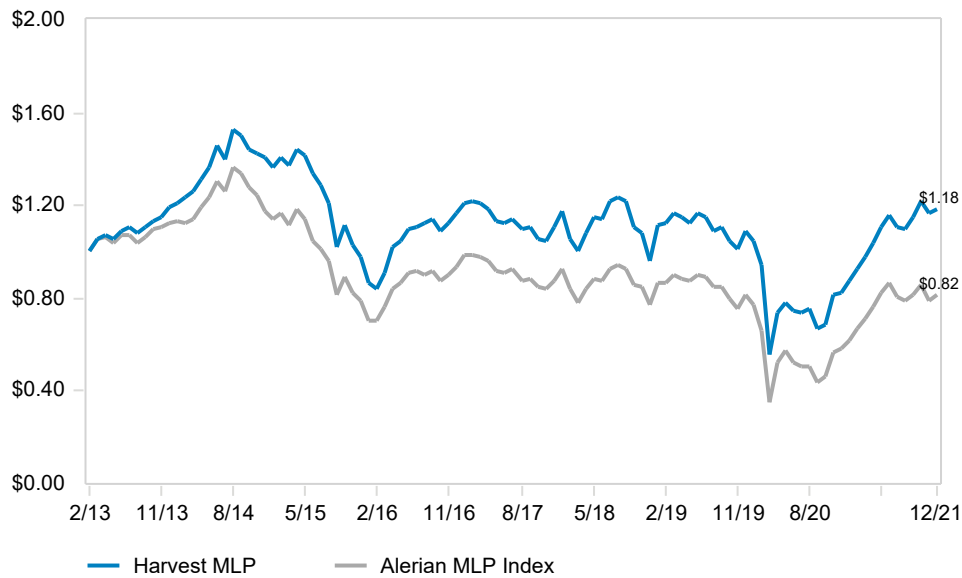
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
MLPs	9.65	86.87	86.62	0.48	-0.06	0.11	0.79	21.91
Alerian MLP Index	0.00	100.00	100.00	0.00	N/A	0.10	1.00	25.66



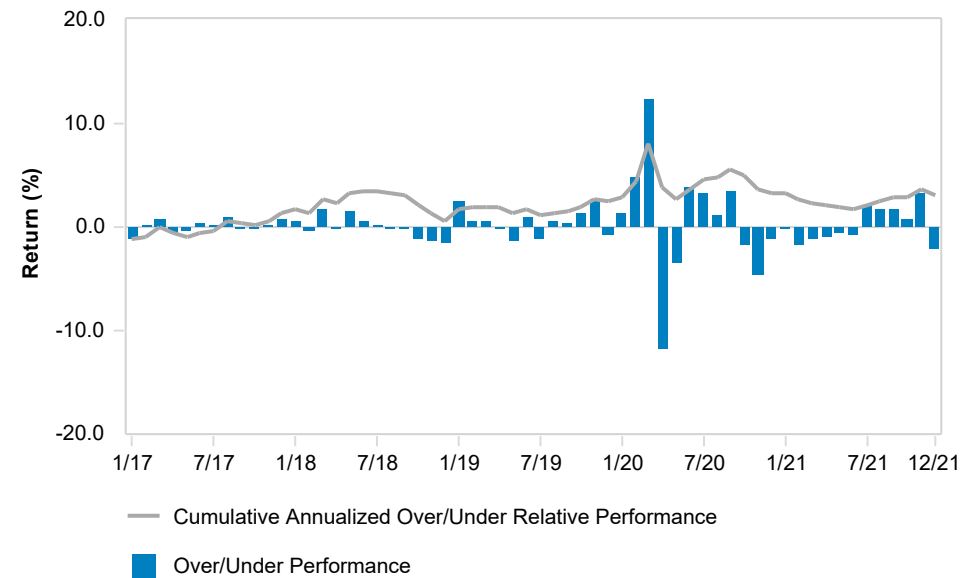
Comparative Performance



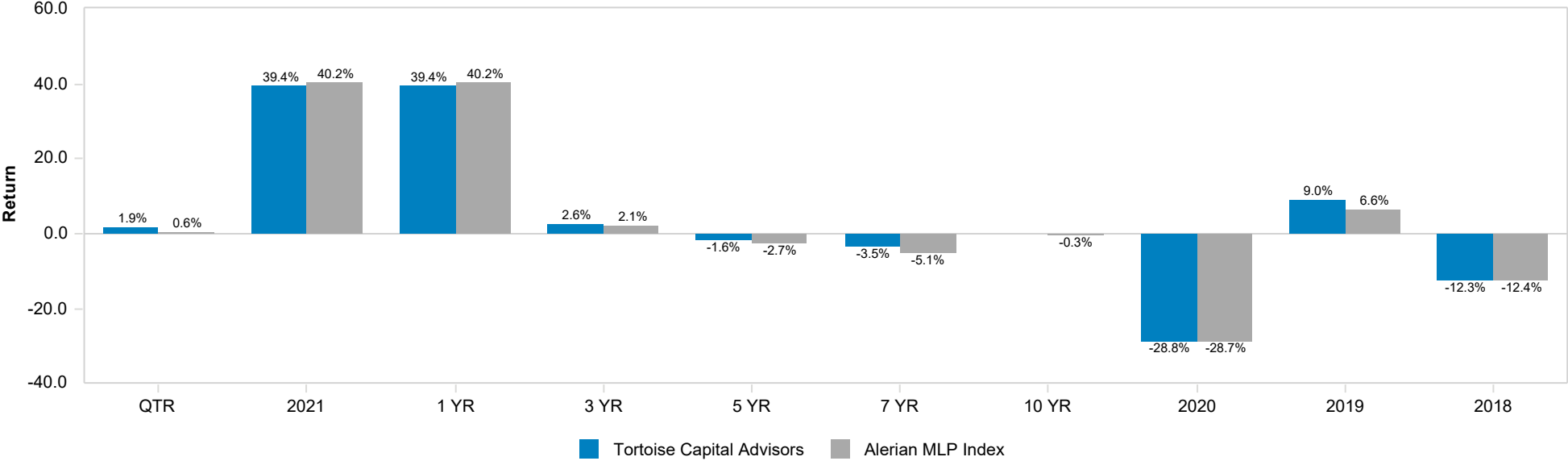
Growth of \$1 - Since Inception (03/01/13)



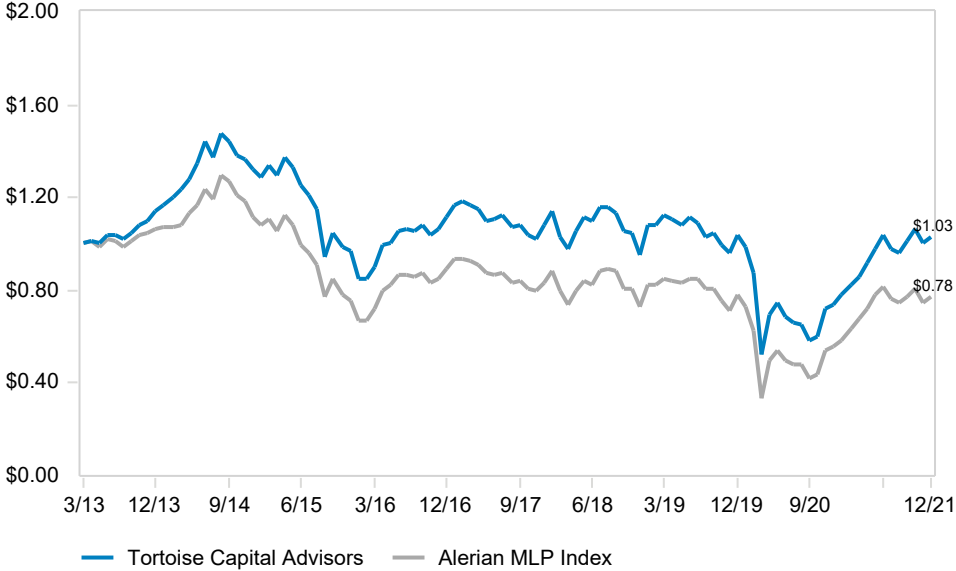
Relative Performance vs. Alerian MLP Index



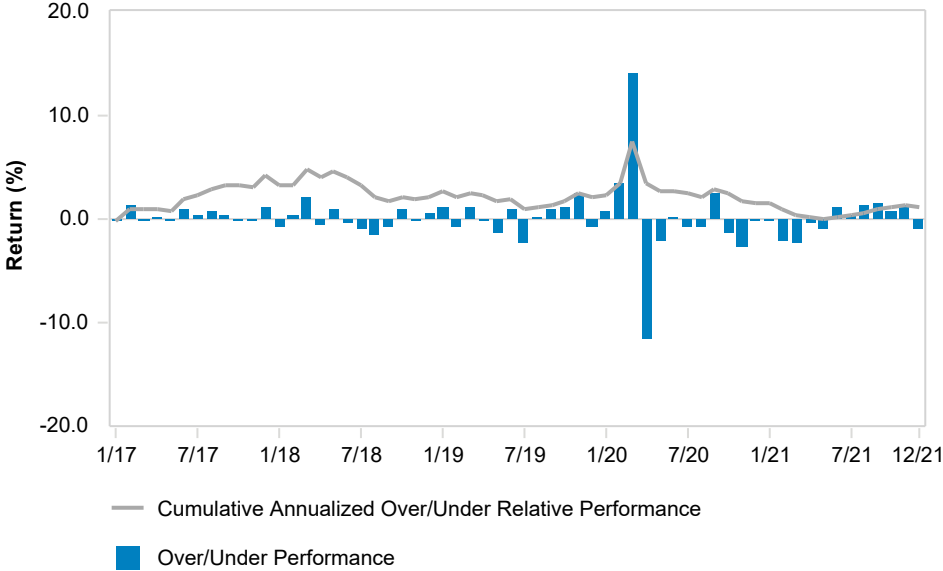
Comparative Performance



Growth of \$1 - Since Inception (04/01/13)



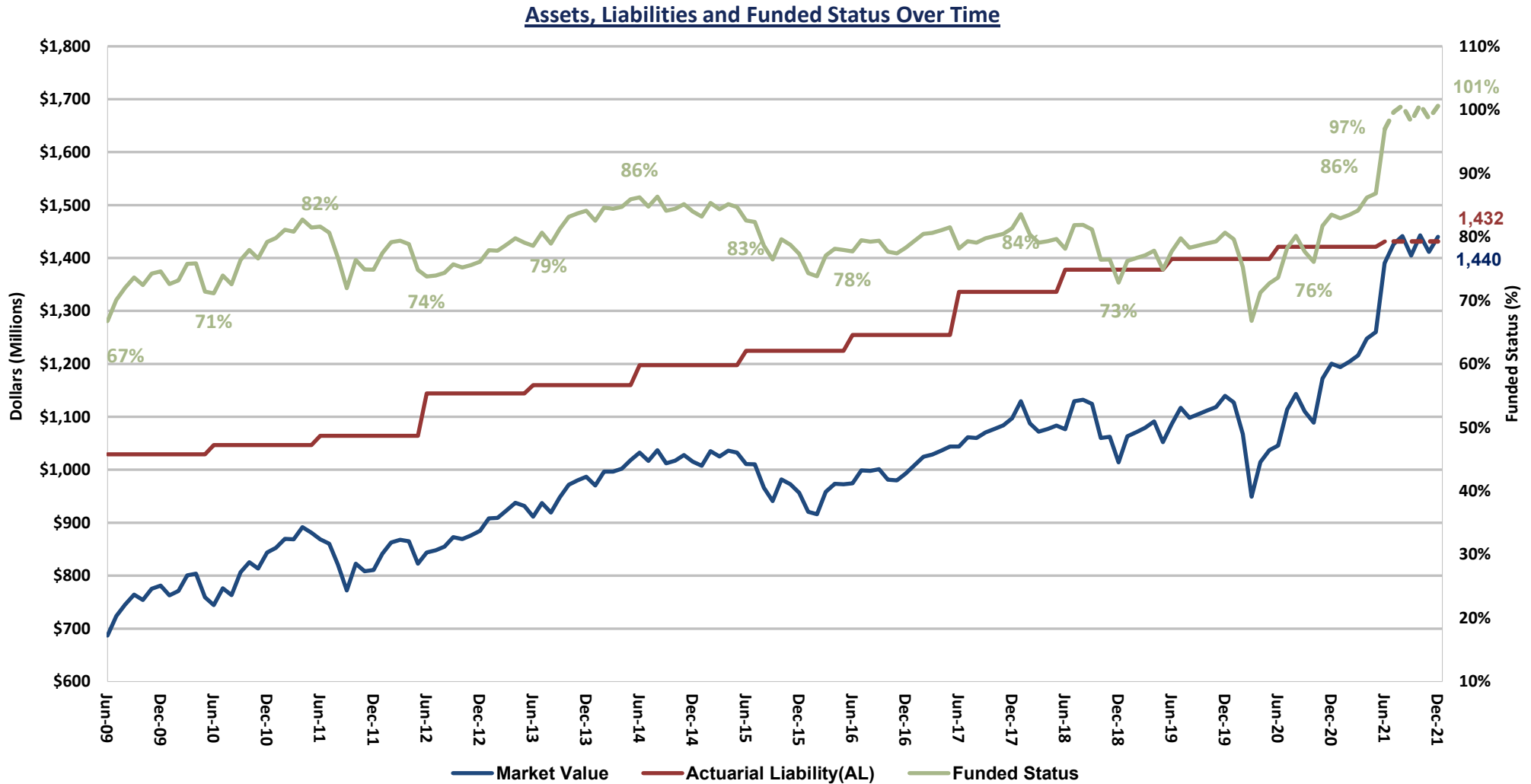
Relative Performance vs. Alerian MLP Index



# Appendix

## Employees' Retirement System for the City of Norfolk

Asset Liability Scorecard Net of Fees\*



\*The dashed liability line and dashed funded status line are not actuarial calculations and are for projections purposes only.

As of the Plan's June 30, 2021 actuarial valuation report, the plan had a fiscal year end Actuarial Liability (AL) of \$1,431,515,000.

As of December 31, 2021, the Plan's current market value of assets (MVA) was \$1,439,740,900.

As of December 31, 2021, the Plan's market value funded ratio (current MVA/fiscal year end AL) was 100.6%



# Employees' Retirement System of the City of Norfolk

## Fee Analysis

As of December 31, 2021

	Fee Schedule	Market Value (\$)	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
<b>Total Fund</b>		<b>1,441,473,978</b>	<b>2,660,809</b>	<b>0.18</b>
<b>Global Equity</b>		<b>802,843,392</b>	<b>321,137</b>	<b>0.04</b>
SSgA MSCI ACWI IMI Index Fund	0.04 % of Assets	802,843,392	321,137	0.04
<b>Fixed Income</b>		<b>424,934,237</b>	<b>914,747</b>	<b>0.22</b>
PIMCO Total Return	0.41 % of Assets	212,759,090	872,312	0.41
SSgA Bond Market Index	0.02 % of Assets	212,175,147	42,435	0.02
<b>Real Assets</b>		<b>213,691,450</b>	<b>1,424,924</b>	<b>0.67</b>
<b>Real Estate</b>		<b>115,605,758</b>	<b>762,057</b>	<b>0.66</b>
JP Morgan Asset Management Strategic Property Fund	1.00 % of Assets	52,095,003	520,950	1.00
UBS Trumbull Property Fund	0.60 % of Assets	35,519,186	213,115	0.60
Vanguard Real Estate Index (VGSNX)	0.10 % of Assets	27,991,569	27,992	0.10
<b>MLPs</b>		<b>98,085,692</b>	<b>662,867</b>	<b>0.68</b>
Harvest MLP	0.75 % of Assets	49,568,773	371,766	0.75
Tortoise Capital Advisors	0.60 % of Assets	48,516,920	291,102	0.60
Cash		4,899	-	



**Employees' Retirement System of the City of Norfolk**  
**Historical Hybrid Composition**  
As of December 31, 2021

**Total Fund Policy**

Allocation Mandate	Weight (%)
<b>May-2016</b>	
MSCI AC World IMI (Net)	62.50
Blmbg. U.S. Aggregate Index	37.50

**Total Fund Strategy Index**

Allocation Mandate	Weight (%)
<b>Jul-2016</b>	
MSCI AC World IMI (Net)	55.00
Blmbg. U.S. Aggregate Index	30.00
NCREIF Fund Index-ODCE (VW) (Net)	7.50
Alerian MLP Index	7.50

Strategy Index is comprised of the returns of the various broad market benchmarks assigned to each manager and weighted to reflect the System's target asset allocation.



**Global Equity Policy**

Allocation Mandate	Weight (%)
<b>Oct-1990</b>	
S&P 500 Index	100.00
<b>Jun-2006</b>	
Russell 3000 Index	70.00
MSCI EAFE Index	30.00
<b>Jun-2009</b>	
Russell 3000 Index	70.00
MSCI AC World ex USA (Net)	30.00
<b>Sep-2009</b>	
Russell 3000 Index	60.00
MSCI AC World ex USA (Net)	40.00
<b>May-2016</b>	
MSCI AC World IMI (Net)	100.00

<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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