



Bristol County Retirement System

# Analysis of Investment Performance

December 31, 2021

# Table of Contents

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## ANALYSIS OF INVESTMENT PERFORMANCE

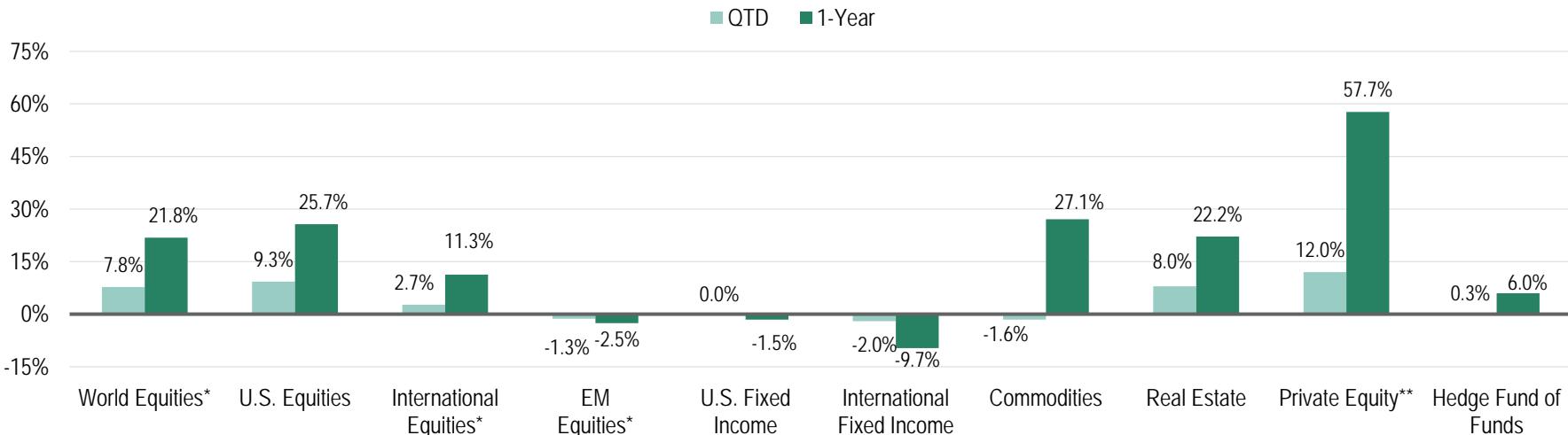
	SECTION
Financial Market Conditions .....	1
Total Fund .....	2
Domestic Equity .....	3
International Equity .....	4
Domestic Fixed Income.....	5
Global Fixed Income .....	6
Alternatives .....	7

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## **Financial Market Conditions**

# Quarter In Review

## Summary of Investment Returns



## Quarterly Synopsis

- World equity markets were positive in the quarter. News about the relatively moderate effects of the Omicron variant boosted stocks.
- U.S. equities were higher. Corporate earnings were solid and economic growth was steady despite the pandemic.
- International equities also rose, though not as much, with optimism about continued growth even with Omicron.
- Emerging market equity declined. China stocks struggled as an Omicron outbreak and ongoing uncertainty in the real estate sector hit that country.
- U.S. fixed income was flat. Yields fell for most of the quarter before turning a bit higher in December.
- Non-U.S. fixed income fell. Central banks grew more hawkish as inflation seemed to be less transitory than originally thought.
- Hedge funds increased a bit. Event driven strategies performed best in the quarter.
- Commodities were lower with a downturn in natural gas prices.

\* Net Dividends Reinvested

\*\* Performance as of Q2 2021 because more recent performance data is not yet available.

Sources: Investment Metrics, Cambridge Associates, FactSet

# Index Returns

Asset Class	Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World Equity	MSCI World <sup>1</sup>	7.77	21.82	21.82	21.70	15.03	12.70
U.S. Equity	Russell 3000	9.28	25.66	25.66	25.79	17.97	16.30
Non-U.S. Equity	MSCI EAFE <sup>1</sup>	2.69	11.26	11.26	13.54	9.55	8.03
Emerging Market Equity	MSCI EM <sup>1</sup>	-1.31	-2.54	-2.54	10.94	9.87	5.49
U.S. Fixed Income	Bloomberg U.S. Aggregate	0.01	-1.54	-1.54	4.79	3.57	2.90
Non-U.S. Fixed Income	FTSE <sup>2</sup> Non-U.S. WGBI (Unhedged)	-1.98	-9.68	-9.68	1.76	2.68	0.34
Commodities	Bloomberg Commodity Index	-1.56	27.11	27.11	9.86	3.66	-2.85
Real Estate	NFI-ODCE <sup>3</sup>	7.97	22.17	22.17	9.20	8.71	10.45
Private Equity	Cambridge Associates US Private Equity <sup>4</sup>	12.0	22.5	57.7	24.0	21.0	15.0
Hedge Funds	HFRI Fund of Funds Composite	0.25	5.99	5.99	8.40	5.67	4.54

<sup>1</sup> Net Dividends Reinvested

<sup>2</sup> Formerly Citigroup Non-U.S. WGBI. Citigroup's fixed income indices were purchased by London Stock Exchange Group (LSEG) and were all rebranded to FTSE by July 31, 2018.

FTSE Russell is a unit of LSEG's Information Services Division and a wholly owned subsidiary of LSEG.

<sup>3</sup> NCREIF Fund Index (NFI) – Open End Diversified Core Equity (ODCE)

<sup>4</sup> Performance as of Q2 2021 because more recent performance data is not yet available.

Sources: Investment Metrics, Cambridge Associates, FactSet

# Index Returns

Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500®	11.03	28.71	28.71	26.07	18.47	16.55
Russell 1000	9.78	26.45	26.45	26.21	18.43	16.54
Russell 1000 Growth	11.64	27.60	27.60	34.08	25.32	19.79
Russell 1000 Value	7.77	25.16	25.16	17.64	11.16	12.97
Russell 2000	2.14	14.82	14.82	20.02	12.02	13.23
Russell 2000 Growth	0.01	2.83	2.83	21.17	14.53	14.14
Russell 2000 Value	4.36	28.27	28.27	17.99	9.07	12.03
Russell 3000	9.28	25.66	25.66	25.79	17.97	16.30
MSCI EAFE*	2.69	11.26	11.26	13.54	9.55	8.03
MSCI World*	7.77	21.82	21.82	21.70	15.03	12.70
MSCI EM*	-1.31	-2.54	-2.54	10.94	9.87	5.49
Fixed-Income Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Blbg U.S. Aggregate	0.01	-1.54	-1.54	4.79	3.57	2.90
Blbg U.S. Govt/Credit	0.18	-1.75	-1.75	5.50	3.99	3.13
Blbg U.S. Intermediate Govt/Credit	-0.57	-1.44	-1.44	3.86	2.91	2.38
Blbg U.S. L/T Govt/Credit	2.15	-2.52	-2.52	10.62	7.39	5.72
Blbg U.S. Government	0.15	-2.28	-2.28	4.06	3.07	2.14
Blbg U.S. Credit	0.22	-1.08	-1.08	7.17	5.05	4.45
Blbg U.S. Mortgage-Backed Securities	-0.37	-1.04	-1.04	3.01	2.50	2.28
Blbg U.S. Corporate High Yield	0.71	5.28	5.28	8.83	6.30	6.83
FTSE Non-U.S. WGBI (Unhedged)***	-1.98	-9.68	-9.68	1.76	2.68	0.34
FTSE 3-Month T-Bill***	0.01	0.05	0.05	0.96	1.11	0.60
Other Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Hueler Stable Value	0.42	1.75	1.75	2.17	2.15	2.01
Bloomberg Commodity	-1.56	27.11	27.11	9.86	3.66	-2.85
HFRI Fund of Funds Composite	0.25	5.99	5.99	8.40	5.67	4.54
NCREIF NFI-ODCE	7.97	22.17	22.17	9.20	8.71	10.45
Cambridge Associates Private Equity**	12.0	22.5	57.7	24.0	21.0	15.0

\* Net Dividends Reinvested

\*\* Performance reported as of Q2 2021 because more recent performance data is not yet available.

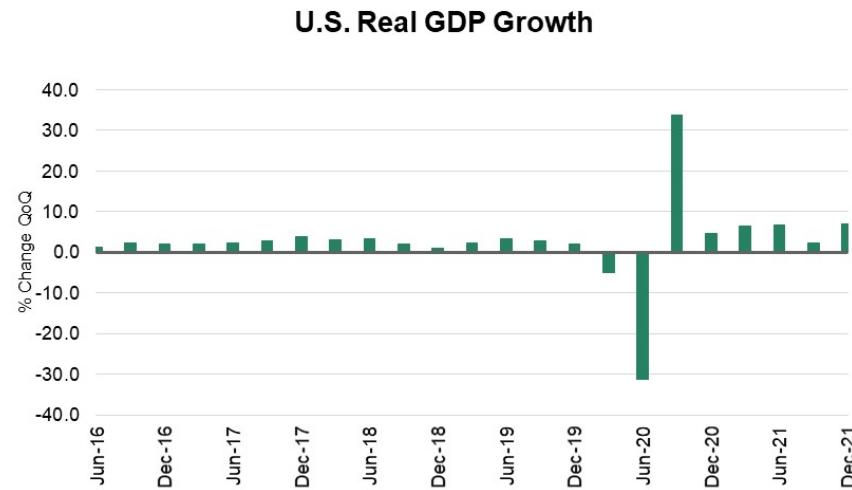
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Sources: eVestment Alliance, Hueler Analytics, Investment Metrics, Cambridge Assoc, FactSet

# Quarter In Review: U.S. Economy

## GDP Growth

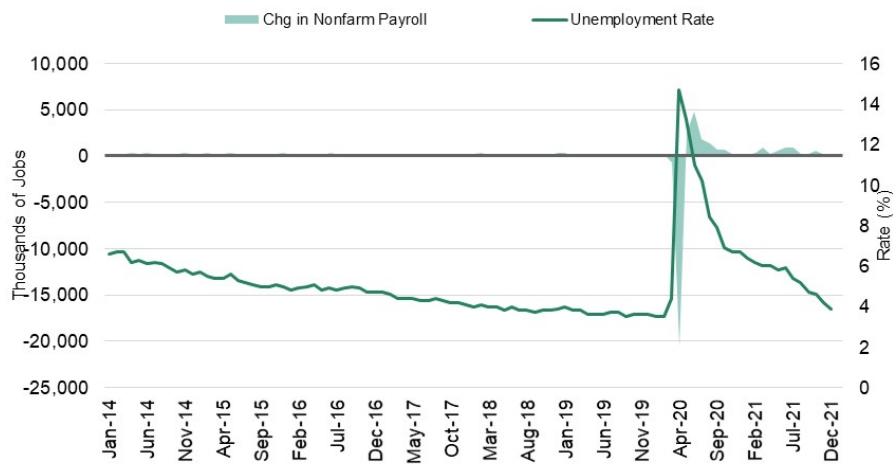
- U.S. GDP growth rose 6.9% in the quarter ending December 31 over the prior quarter. That number was well above economist consensus expectations of 5.5%.
- Strong exports and business spending, helped drive growth.
- Output grew 5.5% for all of 2021. The economy has not grown this fast since 1984, when the economy came back after a double-dip recession.
- There were red flags in the GDP report, though; spending pulled back toward the end of the quarter, and inventory levels are low because of ongoing shortages.



## Employment Picture

- The unemployment rate was 3.9% in December, the lowest level since February 2020.
- Nonfarm payrolls rose by 199,000 in December, though they increased by 1.1 million in the quarter. Labor shortages persist in several sectors, however.
- The leisure and hospitality sector gained the most in December (53k), as bars and restaurants continue to reopen. Professional and business services (43k) and manufacturing (26k) were sectors where jobs grew.

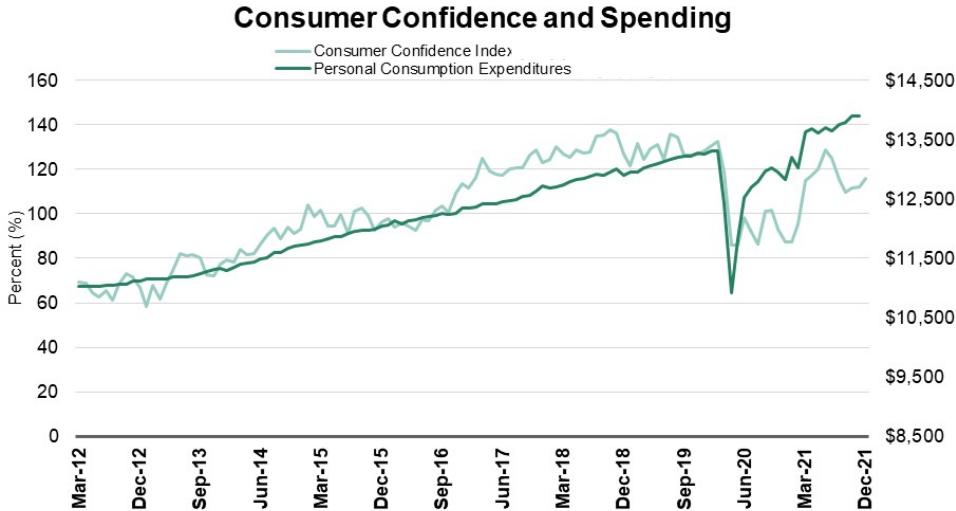
## U.S. Nonfarm Payrolls and Unemployment Rate



# Quarter In Review: U.S. Economy

## Consumer Confidence and Spending

- Consumer confidence improved in December with expectations that the economy would weather the Omicron variant's effects and expand in 2022.
- Personal consumption expenditures rose in November\*.



## Retail Sales

- Retail sales fell -1.9% from one year ago.
- Higher inflation led more consumers to spend less, even amid the holiday shopping season.
- Weak spending at bars and restaurants also led to the decline.



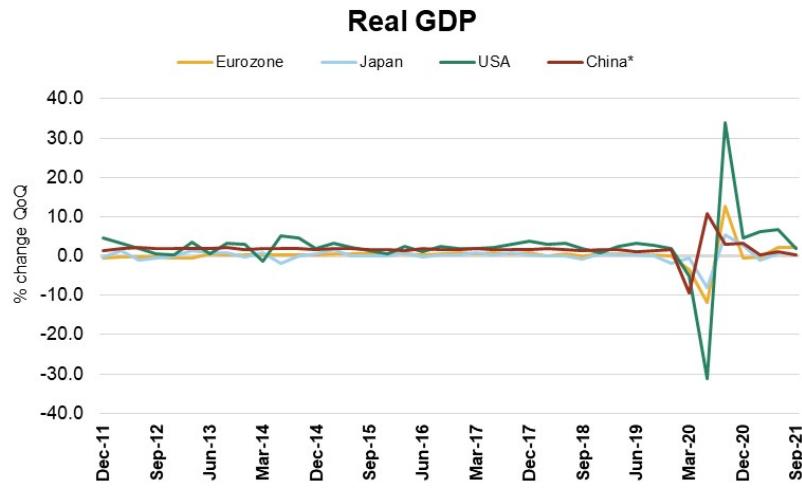
\*The most recent data available.

Source this page: FactSet

# Quarter In Review: Global Economy

## World GDP Growth

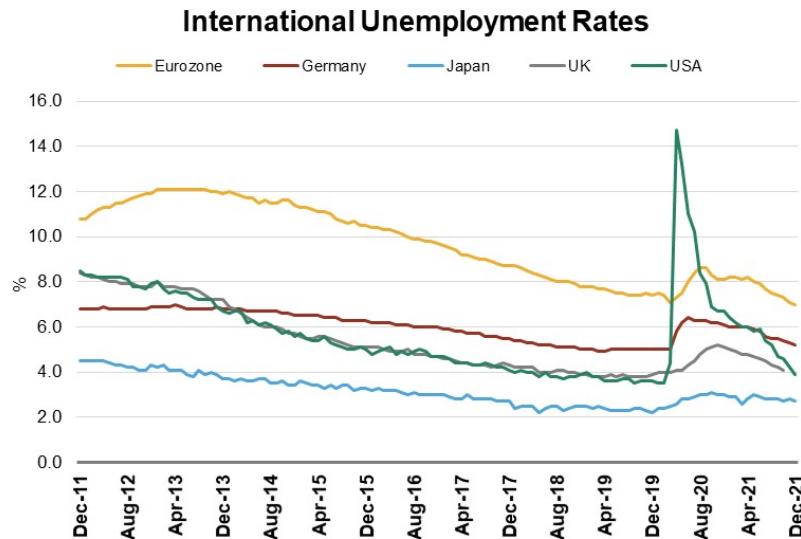
- Eurozone GDP rose 0.3% quarter over quarter (QoQ). That increase returned the Eurozone to its pre-pandemic level of growth despite Omicron's onset.
- China's GDP grew at a rate of 4.0% in the quarter ending December 31. The country's annual growth rate rose 8.1%, with industrial production rising steadily through the year.
- Japan's GDP shrank -0.9% in the quarter ending September 30\*\*. Household consumption dropped more than anticipated.
- U.S. GDP increased 6.9% in the quarter ending December 31.



Note that the figures in the graph above represent the percent change in real GDP from the previous quarter, not the annual growth rate of these economies.

## Global Employment Picture

- Eurozone unemployment was 7.0% in December 2021\*\*, in line with expectations. The labor market continues to show signs of improvement as the region recovers from the pandemic.
- Germany and Netherlands had two of the lowest unemployment rates in the EU, with higher rates seen in Spain (13%) and Italy (9%).
- Japan's unemployment rate ticked down to 2.7% in December.



\*Quarter over quarter data calculations began in 2011.

\*\*Most recent data available.

Source this page: FactSet

# Quarter In Review: Global Equity Overview

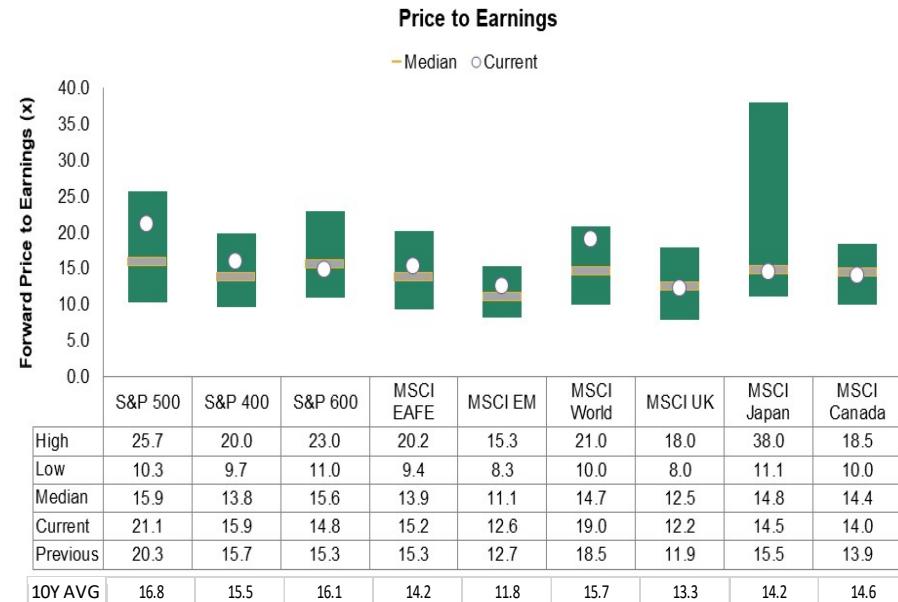
Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	11.03	28.71	28.71	26.07	18.47	16.55
MSCI Europe, Australasia and Far East (EAFE)*	2.69	11.26	11.26	13.54	9.55	8.03
MSCI Emerging Markets (EM)*	-1.31	-2.54	-2.54	10.94	9.87	5.49

All data in the table are percentages.

\* Net dividends reinvested

## Global Equity Performance and Valuations

- US (11.0%) and developed international (2.7%) markets were both positive for the quarter ending December 31, while emerging markets (-1.3%) were dragged down by US dollar strength and country specific issues.
- Previous quarter corporate earnings were stronger than projected, as the US and Eurozone economies proved resilient, while the quarter ended with a strong recovery despite increasingly hawkish central bank policies.
- Covid-19 cases increased drastically when the Omicron variant became the dominant strain globally in late November, contributing to widespread supply bottlenecks.
- Valuations remained fairly consistent from the previous quarter following muted returns globally, with the exception of the US, where a strong quarter for large caps boosted the S&P 500s P/E ratio.



Data range is from 3/31/00-12/31/21. P/E ratios are forward 12 months.

# Quarter In Review: U.S. Equity

U.S. Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	11.03	28.71	28.71	26.07	18.47	16.55
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Russell 1000 Growth	11.64	27.60	27.60	34.08	25.32	19.79
Russell 1000 Value	7.77	25.16	25.16	17.64	11.16	12.97
Russell 2000	2.14	14.82	14.82	20.02	12.02	13.23
Russell 2000 Growth	0.01	2.83	2.83	21.17	14.53	14.14
Russell 2000 Value	4.36	28.27	28.27	17.99	9.07	12.03
Russell Midcap	6.44	22.58	22.58	23.29	15.10	14.91
Russell 3000	9.28	25.66	25.66	25.79	17.97	16.30

All data in the tables are percentages.

## Performance

- US stocks were up 11.0% during the quarter, spurred on by the passage of the Infrastructure and Jobs Act and more insight around the severity of the Omicron variant, despite an initial spike in volatility caused by fear surrounding the variant and consumer inflation reaching its fastest pace since 1990.
- Large cap growth outperformed during the quarter, with the Russell 1000 Growth increasing 11.6%. Value beat growth within small cap, though, as the Russell 2000 Value (4.4%) bested the Russell 2000 Growth (0.0%).
- Small cap stocks underperformed large caps during the quarter as projected central bank policy normalization created uncertainties about future growth.
- Real estate (17.5%) and information technology (16.7%) led markets during the quarter as the demand for industrial warehousing positively correlated with the growth surrounding e-commerce. Financials (4.6%) and Energy (7.9%) lagged as low long-term interest rates hindered profit margins and oil demand faltered.

S&P 500 Sector Returns	QTD	1-Year
Cons. Disc.	12.84	24.43
Cons. Staples	13.31	18.63
Energy	7.97	54.64
Financials	4.57	35.04
Healthcare	11.17	26.13
Industrials	8.64	21.12
IT	16.69	34.53
Materials	15.20	27.28
Telecom	-0.01	21.57
Real Estate	17.54	46.19
Utilities	12.93	17.67

# Quarter in Review: International Equity

MSCI International Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World ex. U.S.	3.14	12.62	12.62	14.07	9.63	7.84
EAFE	2.69	11.26	11.26	13.54	9.55	8.03
EAFE Local Currency	3.91	18.70	18.70	13.35	8.36	10.09
Europe	5.66	16.30	16.30	14.90	10.14	8.18
Europe ex U.K.	5.67	15.66	15.66	16.99	11.50	9.43
U.K.	5.62	18.50	18.50	8.70	6.16	5.06
Japan	-3.96	1.71	1.71	11.68	8.51	8.34
Pacific Asia ex Japan	-0.09	4.68	4.68	9.70	8.31	6.77

All data in the tables are percentages and net dividends reinvested.

## Performance

- Developed international markets returned 2.7% during the quarter as corporate earnings across Europe proved stronger than expected, and initial concerns regarding the Omicron variant lessened after it was discovered the variant may be less severe than the Delta variant.
- The United Kingdom (+5.6%) outperformed during the quarter, following a 7.3% return during the month of December as Prime Minister, Boris Johnson did not impose new Covid-19 restrictions, which pushed the market into positive territory following the initial Omicron driven sell off.
- Japan (-4.0%) lagged the index as the market fell following the election of Prime Minister Fumio Kishida, and was unable to recover fully in December when the country was hit by its first imported case of the Omicron variant.
- Utilities (+8.8%) led all EAFE sectors as the sector rebounded following the previous quarter's dip, while Consumer Discretionary (+2.9%) was also positive as luxury goods performed better after the previous sell-off spurred by China's announcement regarding its common prosperity policy. Telecom (-5.6%) trailed the index with uncertainty over 5G rollout.

MSCI EAFE Sector Returns	QTD	1-Year
Consumer Disc.	2.89	10.70
Cons. Staples	5.24	7.31
Energy	-0.52	22.85
Financials	1.20	16.58
Healthcare	2.99	8.62
Industrials	2.64	13.55
IT	3.80	20.94
Materials	5.91	10.35
Telecom	-5.56	-5.72
Utilities	8.77	-0.03
Real Estate	-0.47	4.14

# Quarter in Review: Emerging Market Equity

MSCI EM Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Emerging Markets	-1.31	-2.54	-2.54	10.94	9.87	5.49
EM Local Currency	-0.91	-0.19	-0.19	11.96	10.50	8.04
Asia	-0.98	-5.08	-5.08	13.26	11.90	8.06
EMEA	-2.37	18.01	18.01	8.26	5.82	2.24
Latin America	-2.69	-8.09	-8.09	-2.37	1.47	-2.17

All data in the tables are percentages and net dividends reinvested.

## Performance

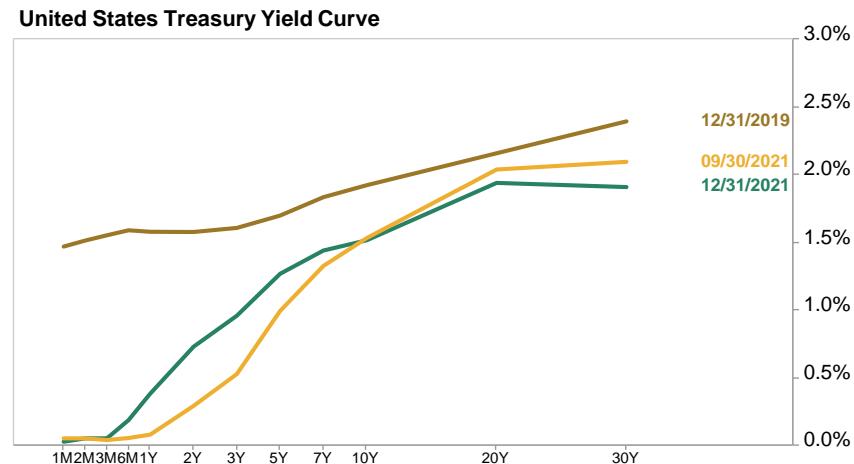
- Emerging markets returned -1.3% during the quarter, as US dollar strength and the emergence of the Omicron variant hampered stocks. Concerns over slowing economic growth and an increasing Covid-19 case count negatively impacted the Chinese market (-6.1%), the index's largest country weight.
- Geopolitical tensions between Russia (-9.2%) and much of the western world regarding military buildup near Ukraine impacted market returns, while Turkey (-11.2%) was the worst performing market as the Lira experienced significant volatility amid ongoing above-target inflation.
- Taiwan (+8.4%) saw strong positive returns during the quarter, supported by strong performance across the Information Technology sector.
- All sectors, with the exception of IT (+7.4%) and Utilities (+0.7%) were negative during the quarter. Healthcare (-15.4%) trailed the MSCI EM index, as the sector continued a steady decline as the Covid-19 pandemic continues to hurt emerging markets.

MSCI EM Sector Returns	QTD	1-Year
Cons. Disc.	-8.23	-29.06
Cons. Staples	-2.08	-4.88
Energy	-3.79	20.95
Financials	-0.39	8.16
Healthcare	-15.35	-19.82
Industrials	-0.29	8.41
IT	7.43	9.87
Materials	-2.91	9.28
Telecom	-0.53	-9.14
Utilities	0.73	12.43
Real Estate	-8.50	-21.84

# Quarter In Review: Fixed Income Overview

## Yield Curve

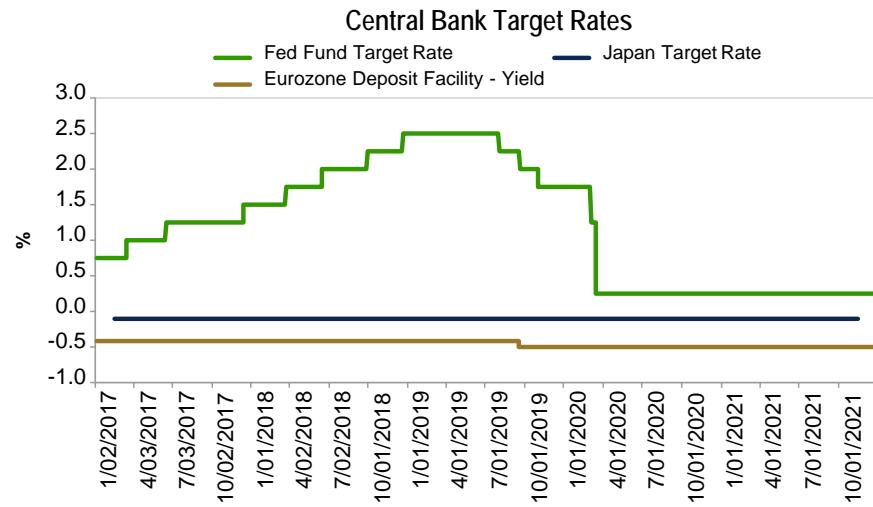
- The yield curve steepened at the front end of the curve and flattened at the tail end of the curve, with rate increases at the front end and decreases at the tail end of the curve.
- Shorter-maturity yields rose, with the 1- and 3-year Treasuries rising by 30 basis points and 44 basis points respectively over the prior quarter.
- The 5- and 7-year Treasuries yield increased 28 basis points and 12 basis points, ending the quarter at 1.26% and 1.44% respectively. The 10-year Treasury yield remained flat at 1.52% and the 20-year Treasury showed a modest decrease of 8 basis points, ending the quarter at 1.94%.



## Monetary Policies/Global Interest Rates

- Central bank deposit rates remained negative in Japan and Europe.
- Despite rate cuts in 2020, the Fed continues to eschew negative rates. The U.S. policy rate hovers above those of the Eurozone and Japan, at 0-0.25%.
- Rates in the U.S. remain unchanged since the prior quarter, though the Fed indicated it was likely to hike rates in 2022 with a significant uptick in inflation.

Interest Rates	Fed Funds Rate	EZ Deposit Facility Rate
Average	4.99	0.83
Max	20.00	3.75
Min	0.25	-0.50



# Quarter In Review: U.S. Fixed Income

U.S. Fixed Income Indices*	QTD	YTD	1-Year	3-Year	5-Year	10-Year
U.S. Aggregate	0.01	-1.54	-1.54	4.79	3.57	2.90
Government/Credit	0.18	-1.75	-1.75	5.50	3.99	3.13
Government	0.15	-2.28	-2.28	4.06	3.07	2.14
Investment Grade Corporate	0.23	-1.04	-1.04	7.59	5.26	4.70
Investment Grade CMBS	-0.65	-0.90	-0.90	4.91	3.84	3.78
U.S. Corporate High Yield	0.71	5.28	5.28	8.83	6.30	6.83
FTSE** 3-Month T-Bill	0.01	0.05	0.05	0.96	1.11	0.60
Hueler Stable Value	0.55	1.73	2.37	2.34	2.14	2.13

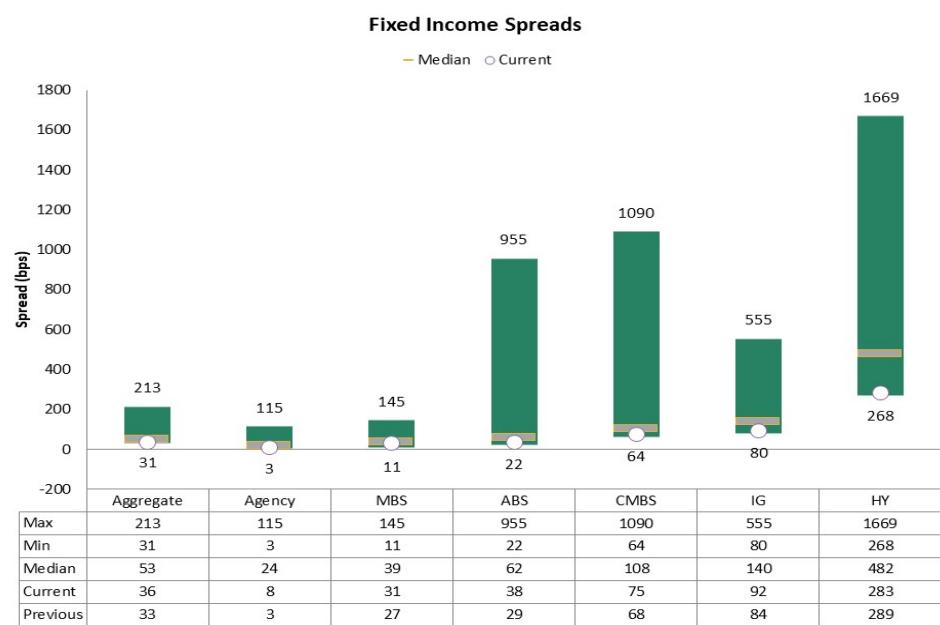
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All data in the table are percentages.

## Performance and Spreads

- The U.S. Aggregate Index was positive in the quarter. All sectors but Investment Grade CMBS made small gains.
- U.S. High Yield had the strongest sector performance at 0.71% followed by Stable Value at 0.55% for the quarter. Investment Grade CMBS experienced the weakest performance in the quarter ended December 31 at -0.65%.
- Domestic fixed income spreads increased across all sectors but U.S. High Yield, which declined 6 basis points relative to the prior quarter. ABS showed the largest increase of 9 basis points.



# Quarter In Review: International Fixed Income

Global Fixed Income Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Global Aggregate	-0.67	-4.71	-4.71	3.59	3.36	1.77
Bloomberg Global Aggregate (Hgd)	0.04	-1.39	-1.39	4.06	3.39	3.49
FTSE Non-U.S. WGBI*	-1.98	-9.68	-9.68	1.76	2.68	0.34
FTSE Non-U.S. WGBI (Hgd)	-0.04	-2.35	-2.35	3.35	3.12	3.87
JPM EMBI Global Diversified**	-0.44	-1.80	-1.80	5.94	4.65	5.28
JPM GBI-EM Global Diversified***	-2.53	-8.75	-8.75	2.07	2.82	0.74

All data in the table are percentages.

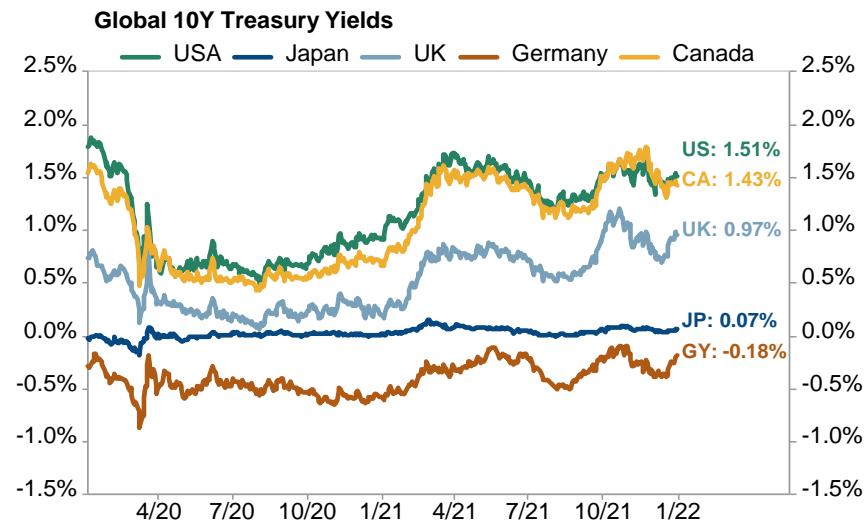
\* Formerly Citigroup. The FTSE Non-U.S. World Government Bond Index (WGBI) measures the performance of fixed-rate, local currency, investment grade sovereign bonds excluding the U.S.

\*\* The JP Morgan Emerging Market Bond Index (EMBI) Global Diversified index measures government bonds in hard currencies.

\*\*\* The JP Morgan Government Bond Index – Emerging Markets (GBI-EM) Global Diversified index measures government bonds in local currencies.

## Global Performance and Yields

- Government yields rose in the quarter in the U.S., Japan, UK, and Canada.
- Central banks globally have implemented more stimulus measures as economic consequences of the pandemic linger. Interest rates remain low worldwide.
- The U.S. dollar appreciated relative to the yen and depreciated relative to the euro and British pound.
- Negative returns in the quarter for emerging markets further detracted from YTD returns, which remain negative.



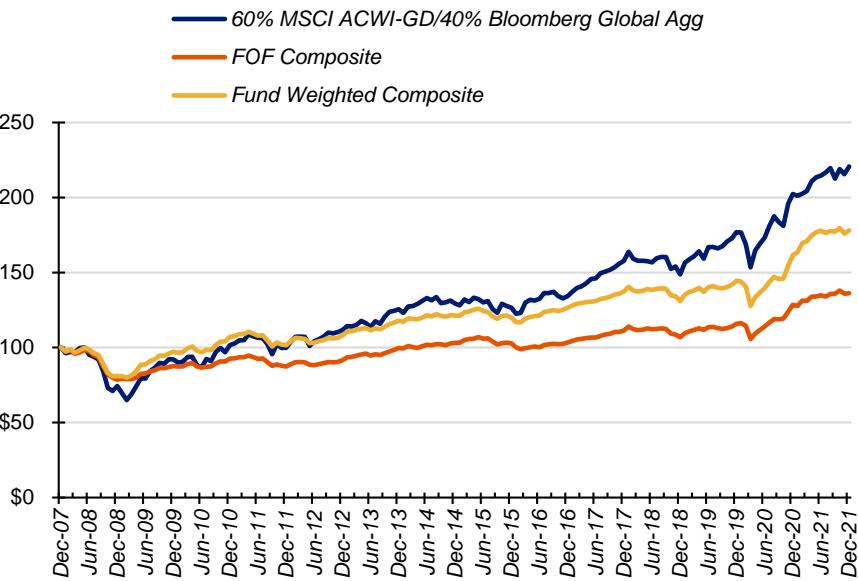
# Quarter In Review: Absolute Return Strategies

HFRI Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Fund of Funds Composite	0.25	5.99	5.99	8.40	5.67	4.54
Fund Weighted Composite	0.52	10.26	10.26	10.84	7.09	5.79
Event Driven	1.49	12.90	12.90	9.86	6.90	6.31
Equity Hedge	0.77	11.81	11.81	14.44	9.53	7.48
Macro	-0.45	7.60	7.60	6.49	3.43	2.18
Emerging Markets	-0.64	6.75	6.75	10.42	7.43	5.33
Relative Value	0.10	7.50	7.50	6.09	4.56	5.15

## Hedge Fund Performance

- The HFRI Fund Weighted Composite Index returned 0.52% in the quarter ending December 31. Event Driven funds were the strongest performers (up 1.49% in the quarter) while funds focused on emerging markets experienced the largest loss (-0.64%) for the second consecutive quarter.
- Within Event Driven, activist (+2.87%) and special situations (+2.58%) funds led the peer group during the quarter, while broader multi-strategy funds lagged peers, falling 0.20%.
- In emerging markets, funds targeting investments in the Middle East and Northern Africa ("MENA") led peers, up 3.80% in the quarter, while funds with an emphasis on Latin America experienced the greatest losses, down 3.25%. Funds with a global emerging markets focus were flat during the quarter.
- The Fund of Funds Composite Index gained 0.25% in the quarter. The peer group underperformed the 60% MSCI ACWI / 40% Bloomberg Global Aggregate blended index, which returned 3.79%.

## HFR Fund Weighted and Fund of Funds Composite Growth of \$100 | January 2008 - December 2021

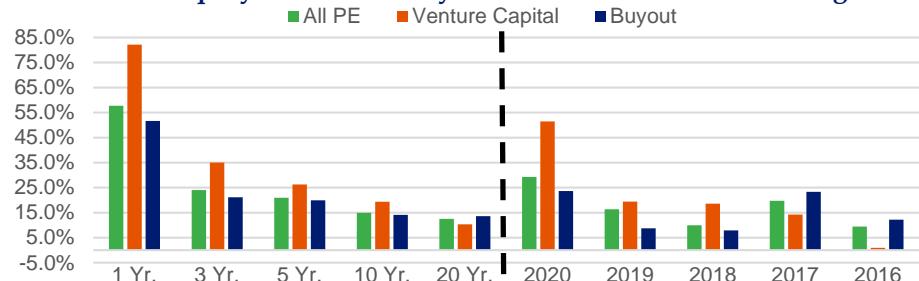


# Quarter In Review: Private Equity

## Performance

- The total return for private equity funds, comprising performance across all strategies, was 57.7% over the 1-year period and 12.0% for the quarter ending Q2 2021.
- The 3-, 5-, 10-, and 20-year returns for US private equity funds were 24.0%, 21.0%, 15.0% and 12.5%, respectively, as of 6/30/2021.
- Recent vintages of venture capital managers continue to outperform buyout and growth managers.

**Private Equity Performance by Investment Horizon and Vintage Year**



Performance is pooled IRR of the peer group as reported by ThomsonOne/Cambridge Associates. All PE includes BO, VC, Growth, Subordinated Capital, Credit Opportunities, and Control-Oriented Distressed.

## Fundraising

- Globally, private equity funds raised approximately \$128 billion across 262 funds in Q4 2021. It is below the average number of funds over the past 24 quarters.
- As of October 2021, there were 2,389 private equity funds raising capital targeting an aggregate \$757 billion.

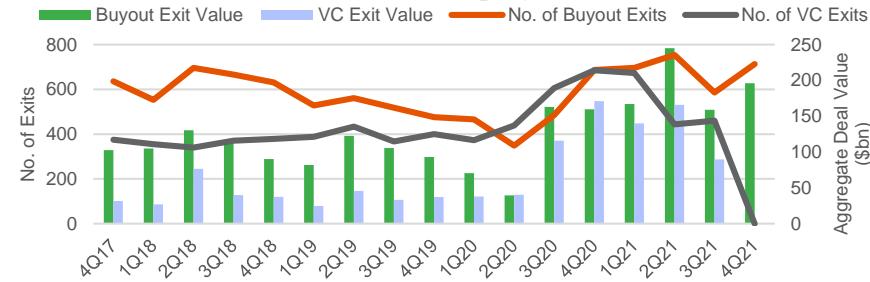
**Global Quarterly Private Equity Fundraising, Q1 2016 – Q4 2021**



## Exit Activity

- Both buyout and venture activity and value saw a dramatic rebound in 3Q and 4Q 2020 and continue to moderate in Q3 2021 from elevated levels in Q2 2021. Buyout exits continued to climb in Q4 2021, based on available exit data.

**Global Private Equity Exits**



Sources this page: Thomson Reuters, Cambridge Assoc, Preqin. All data is as of the latest available. Performance data was final as of 6/30/21 and buyout and venture fundraising and exit data as of Q4 and Q3 2021.

# Quarter In Review: Real Estate

## Real Estate Performance\*

- NFI-ODCE returned 7.97% (Gross) for the quarter, while the NCREIF-NPI returned 6.15% and the NAREIT Equity REIT Index returned 16.17%.
- Income return for the NFI-ODCE was 0.96% for the quarter. Appreciation of assets generated a 6.99% return for the quarter<sup>1</sup>.
- In the U.S., for the fourth quarter of 2021 retail sector appreciation was 0.94%, apartment sector appreciation was 5.85%, office sector appreciation was 0.63% and industrial sector appreciation was 12.42%. For the same time period, retail sector income was 1.24%, apartment sector income was 0.97%, office sector income was 1.06% and industrial sector income was 0.92%.
- In the U.S., the return for the fourth quarter of 2021 by region was: East (4.73%), Midwest (3.90%), South (7.00%) and West (7.20%).

## NCREIF Fund Index (NFI) Open-End Diversified Core (ODCE) Real Estate Performance<sup>1</sup>

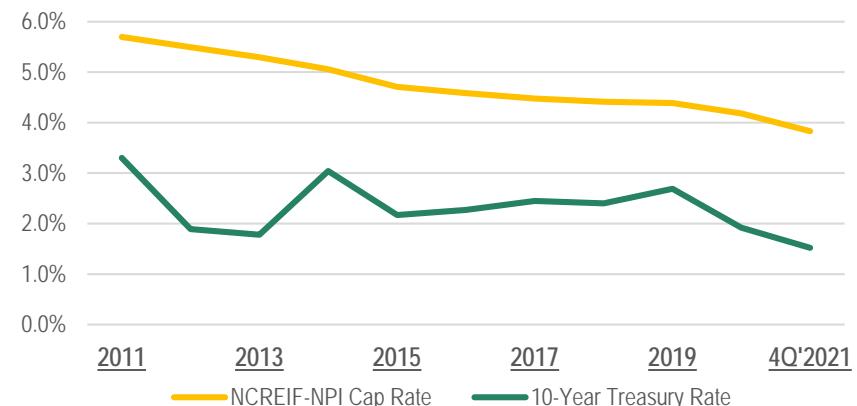


The NFI-ODCE (Open-end Diversified Core Equity) is defined by NCREIF as a fund-level cap-weighted, gross of fee, time-weighted return index with an inception date of December 31, 1977. 1. The sum of income and appreciation returns may not equal total return due to rounding and/or the compounding of individual component returns to each other.

## Real Estate Capitalization Rates\* vs. Treasuries

- Nationally, cap rates compressed 9 basis point in the third quarter to 3.83%, and operating income improved 82 bps to 3.04% in the fourth quarter.
- The 10-year Treasury averaged 1.53% in the fourth quarter, and ended the quarter at 1.52%. As a result, the Q4 2021 spread between the 10-year Treasury rate and cap-rates at the end of the fourth quarter contracted 9 bps from the previous quarter to 231 bps.

## Capitalization Rates & 10-Year U.S. Treasury Rates



\*A cap rate is the potential rate of return on a real estate investment. Assuming no change in net operating income, real estate valuations rise when cap rates fall. Comparing cap rates to the 10-year U.S. Treasury provides investors with an estimated spread for expected returns from real estate (higher risk) vs. fixed rate bond (lower risk) investments. NFI-ODCE returns are preliminary performance.

Sources this page: NCREIF, NPI, FRED Economic Data (Federal Reserve Bank of St Louis) 1. The sum of income and appreciation returns may not equal total return due to rounding and/or the compounding of individual component returns to each other.

# Quarter In Review: Infrastructure

## Performance

- The total return for U.S. private infrastructure funds was 2.2% in the quarter ending September 2021\* and 12.9% over the 1-year period ending 9/30/2021.
- On a relative basis, U.S. infrastructure led in performance throughout the quarter ending September 30, 2021 (2.2%) whereas Global and European funds posted 1.1% and -0.8%, respectively.
- The 3-, 5-, 10-, 15-, and 20-year return for U.S. private infrastructure funds was 5.8%, 7.7%, 7.0%, 6.8%, 7.1%, respectively, as of September, 30 2021.
- Public infrastructure registered a -0.1% return in Q3 2021 as per the FTSE Global Core Infrastructure 50/50 Index. Trailing 1-, 3-, 5-year returns are 16.7%, 8.5% and 7.9%.

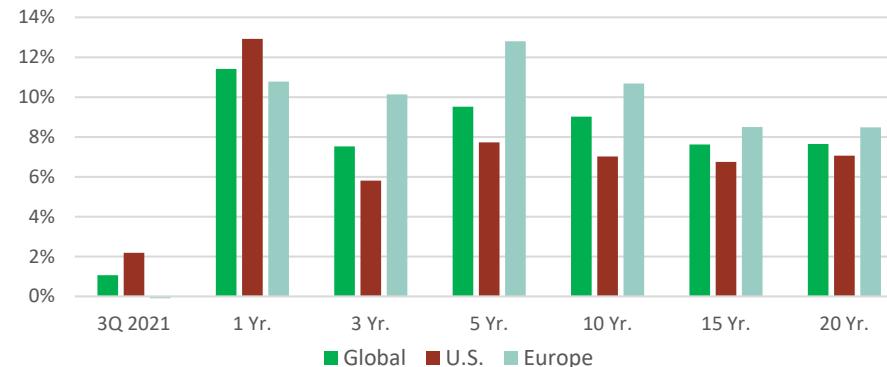
## Fundraising

- Fundraising has returned to pre-pandemic levels, as a majority of funds that initiated fundraising in 2019 began to close. Of these funds, 34% closed as of September 30, 2021.
- Extended duration in Infrastructure fundraising also reflects the long term trend of competition for allocations in the asset class. In 2016, 46% of funds closed in less than 12 months, while in 2021, 5% funds closed in less than 12 months.
- North America and Europe focused funds continue to drive the demand. Of the funds that closed in the third quarter of 2021, 54% were focused in North America, 45% in Europe.

## Market Activity

- Infrastructure transaction activity remains slightly down from pre-pandemic levels, however, transaction values have returned to pre-pandemic prices. Market activity has been dominated by larger assets changing hands, including the privatization of large public infrastructure companies.
- The focus on telecom continues to grow, accounting for 8% of the deal volume in 2021 but representing 26% of the value.

Burgiss Infrastructure Performance by Investment Horizon and Region



Global Quarterly Unlisted Infrastructure Fundraising, Q1 2016 - Q3 2021



Fig. 10: Quarterly Infrastructure Deals, Q1 2016 - Q3 2021



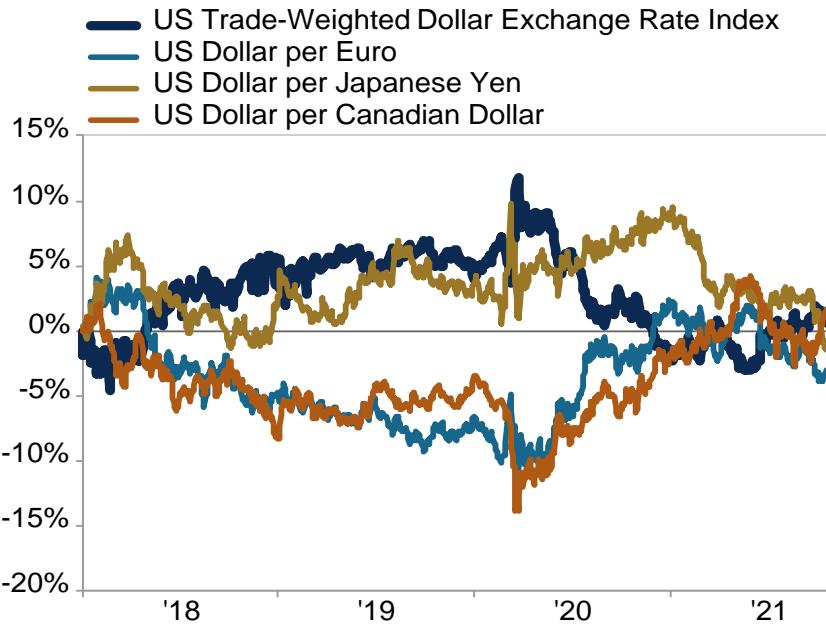
\*Most recent data available from Burgiss Privatel. Preliminary returns Source: Preqin

# Quarter In Review: Commodities and Currencies

BCOM Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Commodity Index (BCOM)	-1.56	27.11	27.11	9.86	3.66	-2.85
Energy	-13.03	52.13	52.13	-0.87	-4.04	-10.37
Agriculture	6.26	26.67	26.67	14.49	3.56	-1.84
Industrial Metals	8.61	30.34	30.34	17.50	11.06	1.84
Precious Metals	4.33	-6.11	-6.11	11.34	7.88	-0.28
Livestock	1.85	8.62	8.62	-7.87	-3.95	-4.22

## Commodity and Currency Highlights

- The Bloomberg Commodity Index fell in the quarter. Energy (-13%) had the biggest loss. Natural gas prices fell sharply.
- Other commodity sectors performed better. Industrial metals (+8.6%) were a bit higher with expectations of a global economic recovery increasing. Precious metals (+4.3%) were higher with gains for silver and gold prices.
- The U.S. dollar appreciated relative to the yen, euro, and British pound.



# **Total Plan**

Bristol County Retirement System  
Comparative Performance

As of December 31, 2021

	Allocation						Performance (%)						
	Market Value (\$000)	%	1 Quarter	1 Quarter Ending Sep-2021	1 Quarter Ending Jun-2021	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Total Fund</b>	936,208	100.0	4.2	0.7	5.8	16.9	16.9	15.6	11.8	9.4	10.5	8.2	01/01/2000
<i>Total Plan Index</i>			4.4	-0.3	5.2	12.1	12.1	14.8	10.8	8.7	9.7	5.8	
<i>Total Plan Allocation Index</i>			4.9	-0.4	5.5	13.6	13.6	14.7	10.8				
<b>Total Domestic Equity</b>	213,017	22.8	6.5	-1.2	7.1	23.4	23.4	24.9	16.5	13.0	15.5	7.2	01/01/2000
<i>S&amp;P 500 Index</i>			11.0	0.6	8.5	28.7	28.7	26.1	18.5	14.9	16.6	7.5	
<i>Russell 3000 Index</i>			9.3	-0.1	8.2	25.7	25.7	25.8	18.0	14.5	16.3	7.8	
NT S&P 500 Index	15,839	1.7	11.2									11.2	10/01/2021
<i>S&amp;P 500</i>			11.0	0.6	8.5	28.7	28.7	26.1	18.5	14.9	16.6	11.0	
ClearBridge Large Cap Growth	38,532	4.1	9.3	0.7	11.2	23.0	23.0	29.2				21.6	09/01/2018
<i>Russell 1000 Growth Index</i>			11.6	1.2	11.9	27.6	27.6	34.1	25.3	19.6	19.8	23.8	
Columbia	35,013	3.7	1.0	-2.1	14.1	10.0	10.0	31.0	23.9	16.5		17.2	09/01/2013
<i>Russell 1000 Growth Index</i>			11.6	1.2	11.9	27.6	27.6	34.1	25.3	19.6	19.8	20.0	
LSV	41,025	4.4	6.9	-2.1	5.5	30.0	30.0	16.8	10.9	9.7	14.0	9.6	09/01/2004
<i>Russell 1000 Value Index</i>			7.8	-0.8	5.2	25.2	25.2	17.6	11.2	9.7	13.0	8.8	
Lyrical	41,767	4.5	7.3	-0.9	4.1	30.4	30.4	23.3	12.1	10.0		12.9	09/01/2013
<i>Russell 1000 Value Index</i>			7.8	-0.8	5.2	25.2	25.2	17.6	11.2	9.7	13.0	11.4	
Frontier Capital Appreciation	20,928	2.2	5.8	-2.6	4.1	18.2	18.2	21.6				16.4	12/01/2018
<i>Russell 2000 Growth Index</i>			0.0	-5.7	3.9	2.8	2.8	21.2	14.5	11.7	14.1	15.8	
Earnest Partners	19,913	2.1	4.3	-0.3	-0.6	20.6	20.6	21.4	13.2	12.0	14.1	12.4	04/01/2003
<i>Russell 2000 Value Index</i>			4.4	-3.0	4.6	28.3	28.3	18.0	9.1	9.5	12.0	10.8	

Bristol County Retirement System  
Comparative Performance

As of December 31, 2021

	Allocation						Performance (%)						
	Market Value (\$000)	%	1 Quarter	1 Quarter Ending	1 Quarter Ending	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
				Sep-2021	Jun-2021								
<b>Total International Equity</b>	198,996	21.3	0.9	-2.5	5.5	8.7	8.7	15.3	11.3	8.5	10.0	10.1	01/01/2000
<i>MSCI EAFE (net)</i>			2.7	-0.4	5.2	11.3	11.3	13.5	9.5	6.8	8.0	3.9	
<i>MSCI AC World ex USA</i>			1.9	-2.9	5.6	8.3	8.3	13.7	10.1	7.1	7.8	4.8	
Arrowstreet Capital	37,803	4.0	0.7	0.0	5.8	15.2	15.2	20.5	14.4	10.8	11.4	8.8	07/01/2001
<i>MSCI AC World ex USA</i>			1.9	-2.9	5.6	8.3	8.3	13.7	10.1	7.1	7.8	6.7	
Freedom Capital Intl	38,504	4.1	0.8	-1.4	1.7	10.7	10.7	12.0	9.4	7.8	11.2	9.1	06/01/1998
<i>MSCI EAFE (net)</i>			2.7	-0.4	5.2	11.3	11.3	13.5	9.5	6.8	8.0	4.8	
Fiera International Equity	39,660	4.2	7.4	0.4	9.6	17.7	17.7	23.2				21.6	12/01/2018
<i>MSCI EAFE (Net)</i>			2.7	-0.4	5.2	11.3	11.3	13.5	9.5	6.8	8.0	11.3	
Lazard Emerging Markets	42,663	4.6	-0.6	-3.7	5.8	6.1	6.1	7.3	5.2	3.1	3.7	2.9	05/01/2007
<i>MSCI Emerging Markets Index</i>			-1.2	-8.0	5.1	-2.2	-2.2	11.3	10.3	6.5	5.9	4.4	
Aberdeen Emerging Markets	40,367	4.3	-3.0	-6.8	5.4	-3.7	-3.7	14.6				10.0	03/01/2017
<i>MSCI Emerging Markets Index</i>			-1.2	-8.0	5.1	-2.2	-2.2	11.3	10.3	6.5	5.9	8.7	
<b>Global REITs</b>													
Brookfield Global Real Estate	21,465	2.3	6.9	-2.2	8.5	23.8	23.8	10.2				7.8	12/01/2018
<i>FTSE EPRA/NAREIT Developed Index</i>			10.4	-0.7	9.4	27.2	27.2	12.9	8.8	7.0	9.6	10.5	

Bristol County Retirement System  
Comparative Performance

As of December 31, 2021

	Allocation						Performance (%)						
	Market Value (\$000)	%	1 Quarter	1 Quarter Ending	1 Quarter Ending	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
				Sep-2021	Jun-2021								
<b>Total Domestic Fixed</b>	<b>60,050</b>	<b>6.4</b>	<b>0.0</b>	<b>0.2</b>	<b>2.6</b>	<b>-1.2</b>	<b>-1.2</b>	<b>5.9</b>	<b>4.3</b>	<b>3.7</b>	<b>3.9</b>	<b>5.5</b>	<b>01/01/2000</b>
Barclays Cap Aggregate			0.0	0.1	1.8	-1.5	-1.5	4.8	3.6	3.0	2.9	4.8	
NT Aggregate Bond Index	12,473	1.3	-0.1									-0.1	10/01/2021
Blmbg. U.S. Aggregate			0.0	0.1	1.8	-1.5	-1.5	4.8	3.6	3.0	2.9	0.0	
Income Research & Management	47,513	5.1	0.1	0.2	2.6	-1.2	-1.2	6.4	4.7	3.9	4.1	5.7	12/01/1996
Blmbg. U.S. Gov't/Credit			0.2	0.0	2.4	-1.7	-1.7	5.5	4.0	3.3	3.1	5.0	
<b>Total Global Fixed</b>	<b>103,433</b>	<b>11.0</b>	<b>-0.3</b>	<b>-1.2</b>	<b>3.6</b>	<b>2.0</b>	<b>2.0</b>	<b>5.0</b>	<b>4.5</b>	<b>4.2</b>	<b>4.1</b>	<b>6.2</b>	<b>01/01/2000</b>
Blmbg. Global Aggregate			-0.7	-0.9	1.3	-4.7	-4.7	3.6	3.4	2.2	1.8	4.2	
<b>Broad Mkt Global Fixed Income</b>	<b>44,194</b>	<b>4.7</b>	<b>0.6</b>	<b>0.1</b>	<b>2.3</b>	<b>2.6</b>	<b>2.6</b>	<b>4.9</b>	<b>4.5</b>	<b>4.3</b>	<b>4.1</b>	<b>6.0</b>	<b>12/01/2002</b>
Blmbg. Global Aggregate			-0.7	-0.9	1.3	-4.7	-4.7	3.6	3.4	2.2	1.8	4.0	
PIMCO Diversified Income	24,732	2.6	0.0	0.1	2.7	0.3	0.3	6.4	5.4	5.5	5.5	6.3	08/01/2006
Global Diversified Index**			-0.5	-0.6	2.6	-1.6	-1.6	5.9	4.6	4.2	4.5	5.7	
GoldenTree Multi-Sector Opportunistic Fund	19,462	2.1	1.4	1.5	3.0	10.7	10.7					8.2	05/01/2019
GoldenTree Blended Benchmark*			0.7	1.0	2.1	5.3	5.3	7.1	5.2	5.2	5.7	5.2	
EnTrust Global Recovery Fund	13,382	1.4	1.8	-11.8	-1.4							-12.4	02/01/2021
Blmbg. Global Aggregate			-0.7	-0.9	1.3	-4.7	-4.7	3.6	3.4	2.2	1.8	-3.9	
Bardin Hill Opportunistic Credit	21,635	2.3	0.4	2.5	9.8							29.1	03/01/2021
Blmbg. Global Aggregate			-0.7	-0.9	1.3	-4.7	-4.7	3.6	3.4	2.2	1.8	-2.2	

Bristol County Retirement System  
Comparative Performance

As of December 31, 2021

	Allocation							Performance (%)						
	Market Value (\$000)	%	1 Quarter	1 Quarter Ending	1 Quarter Ending	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date	
				Sep-2021	Jun-2021									
<b>Emerging Market Debt Composite</b>	24,223	2.6	-3.3	-3.1	5.1	-7.6	-7.6	2.7	2.9			2.9	01/01/2017	
50%/50% Blend **			-1.5	-1.9	3.8	-5.3	-5.3	4.0	3.8	3.0	3.1	3.8		
Stone Harbor EMD	12,448	1.3	-1.7	-1.7	4.5	-5.0	-5.0	4.8	3.8			2.8	11/01/2016	
50%/50% Blend **			-1.5	-1.9	3.8	-5.3	-5.3	4.0	3.8	3.0	3.1	2.8		
Ashmore Emerging Markets Total Return	11,775	1.3	-5.0	-4.4	5.6	-10.1	-10.1	0.5	1.8			1.8	01/01/2017	
50%/50% Blend **			-1.5	-1.9	3.8	-5.3	-5.3	4.0	3.8	3.0	3.1	3.8		
Hedge Funds														
PRIT Absolute Return	36,713	3.9	1.3	0.2	2.5	9.5	9.5	6.1	4.9	3.7	5.2	4.3	10/01/2008	
HFRI Fund of Funds Composite Index				0.4	0.7	2.9	6.2	6.2	8.5	5.7	4.1	4.6	3.4	
HFRI FOF: Diversified Index				0.3	1.1	2.6	5.9	5.9	8.2	5.5	4.0	4.5	3.4	
<b>Total Real Estate</b>	<b>90,750</b>	<b>9.7</b>	<b>9.7</b>	<b>4.3</b>	<b>3.3</b>	<b>21.7</b>	<b>21.7</b>	<b>9.3</b>	<b>9.6</b>	<b>10.0</b>	<b>9.5</b>	<b>7.4</b>	<b>01/01/1995</b>	
NCREIF Property Index				6.2	5.2	3.6	17.7	17.7	8.4	7.8	8.6	9.3	9.3	
RREEF America REIT II	18,948	2.0	10.9	6.2	3.9	25.0	25.0	11.0	9.8	10.7	11.5	8.2	04/01/2005	
NCREIF Property Index				6.2	5.2	3.6	17.7	17.7	8.4	7.8	8.6	9.3	8.4	
Intercontinental	38,404	4.1	9.7	5.9	4.4	24.3	24.3	11.3	10.6			10.6	01/01/2017	
NCREIF Property Index				6.2	5.2	3.6	17.7	17.7	8.4	7.8	8.6	9.3	7.8	
<b>Total Infrastructure</b>	<b>50,563</b>	<b>5.4</b>	<b>3.5</b>	<b>4.3</b>	<b>6.1</b>	<b>16.4</b>	<b>16.4</b>	<b>13.0</b>	<b>14.2</b>			<b>13.1</b>	<b>03/01/2016</b>	
Dow Jones Brookfield Global Infrastructure				7.5	-0.9	6.9	19.9	19.9	12.8	8.9	5.7	8.7	9.7	
IFM	40,363	4.3	3.9	5.1	6.2	18.3	18.3	12.6				14.1	04/01/2017	
Dow Jones Brookfield Global Infrastructure				7.5	-0.9	6.9	19.9	19.9	12.8	8.9	5.7	8.7	7.7	

Bristol County Retirement System  
Comparative Performance

As of December 31, 2021

	Allocation						Performance (%)						
	Market Value (\$000)	%	1 Quarter	1 Quarter Ending	1 Quarter Ending	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
				Sep-2021	Jun-2021								
<b>Total Timber &amp; Farmland</b>	<b>49,097</b>	<b>5.2</b>	<b>4.5</b>	<b>-0.1</b>	<b>4.1</b>	<b>9.4</b>	<b>9.4</b>	<b>7.0</b>	<b>7.4</b>	<b>7.9</b>	<b>5.3</b>	<b>8.9</b>	<b>12/01/2013</b>
50% Timberland / 50% Farmland Index***			4.2	1.7	1.6	8.5	8.5	3.8	3.7	3.7	5.3	5.2	
Hancock Timber & Farmland Fund	25,850	2.8	4.7	-2.2	5.0	6.9	6.9					6.5	08/01/2020
50% Timberland / 50% Farmland Index			4.2	1.7	1.6	8.5	8.5	3.8	3.7	3.7	5.3	7.1	
BTG Pactual U.S. Timberland Fund	10,987	1.2	4.5	2.9	3.7	14.7	14.7					12.9	07/01/2020
NCREIF Timberland Index			4.6	1.9	1.7	9.2	9.2	3.7	3.6	3.6	5.3	6.5	
Ceres Farms	8,988	1.0	5.4	2.8	2.4	14.5	14.5					14.3	08/01/2020
NCREIF Farmland Index			3.8	1.5	1.5	7.8	7.8	5.2	5.7	6.6	9.7	7.4	
Bristol County Cash	3,573	0.4	0.0	0.0	0.2	0.4	0.4	1.3	1.7	1.4	1.1	2.6	01/01/1997
90 Day U.S. Treasury Bill			0.0	0.0	0.0	0.0	0.0	1.0	1.1	0.9	0.6	2.0	

\*\*Stone Harbor 50/50 Blend: 50% JPM EMBI Global Diversified Index/50% JPM GBI-EM Global Diversified US Index

\*\*PIMCO Index: 33% BC Global Agg/33% ML Global HY/33% JPM EMBI Global.

\*GoldenTree Blended Benchmark: 50% Merrill Lynch High Yield Index / 50% S&P/LSTA Leveraged Loan Index

\*\*\* Prior to 7/1/2020, the Total Timber & Farmland composite is benchmarked 100% to the NCREIF Timberland Index

Bristol County Retirement System

Comparative Performance - IRR

As of December 31, 2021

	Market Value (\$)	%	1 Quarter	1 Quarter Ending Sep-2021	1 Quarter Ending Jun-2021	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Other Fixed Income</b>													
Invesco Mortgage Recovery Fund	64,669	0.0	0.0	-1.5	1.4	-0.7	-0.7	-1.8	1.5	10.1	16.1	13.7	03/31/2010
<b>Real Assets</b>													
<b>Closed-End Real Estate</b>	<b>33,397,628</b>	<b>3.6</b>	<b>9.6</b>	<b>0.9</b>	<b>1.0</b>	<b>17.0</b>	<b>17.0</b>	<b>6.3</b>	<b>8.4</b>	<b>8.4</b>	<b>6.8</b>	<b>15.2</b>	<b>01/01/0001</b>
Invesco Mortgage Recovery II	4,688,864	0.5	-0.2	3.1	4.0	9.8	9.8	-10.9	2.4			5.2	05/20/2016
TerraCap Partners IV	9,375,462	1.0	11.3	0.7	0.0	18.6	18.6	10.6				11.7	07/17/2018
TerraCap Partners V	19,333,302	2.1	11.7	0.4	0.9	18.0	18.0					16.4	10/16/2020
<b>Closed-End Infrastructure</b>	<b>10,200,181</b>	<b>1.1</b>	<b>1.7</b>	<b>1.4</b>	<b>5.8</b>	<b>8.4</b>	<b>8.4</b>	<b>12.5</b>	<b>12.5</b>			<b>11.7</b>	<b>03/10/2016</b>
GCM Customized Infrastructures Strategies II, LP	10,200,181	1.1	1.7	1.4	5.8	8.4	8.4	12.5	12.5			11.7	03/10/2016
<b>Closed-End Timber</b>	<b>3,271,642</b>	<b>0.3</b>	<b>0.6</b>	<b>3.7</b>	<b>2.3</b>	<b>8.3</b>	<b>8.3</b>	<b>5.9</b>	<b>6.9</b>	<b>7.5</b>		<b>8.6</b>	<b>12/23/2013</b>
Brookfield Timberlands Fund V	1,131,832	0.1	-2.7	1.4	1.3	1.4	1.4	5.1	6.8	5.8		7.8	12/23/2013
Eastern Timberland Opportunities II	2,139,810	0.2	2.3	4.8	2.7	11.6	11.6	6.3	6.9	8.2		7.9	07/03/2014

Bristol County Retirement System

Comparative Performance - IRR

As of December 31, 2021

	Market Value (\$)	%	1 Quarter	1 Quarter Ending Sep-2021	1 Quarter Ending Jun-2021	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Total Private Equity</b>	<b>108,552,341</b>	<b>11.6</b>	<b>9.1</b>	<b>12.4</b>	<b>11.1</b>	<b>57.7</b>	<b>57.7</b>	<b>31.7</b>	<b>27.0</b>	<b>20.7</b>	<b>17.2</b>	<b>177.7</b>	<b>01/05/1995</b>
<b>Active Funds</b>													
BlackRock Vesey Street Fund III	153,717	0.0	2.3	7.6	-4.0	13.9	13.9	-0.5	-4.7	3.1	8.3	4.1	07/17/2006
DuPont Capital Management II	372,482	0.0	6.5	-1.4	1.0	10.1	10.1	-2.2	-1.0	-3.7	2.7	0.5	08/14/2006
DN Partners II	2,221,933	0.2	0.0	0.0	1.3	1.3	1.3	4.7	19.4	3.5	-1.1	-2.1	01/11/2007
BlackRock Vesey Street Fund IV	838,223	0.1	0.0	-6.2	-1.2	23.9	23.9	6.2	8.5	6.7	10.1	8.1	02/24/2009
Mesirow PE Fund V	4,072,308	0.4	0.0	4.7	17.4	43.4	43.4	29.7	22.2	18.8	18.6	17.2	04/09/2009
PRIT Vintage 2014	12,522,005	1.3	14.3	13.1	9.0	59.7	59.7	30.2	29.9	25.9		24.7	05/01/2014
PRIT Vintage 2015	21,763,939	2.3	9.9	14.0	12.1	72.1	72.1	38.7	36.7			31.9	03/01/2015
PRIT Vintage 2016	10,933,106	1.2	9.2	15.9	7.9	56.1	56.1	31.8	26.3			24.7	03/01/2016
PRIT Vintage 2017	18,436,662	2.0	4.9	16.1	10.0	56.7	56.7	37.4				29.2	04/30/2017
PRIT Vintage 2018	15,862,645	1.7	12.7	10.6	18.1	66.1	66.1	40.7				36.2	05/30/2018
PRIT Vintage 2019	9,174,694	1.0	30.3	13.0	28.9	109.2	109.2					57.9	03/31/2019
PRIT Vintage 2020	4,900,428	0.5	1.2	15.6	-11.0	21.2	21.2					11.2	02/29/2020
PRIT Vintage 2021	3,400,014	0.4	-26.7	5.3	-49.0	-49.3	-49.3					-49.3	03/31/2021
PRIT Vintage 2022		0.0										0.0	12/15/2021
GCM Grosvenor SOF III	3,900,187	0.4											
Pomona Capital Fund X		0.0											

Bristol County Retirement System  
Comparative Performance

As of December 31, 2021

	Allocation						Performance (%)					
	Market Value (\$000)	%	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
			2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
<b>Total Fund</b>	<b>936,208</b>	<b>100.0</b>	<b>12.4</b>	<b>17.5</b>	<b>-3.7</b>	<b>17.3</b>	<b>7.3</b>	<b>0.2</b>	<b>5.3</b>	<b>18.9</b>	<b>15.7</b>	<b>-1.4</b>
<i>Total Plan Index</i>			13.5	18.9	-4.7	15.9	6.2	0.8	6.3	17.8	12.6	0.4
<i>Total Plan Allocation Index</i>			12.1	18.3	-4.7	16.4						
<b>Total Domestic Equity</b>	<b>213,017</b>	<b>22.8</b>	<b>21.8</b>	<b>29.7</b>	<b>-11.1</b>	<b>23.6</b>	<b>9.0</b>	<b>0.7</b>	<b>11.0</b>	<b>39.1</b>	<b>16.3</b>	<b>1.1</b>
<i>S&amp;P 500 Index</i>			18.4	31.5	-4.4	21.8	12.0	1.4	13.7	32.4	16.0	2.1
<i>Russell 3000 Index</i>			20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	1.0
NT S&P 500 Index	15,839	1.7										
S&P 500			18.4	31.5	-4.4	21.8	12.0	1.4	13.7	32.4	16.0	2.1
Columbia	35,013	3.7	48.1	37.9	-4.3	35.6	-8.2	8.7	10.5			
<i>Russell 1000 Growth Index</i>			38.5	36.4	-1.5	30.2	7.1	5.7	13.1	33.5	15.3	2.6
ClearBridge Large Cap Growth	38,532	4.1	31.6	33.2								
<i>Russell 1000 Growth Index</i>			38.5	36.4	-1.5	30.2	7.1	5.7	13.1	33.5	15.3	2.6
Intech Large Cap Growth		0.0				30.0	6.1	4.4	10.4	33.9	14.8	2.2
<i>Russell 1000 Growth Index</i>			38.5	36.4	-1.5	30.2	7.1	5.7	13.1	33.5	15.3	2.6
LSV	41,025	4.4	-1.6	24.7	-11.7	18.9	16.7	-2.1	13.3	40.9	21.2	-0.9
<i>Russell 1000 Value Index</i>			2.8	26.5	-8.3	13.7	17.3	-3.8	13.5	32.5	17.5	0.4
Lyrical	41,767	4.5	12.8	27.3	-20.8	19.3	15.3	-4.3	14.3			
<i>Russell 1000 Value Index</i>			2.8	26.5	-8.3	13.7	17.3	-3.8	13.5	32.5	17.5	0.4
Frontier Capital Appreciation	20,928	2.2	18.1	28.9								
<i>Russell 2000 Growth Index</i>			34.6	28.5	-9.3	22.2	11.3	-1.4	5.6	43.3	14.6	-2.9
Rice Hall James		0.0			1.0	13.3	7.1	-0.1	5.4	36.4	13.3	9.1
<i>Russell 2000 Growth Index</i>			34.6	28.5	-9.3	22.2	11.3	-1.4	5.6	43.3	14.6	-2.9

Bristol County Retirement System  
Comparative Performance

As of December 31, 2021

	Allocation						Performance (%)					
	Market Value (\$000)	%	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Earnest Partners	19,913	2.1	17.8	25.8	-13.4	20.0	24.4	-4.5	8.9	34.9	14.9	2.8
Russell 2000 Value Index			4.6	22.4	-12.9	7.8	31.7	-7.5	4.2	34.5	18.1	-5.5
<b>Total International Equity</b>	<b>198,996</b>	<b>21.3</b>	<b>14.7</b>	<b>22.8</b>	<b>-12.7</b>	<b>27.7</b>	<b>8.4</b>	<b>-4.3</b>	<b>-3.2</b>	<b>21.8</b>	<b>24.4</b>	<b>-14.2</b>
<i>MSCI EAFE (net)</i>			7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8	17.3	-12.1
<i>MSCI AC World ex USA</i>			11.1	22.1	-13.8	27.8	5.0	-5.3	-3.4	15.8	17.4	-13.3
Arrowstreet Capital	37,803	4.0	22.8	23.6	-12.0	27.3	6.9	-1.9	-2.7	23.4	19.1	-13.0
<i>MSCI AC World ex USA</i>			11.1	22.1	-13.8	27.8	5.0	-5.3	-3.4	15.8	17.4	-13.3
Freedom Capital Intl	38,504	4.1	4.4	21.4	-12.9	28.0	6.8	1.4	-2.9	33.2	31.5	-15.8
<i>MSCI EAFE (net)</i>			7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8	17.3	-12.1
Fiera International Equity	39,660	4.2	20.2	32.3								
<i>MSCI EAFE (Net)</i>			7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8	17.3	-12.1
MFS International Equity		0.0				28.0	0.3	0.0	-4.2	18.6	22.5	-9.8
<i>MSCI EAFE (Net)</i>			7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8	17.3	-12.1
Lazard Emerging Markets	42,663	4.6	-1.0	17.5	-18.1	27.5	20.9	-20.4	-4.0	-0.8	21.8	-18.1
<i>MSCI Emerging Markets Index</i>			18.7	18.9	-14.2	37.8	11.6	-14.6	-1.8	-2.3	18.6	-18.2
Aberdeen Emerging Markets	40,367	4.3	28.7	21.5	-13.7							
<i>MSCI Emerging Markets Index</i>			18.7	18.9	-14.2	37.8	11.6	-14.6	-1.8	-2.3	18.6	-18.2
Global REITs												
Brookfield Global Real Estate	21,465	2.3	-10.3	20.4								
<i>FTSE EPRA/NAREIT Developed Index</i>			-8.2	23.1	-4.7	11.4	5.0	0.1	15.9	4.4	28.7	-5.8

# Bristol County Retirement System

## Comparative Performance

As of December 31, 2021

	Allocation							Performance (%)					
	Market Value (\$000)	%	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	
<b>Total Domestic Fixed</b>	<b>60,050</b>	<b>6.4</b>	<b>10.0</b>	<b>9.3</b>	<b>-0.1</b>	<b>3.8</b>	<b>3.9</b>	<b>0.7</b>	<b>6.1</b>	<b>-2.1</b>	<b>9.7</b>	<b>5.5</b>	
Barclays Cap Aggregate			7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0	4.2	7.8	
NT Aggregate Bond Index	12,473	1.3											
Blmbg. U.S. Aggregate			7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0	4.2	7.8	
Income Research & Management	47,513	5.1	10.9	10.1	-0.2	4.5	4.0	0.2	7.2	-1.4	7.7	8.3	
Blmbg. U.S. Gov't/Credit			8.9	9.7	-0.4	4.0	3.0	0.1	6.0	-2.4	4.8	8.7	
IR+M TIPS		0.0		6.9	-0.3	2.0	4.1	-0.5	0.9	-5.5	5.0	9.1	
Barclays Cap US Treas: US TIPS			11.0	8.4	-1.3	3.0	4.7	-1.4	3.6	-8.6	7.0	13.6	
<b>Total Global Fixed</b>	<b>103,433</b>	<b>11.0</b>	<b>3.7</b>	<b>9.6</b>	<b>-2.4</b>	<b>10.0</b>	<b>8.5</b>	<b>-1.1</b>	<b>2.1</b>	<b>-1.5</b>	<b>11.0</b>	<b>4.2</b>	
Blmbg. Global Aggregate			9.2	6.8	-1.2	7.4	2.1	-3.2	0.6	-2.6	4.3	5.6	
<b>Broad Mkt Global Fixed Income</b>	<b>44,194</b>	<b>4.7</b>	<b>3.3</b>	<b>8.9</b>	<b>-0.9</b>	<b>8.7</b>	<b>8.8</b>	<b>-1.1</b>	<b>2.1</b>	<b>-1.5</b>	<b>11.0</b>	<b>4.2</b>	
Blmbg. Global Aggregate			9.2	6.8	-1.2	7.4	2.1	-3.2	0.6	-2.6	4.3	5.6	
Franklin Templeton Global Bond		0.0	-5.3										
FTSE World Government Bond Index			10.1	5.9	-0.8	7.5	1.6	-3.6	-0.5	-4.0	1.6	6.4	
PIMCO Diversified Income	24,732	2.6	6.5	12.8	-1.0	8.8	10.6	1.2	3.0	-0.9	15.0	4.4	
Global Diversified Index**			8.0	11.7	-3.0	9.0	9.0	-2.0	2.0	-0.5	13.9	5.7	
GoldenTree Multi-Sector Opportunistic Fund	19,462	2.1	7.8										
GoldenTree Blended Benchmark*			4.7	11.5	-0.9	5.8	13.8	-2.7	2.1	6.4	12.6	3.0	
Colchester Global Bond		0.0			-0.5	8.7	4.3	-5.5	0.3	-2.9			
FTSE World Government Bond Index			10.1	5.9	-0.8	7.5	1.6	-3.6	-0.5	-4.0	1.6	6.4	
EnTrust Global Recovery Fund	13,382	1.4											
Blmbg. Global Aggregate			9.2	6.8	-1.2	7.4	2.1	-3.2	0.6	-2.6	4.3	5.6	

# Bristol County Retirement System

## Comparative Performance

As of December 31, 2021

	Allocation		Performance (%)									
	Market Value (\$000)	%	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Bardin Hill Opportunistic Credit	21,635	2.3										
Blmbg. Global Aggregate			9.2	6.8	-1.2	7.4	2.1	-3.2	0.6	-2.6	4.3	5.6
<b>Emerging Market Debt Composite</b>	<b>24,223</b>	<b>2.6</b>	<b>4.3</b>	<b>12.4</b>	<b>-6.8</b>	<b>14.0</b>						
50%/50% Blend **			4.0	14.3	-5.2	12.7	10.2	-7.1	0.7	-7.1	17.2	2.8
Stone Harbor EMD	12,448	1.3	5.7	14.7	-8.7	14.3						
50%/50% Blend **			4.0	14.3	-5.2	12.7	10.2	-7.1	0.7	-7.1	17.2	2.8
Ashmore Emerging Markets Total Return	11,775	1.3	2.9	9.8	-5.3	13.7						
50%/50% Blend **			4.0	14.3	-5.2	12.7	10.2	-7.1	0.7	-7.1	17.2	2.8
Hedge Funds												
PRIT Absolute Return	36,713	3.9	1.3	7.7	-1.6	8.2	3.6	-1.9	5.5	12.6	8.4	-2.8
HFRI Fund of Funds Composite Index			10.9	8.4	-4.0	7.8	0.5	-0.3	3.4	9.0	4.8	-5.7
HFRI FOF: Diversified Index			10.6	8.1	-3.3	6.9	0.4	-0.2	3.4	9.0	4.8	-5.0
<b>Total Real Estate</b>	<b>90,750</b>	<b>9.7</b>	<b>-2.0</b>	<b>9.5</b>	<b>12.6</b>	<b>7.6</b>	<b>9.6</b>	<b>12.8</b>	<b>10.4</b>	<b>7.8</b>	<b>6.5</b>	<b>7.3</b>
NCREIF Property Index			1.6	6.4	6.7	7.0	8.0	13.3	11.8	11.0	10.5	14.3
RREEF America REIT II	18,948	2.0	2.1	7.3	8.4	7.4	9.1	16.7	13.0	15.0	12.4	14.1
NCREIF Property Index			1.6	6.4	6.7	7.0	8.0	13.3	11.8	11.0	10.5	14.3
Intercontinental	38,404	4.1	1.6	9.1	10.7	8.5						
NCREIF Property Index			1.6	6.4	6.7	7.0	8.0	13.3	11.8	11.0	10.5	14.3
<b>Total Infrastructure</b>	<b>50,563</b>	<b>5.4</b>	<b>7.3</b>	<b>15.4</b>	<b>16.0</b>	<b>15.9</b>						
Dow Jones Brookfield Global Infrastructure			-7.0	28.7	-7.9	15.8	12.5	-14.4	16.4	15.9	16.0	13.8
IFM	40,363	4.3	4.0	16.1	16.9							
Dow Jones Brookfield Global Infrastructure			-7.0	28.7	-7.9	15.8	12.5	-14.4	16.4	15.9	16.0	13.8

# Bristol County Retirement System

## Comparative Performance

As of December 31, 2021

	Allocation							Performance (%)					
	Market Value (\$000)	%	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	
<b>Total Timber &amp; Farmland</b>	<b>49,097</b>	<b>5.2</b>	<b>4.5</b>	<b>7.2</b>	<b>1.9</b>	<b>14.4</b>	<b>5.8</b>	<b>12.7</b>	<b>15.9</b>				
<i>50% Timberland / 50% Farmland Index***</i>			1.8	1.3	3.2	3.6	2.6	5.0	10.5	9.7	7.8	1.6	
Hancock Timber & Farmland Fund	25,850	2.8											
<i>50% Timberland / 50% Farmland Index</i>			1.8	1.3	3.2	3.6	2.6	5.0	10.5	9.7	7.8	1.6	
BTG Pactual U.S. Timberland Fund	10,987	1.2											
<i>NCREIF Timberland Index</i>			0.8	1.3	3.2	3.6	2.6	5.0	10.5	9.7	7.8	1.6	
Ceres Farms	8,988	1.0											
<i>NCREIF Farmland Index</i>			3.1	4.8	6.7	6.2	7.1	10.4	12.6	20.9	18.6	15.2	
Bristol County Cash	3,573	0.4	0.7	2.7	3.8	0.8	0.3	1.2	0.9	0.2	0.1	0.3	
<i>90 Day U.S. Treasury Bill</i>			0.7	2.3	1.9	0.9	0.3	0.0	0.0	0.0	0.1	0.1	

\*\*Stone Harbor 50/50 Blend: 50% JPM EMBI Global Diversified Index/50% JPM GBI-EM Global Diversified US Index

\*\*\*PIMCO Index: 33% BC Global Agg/33% ML Global HY/33% JPM EMBI Global.

\*GoldenTree Blended Benchmark: 50% Merrill Lynch High Yield Index / 50% S&P/LSTA Leveraged Loan Index

\*\*\* Prior to 7/1/2020, the Total Timber & Farmland composite is benchmarked 100% to the NCREIF Timberland Index

Bristol County Retirement System  
Plan Index

As of December 31, 2021

Policy Index	Weight (%)
Jan-1976	
Blmbg. U.S. Aggregate	35.0
MSCI EAFE (Net)	15.0
S&P 500	50.0
Jul-2007	
Blmbg. U.S. Aggregate	33.0
MSCI EAFE (Net)	22.0
S&P 500	45.0
Jul-2010	
Blmbg. U.S. Aggregate	33.0
MSCI EAFE (Net)	25.5
S&P 500	41.5
Jan-2017	
Blmbg. U.S. Aggregate	18.0
Russell 3000 Index	34.0
Blmbg. Global Aggregate	16.5
MSCI AC World ex USA	24.0
NCREIF Property Index	7.5
Jan-2020	
Blmbg. U.S. Aggregate	13.5
Russell 3000 Index	36.5
Blmbg. Global Aggregate	14.5
MSCI AC World ex USA	24.5
NCREIF Property Index	11.0

# Bristol County Retirement System

## Total Plan Allocation Index

As of December 31, 2021

Policy Index	Weight (%)
Jan-2017	
Russell 3000 Index	30.0
NCREIF Timberland Index	3.0
FTSE EPRA/NAREIT Developed Index	2.0
MSCI EAFE Index	12.5
MSCI Emerging Markets Index	10.5
Blmbg. U.S. Aggregate	11.0
Blmbg. U.S. TIPS	2.0
Blmbg. Global Aggregate	6.5
50% JPM EMBI Global Div./ 50% JPM GBI-EM Global Div.	7.0
FTSE High Yield Market Capped Index	3.0
HFRI FOF: Diversified Index	5.0
NCREIF Property Index	7.5
Jan-2020	
Russell 3000 Index	34.0
NCREIF Timberland Index	3.0
FTSE EPRA/NAREIT Developed Index	2.0
MSCI EAFE Index	11.0
MSCI Emerging Markets Index	11.0
Blmbg. U.S. Aggregate	5.0
Blmbg. Global Aggregate	3.0
50% JPM EMBI Global Div./ 50% JPM GBI-EM Global Div.	4.0
FTSE High Yield Market Capped Index	3.0
HFRI FOF: Diversified Index	4.0
NCREIF Property Index	11.0
NCREIF Farmland Index	3.0
Dow Jones Brookfield Global Infrastructure	6.0

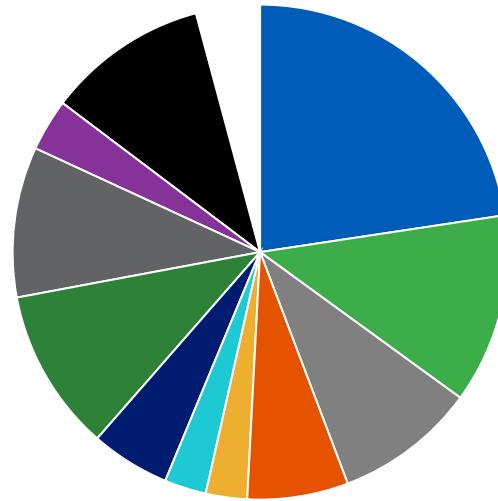
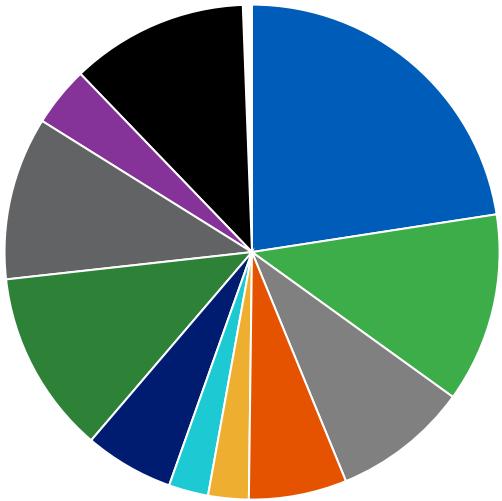
# Bristol County Retirement System

## Total Fund

As of December 31, 2021

Dec-2021 : \$936,208,129

Sep-2021 : \$917,099,797



Segments	Market Value (\$)	Allocation (%)
Domestic Equity	211,172,332	22.6
International Equity	115,966,713	12.4
Emerging Equity	83,029,331	8.9
Domestic Fixed Income	59,878,148	6.4
International Fixed Income	24,731,746	2.6
Emerging Fixed Income	24,222,702	2.6
Global Fixed Income	54,478,617	5.8
Real Estate	112,214,342	12.0
Alternative Investment	99,659,525	10.6
Hedge Fund	36,713,060	3.9
Private Equity	108,552,341	11.6
Cash Equivalent	5,589,270	0.6

Segments	Market Value (\$)	Allocation (%)
Domestic Equity	207,347,780	22.6
International Equity	113,718,363	12.4
Emerging Equity	84,639,565	9.2
Domestic Fixed Income	60,465,384	6.6
International Fixed Income	24,720,930	2.7
Emerging Fixed Income	25,067,902	2.7
Global Fixed Income	47,415,401	5.2
Real Estate	97,501,727	10.6
Alternative Investment	90,120,383	9.8
Hedge Fund	31,227,931	3.4
Private Equity	96,536,771	10.5
Cash Equivalent	38,337,661	4.2

Bristol County Retirement System  
Financial Reconciliation

1 Quarter Ending December 31, 2021

	Market Value As of 10/01/2021	Contributions	Distributions	Fees	Expenses	Return On Investment	Market Value As of 12/31/2021
<b>Domestic Equity</b>							
NT S&P 500 Index	15,000,000	4,000,000	-5,000,000			1,838,535	15,838,535
ClearBridge Large Cap Growth	39,029,700		-4,000,000	-60,441		3,562,659	38,531,917
Columbia	38,553,729		-4,000,000			459,649	35,013,378
LSV	38,433,055			-58,456		2,650,087	41,024,686
Lyrical	38,995,324			-78,374		2,850,429	41,767,378
Earnest Partners	19,123,462			-39,690		829,452	19,913,224
Frontier Capital Appreciation	19,775,742					1,152,056	20,927,798
<b>International Equity</b>							
Arrowstreet Capital	37,533,320	70,899		-70,899		269,827	37,803,148
Freedom Capital Intl	39,184,939		-1,000,000			319,026	38,503,965
Fiera International Equity	37,000,104			-72,989		2,732,486	39,659,601
Lazard Emerging Markets	42,917,991					-255,211	42,662,780
Aberdeen Emerging Markets	41,721,574			-89,279		-1,265,744	40,366,551
<b>Global REITs</b>							
Brookfield Global Real Estate	20,074,511					1,390,247	21,464,758
<b>Domestic Fixed Income</b>							
NT Aggregate Bond Index	13,000,000	4,000,000	-4,500,000			-26,927	12,473,073
Income Research & Management	47,508,925			-36,163		39,762	47,512,524
Invesco Mortgage Recovery Fund	64,669						64,669
<b>International Fixed Income</b>							
PIMCO Diversified Income	24,720,930					10,817	24,731,746
GoldenTree Multi-Sector Opportunistic Fund	19,192,940					268,912	19,461,852
Stone Harbor EMD	12,676,830			-17,408		-211,662	12,447,761
Ashmore Emerging Markets Total Return	12,391,071					-616,130	11,774,942

Bristol County Retirement System  
Financial Reconciliation

1 Quarter Ending December 31, 2021

	Market Value As of 10/01/2021	Contributions	Distributions	Fees	Expenses	Return On Investment	Market Value As of 12/31/2021
EnTrust Global Recovery Fund	9,548,874	3,641,934				191,061	13,381,869
Bardin Hill Opportunistic Credit	18,673,587	6,604,244	-3,534,311	-113,939	-67,323	72,638	21,634,896
<b>Short Term Investments</b>							
Bristol County Cash	36,666,220	23,948,118	-57,042,101			331	3,572,568
<b>Total Private Equity</b>							
DN Partners II	2,221,933						2,221,933
Charles River XI	9,497					-9,497	
DuPont Capital Management II	375,164	630	-27,656	-630		24,974	372,482
BlackRock Vesey Street Fund III	150,223					3,494	153,717
BlackRock Vesey Street Fund IV	1,204,022	11,546	-377,345		-11,546	11,546	838,223
Mesirow PE Fund V	4,752,308	25,000	-705,000	-19,261		19,261	4,072,308
PRIT Vintage 2014	12,098,555	36,366	-1,278,741	-3,369	-20,078	1,689,271	12,522,005
PRIT Vintage 2015	22,003,283	37,827	-2,375,096	-7,844	-43,746	2,149,514	21,763,939
PRIT Vintage 2016	10,965,168	144,604	-1,157,416	-1,527	-28,083	1,010,360	10,933,106
PRIT Vintage 2017	16,999,049	1,311,129	-710,812	-17,653	-59,082	914,031	18,436,662
PRIT Vintage 2018	13,719,010	876,895	-500,167	-1,913	-45,821	1,814,641	15,862,645
PRIT Vintage 2019	6,848,135	710,295	-535,813	-6,483	-26,489	2,185,049	9,174,694
PRIT Vintage 2020	3,017,937	1,836,882	-511	-539	-44,364	91,022	4,900,428
PRIT Vintage 2021	2,172,487	1,930,856		-1,352	-39,129	-662,849	3,400,014
PRIT Vintage 2022							
GCM Grosvenor SOF III		3,900,187					3,900,187
Pomona Capital Fund X							

Bristol County Retirement System  
Financial Reconciliation

1 Quarter Ending December 31, 2021

	Market Value As of 10/01/2021	Contributions	Distributions	Fees	Expenses	Return On Investment	Market Value As of 12/31/2021
<b>Real Assets</b>							
RREEF America REIT II	15,876,191	1,250,000		-42,152		1,863,686	18,947,725
Intercontinental	36,024,240			-1,126,124		3,506,115	38,404,231
Invesco Mortgage Recovery II	4,698,019					-9,155	4,688,864
TerraCap Partners IV	8,612,354		-212,219			975,327	9,375,462
TerraCap Partners V	12,216,412	5,404,044	-67,230			1,780,076	19,333,302
Brookfield Timberlands Fund V	1,177,718	2,774	-17,205	-2,769	-5	-28,681	1,131,832
Eastern Timberland Opportunities II	2,188,004		-98,473			50,279	2,139,810
GCM Customized Infrastructures Strategies II, LP	10,656,426	298,847	-926,577	-14,726	-14,989	201,200	10,200,181
IFM	37,041,868	1,900,000		-74,310		1,495,286	40,362,844
BTG Pactual U.S. Timberland Fund	5,572,203	5,000,000	-56,217			471,027	10,987,012
Hancock Timber & Farmland Fund	24,847,553		-90,189	-62,509		1,154,749	25,849,604
Ceres Farms	8,636,611			-110,655		462,287	8,988,242
<b>Hedge Fund of Funds</b>							
PRIT Absolute Return	31,227,931	5,000,000		-97,807		582,936	36,713,060
<b>Total Fund</b>	<b>917,099,797</b>	<b>71,943,078</b>	<b>-88,213,078</b>	<b>-2,229,262</b>	<b>-400,654</b>	<b>38,008,249</b>	<b>936,208,129</b>

Bristol County Retirement System  
Financial Reconciliation

1 Year Ending December 31, 2021

	Market Value As of 01/01/2021	Contributions	Distributions	Fees	Expenses	Return On Investment	Market Value As of 12/31/2021
<b>Domestic Equity</b>							
NT S&P 500 Index		19,000,000	-5,000,000			1,838,535	15,838,535
ClearBridge Large Cap Growth	37,509,219		-7,000,000	-239,288		8,261,987	38,531,917
Columbia	38,139,411		-7,000,000			3,873,967	35,013,378
LSV	40,390,755		-10,000,000	-239,826		10,873,756	41,024,686
Lyrical	40,920,340		-10,000,000	-333,230		11,180,268	41,767,378
Earnest Partners	19,849,205		-3,500,000	-167,387		3,731,406	19,913,224
Frontier Capital Appreciation	21,877,798		-4,500,000			3,550,000	20,927,798
<b>International Equity</b>							
Arrowstreet Capital	40,350,271	280,683	-8,000,000	-280,683		5,452,877	37,803,148
Freedom Capital Intl	41,537,547		-7,000,000	-264,401		4,230,819	38,503,965
Fiera International Equity	33,946,009			-275,899		5,989,491	39,659,601
Lazard Emerging Markets	43,059,192		-3,000,000			2,603,588	42,662,780
Aberdeen Emerging Markets	47,094,410		-5,000,000	-373,386		-1,354,473	40,366,551
<b>Global REITs</b>							
Brookfield Global Real Estate	17,341,551					4,123,208	21,464,758
<b>Domestic Fixed Income</b>							
NT Aggregate Bond Index		17,000,000	-4,500,000			-26,927	12,473,073
Income Research & Management	48,755,425	14,000,000	-14,500,000	-144,415		-598,486	47,512,524
Invesco Mortgage Recovery Fund	65,130					-461	64,669

Bristol County Retirement System  
Financial Reconciliation

1 Year Ending December 31, 2021

	Market Value As of 01/01/2021	Contributions	Distributions	Fees	Expenses	Return On Investment	Market Value As of 12/31/2021
<b>International Fixed Income</b>							
Franklin Templeton Global Bond	18,815,858		-18,117,010	-69,384		-629,464	
PIMCO Diversified Income	32,776,470		-8,000,000			-44,724	24,731,746
GoldenTree Multi-Sector Opportunistic Fund	22,300,783		-5,000,000			2,161,069	19,461,852
Stone Harbor EMD	13,178,858			-70,525		-660,572	12,447,761
Ashmore Emerging Markets Total Return	13,099,345					-1,324,403	11,774,942
EnTrust Global Recovery Fund		14,632,040				-1,250,171	13,381,869
Bardin Hill Opportunistic Credit		25,262,476	-7,368,349	-277,285	-201,387	4,219,441	21,634,896
<b>Short Term Investments</b>							
Bristol County Cash	17,879,331	149,829,110	-164,154,685			18,812	3,572,568
<b>Total Private Equity</b>							
DN Partners II	2,221,950		-28,285			28,268	2,221,933
Charles River XI	12,806					-12,806	
DuPont Capital Management II	418,429	2,933	-88,349	-2,933		42,402	372,482
BlackRock Vesey Street Fund III	230,043		-99,996			23,670	153,717
BlackRock Vesey Street Fund IV	2,747,269	44,936	-2,371,535		-11,546	429,099	838,223
Mesirow PE Fund V	4,240,629	125,000	-1,885,000	-39,925		1,631,604	4,072,308
PRIT Vintage 2014	10,113,592	321,842	-3,320,463	-5,841	-84,030	5,496,904	12,522,005
PRIT Vintage 2015	17,715,541	357,983	-7,226,423	-28,500	-170,147	11,115,483	21,763,939
PRIT Vintage 2016	7,843,590	802,282	-1,975,899	-3,525	-121,818	4,388,475	10,933,106
PRIT Vintage 2017	10,834,348	3,183,314	-1,899,810	-20,764	-230,352	6,569,926	18,436,662
PRIT Vintage 2018	7,348,403	3,790,061	-1,104,467	-4,202	-198,405	6,031,256	15,862,645
PRIT Vintage 2019	3,358,077	2,531,087	-1,174,634	-29,928	-115,966	4,606,058	9,174,694
PRIT Vintage 2020	490,536	4,053,649	-8,258	-1,250	-105,033	470,784	4,900,428
PRIT Vintage 2021		4,358,896	668	-2,138	-53,692	-903,721	3,400,014
PRIT Vintage 2022							
GCM Grosvenor SOF III		3,900,187					3,900,187
Pomona Capital Fund X							

Bristol County Retirement System  
Financial Reconciliation

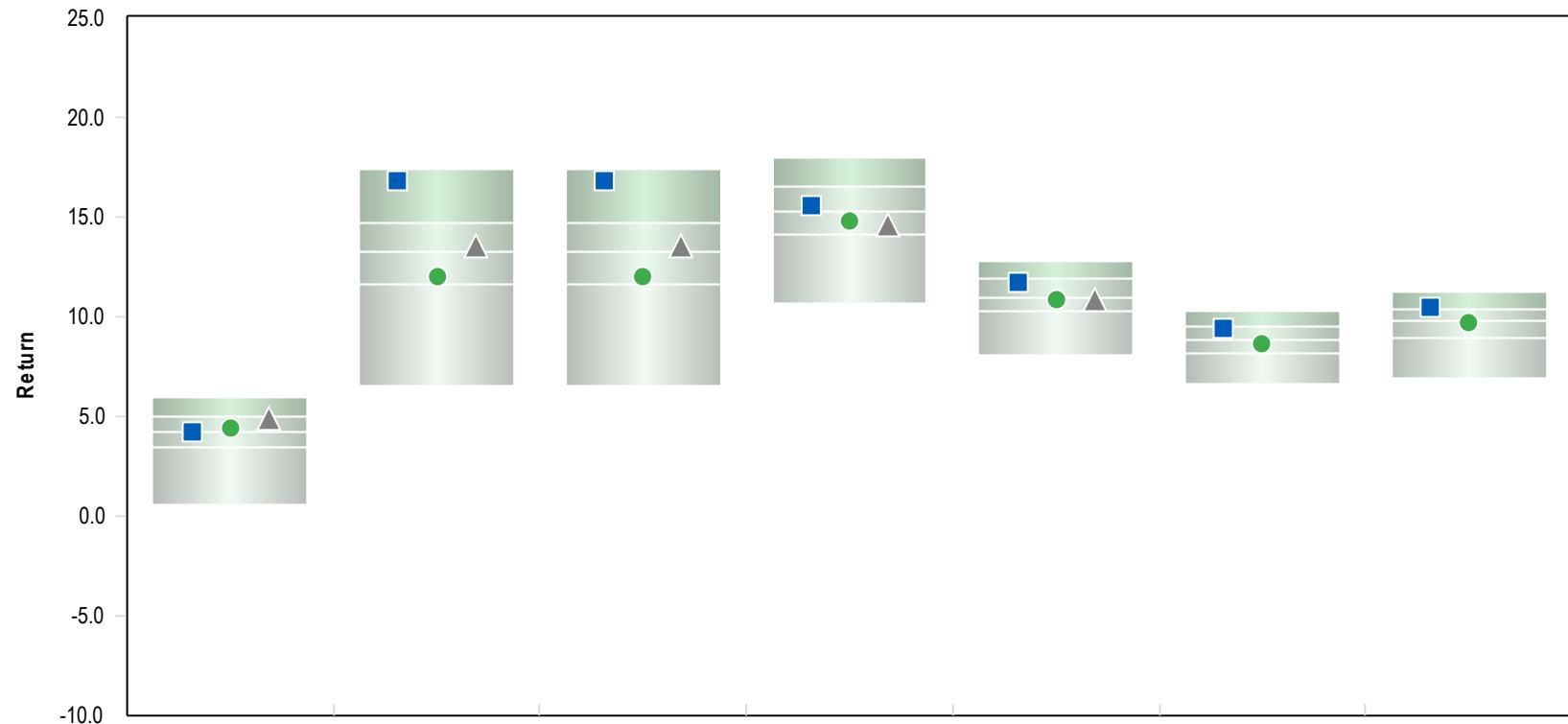
1 Year Ending December 31, 2021

	Market Value As of 01/01/2021	Contributions	Distributions	Fees	Expenses	Return On Investment	Market Value As of 12/31/2021
<b>Real Assets</b>							
Hunt RIVA (FKA SSgA Tuckerman)	63,183		-61,837			-1,346	
RREEF America REIT II	14,178,777	1,250,000		-147,171		3,666,119	18,947,725
Intercontinental	31,990,217			-1,337,521		7,751,535	38,404,231
Invesco Mortgage Recovery II	2,311,303	2,032,083				345,478	4,688,864
TerraCap Partners IV	10,209,551	237,635	-2,665,595	-237,635		1,831,506	9,375,462
TerraCap Partners V	7,167,938	10,313,323	-197,350			2,049,391	19,333,302
Brookfield Timberlands Fund V	1,167,720	11,125	-62,785	-10,986	-140	26,897	1,131,832
Eastern Timberland Opportunities II	2,792,619		-926,180			273,371	2,139,810
GCM Customized Infrastructures Strategies II, LP	8,965,108	2,027,290	-1,587,723	-63,288	-44,153	902,947	10,200,181
IFM	32,707,661	1,900,000		-273,837		6,029,020	40,362,844
BTG Pactual U.S. Timberland Fund	5,127,736	5,000,000	-109,577			968,853	10,987,012
Hancock Timber & Farmland Fund	9,145,007	15,950,000	-671,372	-227,467		1,653,436	25,849,604
Ceres Farms	5,205,664	3,000,000		-269,892		1,052,471	8,988,242
<b>Hedge Fund of Funds</b>							
PRIT Absolute Return	28,913,292	5,000,000		-338,009		3,137,778	36,713,060
<b>Total Fund</b>	<b>816,407,897</b>	<b>310,197,935</b>	<b>-319,104,915</b>	<b>-5,780,520</b>	<b>-1,336,669</b>	<b>135,824,401</b>	<b>936,208,129</b>

# Bristol County Retirement System

## All Public Plans < \$1B-Total Fund

As of December 31, 2021



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Fund	4.2 (53)	16.9 (10)	16.9 (10)	15.6 (45)	11.8 (29)	9.4 (30)	10.5 (22)
● Total Plan Index	4.4 (44)	12.1 (71)	12.1 (71)	14.8 (60)	10.8 (59)	8.7 (58)	9.7 (55)
▲ Total Plan Allocation Index	4.9 (32)	13.6 (44)	13.6 (44)	14.7 (64)	10.8 (59)		
5th Percentile	6.0	17.4	17.4	18.0	12.8	10.3	11.2
1st Quartile	5.0	14.7	14.7	16.5	11.9	9.5	10.4
Median	4.3	13.2	13.2	15.3	11.0	8.9	9.8
3rd Quartile	3.5	11.6	11.6	14.1	10.3	8.2	9.0
95th Percentile	0.6	6.5	6.5	10.7	8.1	6.7	6.9
Population	345	339	339	321	304	287	270

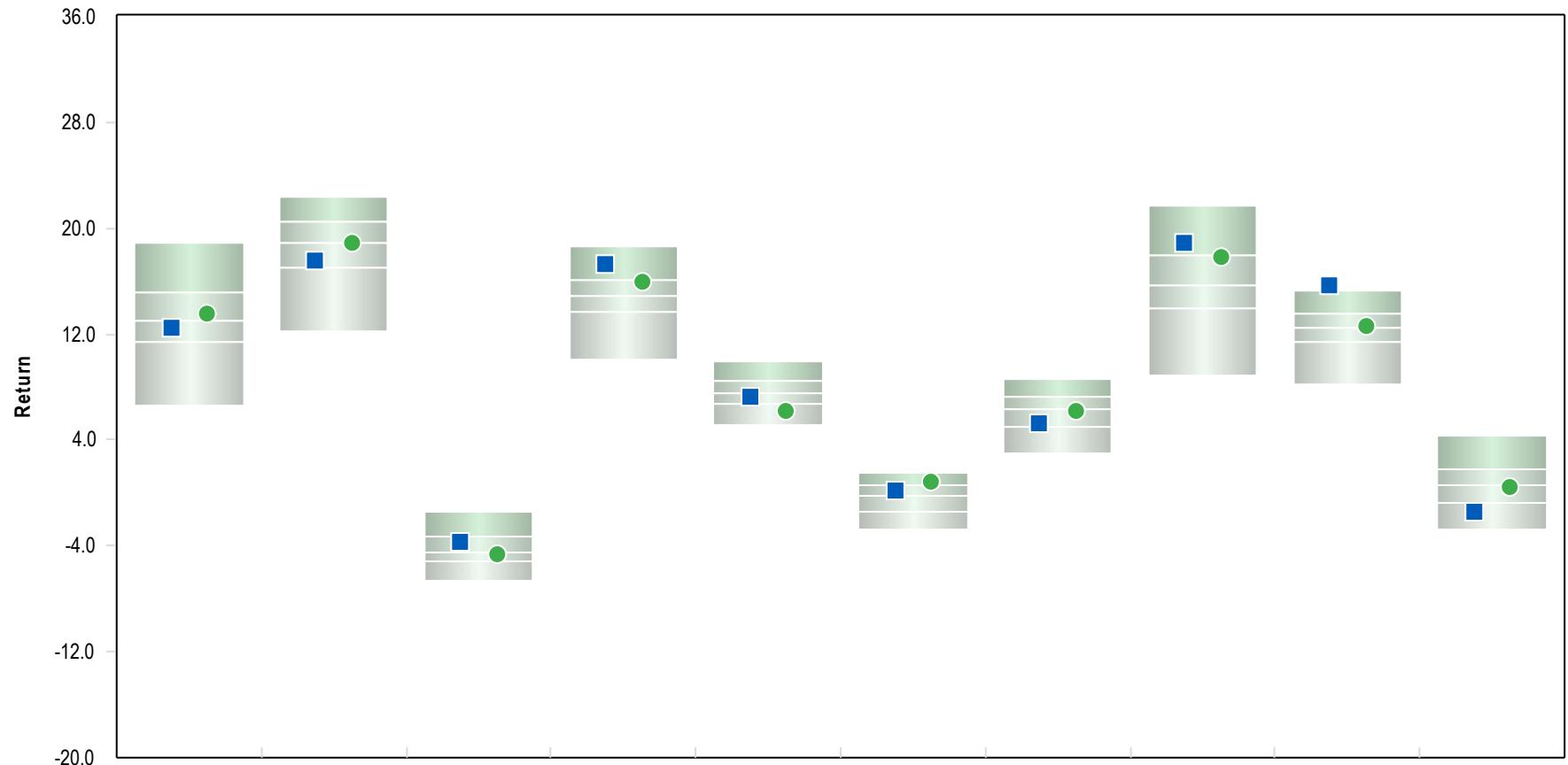
Parentheses contain percentile rankings.

Calculation based on quarterly periodicity.

# Bristol County Retirement System

## All Public Plans < \$1B-Total Fund

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
■ Total Fund	12.4 (57)	17.5 (70)	-3.7 (34)	17.3 (11)	7.3 (58)	0.2 (35)	5.3 (72)	18.9 (18)	15.7 (3)	-1.4 (84)
● Total Plan Index	13.5 (42)	18.9 (51)	-4.7 (58)	15.9 (28)	6.2 (86)	0.8 (20)	6.3 (53)	17.8 (27)	12.6 (48)	0.4 (52)
5th Percentile	18.9	22.4	-1.4	18.6	9.9	1.5	8.6	21.7	15.3	4.3
1st Quartile	15.1	20.5	-3.4	16.0	8.4	0.6	7.2	18.0	13.5	1.8
Median	13.0	18.9	-4.4	14.9	7.5	-0.3	6.3	15.8	12.5	0.5
3rd Quartile	11.3	17.1	-5.2	13.6	6.7	-1.5	5.0	13.9	11.4	-0.7
95th Percentile	6.6	12.2	-6.7	10.1	5.2	-2.8	3.0	8.9	8.2	-2.7

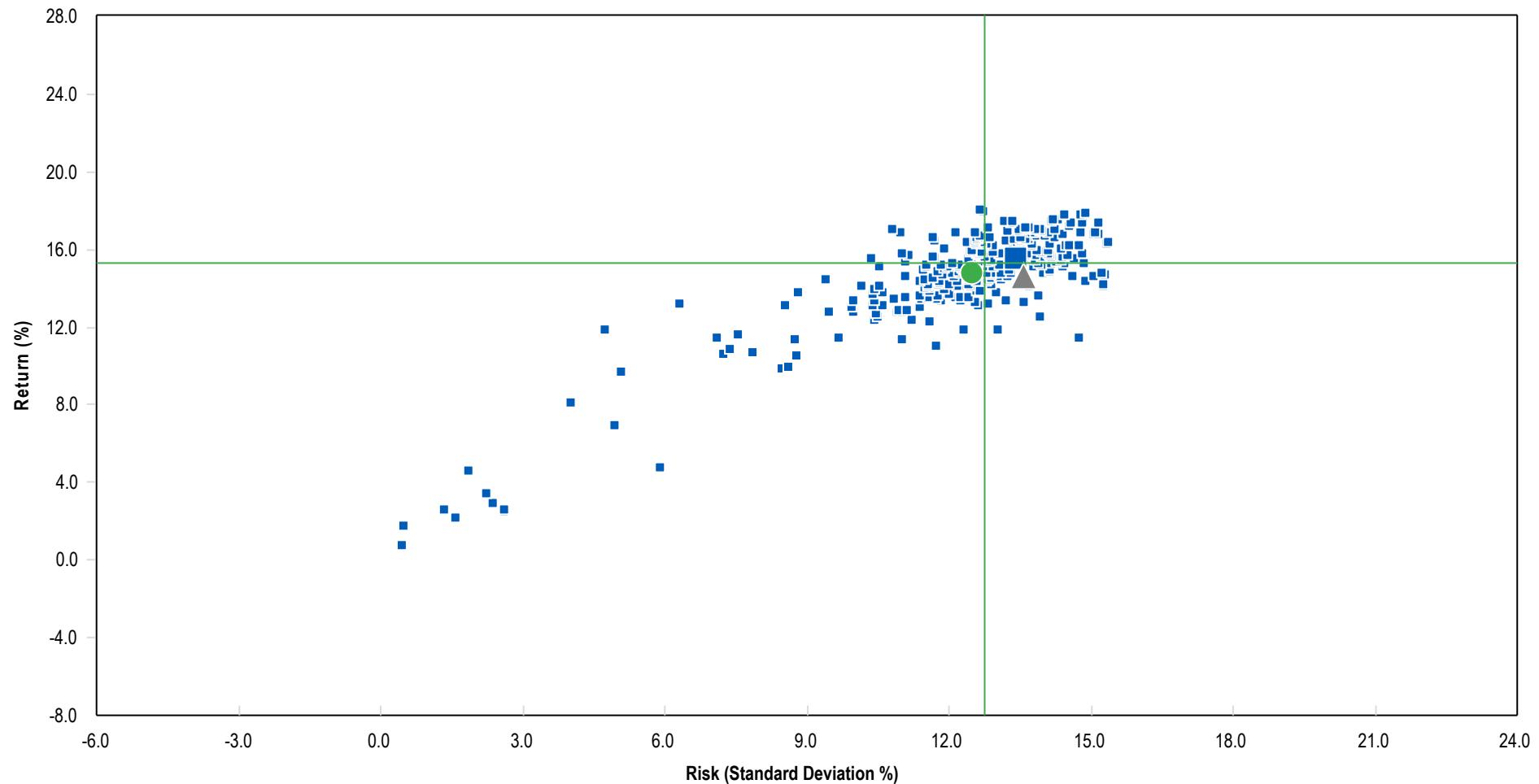
Parentheses contain percentile rankings.

Calculation based on quarterly periodicity.

# Bristol County Retirement System

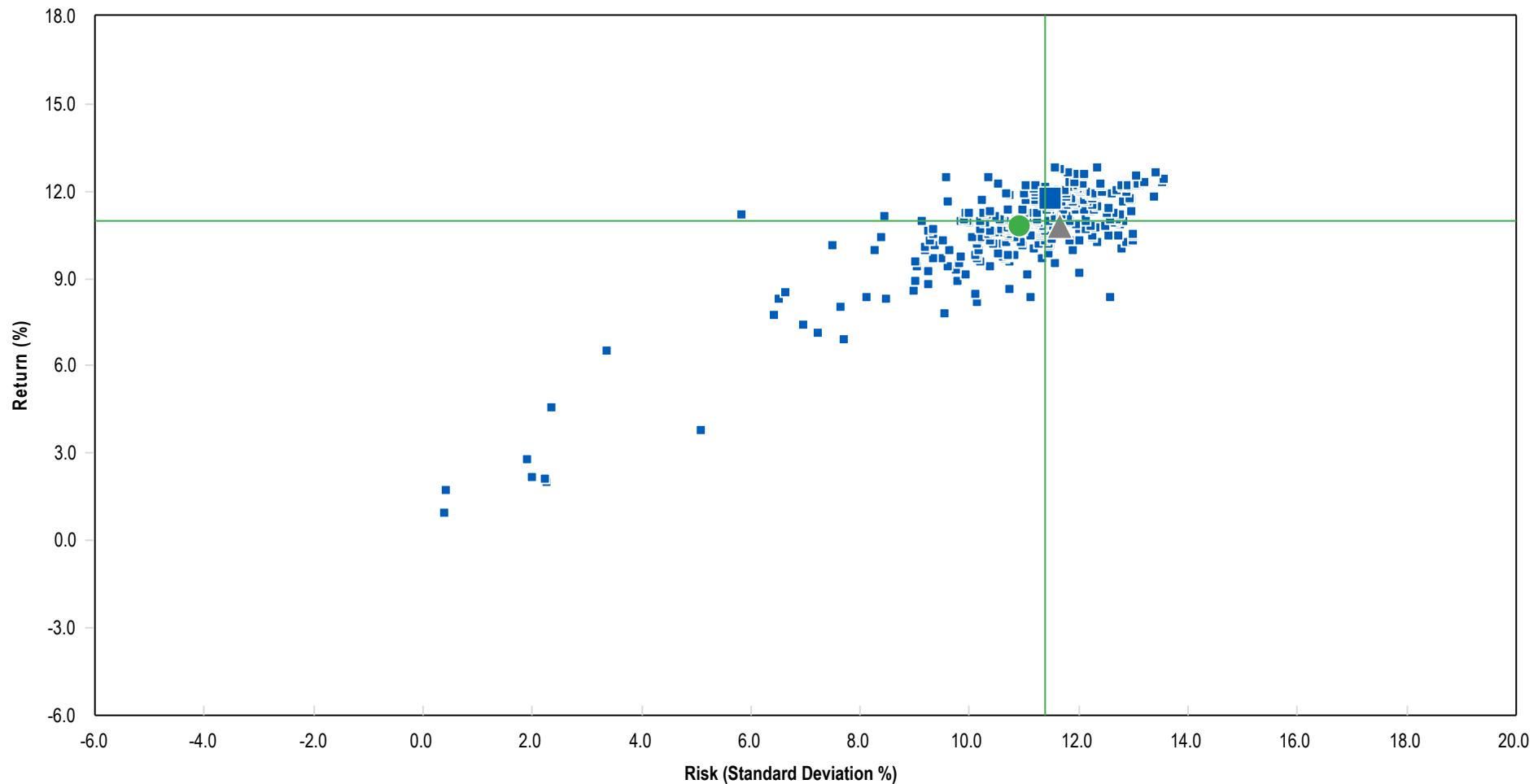
## All Public Plans < \$1B-Total Fund

3 Years Ending December 31, 2021



	Return	Standard Deviation
Total Fund	15.6	13.4
Total Plan Index	14.8	12.5
Total Plan Allocation Index	14.7	13.6
Median	15.3	12.8

Calculation based on quarterly periodicity.

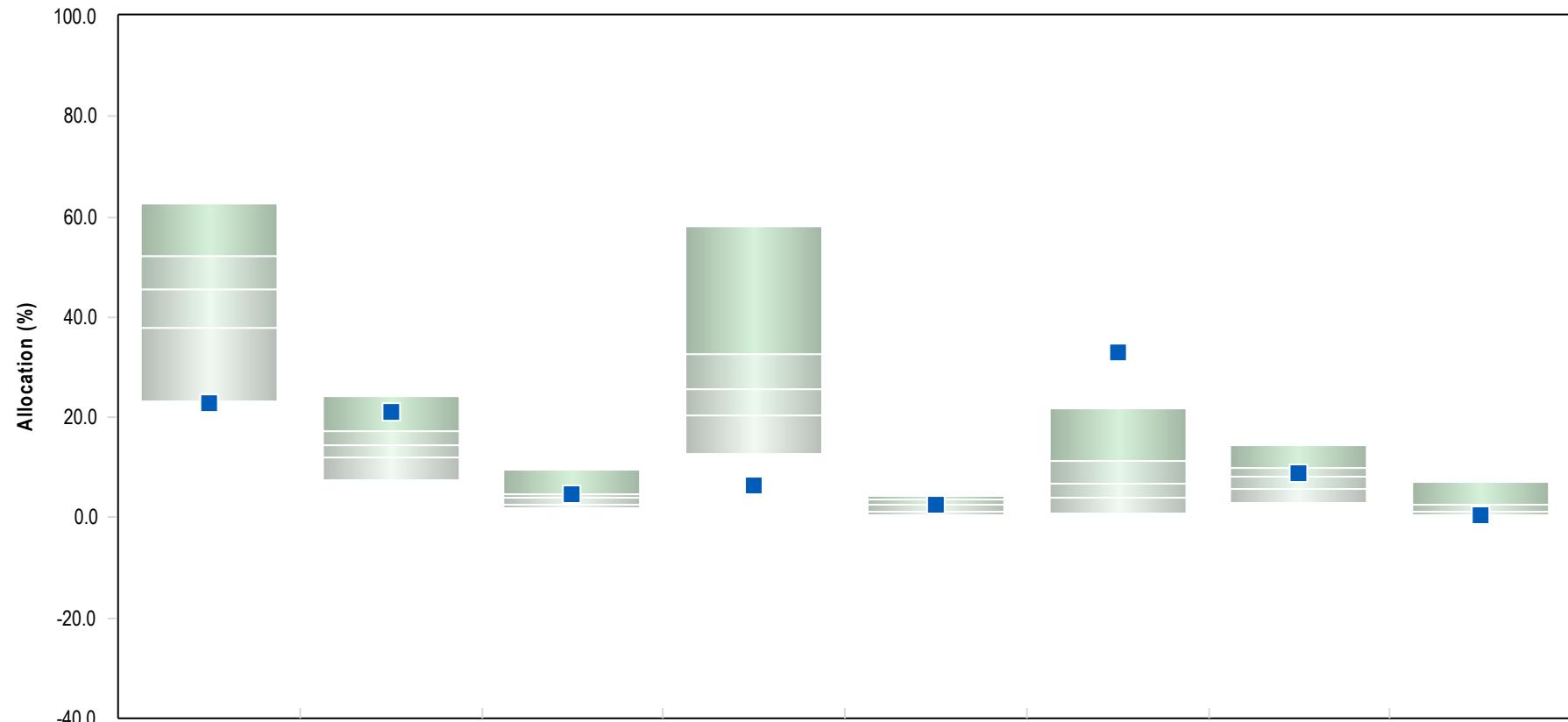


	Return	Risk
Total Fund	11.8	11.5
Total Plan Index	10.8	10.9
Total Plan Allocation Index	10.8	11.6
Median	11.0	11.4

Calculation based on quarterly periodicity.

Bristol County Retirement System  
Plan Sponsor TF Asset Allocation

As of December 31, 2021  
All Public Plans < \$1B-Total Fund



	US Equity	Global ex-US Equity	Global Fixed Income	US Fixed	Emg Mkt Fixed	Alternatives	Total Real Estate	Cash & Equivalents
<b>Total Fund</b>	22.8 (96)	21.3 (11)	4.7 (29)	6.4 (100)	2.6 (51)	33.0 (3)	8.9 (41)	0.4 (85)
5th Percentile	62.8	24.3	9.6	58.0	4.5	21.9	14.4	7.1
1st Quartile	52.3	17.2	4.8	32.8	3.8	11.3	10.0	2.5
Median	45.7	14.3	3.8	25.8	2.6	7.0	8.3	1.2
3rd Quartile	37.8	12.0	2.7	20.3	1.3	3.9	5.9	0.6
95th Percentile	23.3	7.5	1.9	12.9	0.5	1.0	3.1	0.1
Population	520	485	125	505	11	150	334	414

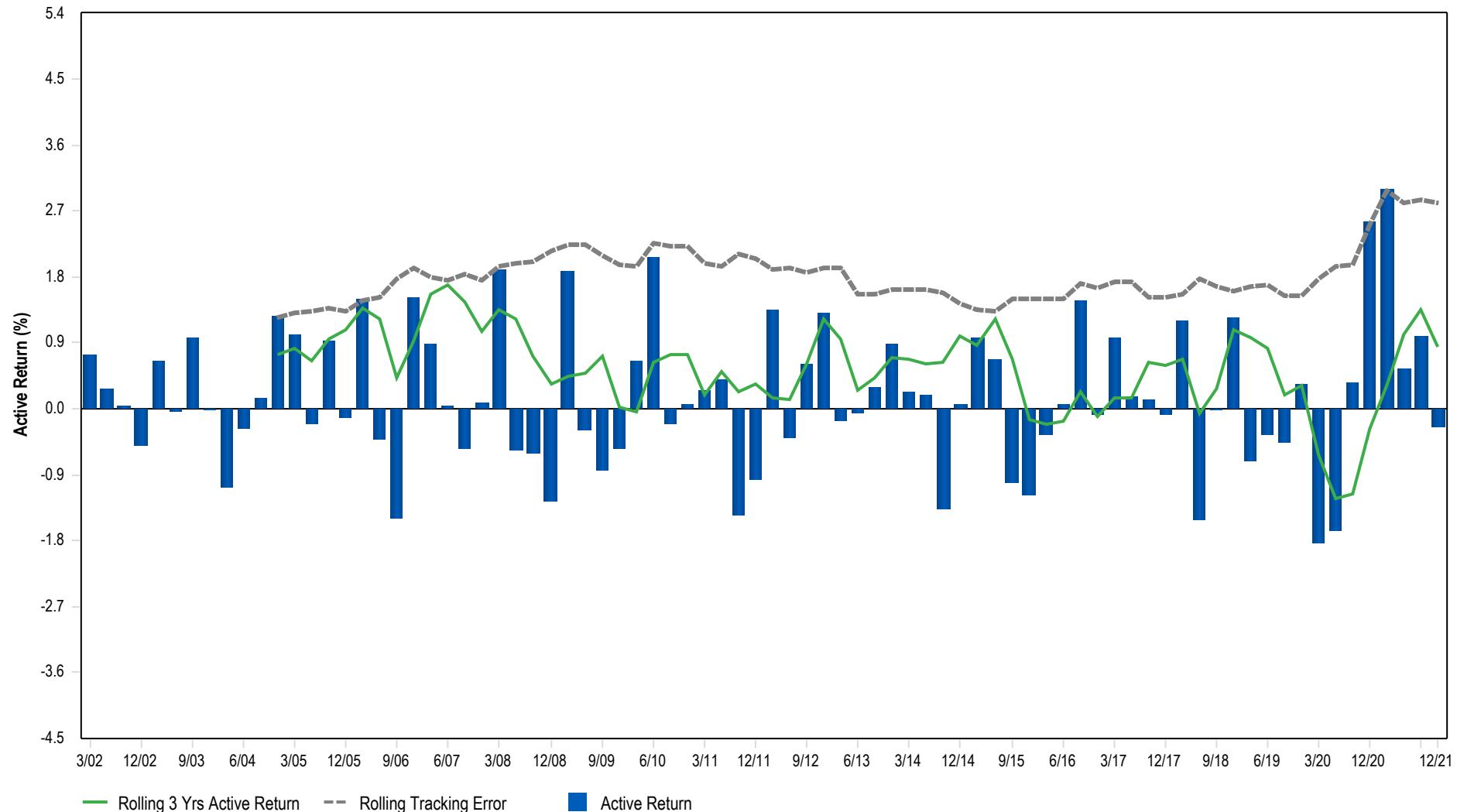
Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Total Fund	4.2	16.9	16.9	15.6	11.8	9.4	10.5	12.4	17.5	-3.7	17.3
Total Plan Index	4.4	12.1	12.1	14.8	10.8	8.7	9.7	13.5	18.9	-4.7	15.9
Difference	-0.2	4.8	4.8	0.8	1.0	0.7	0.8	-1.1	-1.4	1.0	1.4



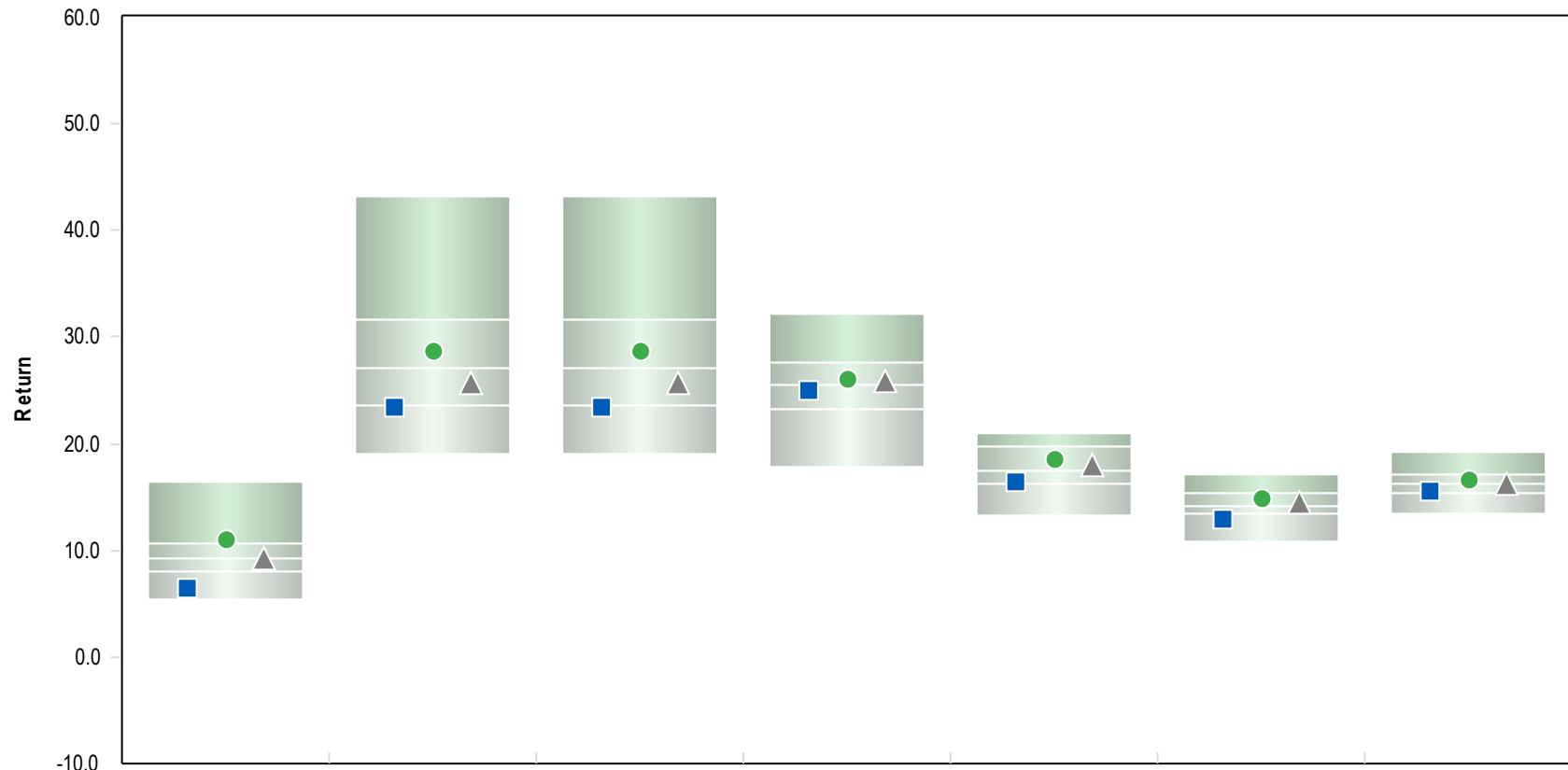
Gross of Fees

## **Domestic Equity**

# Bristol County Retirement System

## IM U.S. All Cap Core Equity (SA+CF)

As of December 31, 2021



■ Total Domestic Equity

1 Qtr

6.5 (89)

● S&P 500 Index

YTD

23.4 (76)

▲ Russell 3000 Index

1 Yr

23.4 (76)

■ Total Domestic Equity

3 Yrs

24.9 (62)

● S&P 500 Index

5 Yrs

16.5 (64)

▲ Russell 3000 Index

7 Yrs

13.0 (81)

■ Total Domestic Equity

10 Yrs

15.5 (71)

5th Percentile

16.4

43.1

43.1

32.2

21.0

17.1

19.2

1st Quartile

10.7

31.7

31.7

27.7

19.8

15.4

17.1

Median

9.2

27.1

27.1

25.6

17.4

14.2

16.3

3rd Quartile

7.9

23.6

23.6

23.3

16.3

13.4

15.4

95th Percentile

5.3

19.1

19.1

17.8

13.3

10.9

13.5

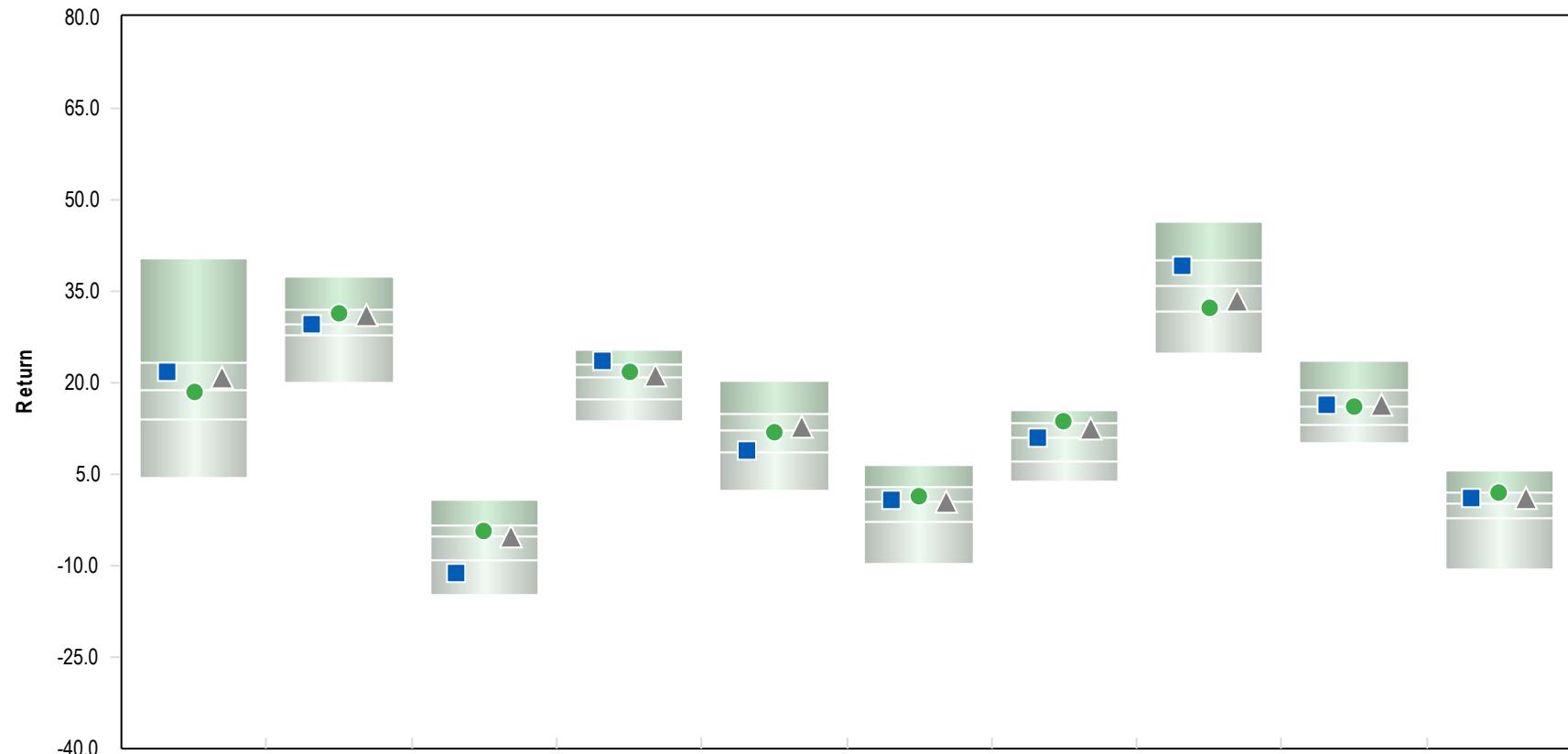
Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM U.S. All Cap Core Equity (SA+CF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
■ Total Domestic Equity	21.8 (37)	29.7 (49)	-11.1 (85)	23.6 (19)	9.0 (70)	0.7 (47)	11.0 (51)	39.1 (29)	16.3 (48)	1.1 (42)
● S&P 500 Index	18.4 (53)	31.5 (29)	-4.4 (41)	21.8 (33)	12.0 (52)	1.4 (40)	13.7 (19)	32.4 (72)	16.0 (50)	2.1 (23)
▲ Russell 3000 Index	20.9 (41)	31.0 (35)	-5.2 (54)	21.1 (46)	12.7 (49)	0.5 (50)	12.6 (36)	33.6 (66)	16.4 (45)	1.0 (43)

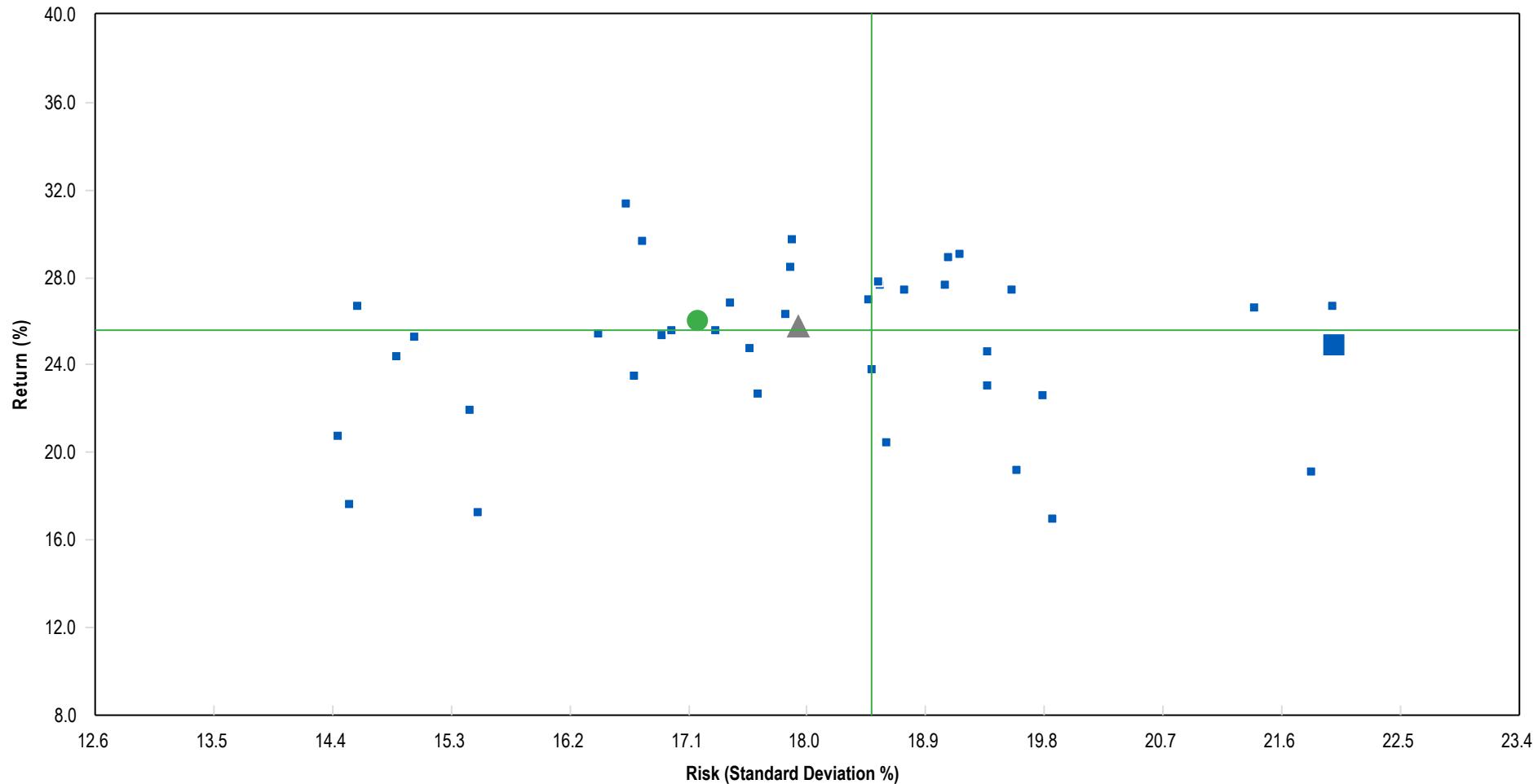
5th Percentile	40.4	37.4	0.7	25.5	20.4	6.4	15.6	46.4	23.6	5.7
1st Quartile	23.4	32.0	-3.3	23.0	15.0	3.0	13.3	40.2	18.9	2.0
Median	18.8	29.5	-5.1	20.9	12.2	0.4	11.0	35.8	16.0	0.1
3rd Quartile	14.0	27.8	-9.2	17.3	8.5	-2.8	7.2	31.6	13.0	-2.3
95th Percentile	4.4	20.0	-14.7	13.7	2.2	-9.6	3.9	24.8	10.0	-10.5

Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

3 Years Ending December 31, 2021  
IM U.S. All Cap Core Equity (SA+CF)

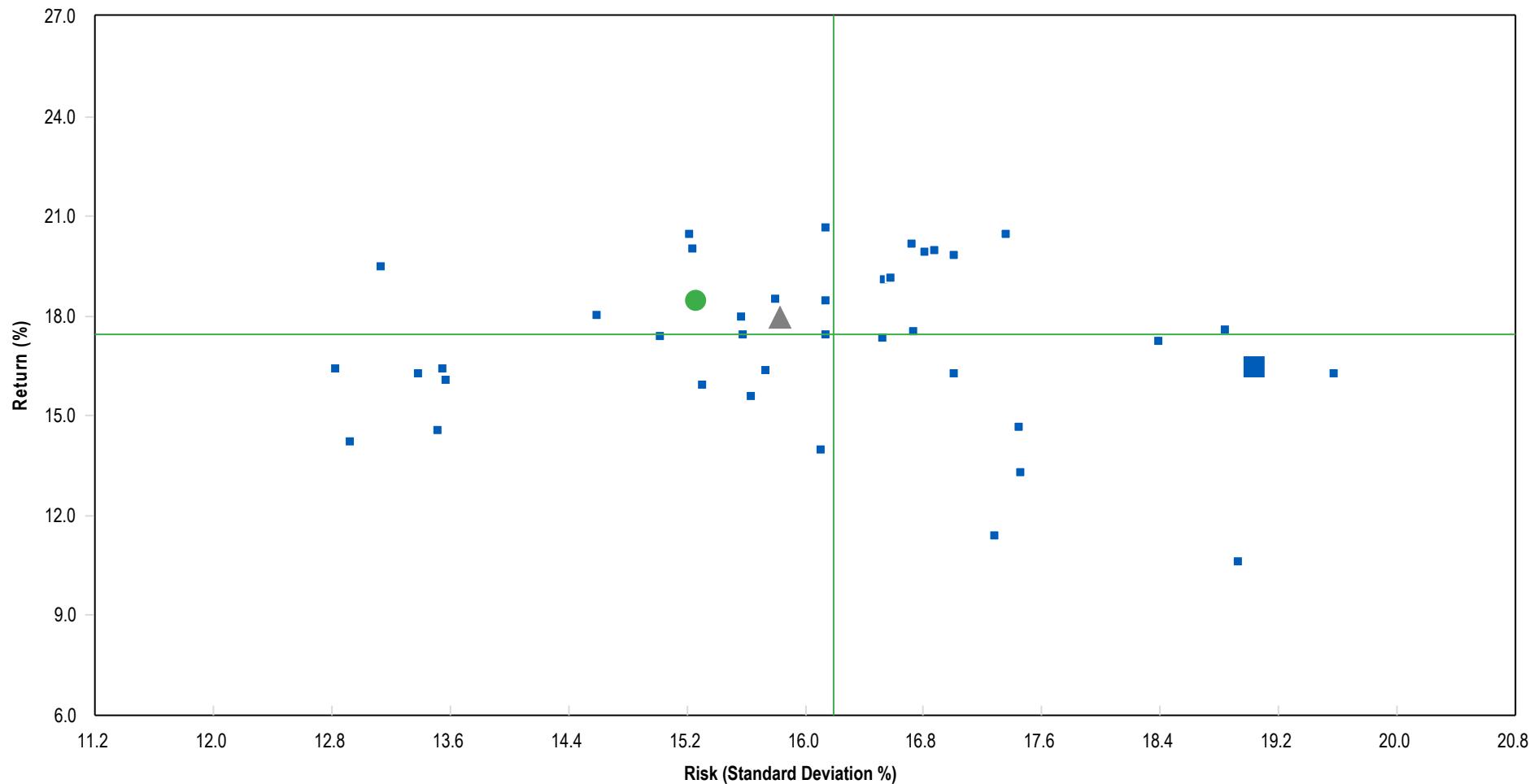


	Return	Standard Deviation
Total Domestic Equity	24.9	22.0
S&P 500 Index	26.1	17.2
Russell 3000 Index	25.8	17.9
Median	25.6	18.5

Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

5 Years Ending December 31, 2021  
IM U.S. All Cap Core Equity (SA+CF)



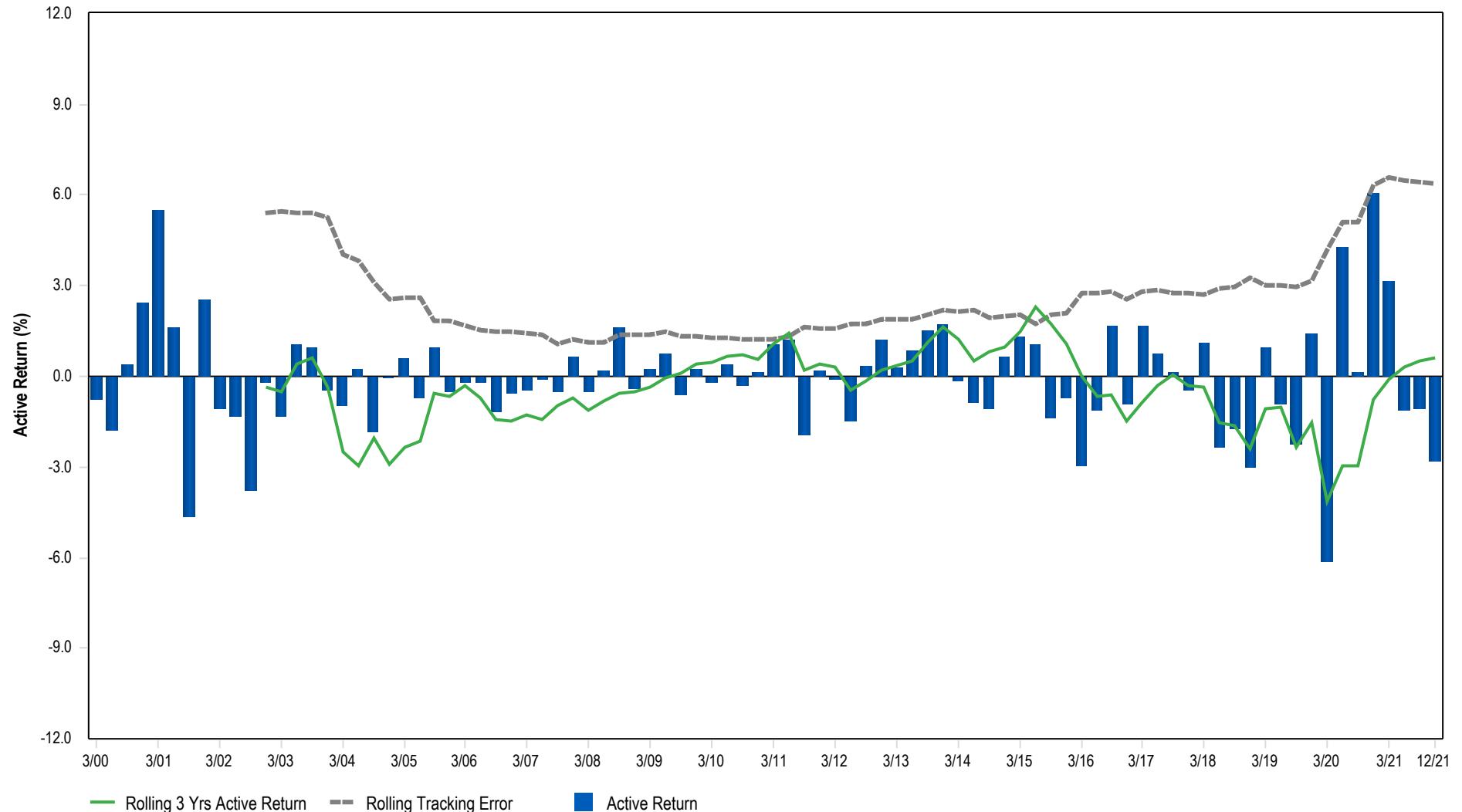
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Total Domestic Equity	6.5	23.4	23.4	24.9	16.5	13.0	15.5	21.8	29.7	-11.1	23.6
Russell 3000 Index	9.3	25.7	25.7	25.8	18.0	14.5	16.3	20.9	31.0	-5.2	21.1
Difference	-2.8	-2.3	-2.3	-0.9	-1.5	-1.5	-0.8	0.9	-1.3	-5.9	2.5



Bristol County Retirement System

Total Domestic Equity

1 Quarter Ending December 31, 2021

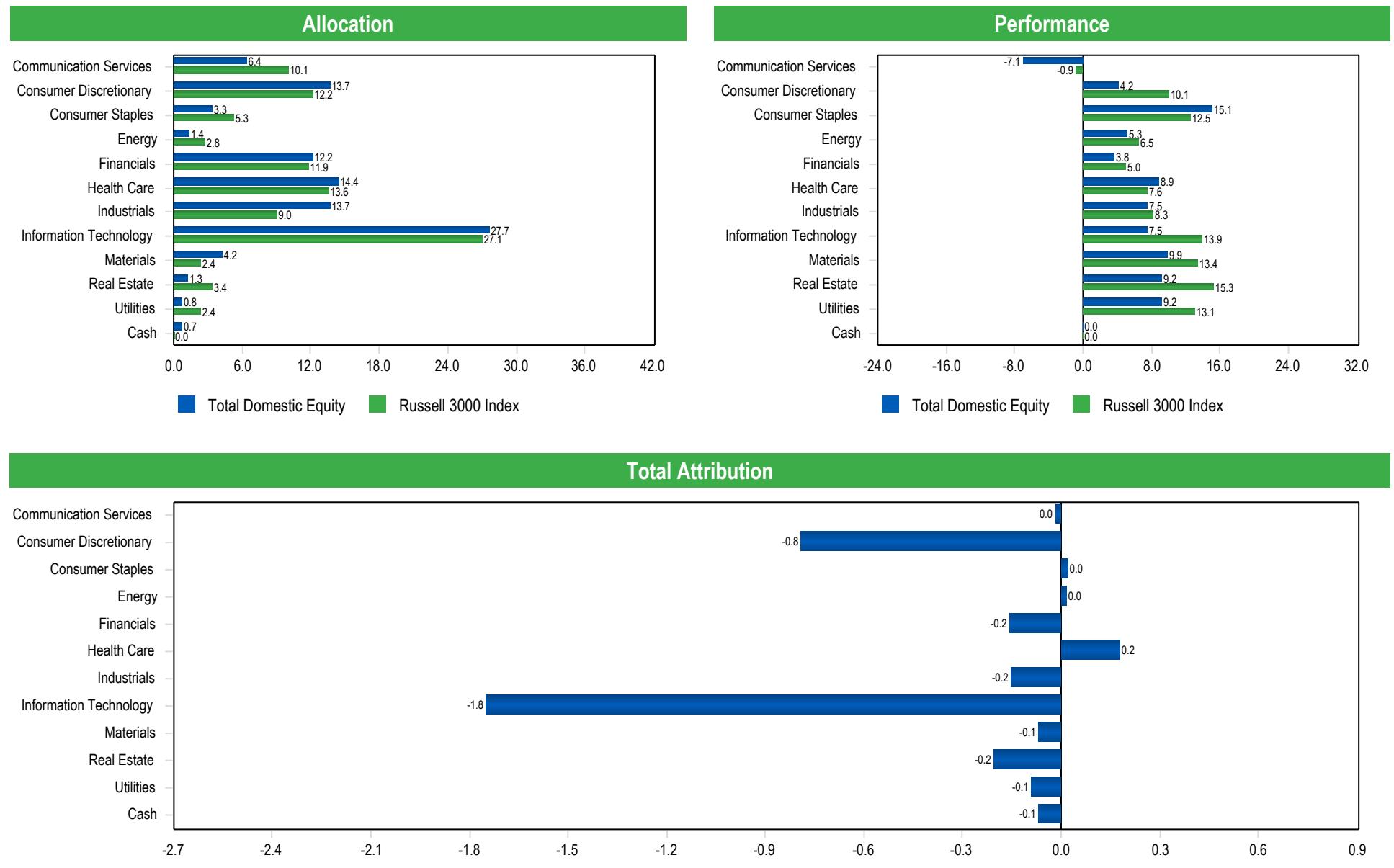
Buy-and-Hold Portfolio	6.2
Portfolio Trading	0.3
Actual Return	6.5
Benchmark Return	9.3
Actual Active Return	-2.8
Stock Selection	-3.4
Sector Selection	0.1
Interaction	0.2
Total Selection	-3.1
Portfolio Trading	0.3
Benchmark Trading	0.0
Active Trading Impact	0.3
Buy & Hold Active Return	-2.8

	Allocation — 10/01/2021		Performance — 1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	
Communication Services	6.4	10.1	-7.1	-0.9	-0.6	0.4	0.2	0.0
Consumer Discretionary	13.7	12.2	4.2	10.1	-0.7	0.0	-0.1	-0.8
Consumer Staples	3.3	5.3	15.1	12.5	0.1	-0.1	0.0	0.0
Energy	1.4	2.8	5.3	6.5	0.0	0.0	0.0	0.0
Financials	12.2	11.9	3.8	5.0	-0.1	0.0	0.0	-0.2
Health Care	14.4	13.6	8.9	7.6	0.2	0.0	0.0	0.2
Industrials	13.7	9.0	7.5	8.3	-0.1	0.0	0.0	-0.2
Information Technology	27.7	27.1	7.5	13.9	-1.7	0.0	0.0	-1.8
Materials	4.2	2.4	9.9	13.4	-0.1	0.1	-0.1	-0.1
Real Estate	1.3	3.4	9.2	15.3	-0.2	-0.1	0.1	-0.2
Utilities	0.8	2.4	9.2	13.1	-0.1	-0.1	0.1	-0.1
Cash	0.7	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1
Total	100.0	100.0	6.2	9.3	-3.4	0.1	0.2	-3.1

# Bristol County Retirement System

## Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2021



Bristol County Retirement System  
Buy and Hold Style Attribution

1 Quarter Ending December 31, 2021

Buy-and-Hold Portfolio	6.2
Portfolio Trading	0.3
Actual Return	6.5
Benchmark Return	9.3
Actual Active Return	-2.8
Stock Selection	-2.8
Style Selection	-1.1
Interaction	0.8
Total Selection	-3.1
Portfolio Trading	0.3
Benchmark Trading	0.0
Active Trading Impact	0.3
Buy & Hold Active Return	-2.8

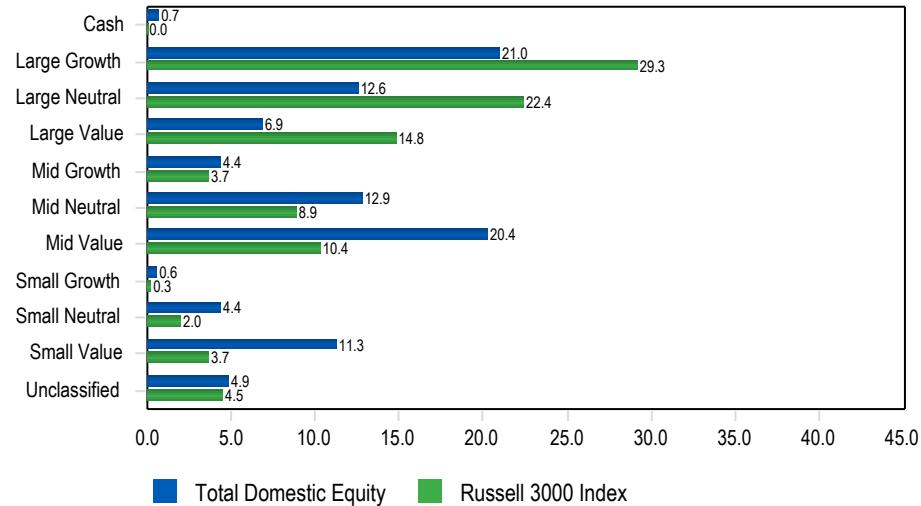
	Allocation-10/01/2021		Performance-1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	
Cash	0.7	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1
Large Growth	21.0	29.3	8.4	14.4	-1.7	-0.4	0.5	-1.7
Large Neutral	12.6	22.4	7.0	9.3	-0.5	0.0	0.2	-0.3
Large Value	6.9	14.8	4.5	6.1	-0.2	0.2	0.1	0.1
Mid Growth	4.4	3.7	-0.5	0.2	0.0	-0.1	0.0	-0.1
Mid Neutral	12.9	8.9	6.4	7.6	-0.1	-0.1	0.0	-0.2
Mid Value	20.4	10.4	8.6	8.1	0.1	-0.1	0.0	0.0
Small Growth	0.6	0.3	-16.3	-8.4	0.0	0.0	0.0	-0.1
Small Neutral	4.4	2.0	9.9	0.1	0.2	-0.2	0.2	0.2
Small Value	11.3	3.7	2.4	4.9	-0.1	-0.3	-0.2	-0.6
Unclassified	4.9	4.5	0.9	8.5	-0.3	0.0	0.0	-0.4
Total	100.0	100.0	6.2	9.3	-2.8	-1.1	0.8	-3.1

# Bristol County Retirement System

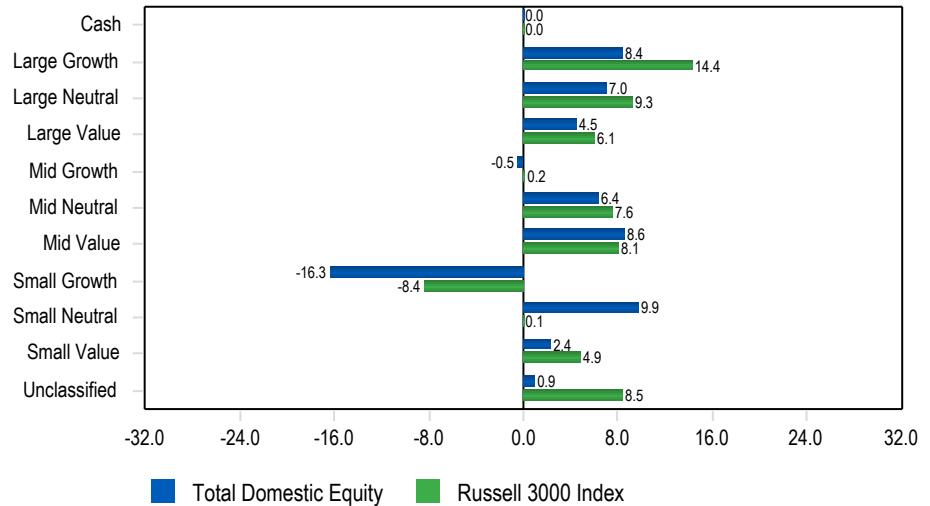
## Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2021

### Allocation



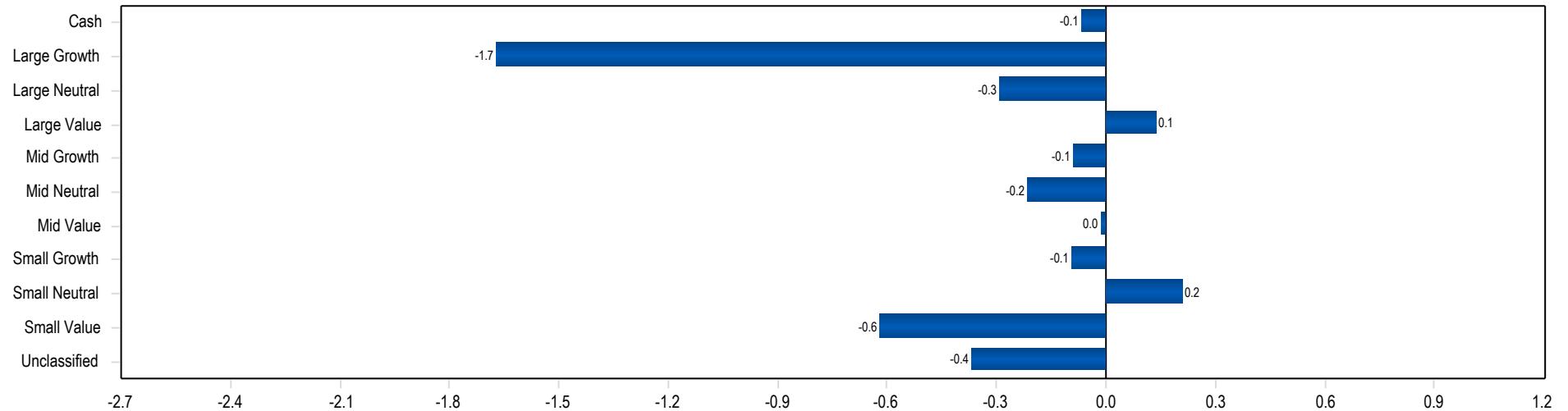
### Performance



■ Total Domestic Equity ■ Russell 3000 Index

■ Total Domestic Equity ■ Russell 3000 Index

### Total Attribution



# Bristol County Retirement System

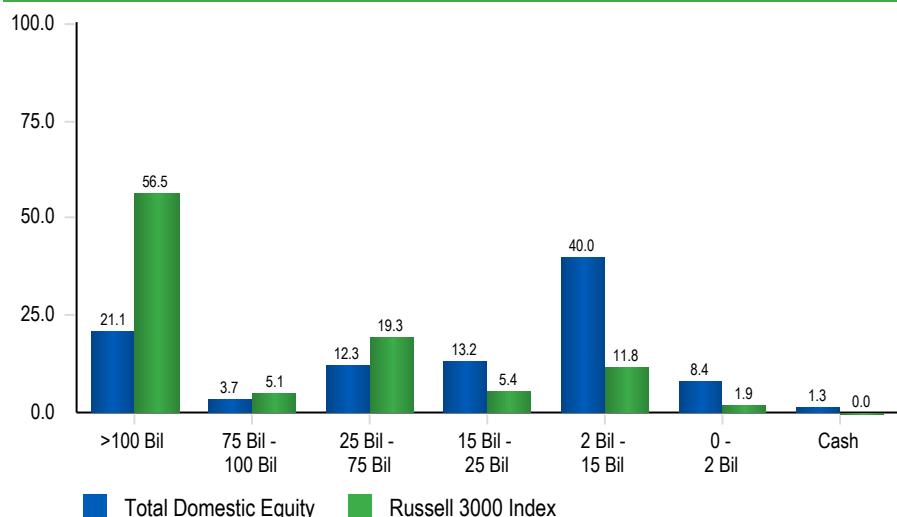
## Total Domestic Equity

As of December 31, 2021

### Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Amazon.com Inc	1.7	3.0	-1.3	1.5
Meta Platforms Inc	1.3	1.7	-0.4	-0.9
NVIDIA Corporation	1.2	1.5	-0.3	42.0
Builders FirstSource Inc	1.1	0.0	1.1	65.7
Microsoft Corp	1.1	5.3	-4.2	19.5
Apple Inc	1.0	5.7	-4.7	25.7
Visa Inc	1.0	0.8	0.2	-2.5
Ameriprise Financial Inc	0.9	0.1	0.8	14.6
Adobe Inc	0.9	0.6	0.3	-1.5
MACOM Technology Solutions Holdings Inc	0.8	0.0	0.8	20.7
% of Portfolio	11.0	18.7	-7.7	

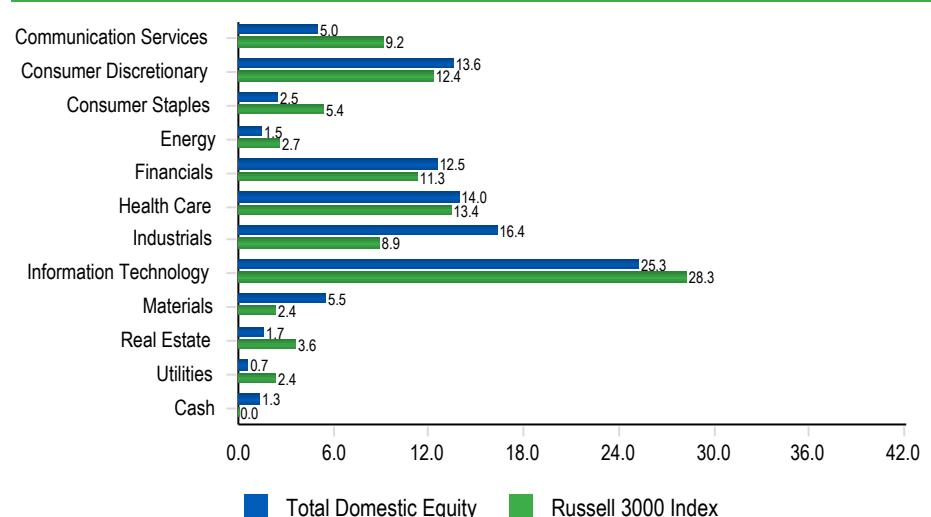
### Distribution of Market Capitalization (%)



### Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	158,579,149,897	562,078,427,479
Median Mkt. Cap (\$)	20,362,259,100	2,474,002,370
Price/Earnings ratio	17.8	24.6
Price/Book ratio	3.4	4.6
5 Yr. EPS Growth Rate (%)	20.7	20.9
Current Yield (%)	0.9	1.3
Beta (5 Years, Monthly)	1.2	1.0
Number of Stocks	767	3,068

### Sector Weights (%)



Bristol County Retirement System  
Total Domestic Equity

As of December 31, 2021

**Ten Best Performers**

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Trupanion Inc	0.2	0.0	0.2	70.0
Arista Networks Inc	0.0	0.1	-0.1	67.3
Builders FirstSource Inc	1.1	0.0	1.1	65.7
Consensus Cloud Solutions Inc	0.0	0.0	0.0	62.4
Coca Cola Consolidated Inc	0.1	0.0	0.1	57.2
CMC Materials Inc	0.2	0.0	0.2	56.5
MaxLinear Inc	0.4	0.0	0.4	53.1
Teradyne Inc	0.0	0.1	-0.1	49.9
Ford Motor Co	0.2	0.2	0.0	47.4
Silicon Laboratories Inc	0.2	0.0	0.2	47.3
% of Portfolio	2.4	0.4	2.0	

**Ten Worst Performers**

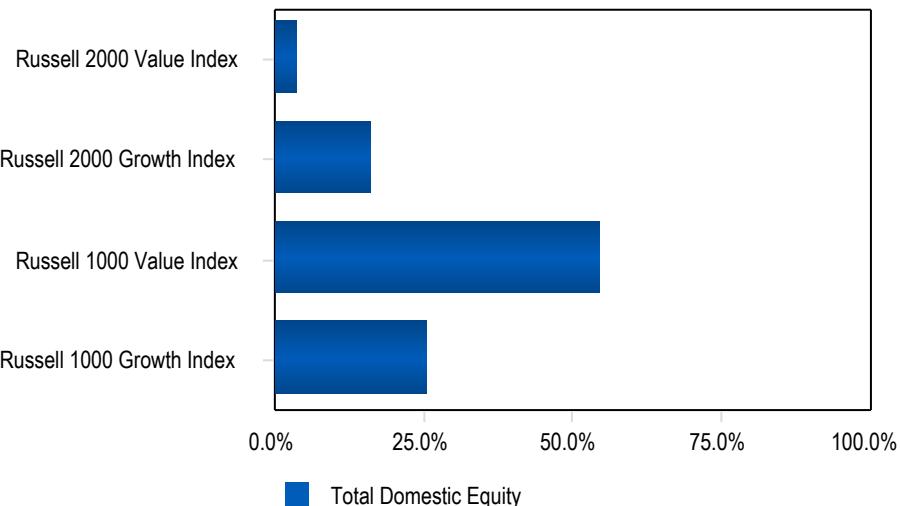
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Paycom Software Inc	0.1	0.0	0.1	-41.7
DocuSign Inc.	0.2	0.1	0.1	-40.8
2U Inc	0.3	0.0	0.3	-40.2
NovoCure Ltd	0.2	0.0	0.2	-35.4
Azul SA	0.2	0.0	0.2	-34.2
Moderna Inc	0.0	0.2	-0.2	-34.0
Block Inc	0.2	0.1	0.1	-32.7
Sea Ltd	0.1	0.0	0.1	-29.8
Penn National Gaming Inc	0.0	0.0	0.0	-28.4
Twitter Inc	0.0	0.1	-0.1	-28.4
% of Portfolio	1.3	0.5	0.8	

# Bristol County Retirement System

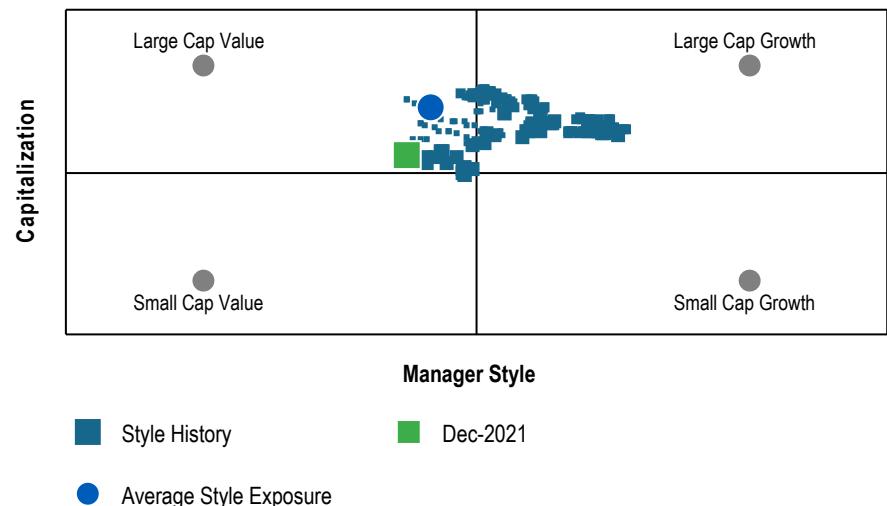
## Total Domestic Equity

Ending December 31, 2021

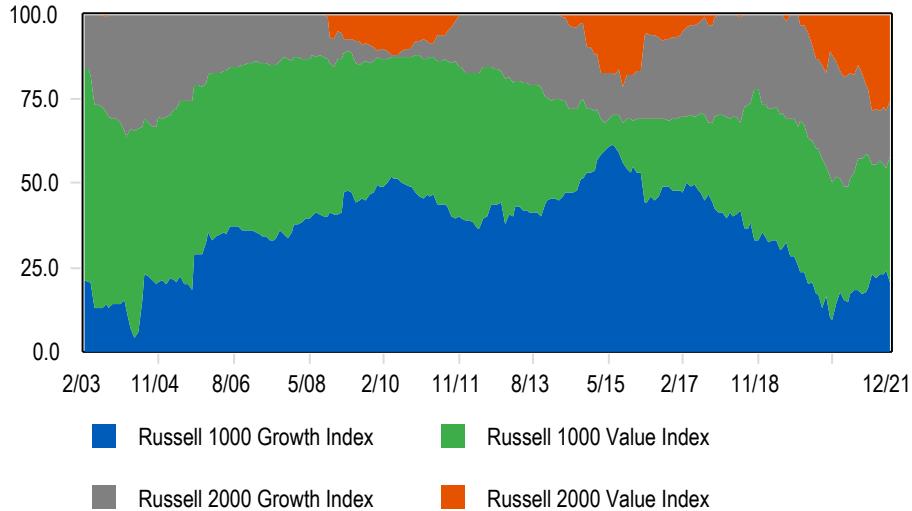
### Investment Style Exposure



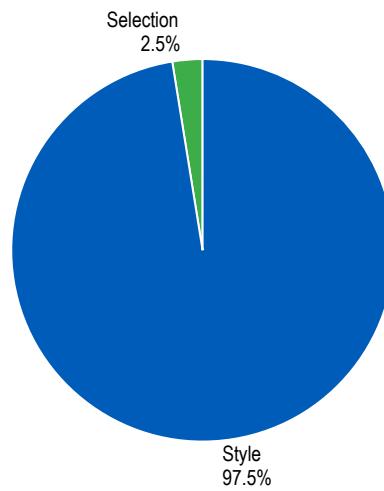
### Style Map(36 Months)



### Style History(36 Months)



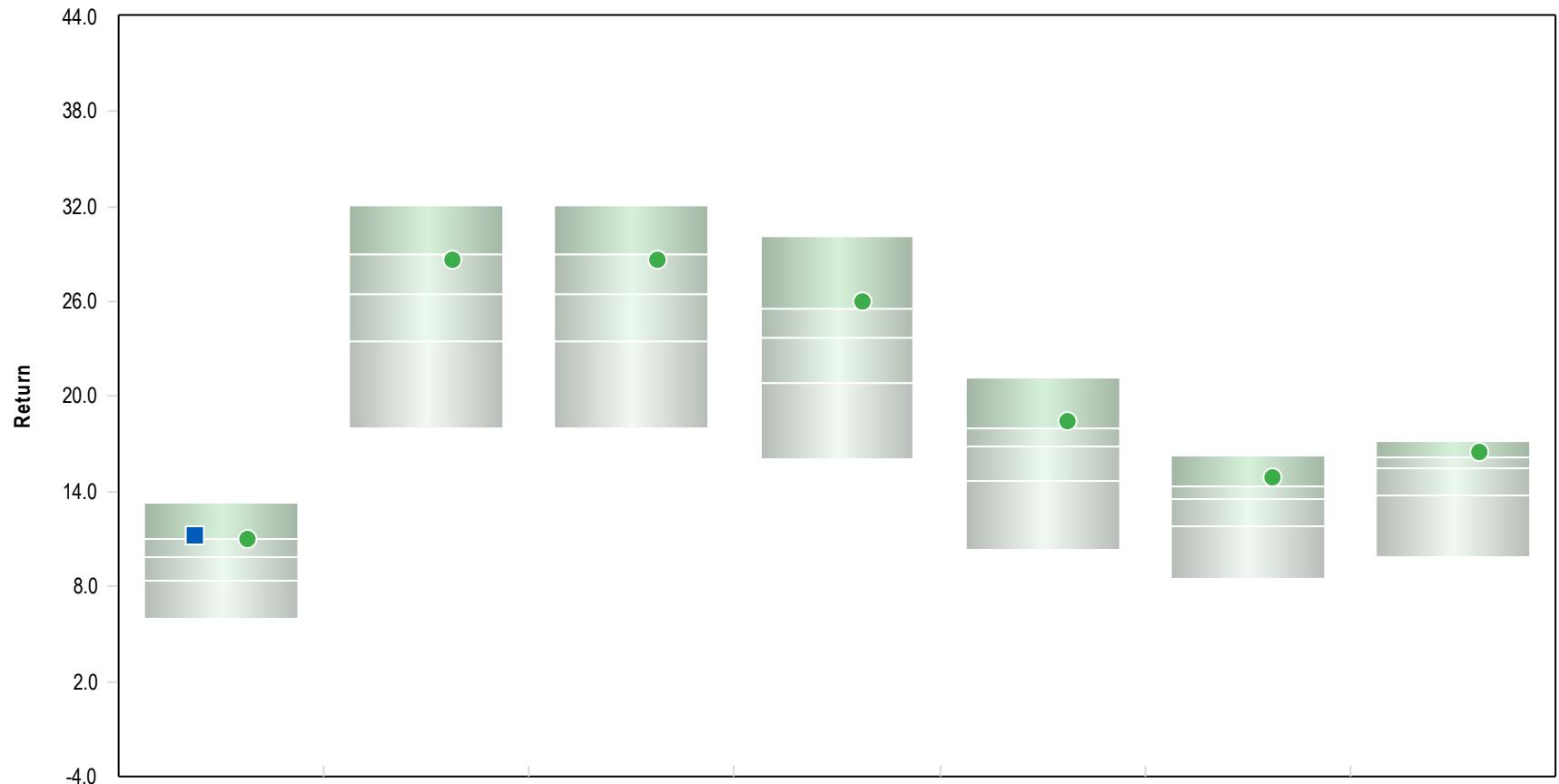
### Return Variance



# Bristol County Retirement System

## IM U.S. Large Cap Core Equity (SA+CF)

As of December 31, 2021



■ NT S&P 500 Index

● S&P 500

5th Percentile	13.3	32.1	32.1	30.1	21.2	16.2	17.2
1st Quartile	11.0	29.0	29.0	25.5	18.0	14.4	16.1
Median	9.8	26.5	26.5	23.7	16.8	13.5	15.4
3rd Quartile	8.3	23.4	23.4	20.8	14.7	11.8	13.8
95th Percentile	5.9	18.0	18.0	16.0	10.4	8.5	9.8

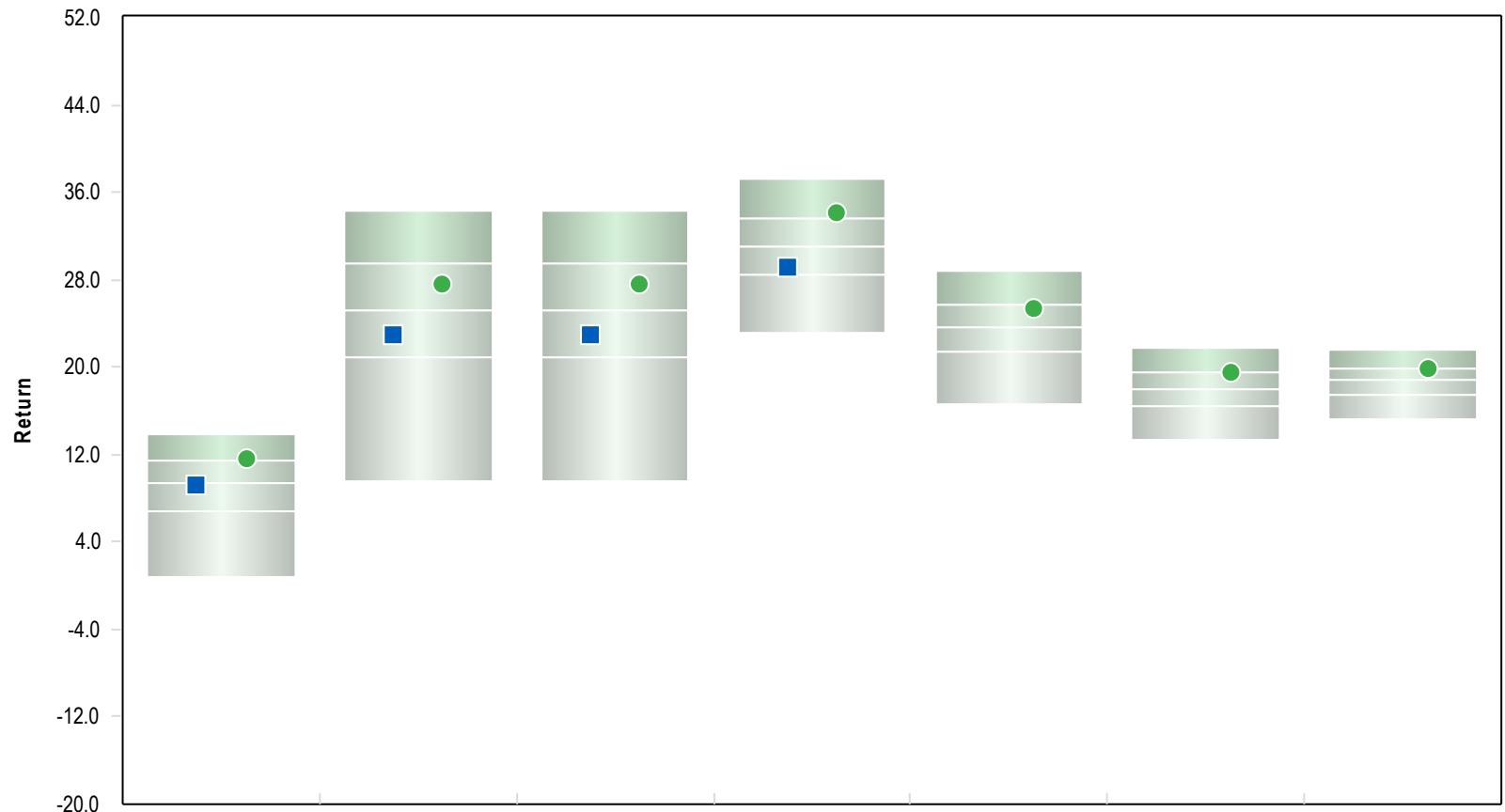
Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM U.S. Large Cap Growth Equity (SA+CF)

As of December 31, 2021



■ ClearBridge Large Cap Growth  
 ● Russell 1000 Growth Index

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
--	-------	-----	------	-------	-------	-------	--------

ClearBridge Large Cap Growth	9.3 (52)	23.0 (67)	23.0 (67)	29.2 (69)			
Russell 1000 Growth Index	11.6 (25)	27.6 (35)	27.6 (35)	34.1 (18)	25.3 (29)	19.6 (24)	19.8 (29)

5th Percentile	13.9	34.3	34.3	37.2	28.7	21.7	21.6
1st Quartile	11.5	29.5	29.5	33.6	25.8	19.5	19.9
Median	9.3	25.3	25.3	31.1	23.7	18.0	18.8
3rd Quartile	6.8	20.8	20.8	28.5	21.5	16.5	17.4
95th Percentile	0.7	9.5	9.5	23.1	16.6	13.4	15.2

Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM U.S. Large Cap Growth Equity (SA+CF)

As of December 31, 2021



■ ClearBridge Large Cap Growth

● Russell 1000 Growth Index

2020      2019      2018      2017      2016      2015      2014      2013      2012      2011

5th Percentile	57.3	41.1	6.5	37.4	12.5	12.9	17.8	45.2	22.0	8.0
1st Quartile	41.0	36.4	1.7	32.5	7.4	8.0	14.4	37.6	17.7	2.9
Median	34.8	33.8	-0.9	28.3	4.8	5.1	11.9	34.6	15.3	0.3
3rd Quartile	25.4	30.9	-3.7	24.8	1.8	2.0	9.6	31.3	13.2	-3.3
95th Percentile	15.3	24.8	-8.5	16.5	-2.5	-2.5	5.7	26.9	9.9	-7.9

Parentheses contain percentile rankings.

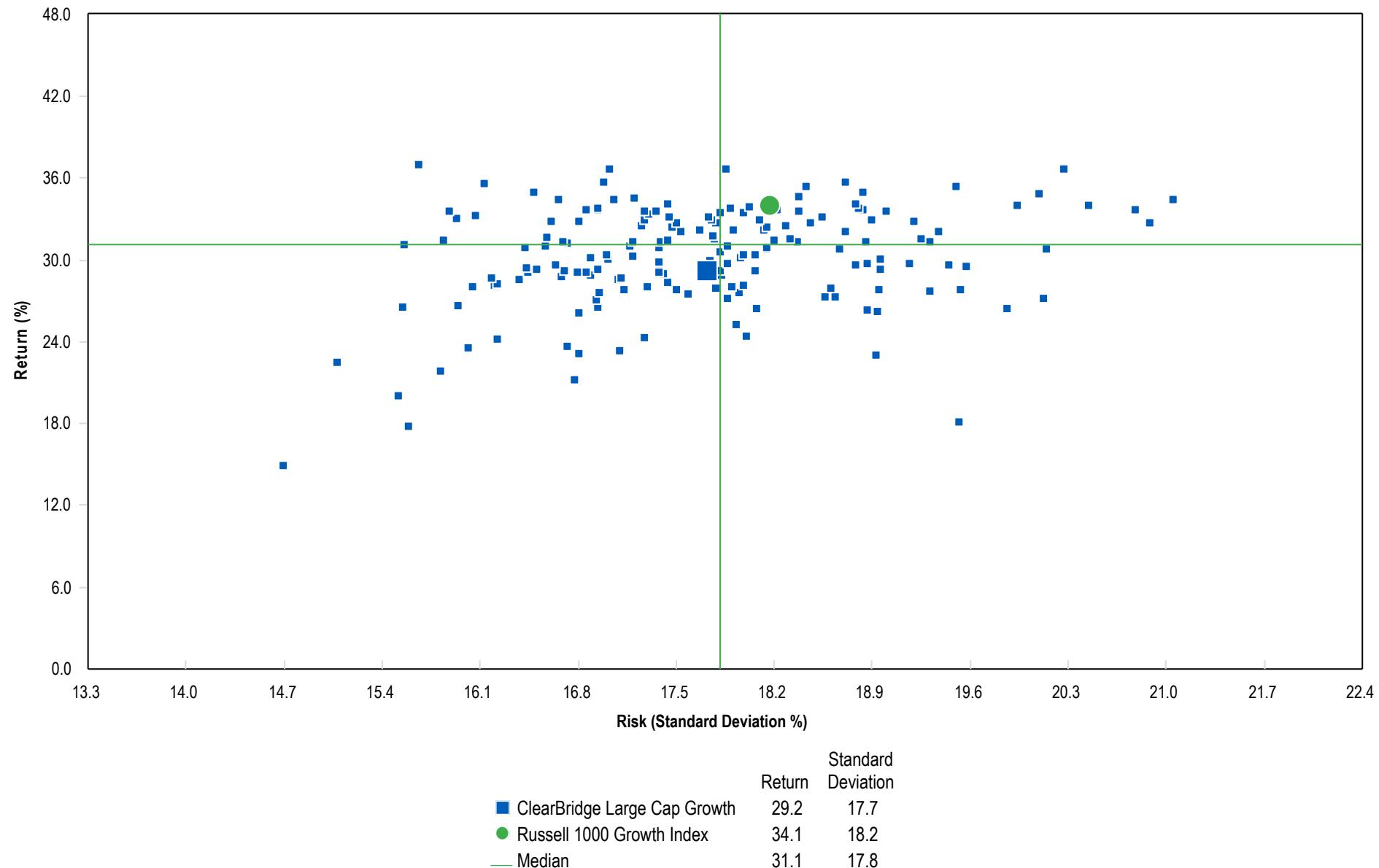
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Peer Group Scattergram

IM U.S. Large Cap Growth Equity (SA+CF)

3 Years Ending December 31, 2021



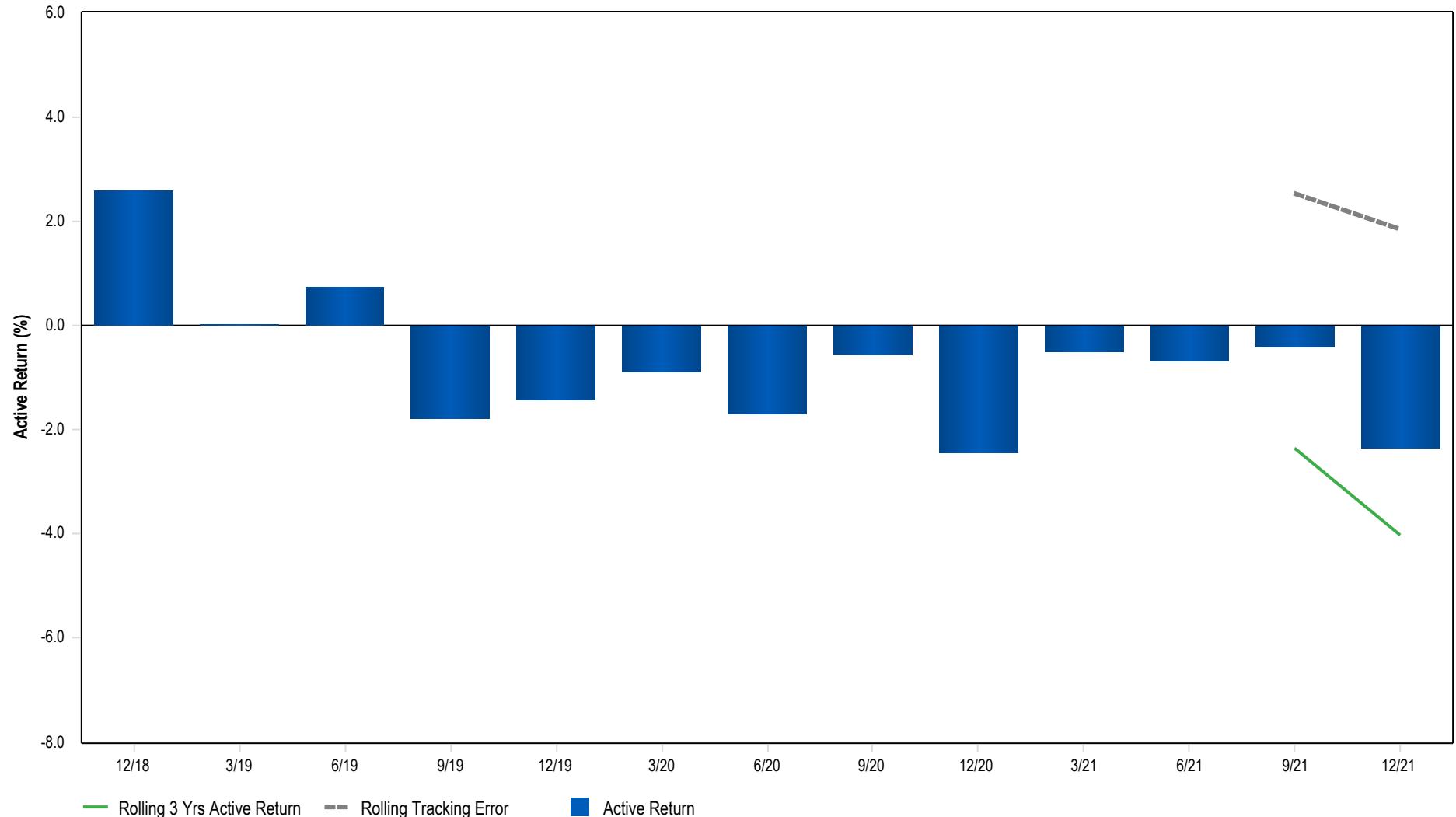
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
ClearBridge Large Cap Growth	9.3	23.0	23.0	29.2				31.6	33.2		
Russell 1000 Growth Index	11.6	27.6	27.6	34.1	25.3	19.6	19.8	38.5	36.4	-1.5	30.2
Difference	-2.3	-4.6	-4.6	-4.9				-6.9	-3.2		



Bristol County Retirement System  
ClearBridge Large Cap Growth

1 Quarter Ending December 31, 2021

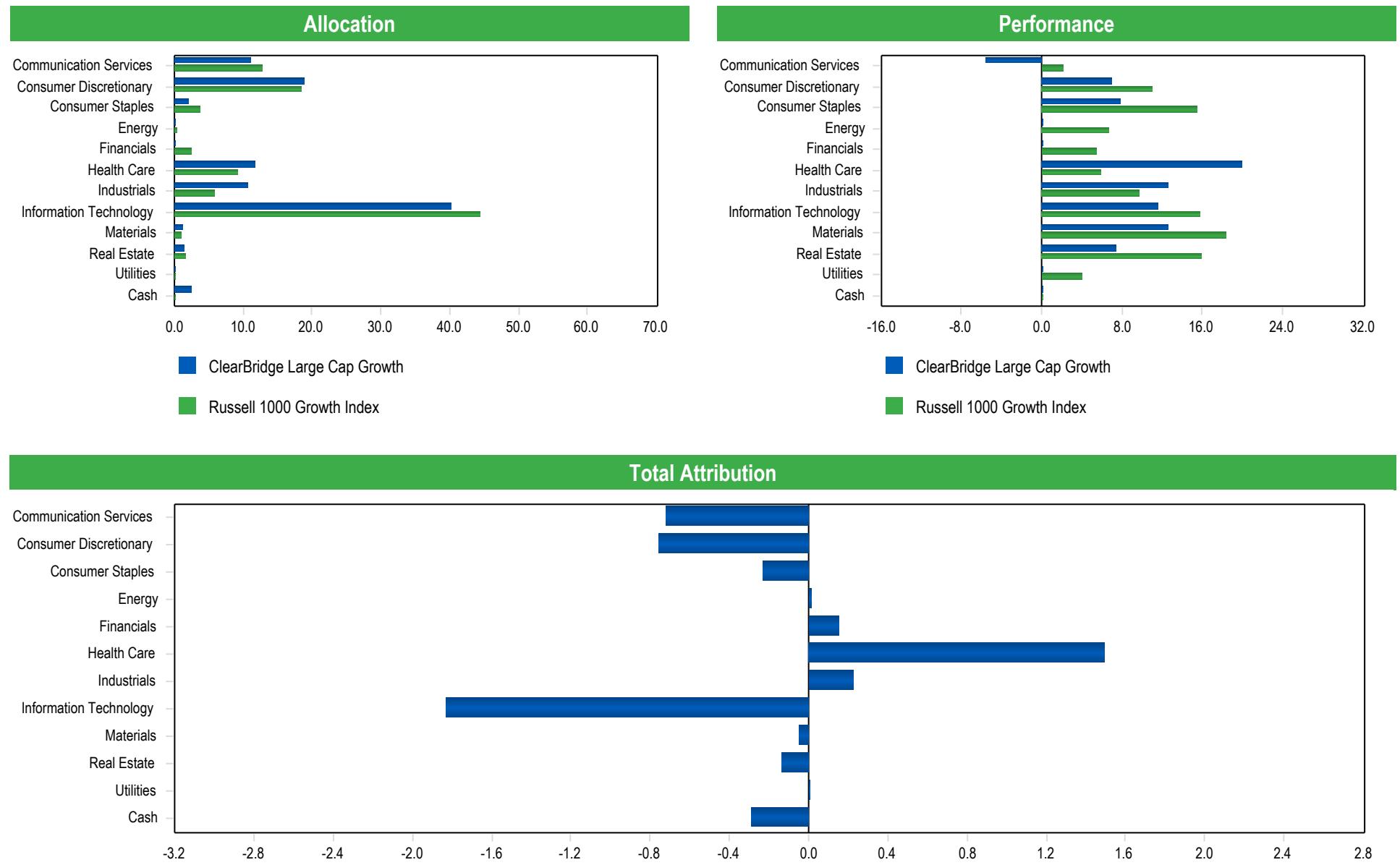
Buy-and-Hold Portfolio	9.5
Portfolio Trading	-0.2
Actual Return	9.3
Benchmark Return	11.6
Actual Active Return	-2.3
Stock Selection	-2.6
Sector Selection	-0.4
Interaction	0.9
Total Selection	-2.1
Portfolio Trading	-0.2
Benchmark Trading	0.0
Active Trading Impact	-0.2
Buy & Hold Active Return	-2.3

	Allocation — 10/01/2021		Performance — 1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	
Communication Services	11.2	12.7	-5.6	2.1	-1.0	0.1	0.1	-0.7
Consumer Discretionary	18.9	18.4	7.0	11.1	-0.7	0.0	0.0	-0.8
Consumer Staples	2.2	3.8	7.9	15.5	-0.3	-0.1	0.1	-0.2
Energy	0.0	0.3	0.0	6.8	0.0	0.0	0.0	0.0
Financials	0.0	2.5	0.0	5.4	0.0	0.2	0.0	0.2
Health Care	11.7	9.2	19.9	5.9	1.3	-0.1	0.3	1.5
Industrials	10.6	5.9	12.7	9.7	0.2	-0.1	0.1	0.2
Information Technology	40.2	44.4	11.7	15.8	-1.8	-0.2	0.2	-1.8
Materials	1.2	1.0	12.7	18.4	-0.1	0.0	0.0	-0.1
Real Estate	1.5	1.7	7.4	15.9	-0.1	0.0	0.0	-0.1
Utilities	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0
Cash	2.5	0.0	0.0	0.0	0.0	-0.3	0.0	-0.3
Total	100.0	100.0	9.5	11.6	-2.6	-0.4	0.9	-2.1

# Bristol County Retirement System

## Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2021



Bristol County Retirement System  
Buy and Hold Style Attribution

1 Quarter Ending December 31, 2021

Buy-and-Hold Portfolio	9.5
Portfolio Trading	-0.2
Actual Return	9.3
Benchmark Return	11.6
Actual Active Return	-2.3
Stock Selection	-1.9
Style Selection	-0.4
Interaction	0.2
Total Selection	-2.1
Portfolio Trading	-0.2
Benchmark Trading	0.0
Active Trading Impact	-0.2
Buy & Hold Active Return	-2.3

	Allocation-10/01/2021		Performance-1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	
Cash	2.5	0.0	0.0	0.0	0.0	-0.3	0.0	-0.3
Large Growth	51.1	58.7	12.7	14.5	-1.1	-0.2	0.1	-1.2
Large Neutral	31.0	21.4	7.1	9.4	-0.5	-0.2	-0.2	-0.9
Large Value	4.7	0.5	-6.3	6.5	-0.1	-0.2	-0.5	-0.8
Mid Growth	1.9	6.4	-19.5	-0.4	-1.2	0.5	0.8	0.2
Mid Neutral	6.6	7.5	19.2	7.1	0.9	0.0	-0.1	0.8
Mid Value	2.2	0.8	10.2	6.8	0.0	-0.1	0.0	0.0
Small Growth	0.0	0.1	0.0	-18.4	0.0	0.0	0.0	0.0
Small Neutral	0.0	0.3	0.0	-2.0	0.0	0.0	0.0	0.0
Small Value	0.0	0.0	0.0	-18.5	0.0	0.0	0.0	0.0
Unclassified	0.0	4.3	0.0	12.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	9.5	11.6	-1.9	-0.4	0.2	-2.1

# Bristol County Retirement System

## Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2021



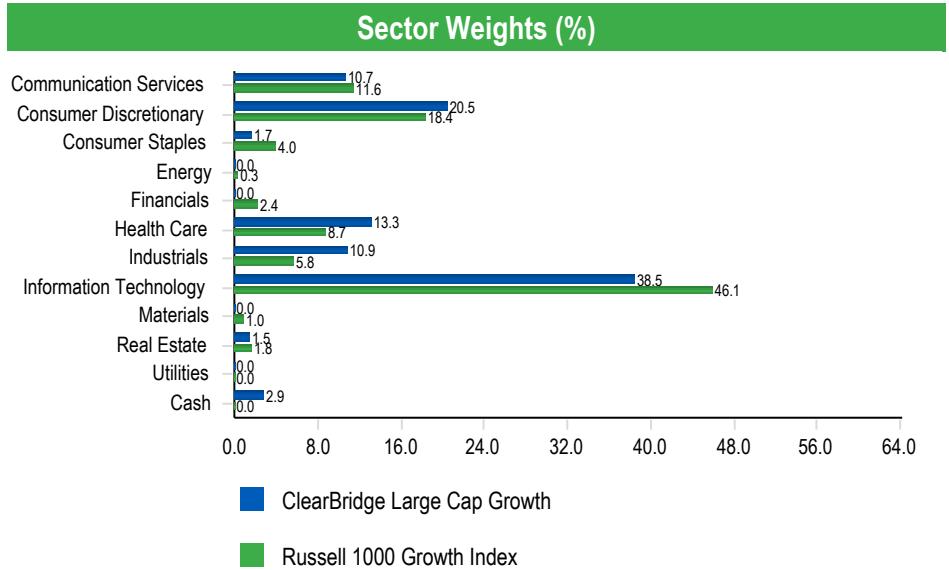
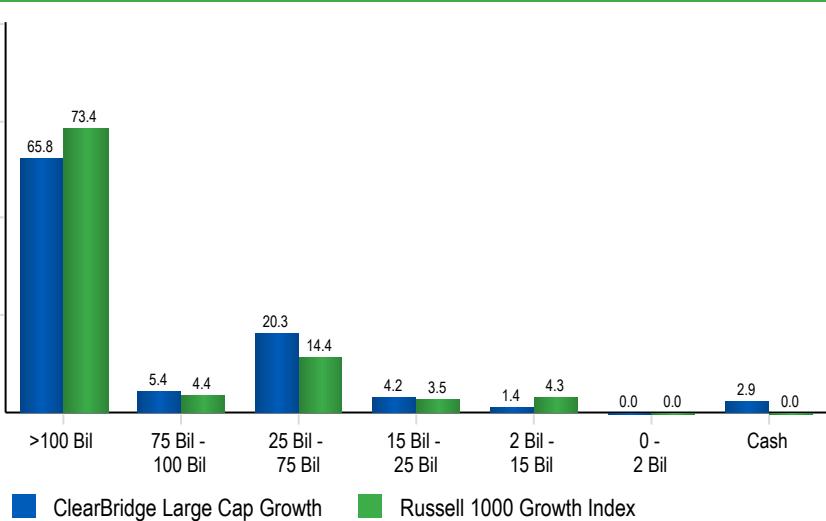
Bristol County Retirement System  
ClearBridge Large Cap Growth

As of December 31, 2021

Top Ten Equity Holdings					Portfolio Characteristics	
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)	Portfolio	Benchmark
Amazon.com Inc	7.8	6.1	1.7	1.5	Wtd. Avg. Mkt. Cap (\$)	630,500,461,634
Microsoft Corp	5.8	10.7	-4.9	19.5	Median Mkt. Cap (\$)	106,988,259,635
Meta Platforms Inc	5.7	3.4	2.3	-0.9	Price/Earnings ratio	42.3
Apple Inc	5.3	11.6	-6.3	25.7	Price/Book ratio	8.4
NVIDIA Corporation	4.5	3.0	1.5	42.0	5 Yr. EPS Growth Rate (%)	28.7
Visa Inc	3.8	1.5	2.3	-2.5	Current Yield (%)	0.5
Unitedhealth Group Inc	3.6	0.1	3.5	28.9	Beta (3 Years, Monthly)	1.0
salesforce.com Inc	3.5	0.2	3.3	-6.3	Number of Stocks	43
Thermo Fisher Scientific Inc	3.1	0.1	3.0	16.8		503
Adobe Inc	3.1	1.1	2.0	-1.5		
% of Portfolio	46.2	37.8	8.4			

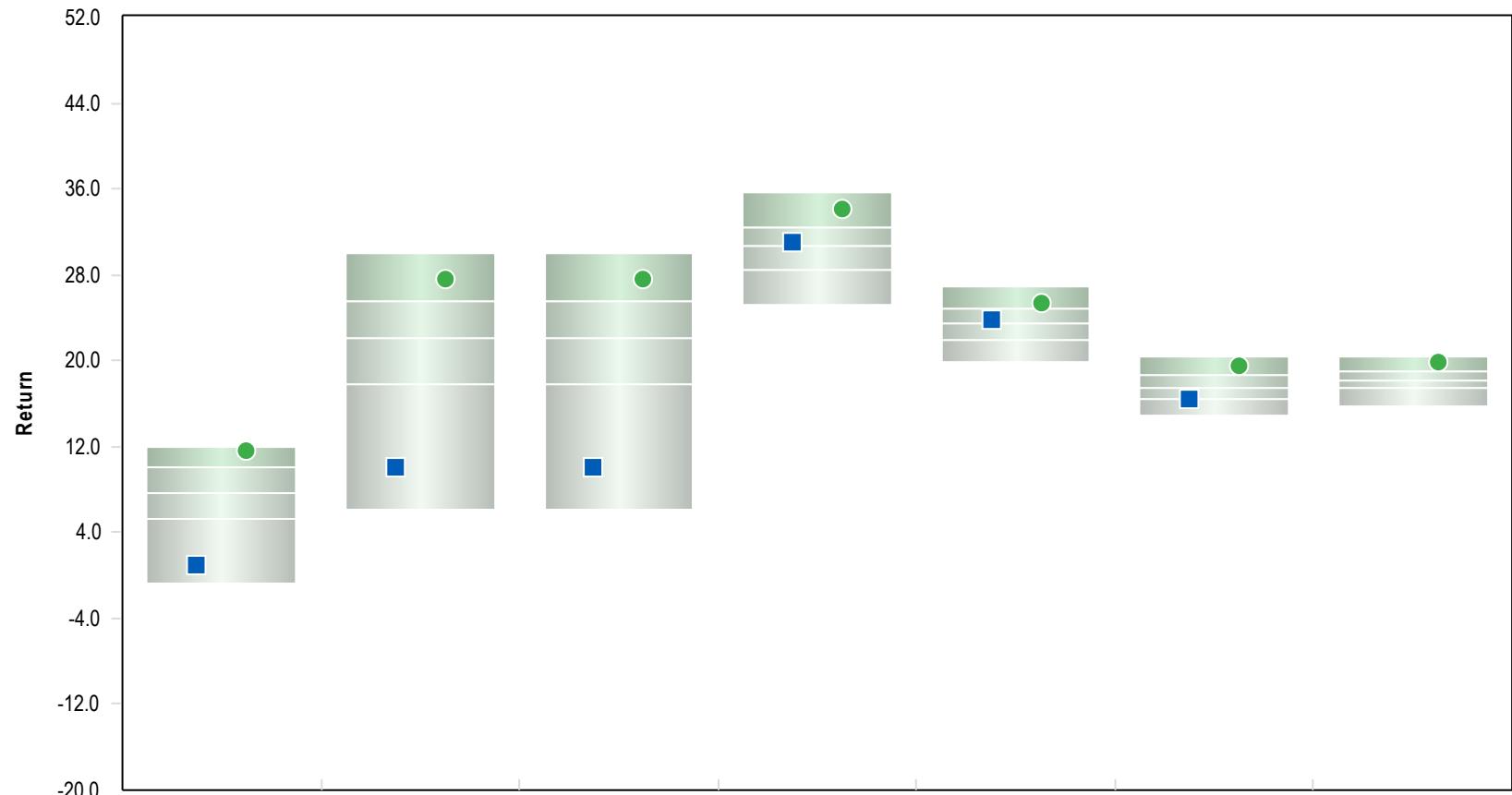
Distribution of Market Capitalization (%)		Sector Weights (%)	
>100 Bil	65.8	Communication Services	10.7
75 Bil - 100 Bil	5.4	Russell 1000 Growth Index	11.6
25 Bil - 75 Bil	20.3	Consumer Discretionary	20.5
15 Bil - 25 Bil	4.2	Consumer Staples	1.7
2 Bil - 15 Bil	3.5	Energy	4.0
0 - 2 Bil	1.4	Financials	0.3
Cash	4.3	Health Care	0.0
	0.0	Industrials	13.3
	0.0	Information Technology	5.8
	2.9	Materials	46.1
	0.0	Real Estate	38.5
		Utilities	1.0
		Cash	1.5



# Bristol County Retirement System

## IM U.S. Large Cap Growth Equity (MF)

As of December 31, 2021



■ Columbia	1.0 (92)
● Russell 1000 Growth Index	11.6 (8)

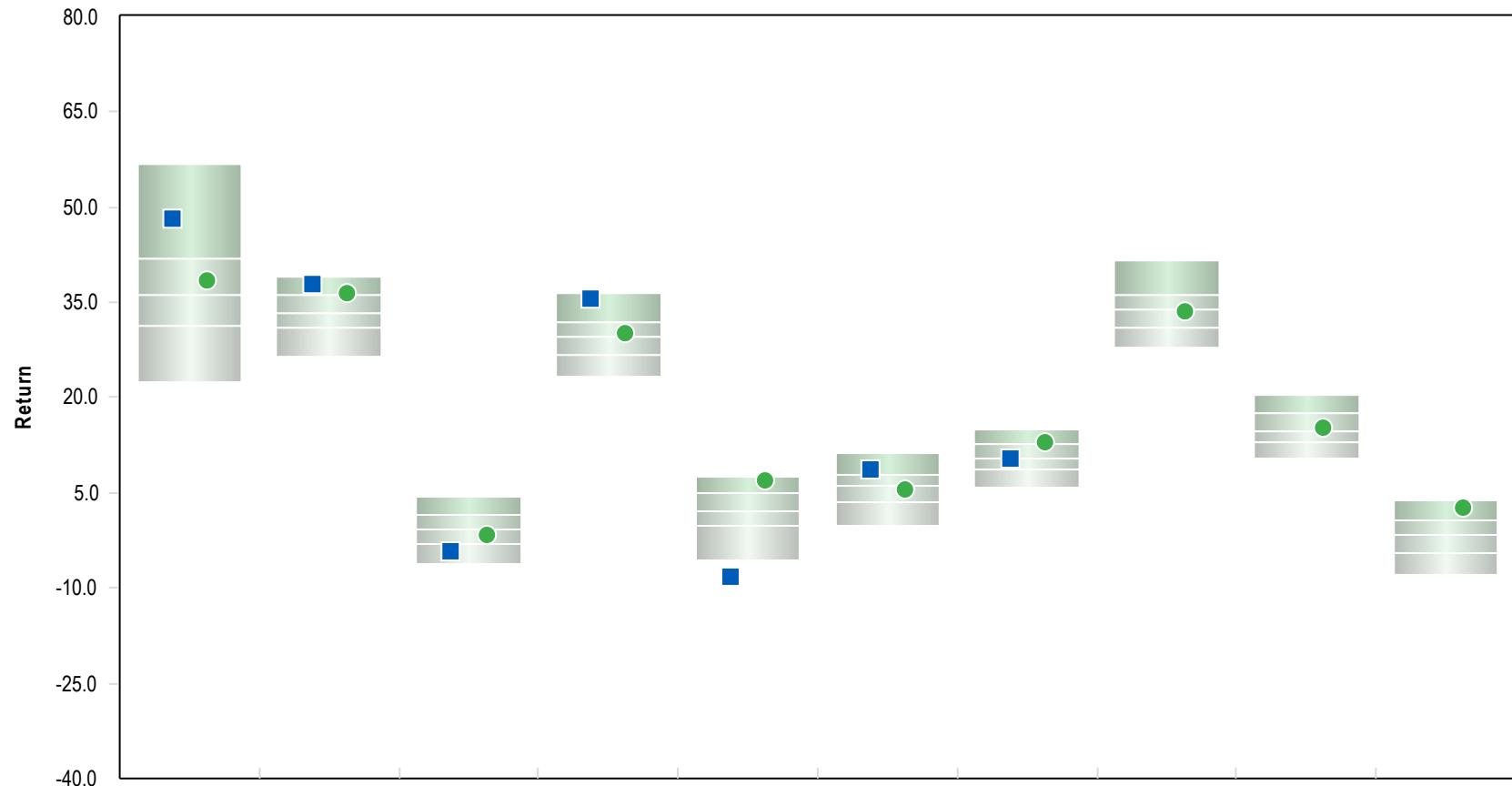
5th Percentile	11.9	30.0	30.0	35.7	26.9	20.4	20.5
1st Quartile	10.1	25.6	25.6	32.4	24.9	18.6	19.1
Median	7.7	22.0	22.0	30.7	23.4	17.5	18.2
3rd Quartile	5.3	17.8	17.8	28.5	21.9	16.4	17.4
95th Percentile	-0.8	6.1	6.1	25.3	19.9	14.9	15.7

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM U.S. Large Cap Growth Equity (MF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Columbia	48.1 (14)	37.9 (10)	-4.3 (87)	35.6 (9)	-8.2 (98)	8.7 (20)	10.5 (51)			
Russell 1000 Growth Index	38.5 (36)	36.4 (21)	-1.5 (58)	30.2 (41)	7.1 (8)	5.7 (54)	13.1 (22)	33.5 (55)	15.3 (46)	2.6 (11)
5th Percentile	56.7	39.0	4.5	36.6	7.6	11.4	15.0	41.8	20.4	3.7
1st Quartile	41.8	36.1	1.5	31.9	4.9	7.9	12.7	36.3	17.6	0.6
Median	36.2	33.4	-0.9	29.5	2.2	6.0	10.5	33.9	14.8	-1.8
3rd Quartile	31.3	30.9	-3.2	26.7	-0.2	3.4	8.6	31.0	12.9	-4.4
95th Percentile	22.4	26.4	-6.2	23.2	-5.6	-0.1	5.8	28.0	10.5	-7.9

Parentheses contain percentile rankings.

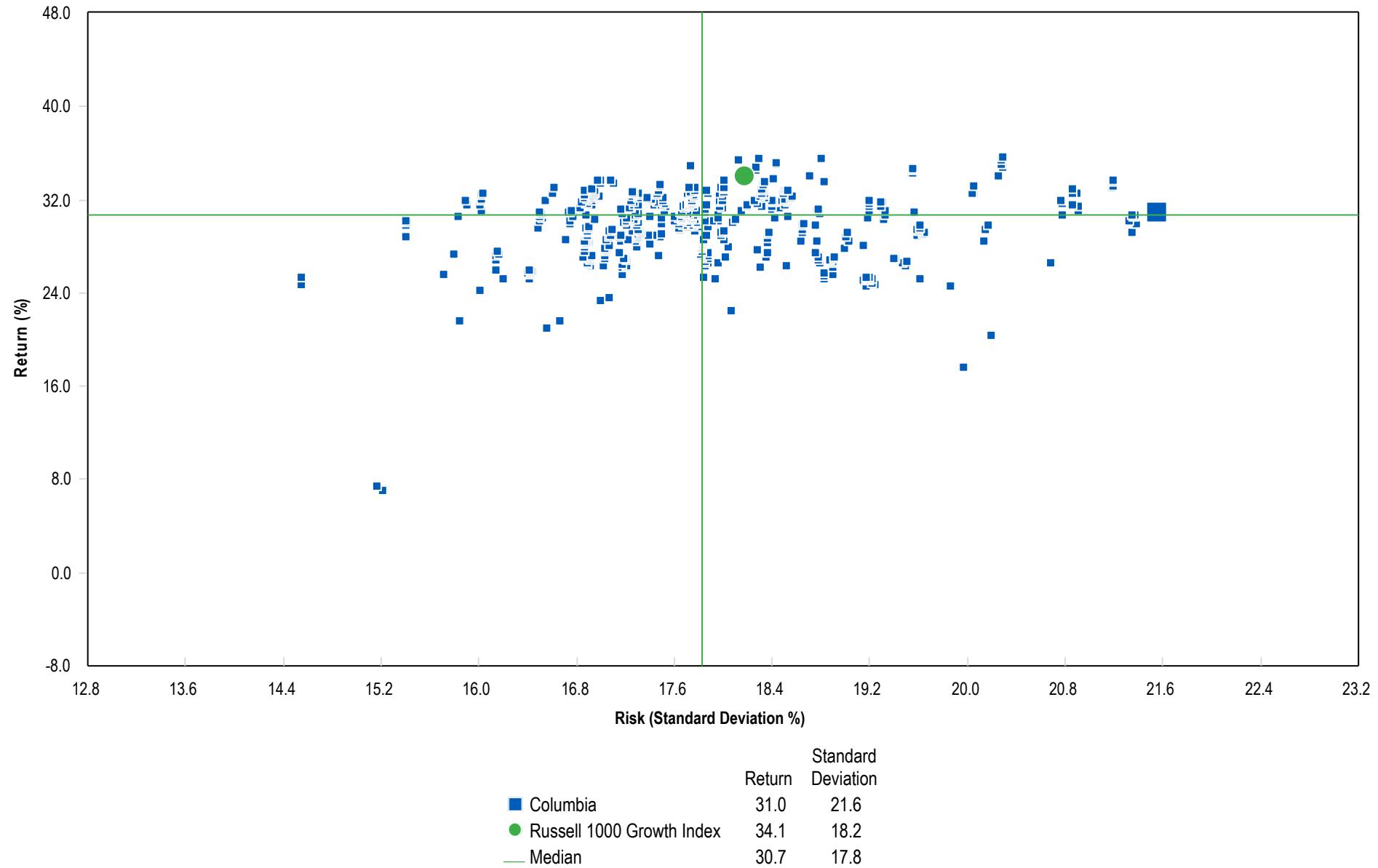
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Peer Group Scattergram

IM U.S. Large Cap Growth Equity (MF)

3 Years Ending December 31, 2021



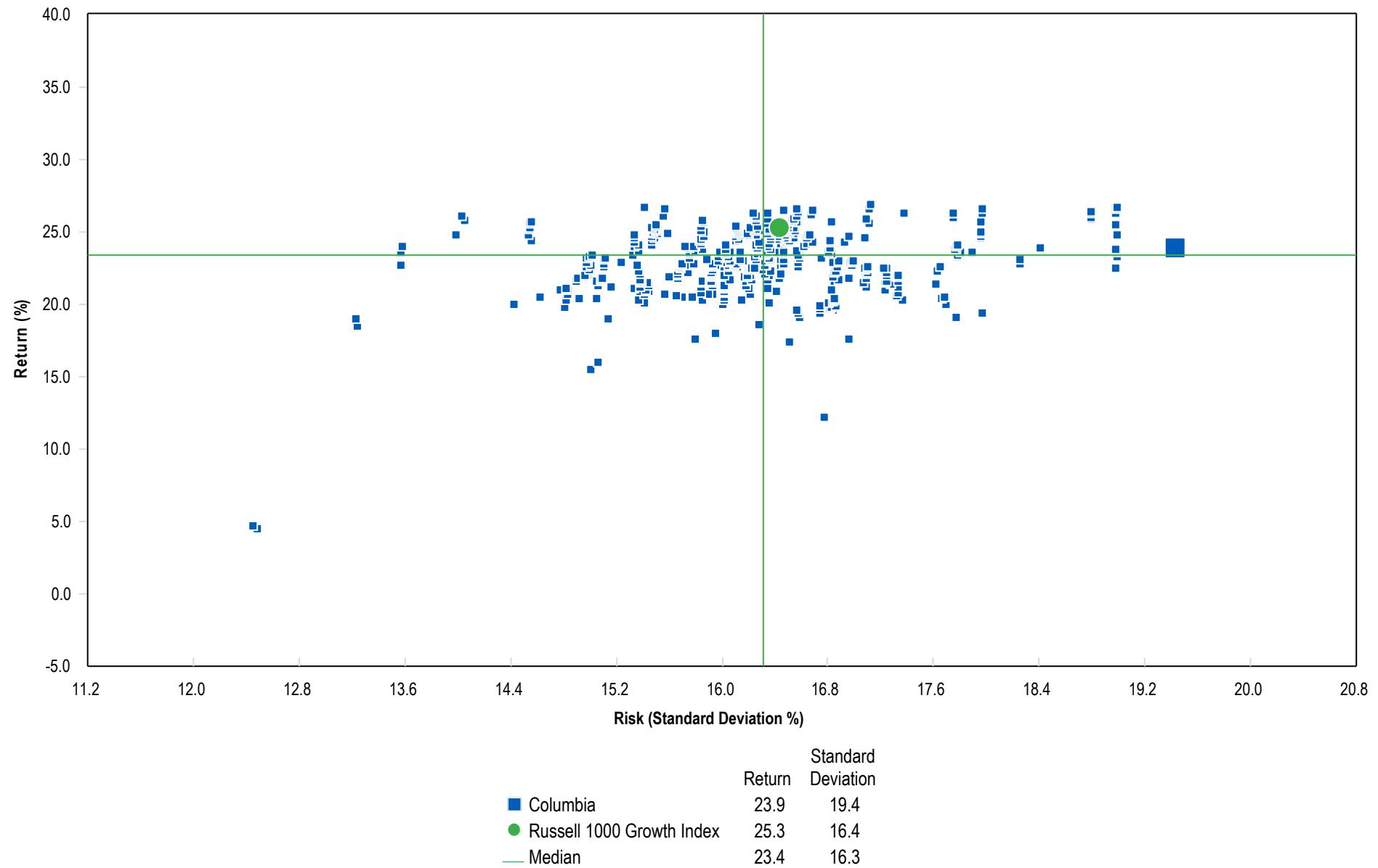
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Peer Group Scattergram

IM U.S. Large Cap Growth Equity (MF)

5 Years Ending December 31, 2021



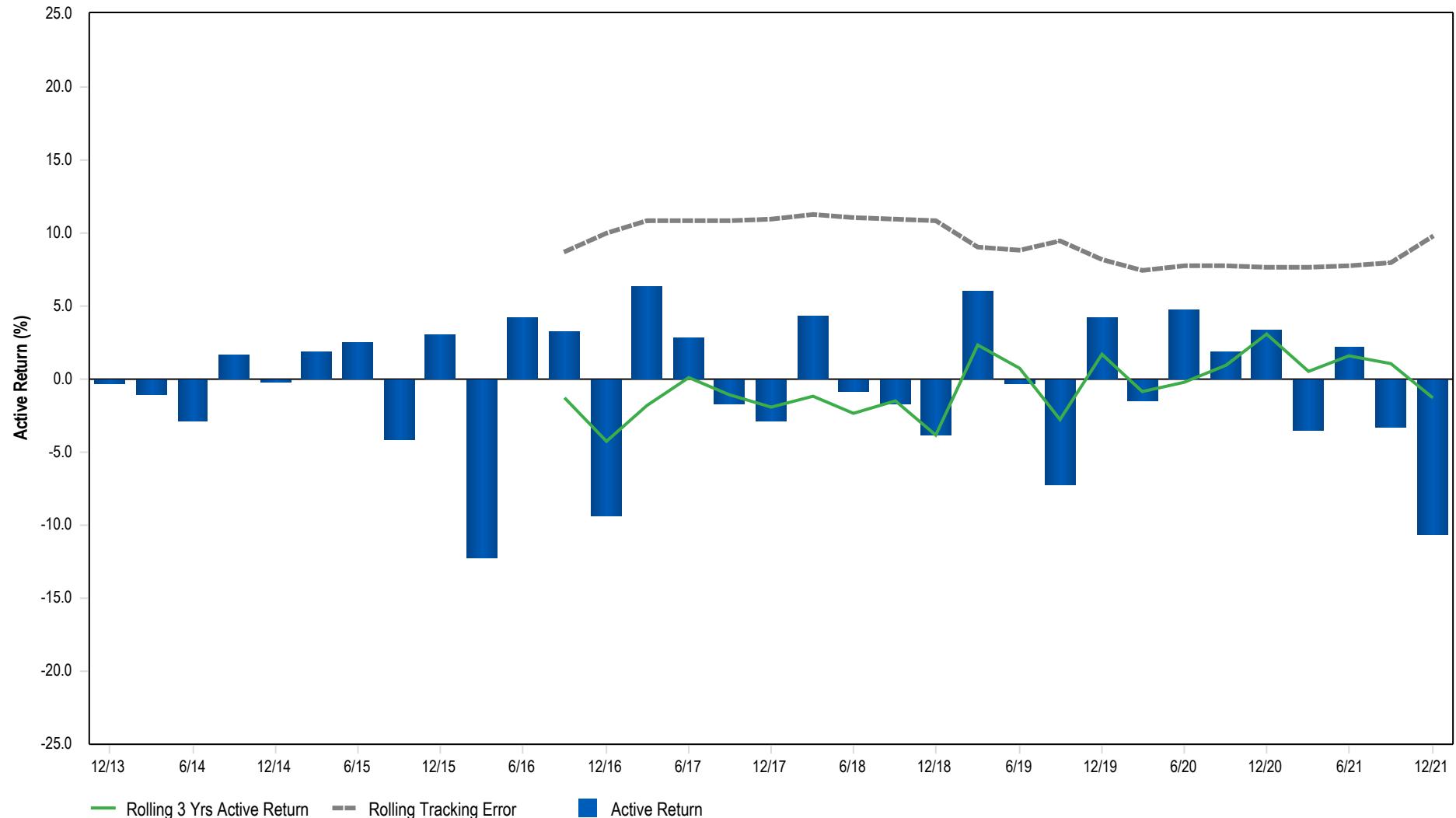
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Columbia	1.0	10.0	10.0	31.0	23.9	16.5		48.1	37.9	-4.3	35.6
Russell 1000 Growth Index	11.6	27.6	27.6	34.1	25.3	19.6	19.8	38.5	36.4	-1.5	30.2
Difference	-10.6	-17.6	-17.6	-3.1	-1.4	-3.1		9.6	1.5	-2.8	5.4



Bristol County Retirement System  
Columbia

1 Quarter Ending December 31, 2021

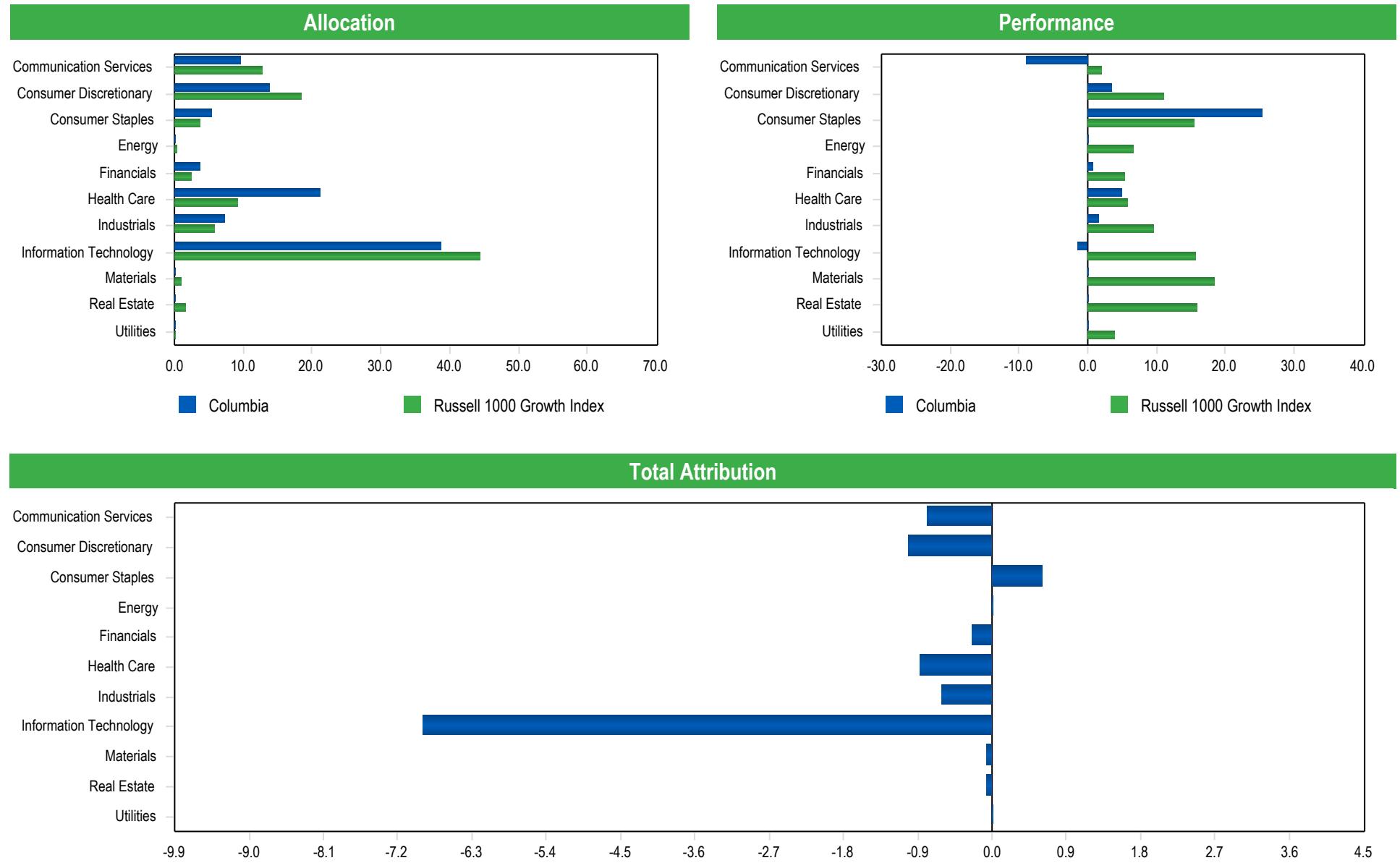
Buy-and-Hold Portfolio	1.7
Portfolio Trading	-0.7
Actual Return	1.0
Benchmark Return	11.6
Actual Active Return	-10.6
Stock Selection	-10.7
Sector Selection	-0.8
Interaction	1.5
Total Selection	-10.0
Portfolio Trading	-0.7
Benchmark Trading	0.0
Active Trading Impact	-0.7
Buy & Hold Active Return	-10.6

	Allocation — 10/01/2021		Performance — 1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	
Communication Services	9.7	12.7	-9.0	2.1	-1.4	0.3	0.3	-0.8
Consumer Discretionary	13.8	18.4	3.5	11.1	-1.4	0.0	0.3	-1.0
Consumer Staples	5.5	3.8	25.4	15.5	0.4	0.1	0.2	0.6
Energy	0.0	0.3	0.0	6.8	0.0	0.0	0.0	0.0
Financials	3.7	2.5	0.9	5.4	-0.1	-0.1	-0.1	-0.2
Health Care	21.1	9.2	5.0	5.9	-0.1	-0.7	-0.1	-0.9
Industrials	7.4	5.9	1.7	9.7	-0.5	0.0	-0.1	-0.6
Information Technology	38.7	44.4	-1.4	15.8	-7.6	-0.2	1.0	-6.9
Materials	0.0	1.0	0.0	18.4	0.0	-0.1	0.0	-0.1
Real Estate	0.0	1.7	0.0	15.9	0.0	-0.1	0.0	-0.1
Utilities	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0
Total	100.0	100.0	1.7	11.6	-10.7	-0.8	1.5	-10.0

# Bristol County Retirement System

## Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2021



Bristol County Retirement System  
Buy and Hold Style Attribution

1 Quarter Ending December 31, 2021

Buy-and-Hold Portfolio	1.7
Portfolio Trading	-0.7
Actual Return	1.0
Benchmark Return	11.6
Actual Active Return	-10.6
Stock Selection	-9.4
Style Selection	-0.5
Interaction	-0.1
Total Selection	-10.0
Portfolio Trading	-0.7
Benchmark Trading	0.0
Active Trading Impact	-0.7
Buy & Hold Active Return	-10.6

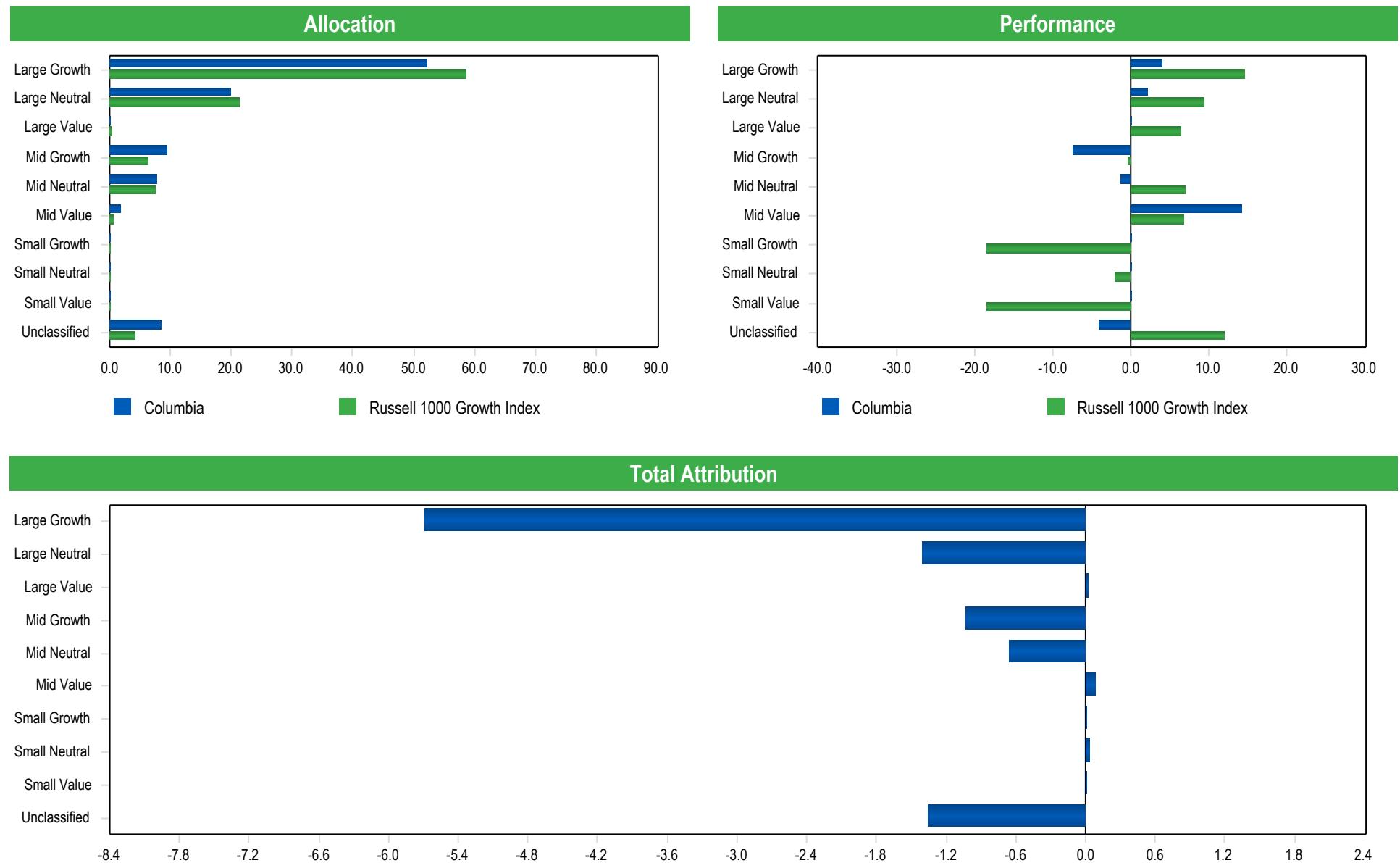
Performance-1 Quarter Ending December  
31, 2021

	Allocation-10/01/2021		Performance-1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	
Large Growth	52.3	58.7	4.0	14.5	-6.2	-0.2	0.7	-5.7
Large Neutral	19.9	21.4	2.2	9.4	-1.5	0.0	0.1	-1.4
Large Value	0.0	0.5	0.0	6.5	0.0	0.0	0.0	0.0
Mid Growth	9.5	6.4	-7.4	-0.4	-0.4	-0.4	-0.2	-1.0
Mid Neutral	7.8	7.5	-1.2	7.1	-0.6	0.0	0.0	-0.7
Mid Value	1.9	0.8	14.3	6.8	0.1	-0.1	0.1	0.1
Small Growth	0.0	0.1	0.0	-18.4	0.0	0.0	0.0	0.0
Small Neutral	0.0	0.3	0.0	-2.0	0.0	0.0	0.0	0.0
Small Value	0.0	0.0	0.0	-18.5	0.0	0.0	0.0	0.0
Unclassified	8.5	4.3	-4.1	12.0	-0.7	0.0	-0.7	-1.4
Total	100.0	100.0	1.7	11.6	-9.4	-0.5	-0.1	-10.0

# Bristol County Retirement System

## Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2021



Bristol County Retirement System  
Columbia

As of December 31, 2021

Top Ten Equity Holdings					Portfolio Characteristics	
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)	Portfolio	Benchmark
NVIDIA Corporation	4.9	3.0	1.9	42.0	Wtd. Avg. Mkt. Cap (\$)	251,990,769,070
Amazon.com Inc	4.7	6.1	-1.4	1.5	Median Mkt. Cap (\$)	55,833,457,240
Intuit Inc.	4.6	0.7	3.9	19.4	Price/Earnings ratio	62.6
Nike Inc	4.5	0.9	3.6	15.0	Price/Book ratio	11.1
Meta Platforms Inc	4.4	3.4	1.0	-0.9	5 Yr. EPS Growth Rate (%)	25.9
ServiceNow Inc	4.4	0.5	3.9	4.3	Current Yield (%)	0.2
Adobe Inc	4.2	1.1	3.1	-1.5	Beta (5 Years, Monthly)	1.1
Visa Inc	4.1	1.5	2.6	-2.5	Number of Stocks	38
Match Group Inc	3.9	0.2	3.7	-15.8		503
MSCI Inc	3.8	0.1	3.7	0.9		
% of Portfolio	43.5	17.5	26.0			

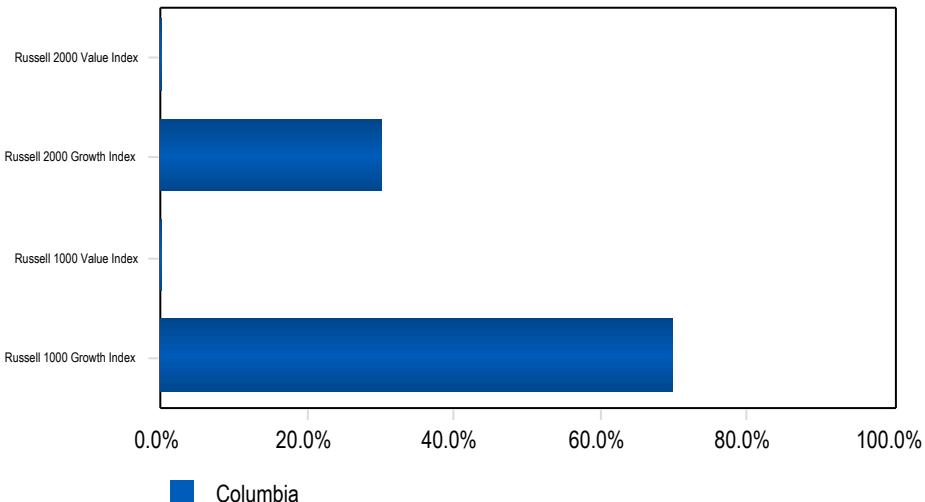
  

Distribution of Market Capitalization (%)		Sector Weights (%)	
Columbia	Russell 1000 Growth Index	Columbia	Russell 1000 Growth Index
>100 Bil	73.4	Communication Services	8.8
75 Bil - 100 Bil	11.4	Consumer Discretionary	11.6
25 Bil - 75 Bil	23.1	Consumer Staples	14.2
15 Bil - 25 Bil	14.4	Energy	6.3
2 Bil - 15 Bil	3.5	Financials	4.0
0 - 2 Bil	11.6	Health Care	3.8
Cash	5.9	Industrials	18.5
	0.0	Information Technology	8.7
	0.0	Materials	10.1
	0.0	Real Estate	37.6
	0.0	Utilities	46.1
	0.0	Cash	1.0

Bristol County Retirement System  
Columbia

Ending December 31, 2021

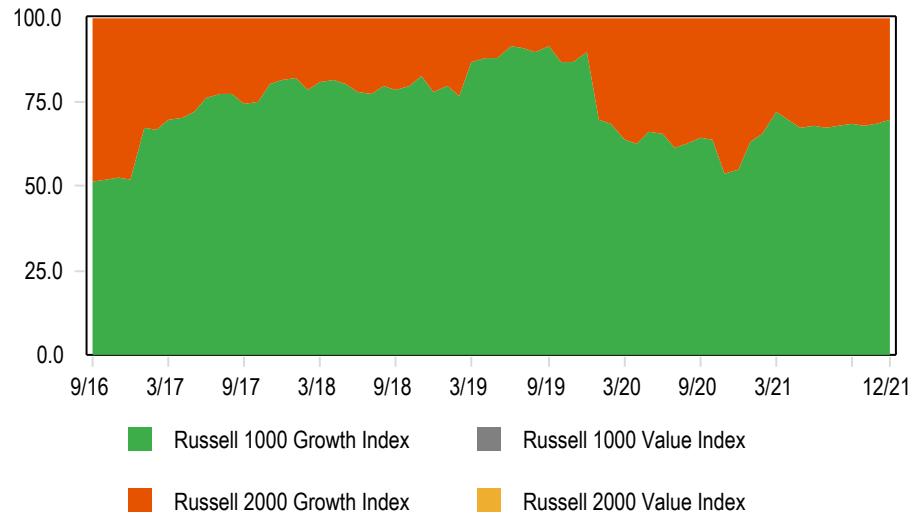
Investment Style Exposure



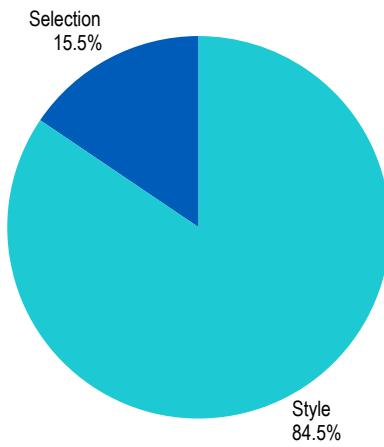
Style Map(36 Months)



Style History(36 Months)



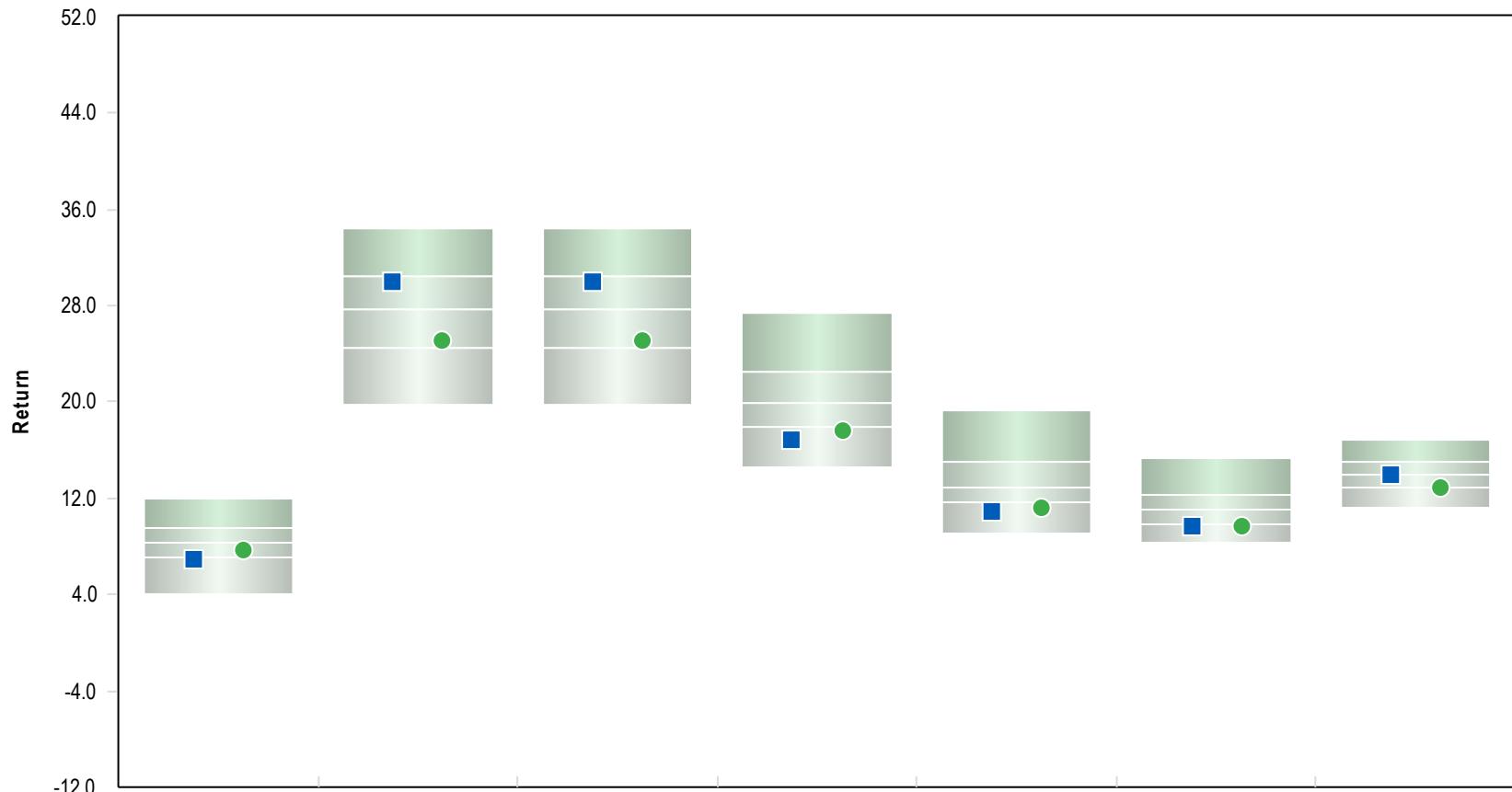
Return Variance



# Bristol County Retirement System

## IM U.S. Large Cap Value Equity (SA+CF)

As of December 31, 2021



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
LSV	6.9 (79)	30.0 (29)	30.0 (29)	16.8 (84)	10.9 (85)	9.7 (81)	14.0 (49)
Russell 1000 Value Index	7.8 (60)	25.2 (72)	25.2 (72)	17.6 (78)	11.2 (80)	9.7 (81)	13.0 (74)
5th Percentile	11.9	34.4	34.4	27.5	19.3	15.4	16.8
1st Quartile	9.5	30.4	30.4	22.5	15.1	12.2	15.0
Median	8.3	27.8	27.8	19.9	12.9	11.1	14.0
3rd Quartile	7.0	24.6	24.6	18.0	11.6	9.9	12.9
95th Percentile	4.0	19.8	19.8	14.5	9.1	8.3	11.2

Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM U.S. Large Cap Value Equity (SA+CF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
■ LSV	-1.6 (92)	24.7 (73)	-11.7 (78)	18.9 (35)	16.7 (31)	-2.1 (49)	13.3 (38)	40.9 (12)	21.2 (7)	-0.9 (63)
● Russell 1000 Value Index	2.8 (70)	26.5 (57)	-8.3 (50)	13.7 (89)	17.3 (26)	-3.8 (69)	13.5 (34)	32.5 (61)	17.5 (29)	0.4 (52)

5th Percentile	22.1	35.8	-1.8	25.0	22.7	4.2	16.8	43.9	21.7	10.9
1st Quartile	11.3	29.6	-5.2	20.2	17.6	0.1	14.0	37.7	18.0	4.1
Median	5.5	27.4	-8.4	17.3	14.5	-2.3	12.2	33.9	15.6	0.6
3rd Quartile	2.0	24.5	-11.4	15.2	11.2	-4.8	10.3	31.0	12.9	-3.0
95th Percentile	-4.4	20.6	-16.1	10.6	6.6	-9.5	5.2	24.9	8.9	-8.4

Parentheses contain percentile rankings.

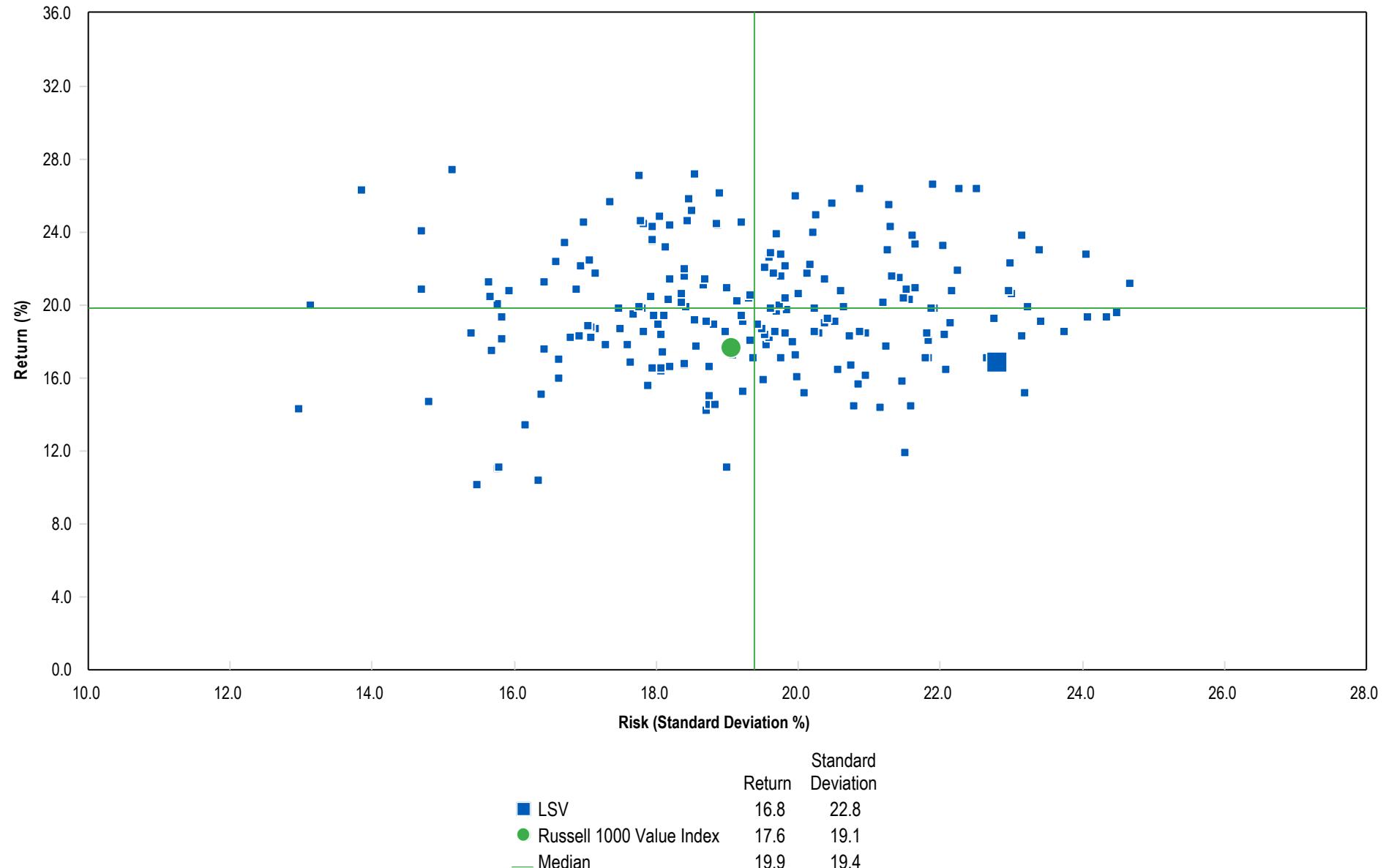
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Peer Group Scattergram

IM U.S. Large Cap Value Equity (SA+CF)

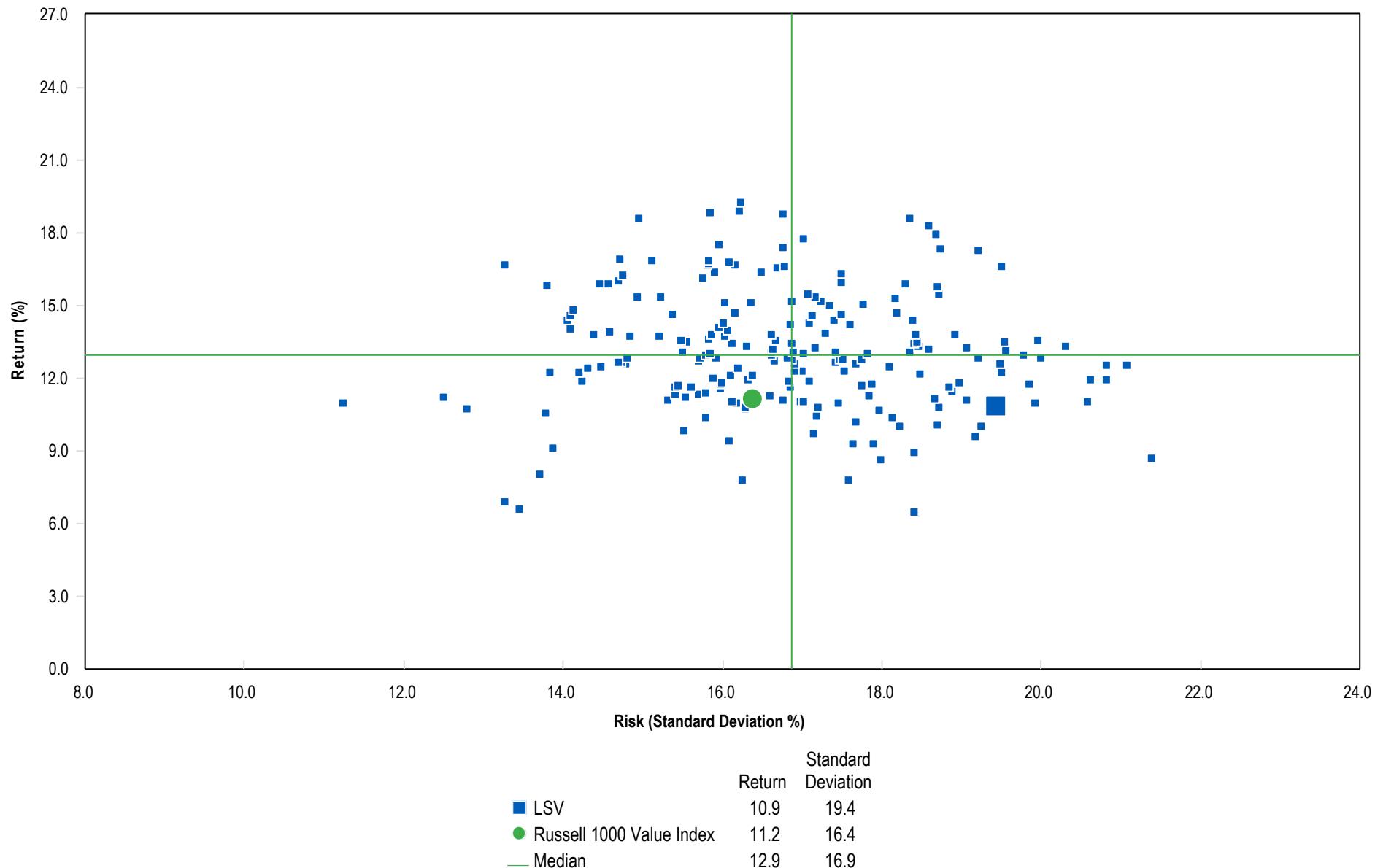
3 Years Ending December 31, 2021



Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

IM U.S. Large Cap Value Equity (SA+CF)  
5 Years Ending December 31, 2021



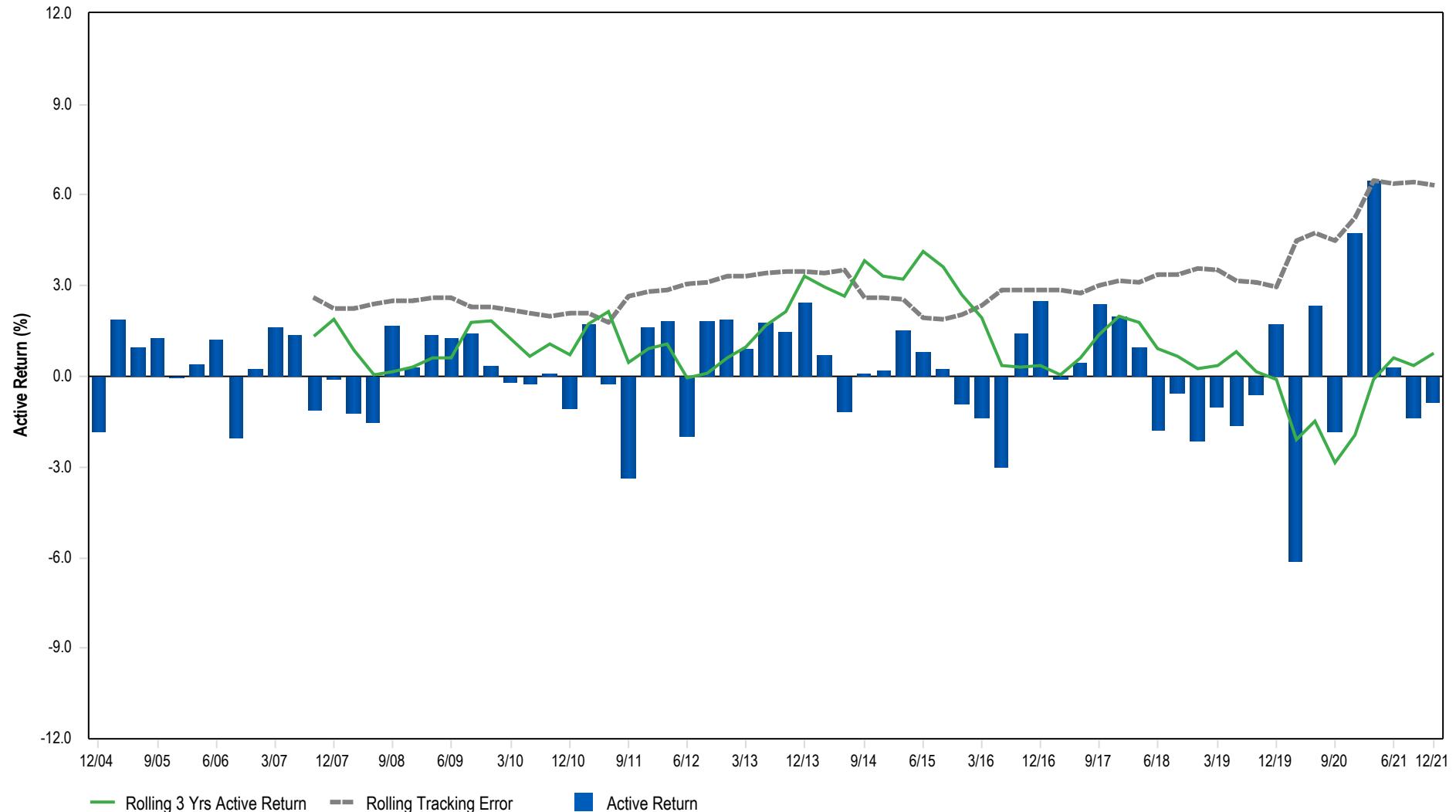
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
LSV	6.9	30.0	30.0	16.8	10.9	9.7	14.0	-1.6	24.7	-11.7	18.9
Russell 1000 Value Index	7.8	25.2	25.2	17.6	11.2	9.7	13.0	2.8	26.5	-8.3	13.7
Difference	-0.9	4.8	4.8	-0.8	-0.3	0.0	1.0	-4.4	-1.8	-3.4	5.2



Bristol County Retirement System

LSV

1 Quarter Ending December 31, 2021

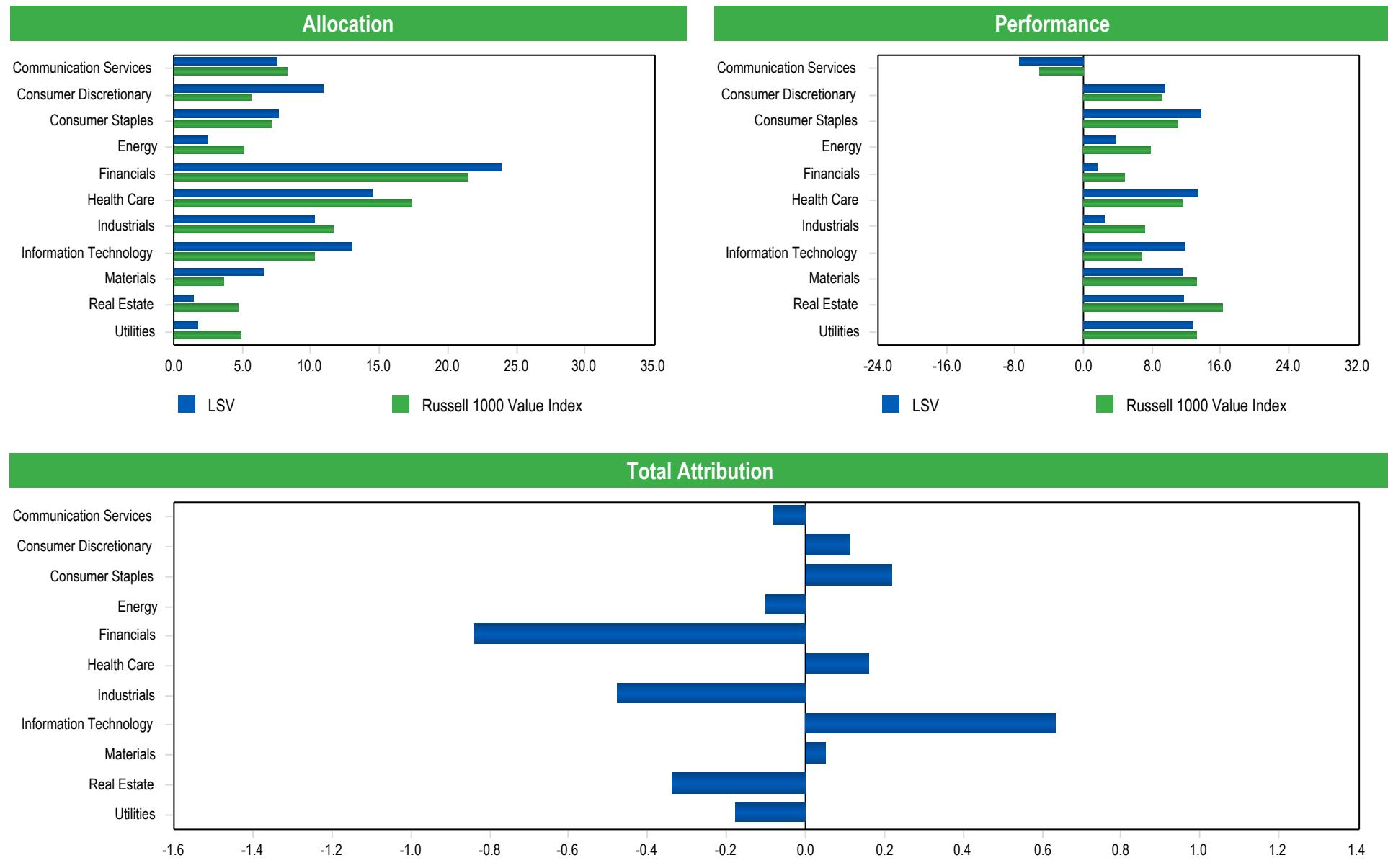
Buy-and-Hold Portfolio	6.9
Portfolio Trading	0.0
Actual Return	6.9
Benchmark Return	7.8
Actual Active Return	-0.9
Stock Selection	-0.9
Sector Selection	-0.3
Interaction	0.3
Total Selection	-0.8
Portfolio Trading	0.0
Benchmark Trading	0.0
Active Trading Impact	0.0
Buy & Hold Active Return	-0.9

	Allocation — 10/01/2021		Performance — 1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	
Communication Services	7.6	8.3	-7.6	-5.3	-0.2	0.1	0.0	-0.1
Consumer Discretionary	10.9	5.6	9.6	9.3	0.0	0.1	0.0	0.1
Consumer Staples	7.6	7.1	13.8	11.1	0.2	0.0	0.0	0.2
Energy	2.5	5.1	3.9	7.9	-0.2	0.0	0.1	-0.1
Financials	23.9	21.4	1.6	4.8	-0.7	-0.1	-0.1	-0.8
Health Care	14.4	17.3	13.5	11.6	0.3	-0.1	-0.1	0.2
Industrials	10.3	11.6	2.5	7.3	-0.5	0.0	0.1	-0.5
Information Technology	13.0	10.2	12.0	6.9	0.5	0.0	0.1	0.6
Materials	6.6	3.6	11.6	13.3	-0.1	0.2	-0.1	0.0
Real Estate	1.5	4.7	11.7	16.2	-0.2	-0.3	0.1	-0.3
Utilities	1.8	4.9	12.7	13.2	0.0	-0.2	0.0	-0.2
Total	100.0	100.0	6.9	7.8	-0.9	-0.3	0.3	-0.8

# Bristol County Retirement System

## Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2021



Bristol County Retirement System  
Buy and Hold Style Attribution

1 Quarter Ending December 31, 2021

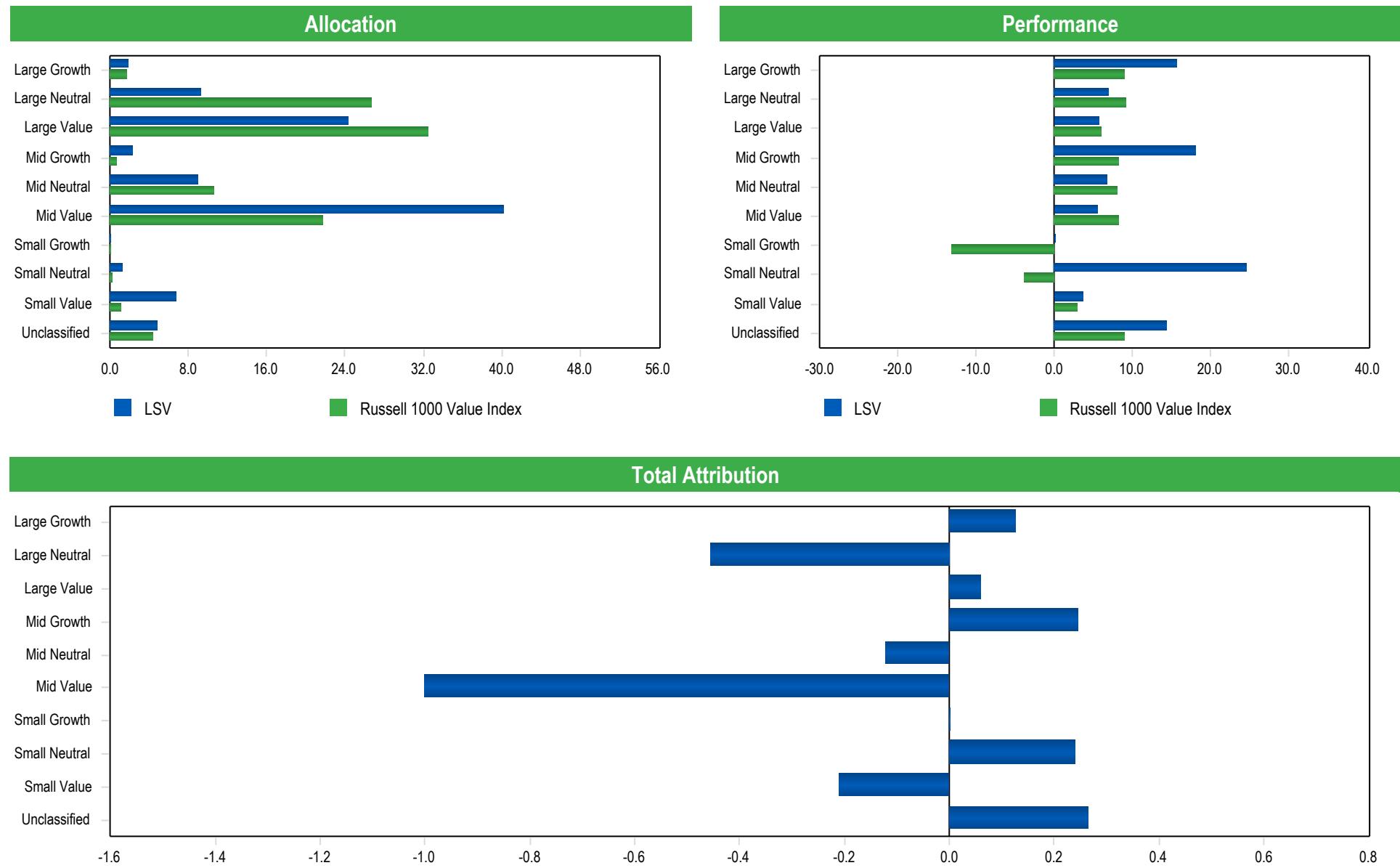
Buy-and-Hold Portfolio	6.9
Portfolio Trading	0.0
Actual Return	6.9
Benchmark Return	7.8
Actual Active Return	-0.9
Stock Selection	-0.9
Style Selection	-0.4
Interaction	0.5
Total Selection	-0.8
Portfolio Trading	0.0
Benchmark Trading	0.0
Active Trading Impact	0.0
Buy & Hold Active Return	-0.9

	Allocation-10/01/2021		Performance-1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	
Large Growth	1.9	1.8	15.7	9.1	0.1	0.0	0.0	0.1
Large Neutral	9.3	26.7	6.9	9.2	-0.6	-0.2	0.4	-0.5
Large Value	24.3	32.5	5.8	6.1	-0.1	0.1	0.0	0.1
Mid Growth	2.4	0.7	18.1	8.3	0.1	0.0	0.2	0.2
Mid Neutral	8.9	10.6	6.8	8.1	-0.1	0.0	0.0	-0.1
Mid Value	40.3	21.7	5.6	8.3	-0.6	0.1	-0.5	-1.0
Small Growth	0.0	0.0	0.0	-13.1	0.0	0.0	0.0	0.0
Small Neutral	1.3	0.3	24.5	-3.8	0.1	-0.1	0.3	0.2
Small Value	6.7	1.2	3.7	2.9	0.0	-0.3	0.0	-0.2
Unclassified	4.9	4.5	14.4	9.0	0.2	0.0	0.0	0.3
Total	100.0	100.0	6.9	7.8	-0.9	-0.4	0.5	-0.8

# Bristol County Retirement System

## Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2021



# Bristol County Retirement System

LSV

As of December 31, 2021

Top Ten Equity Holdings					Portfolio Characteristics	
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)	Portfolio	Benchmark
Pfizer Inc	2.8	1.6	1.2	38.5	Wtd. Avg. Mkt. Cap (\$)	71,657,343,263
Merck & Co Inc	2.3	0.9	1.4	3.0	Median Mkt. Cap (\$)	14,472,111,760
Intel Corp	2.1	1.0	1.1	-2.7	Price/Earnings ratio	11.6
Verizon Communications Inc	1.8	1.0	0.8	-2.7	Price/Book ratio	2.4
CVS Health Corp	1.7	0.6	1.1	22.3	5 Yr. EPS Growth Rate (%)	15.2
Citigroup Inc	1.6	0.6	1.0	-13.3	Current Yield (%)	2.4
AT&T Inc	1.5	0.8	0.7	-7.2	Beta (5 Years, Monthly)	1.2
Bristol-Myers Squibb Co	1.5	0.7	0.8	5.4	Number of Stocks	156
Oracle Corp	1.4	0.0	1.4	0.4		853
Ford Motor Co	1.4	0.4	1.0	47.4		
% of Portfolio	18.1	7.6	10.5			

Distribution of Market Capitalization (%)		Sector Weights (%)	
LSV	Russell 1000 Value Index	LSV	Russell 1000 Value Index

Market Capitalization Category	LSV (%)	Russell 1000 Value Index (%)
>100 Bil	26.8	45.4
75 Bil - 100 Bil	4.2	6.6
25 Bil - 75 Bil	23.6	27.5
15 Bil - 25 Bil	9.4	8.3
2 Bil - 15 Bil	34.4	12.2
0 - 2 Bil	1.3	0.0
Cash	0.4	0.0

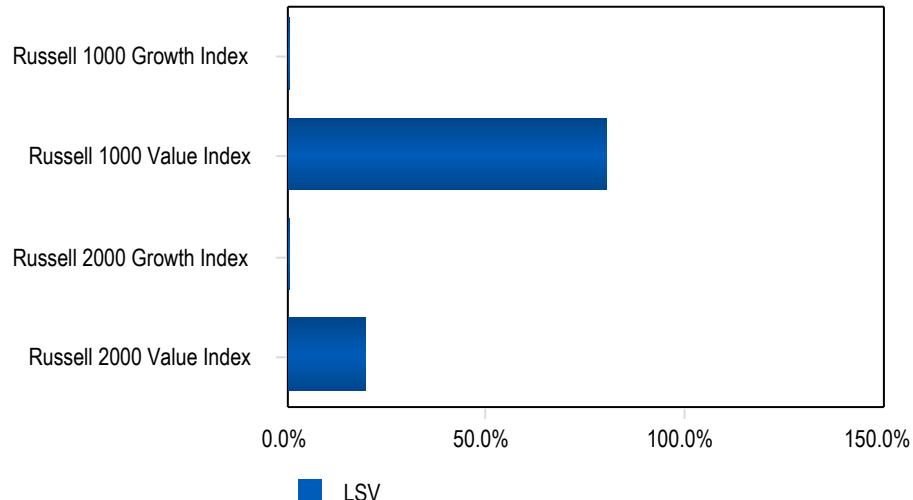
Sector	LSV (%)	Russell 1000 Value Index (%)
Communication Services	16.8	7.3
Consumer Discretionary	11.1	15.7
Consumer Staples	8.1	7.4
Energy	2.4	5.1
Financials	22.7	20.7
Health Care	15.2	18.0
Industrials	11.5	9.6
Information Technology	13.5	10.2
Materials	6.8	3.8
Real Estate	1.8	1.6
Utilities	5.1	0.0
Cash	0.4	0.0

# Bristol County Retirement System

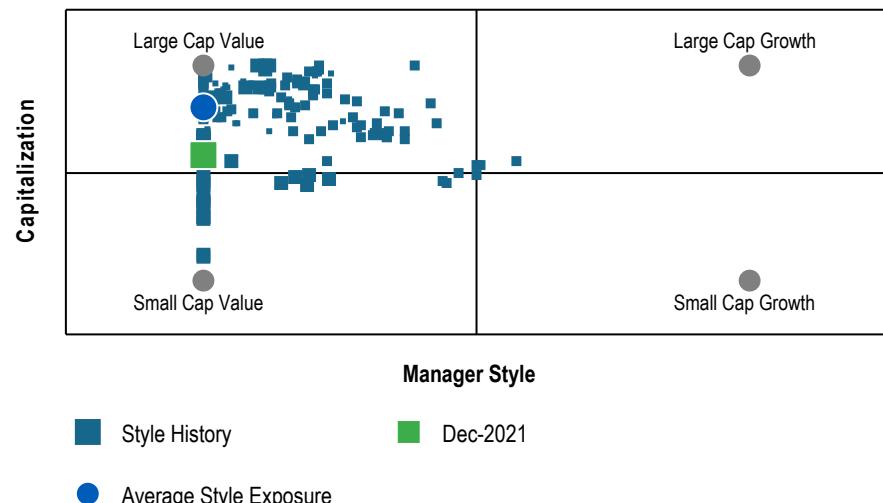
LSV

Ending December 31, 2021

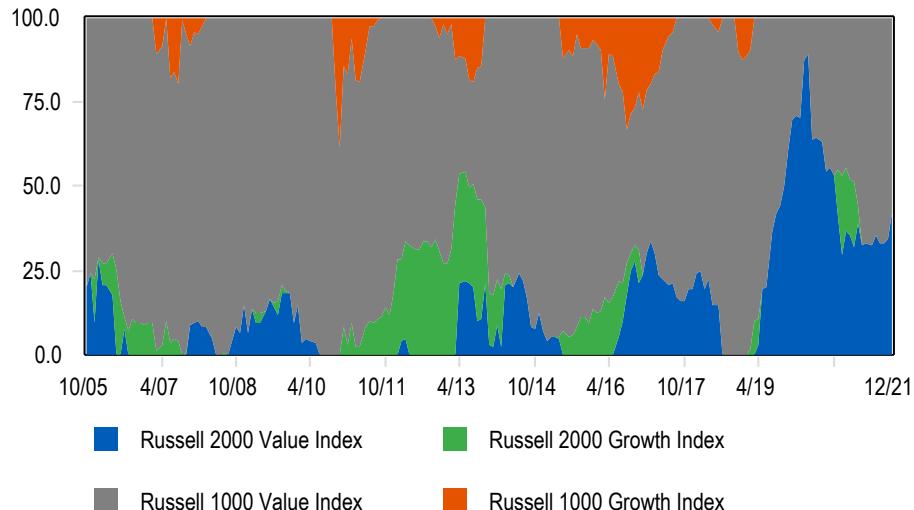
### Investment Style Exposure



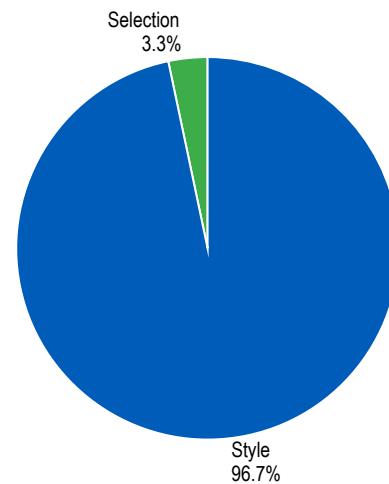
### Style Map(12 Months)



### Style History(12 Months)



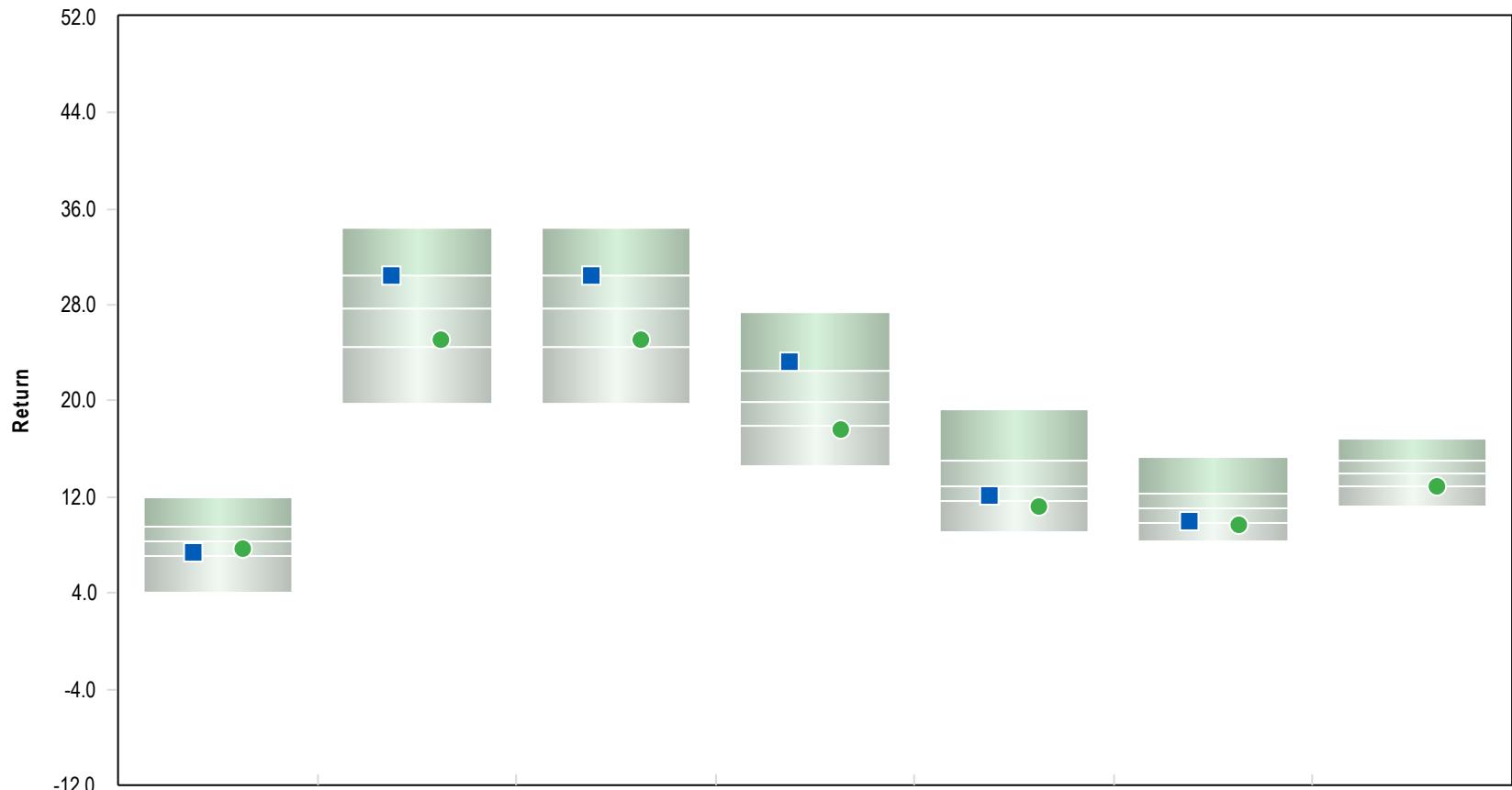
### Return Variance



# Bristol County Retirement System

## IM U.S. Large Cap Value Equity (SA+CF)

As of December 31, 2021



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Lyrical	7.3 (69)	30.4 (26)	30.4 (26)	23.3 (22)	12.1 (67)	10.0 (70)	
Russell 1000 Value Index	7.8 (60)	25.2 (72)	25.2 (72)	17.6 (78)	11.2 (80)	9.7 (81)	13.0 (74)
5th Percentile	11.9	34.4	34.4	27.5	19.3	15.4	16.8
1st Quartile	9.5	30.4	30.4	22.5	15.1	12.2	15.0
Median	8.3	27.8	27.8	19.9	12.9	11.1	14.0
3rd Quartile	7.0	24.6	24.6	18.0	11.6	9.9	12.9
95th Percentile	4.0	19.8	19.8	14.5	9.1	8.3	11.2

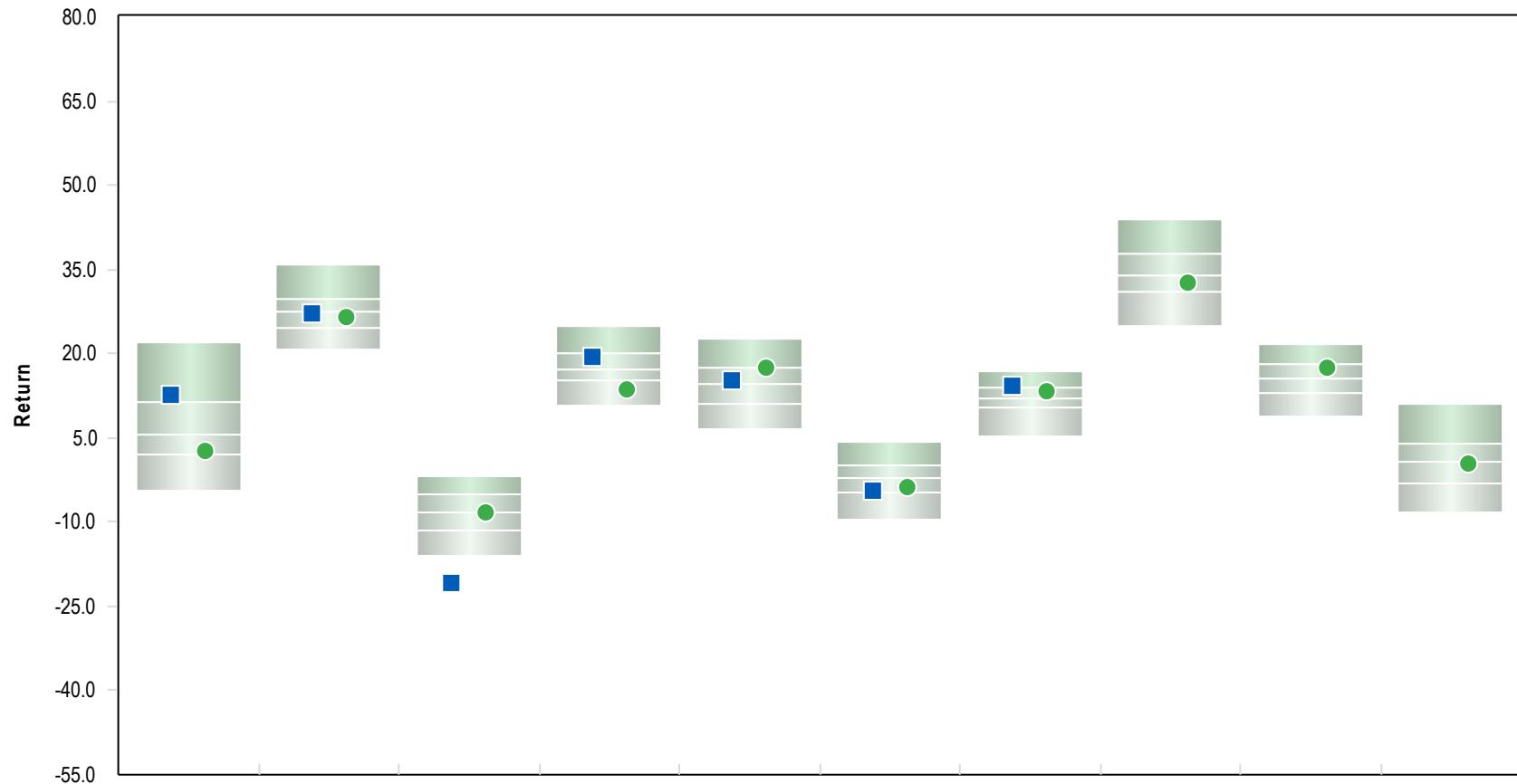
Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM U.S. Large Cap Value Equity (SA+CF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Lyrical	12.8 (22)	27.3 (51)	-20.8 (100)	19.3 (32)	15.3 (43)	-4.3 (72)	14.3 (23)	32.5 (61)	17.5 (29)	0.4 (52)
Russell 1000 Value Index	2.8 (70)	26.5 (57)	-8.3 (50)	13.7 (89)	17.3 (26)	-3.8 (69)	13.5 (34)	32.5 (61)	17.5 (29)	0.4 (52)
5th Percentile	22.1	35.8	-1.8	25.0	22.7	4.2	16.8	43.9	21.7	10.9
1st Quartile	11.3	29.6	-5.2	20.2	17.6	0.1	14.0	37.7	18.0	4.1
Median	5.5	27.4	-8.4	17.3	14.5	-2.3	12.2	33.9	15.6	0.6
3rd Quartile	2.0	24.5	-11.4	15.2	11.2	-4.8	10.3	31.0	12.9	-3.0
95th Percentile	-4.4	20.6	-16.1	10.6	6.6	-9.5	5.2	24.9	8.9	-8.4

Parentheses contain percentile rankings.

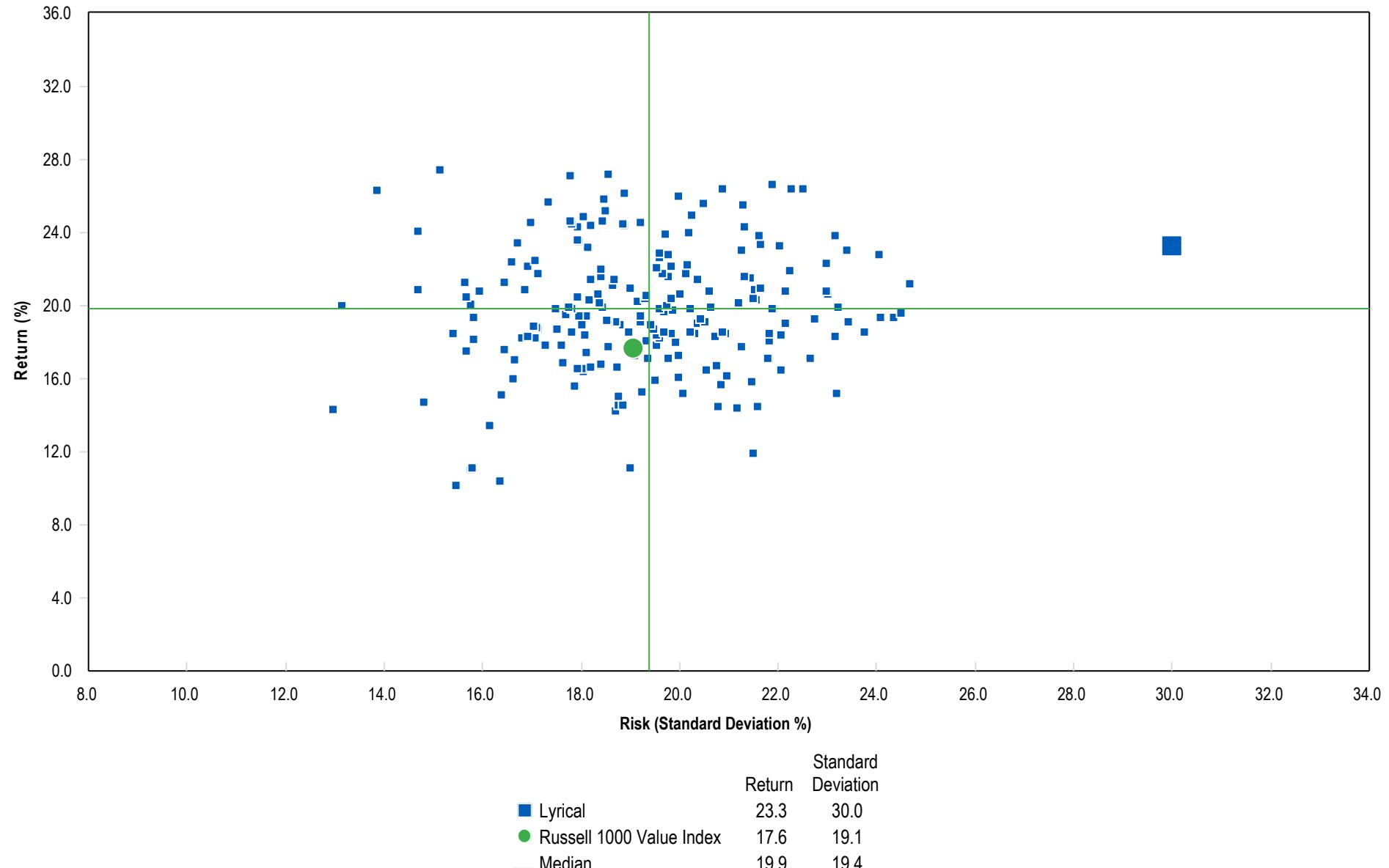
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Peer Group Scattergram

IM U.S. Large Cap Value Equity (SA+CF)

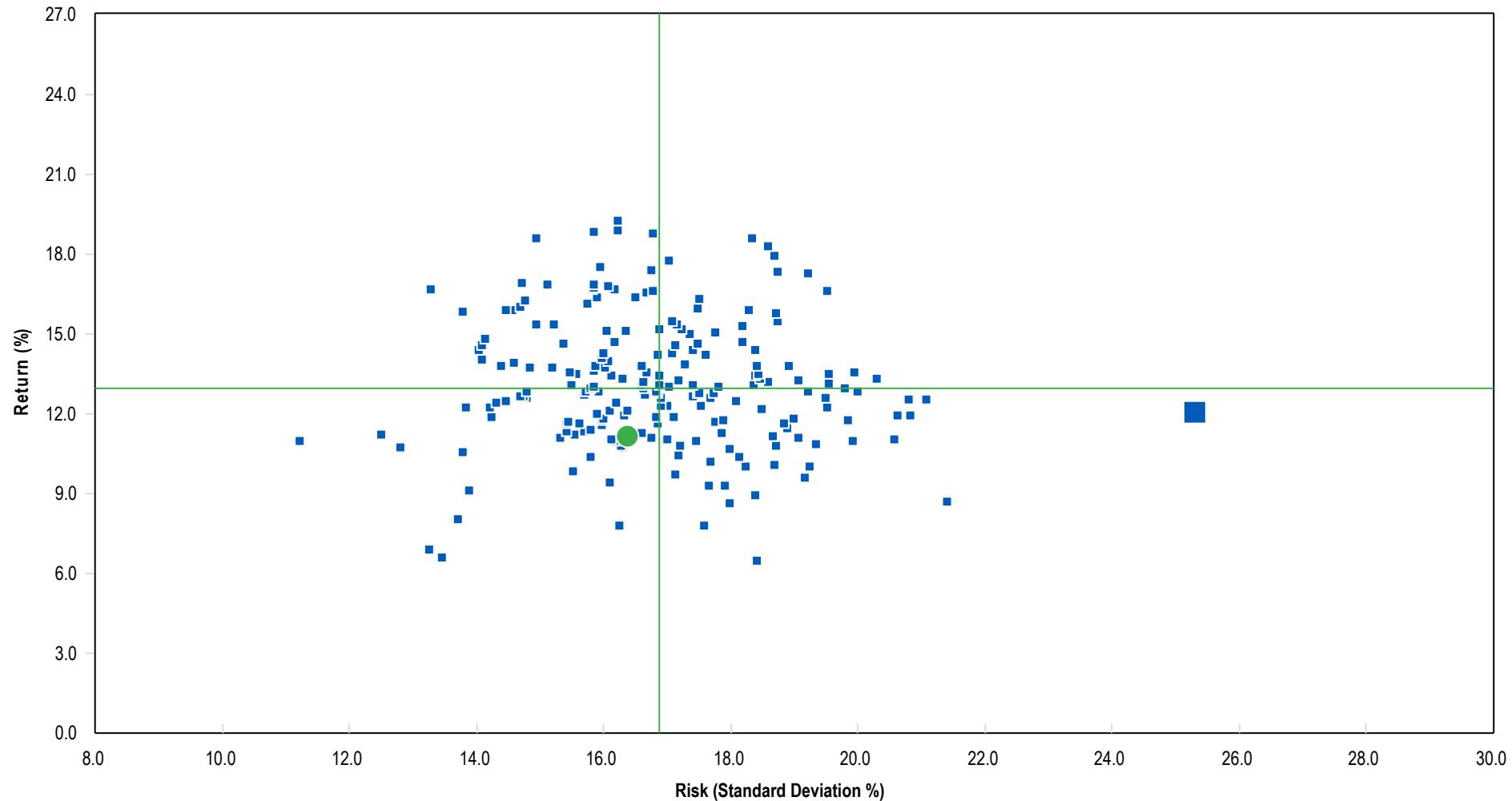
3 Years Ending December 31, 2021



Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

IM U.S. Large Cap Value Equity (SA+CF)  
5 Years Ending December 31, 2021



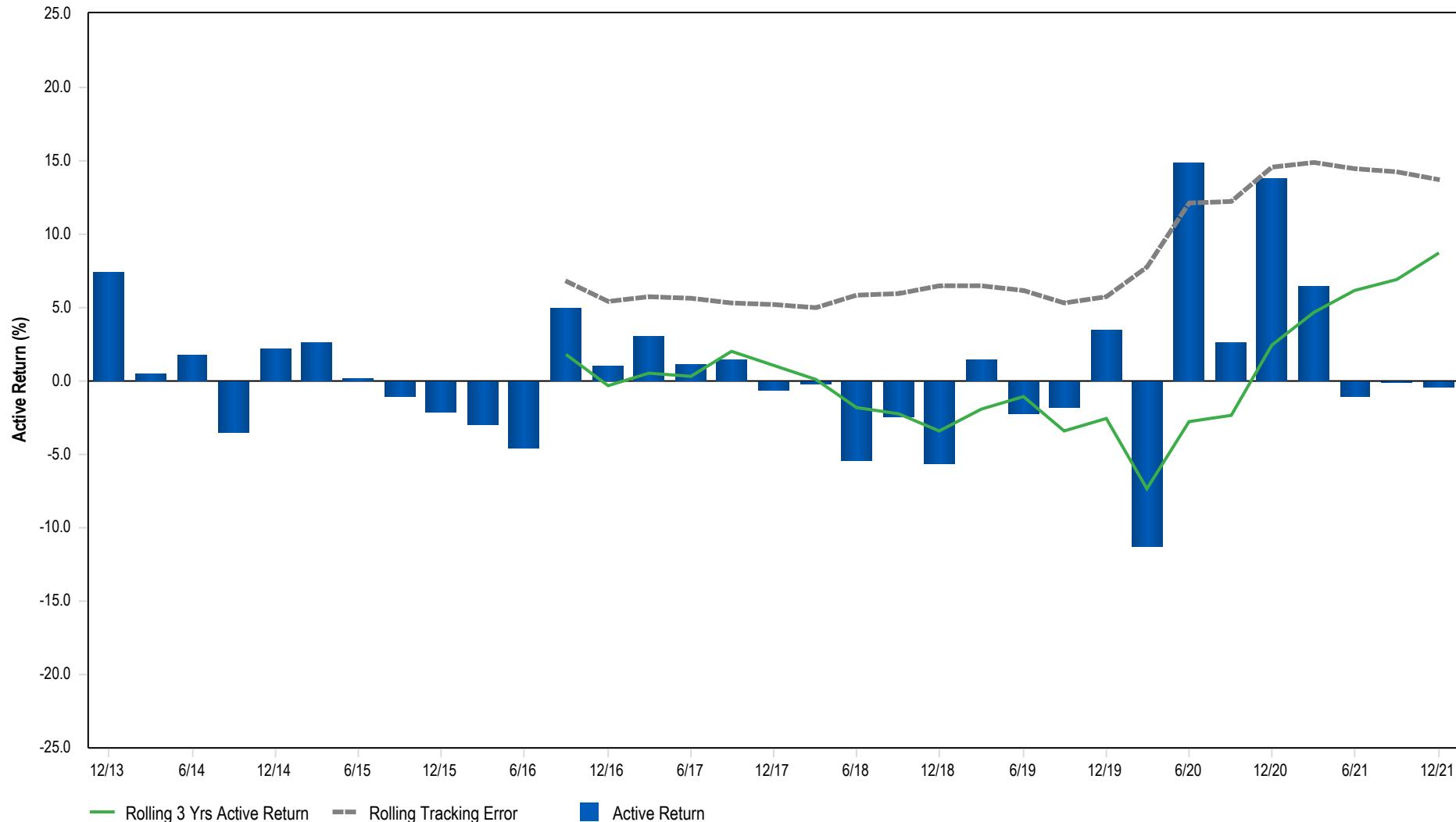
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Lyrical	7.3	30.4	30.4	23.3	12.1	10.0		12.8	27.3	-20.8	19.3
Russell 1000 Value Index	7.8	25.2	25.2	17.6	11.2	9.7	13.0	2.8	26.5	-8.3	13.7
Difference	-0.5	5.2	5.2	5.7	0.9	0.3		10.0	0.8	-12.5	5.6



# Bristol County Retirement System

Lyrical

1 Quarter Ending December 31, 2021

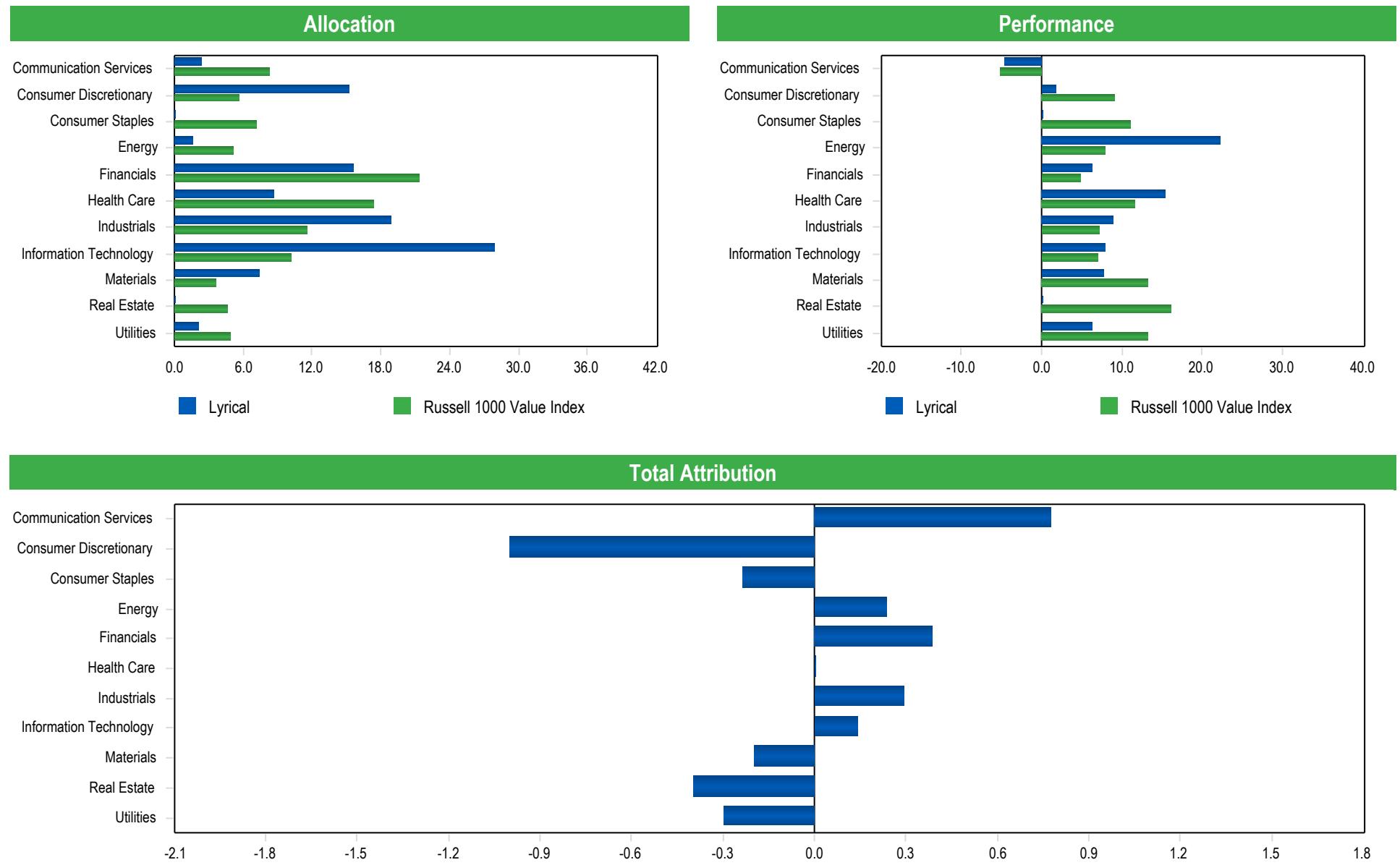
Buy-and-Hold Portfolio	7.5
Portfolio Trading	-0.1
Actual Return	7.3
Benchmark Return	7.8
Actual Active Return	-0.4
Stock Selection	1.1
Sector Selection	0.0
Interaction	-1.4
Total Selection	-0.3
Portfolio Trading	-0.1
Benchmark Trading	0.0
Active Trading Impact	-0.2
Buy & Hold Active Return	-0.4

	Allocation — 10/01/2021		Performance — 1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	
Communication Services	2.4	8.3	-4.7	-5.3	0.1	0.8	0.0	0.8
Consumer Discretionary	15.2	5.6	1.7	9.3	-0.4	0.1	-0.7	-1.0
Consumer Staples	0.0	7.1	0.0	11.1	0.0	-0.2	0.0	-0.2
Energy	1.7	5.1	22.3	7.9	0.7	0.0	-0.5	0.2
Financials	15.6	21.4	6.2	4.8	0.3	0.2	-0.1	0.4
Health Care	8.7	17.3	15.4	11.6	0.7	-0.3	-0.3	0.0
Industrials	18.9	11.6	9.0	7.3	0.2	0.0	0.1	0.3
Information Technology	27.9	10.2	8.0	6.9	0.1	-0.1	0.2	0.1
Materials	7.4	3.6	7.8	13.3	-0.2	0.2	-0.2	-0.2
Real Estate	0.0	4.7	0.0	16.2	0.0	-0.4	0.0	-0.4
Utilities	2.2	4.9	6.4	13.2	-0.3	-0.1	0.2	-0.3
Total	100.0	100.0	7.5	7.8	1.1	0.0	-1.4	-0.3

# Bristol County Retirement System

## Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2021



Bristol County Retirement System  
Buy and Hold Style Attribution

1 Quarter Ending December 31, 2021

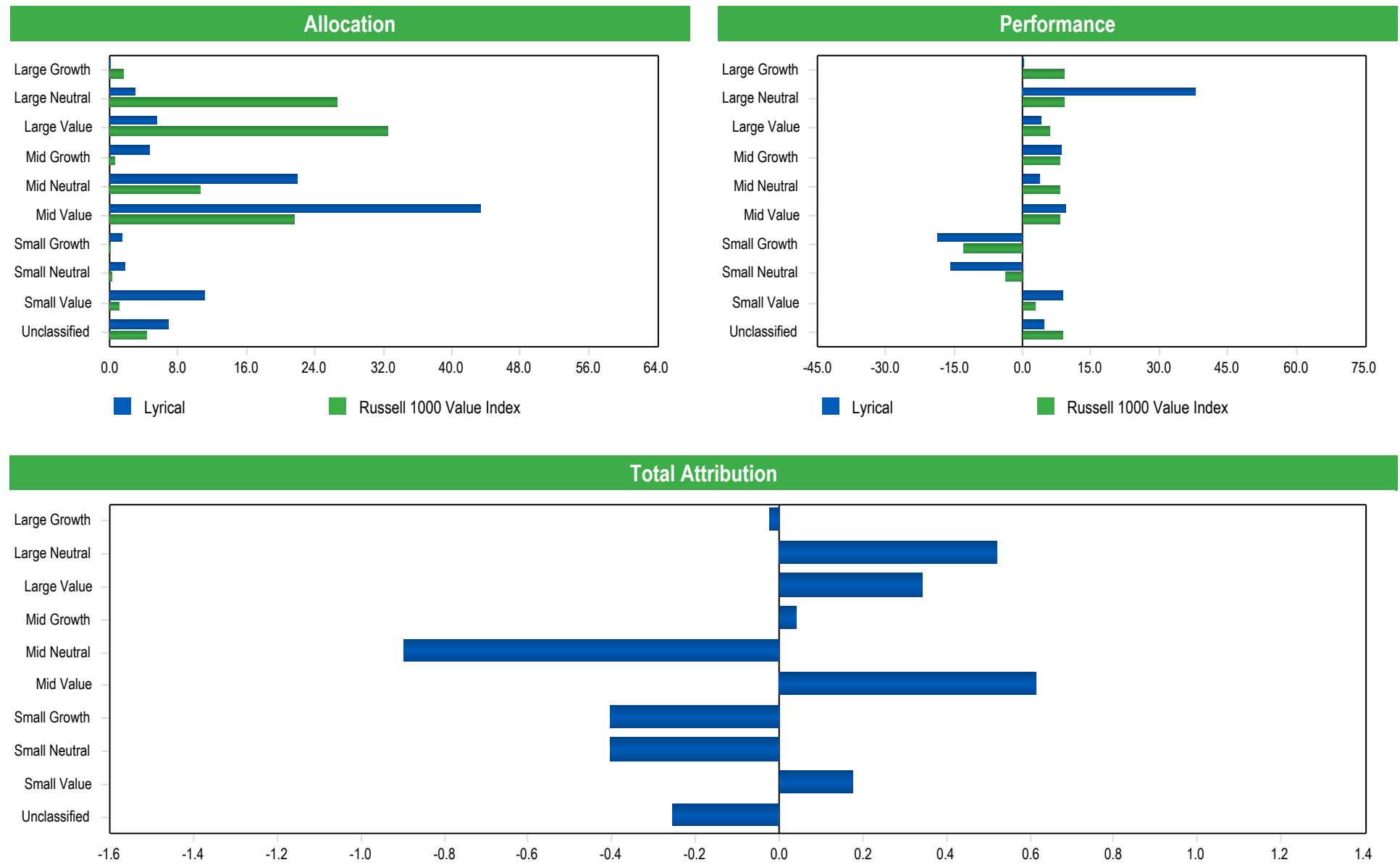
Buy-and-Hold Portfolio	7.5
Portfolio Trading	-0.1
Actual Return	7.3
Benchmark Return	7.8
Actual Active Return	-0.4
Stock Selection	6.8
Style Selection	-0.7
Interaction	-6.4
Total Selection	-0.3
Portfolio Trading	-0.1
Benchmark Trading	0.0
Active Trading Impact	-0.2
Buy & Hold Active Return	-0.4

	Allocation-10/01/2021		Performance-1 Quarter Ending December 31, 2021			Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	Total
Large Growth	0.0	1.8	0.0	9.1	0.0	0.0	0.0	0.0
Large Neutral	3.0	26.7	38.1	9.2	7.7	-0.3	-6.9	0.5
Large Value	5.6	32.5	4.2	6.1	-0.6	0.4	0.5	0.3
Mid Growth	4.7	0.7	8.7	8.3	0.0	0.0	0.0	0.0
Mid Neutral	22.0	10.6	3.8	8.1	-0.5	0.0	-0.5	-0.9
Mid Value	43.4	21.7	9.5	8.3	0.2	0.1	0.2	0.6
Small Growth	1.5	0.0	-18.8	-13.1	0.0	-0.3	-0.1	-0.4
Small Neutral	1.8	0.3	-15.7	-3.8	0.0	-0.2	-0.2	-0.4
Small Value	11.1	1.2	8.8	2.9	0.1	-0.5	0.6	0.2
Unclassified	6.9	4.5	4.9	9.0	-0.2	0.0	-0.1	-0.3
Total	100.0	100.0	7.5	7.8	6.8	-0.7	-6.4	-0.3

# Bristol County Retirement System

## Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2021



# Bristol County Retirement System

Lyrical

As of December 31, 2021

Top Ten Equity Holdings					Portfolio Characteristics	
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)	Portfolio	Benchmark
Ameriprise Financial Inc	5.6	0.1	5.5	14.6	Wtd. Avg. Mkt. Cap (\$)	30,956,429,988
United Rentals Inc.	5.2	0.1	5.1	-5.3	Median Mkt. Cap (\$)	11,657,335,610
AerCap Holdings NV	4.3	0.0	4.3	13.2	Price/Earnings ratio	9.9
Univar Solutions Inc	4.1	0.0	4.1	19.0	Price/Book ratio	2.7
HCA Healthcare Inc	4.1	0.0	4.1	6.1	5 Yr. EPS Growth Rate (%)	17.6
Broadcom Inc	3.9	0.0	3.9	38.1	Current Yield (%)	1.0
Arrow Electronics Inc	3.9	0.0	3.9	19.6	Beta (5 Years, Monthly)	1.5
Assurant Inc.	3.8	0.0	3.8	-0.8	Number of Stocks	35
Lincoln National Corp	3.5	0.0	3.5	-0.1		853
Berry Global Group Inc	3.3	0.0	3.3	21.2		
% of Portfolio	41.7	0.2	41.5			

Distribution of Market Capitalization (%)		Sector Weights (%)	
>100 Bil	45.4	Communication Services	2.3
75 Bil - 100 Bil	6.8	Consumer Discretionary	15.1
25 Bil - 75 Bil	15.7	Consumer Staples	0.0
15 Bil - 25 Bil	27.5	Energy	7.4
2 Bil - 15 Bil	19.4	Financials	5.1
0 - 2 Bil	8.3	Health Care	15.9
Cash	0.3	Industrials	10.7
	0.0	Information Technology	20.7
	0.9	Materials	18.0
	0.0	Real Estate	16.6
	0.0	Utilities	10.2
	0.9	Cash	28.9

**Distribution of Market Capitalization (%)**

Market Capitalization Range	Lyrical (%)	Russell 1000 (%)
>100 Bil	3.9	45.4
75 Bil - 100 Bil	6.8	6.6
25 Bil - 75 Bil	15.7	27.5
15 Bil - 25 Bil	19.4	8.3
2 Bil - 15 Bil	53.0	12.2
0 - 2 Bil	0.3	0.0
Cash	0.9	0.0

█ Lyrical    █ Russell 1000 Value Index

**Sector Weights (%)**

Sector	Lyrical (%)	Russell 1000 (%)
Communication Services	2.3	7.3
Consumer Discretionary	15.1	15.7
Consumer Staples	0.0	7.4
Energy	2.0	5.1
Financials	15.9	15.9
Health Care	9.7	18.0
Industrials	16.6	11.5
Information Technology	10.2	28.9
Materials	6.3	3.8
Real Estate	2.3	5.1
Utilities	5.1	0.9
Cash	0.9	0.0

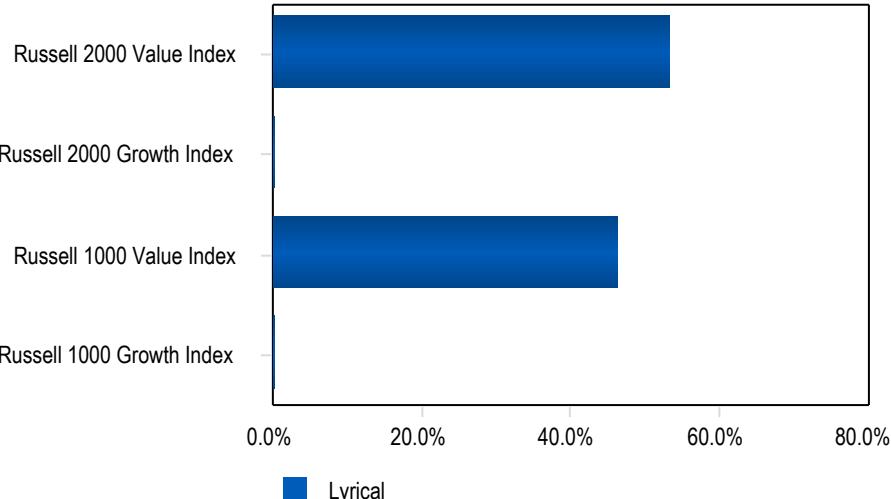
█ Lyrical    █ Russell 1000 Value Index

# Bristol County Retirement System

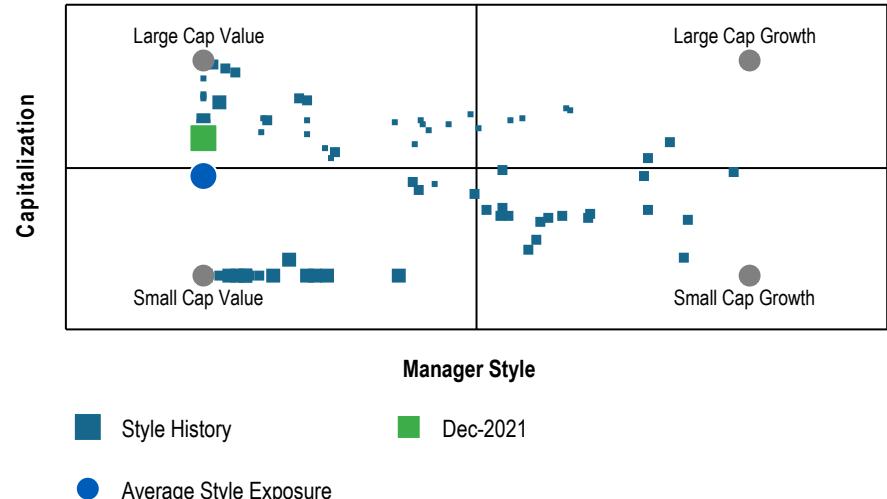
Lyrical

Ending December 31, 2021

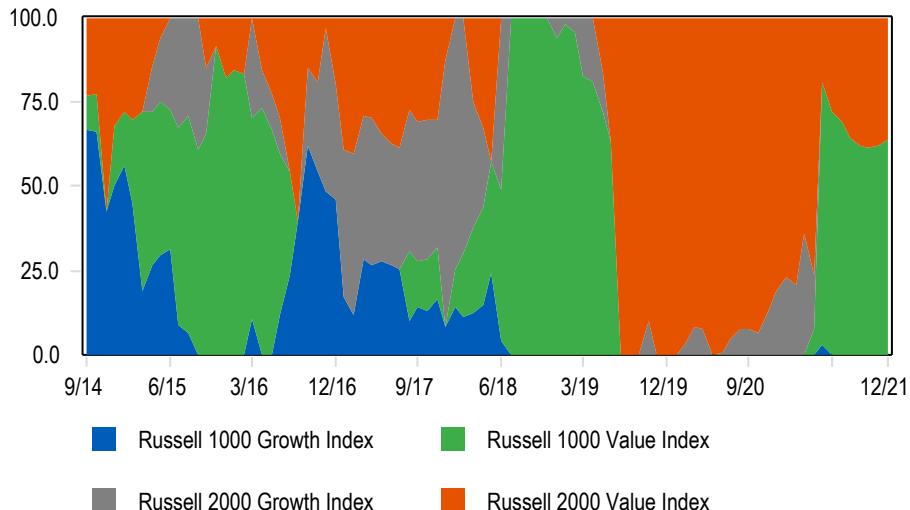
### Investment Style Exposure



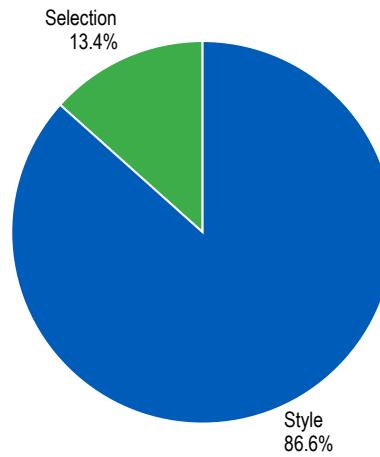
### Style Map(12 Months)



### Style History(12 Months)



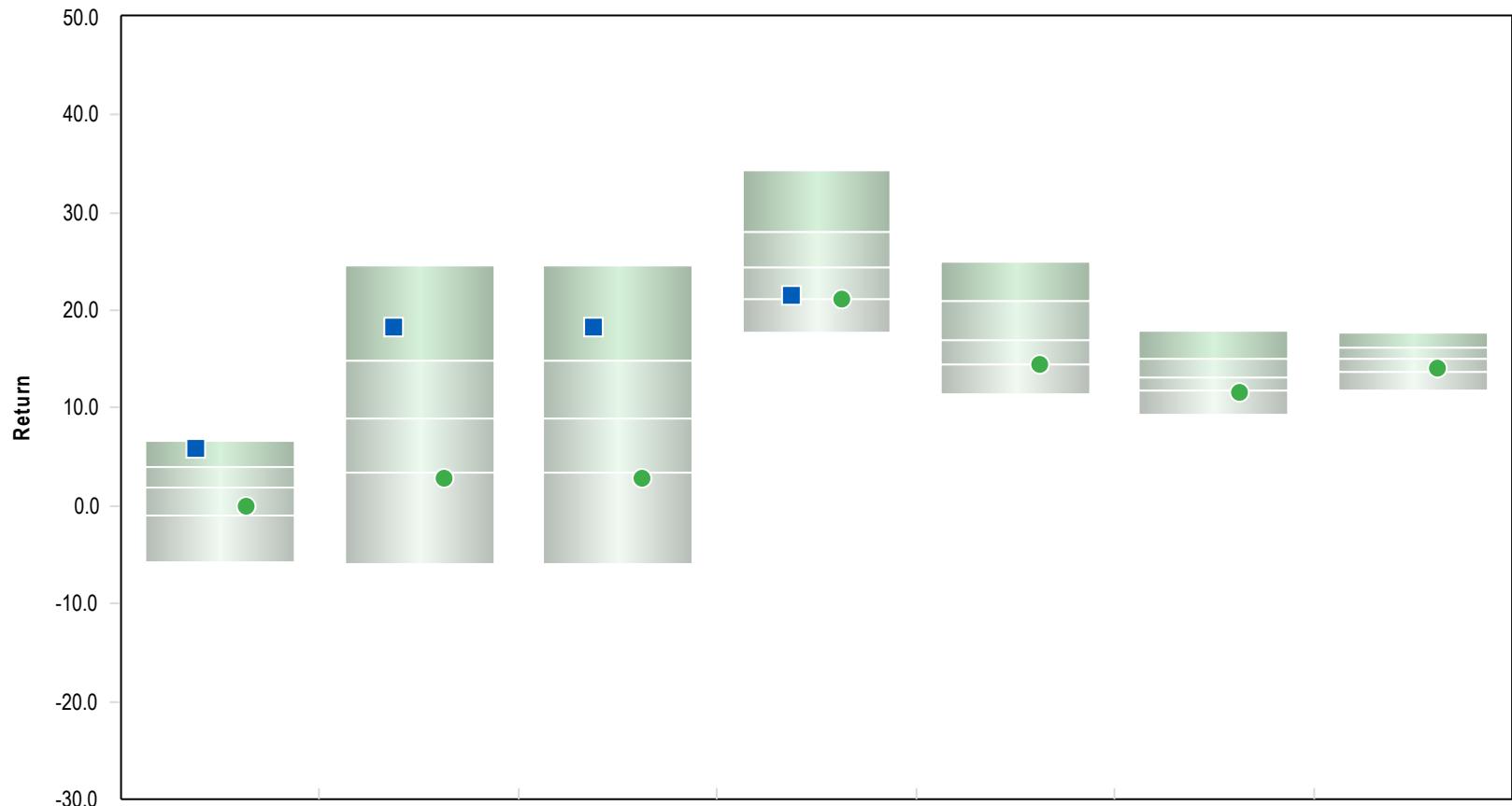
### Return Variance



# Bristol County Retirement System

## IM U.S. Small Cap Growth Equity (MF)

As of December 31, 2021



■ Frontier Capital Appreciation

● Russell 2000 Growth Index

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
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Frontier Capital Appreciation	5.8 (10)	18.2 (15)	18.2 (15)	21.6 (74)	14.5 (75)	11.7 (77)	14.1 (69)
Russell 2000 Growth Index	0.0 (68)	2.8 (79)	2.8 (79)	21.2 (77)	-	-	-

5th Percentile	6.6	24.7	24.7	34.3	24.9	17.8	17.8
1st Quartile	3.9	14.8	14.8	28.1	21.0	15.1	16.3
Median	1.8	8.9	8.9	24.4	16.9	13.2	15.0
3rd Quartile	-0.9	3.5	3.5	21.3	14.5	11.7	13.7
95th Percentile	-5.7	-6.0	-6.0	17.8	11.5	9.4	11.8

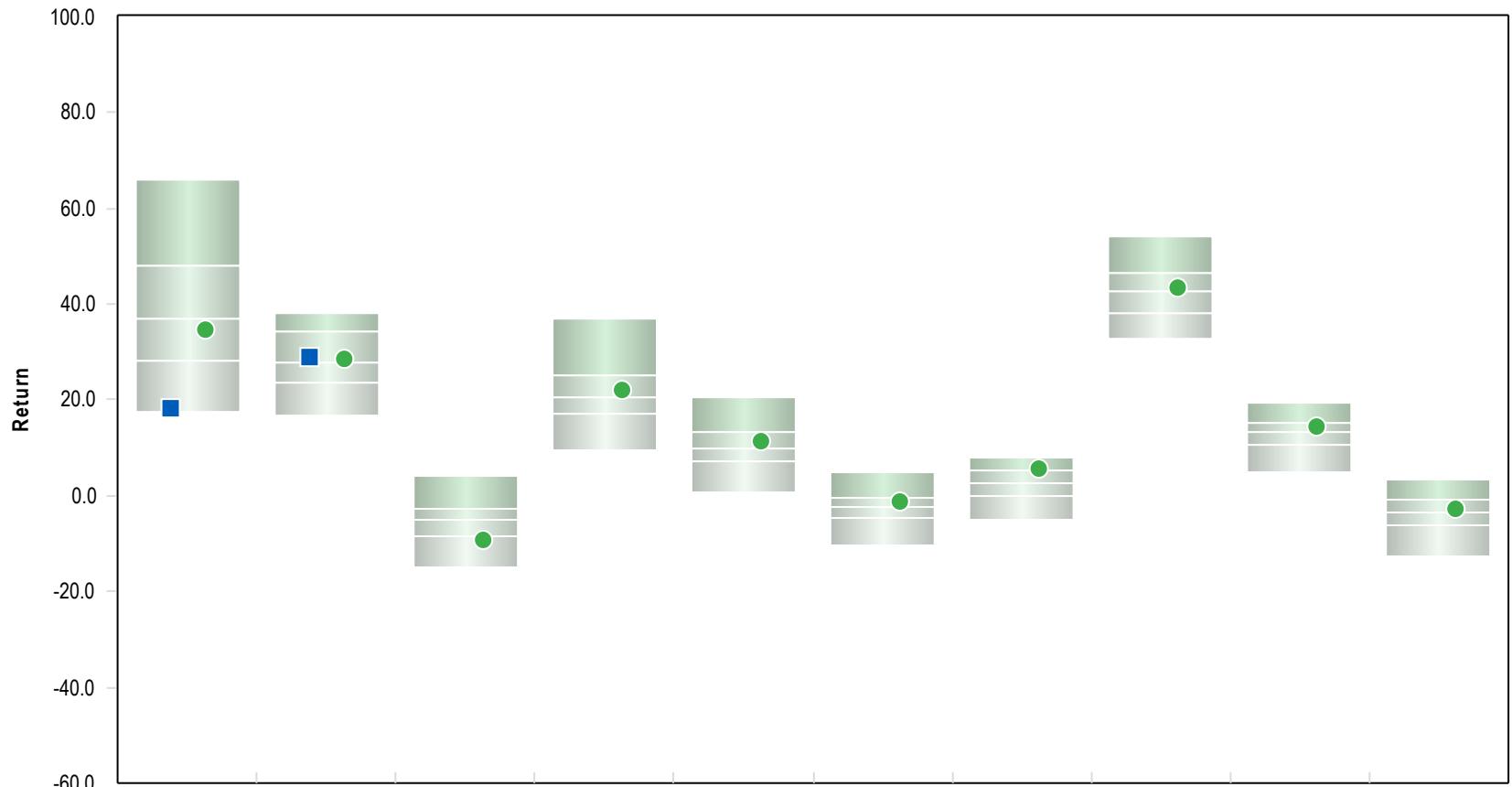
Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM U.S. Small Cap Growth Equity (MF)

As of December 31, 2021

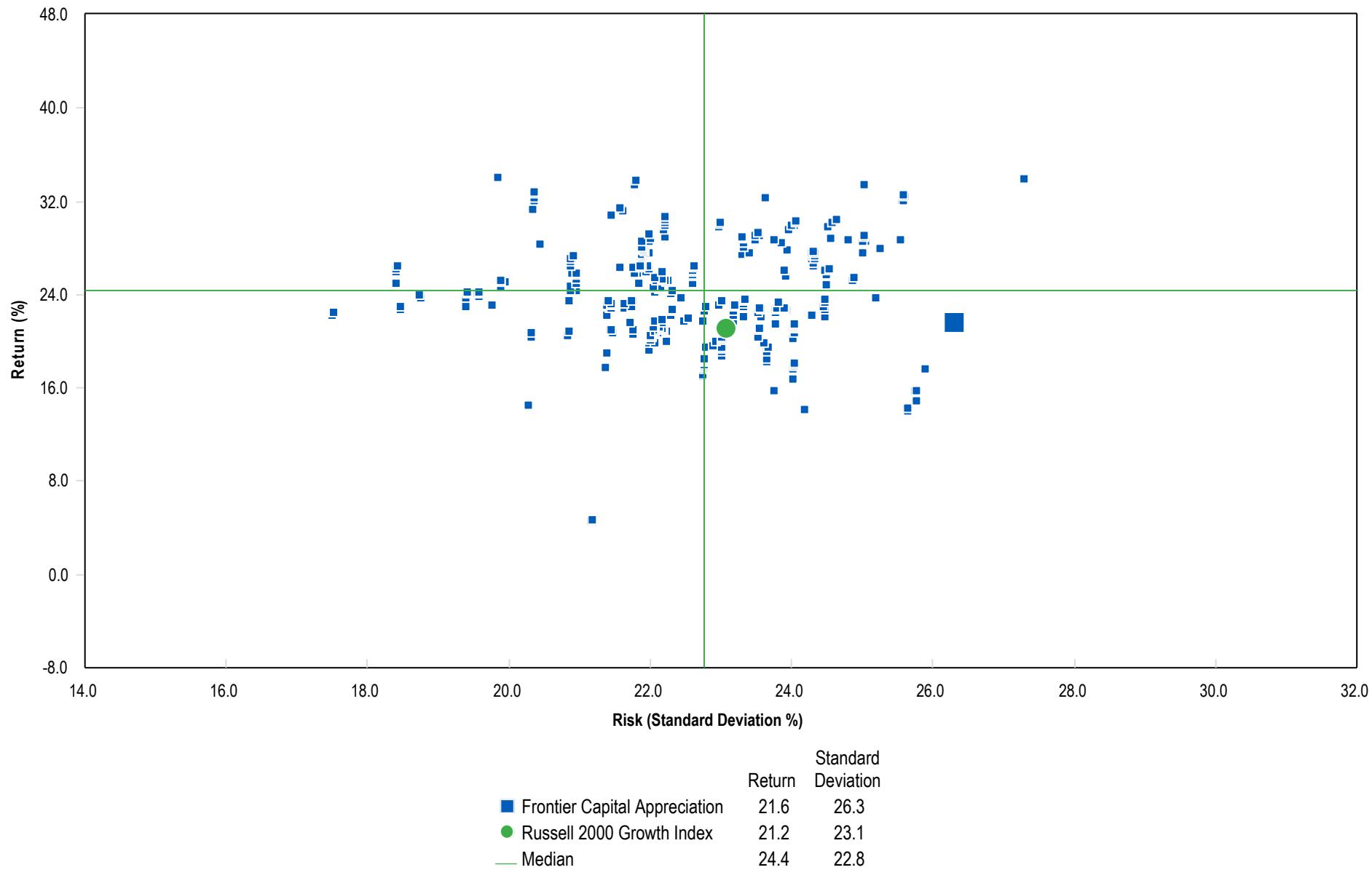


	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Frontier Capital Appreciation	18.1 (94)	28.9 (45)								
Russell 2000 Growth Index	34.6 (59)	28.5 (47)	-9.3 (79)	22.2 (41)	11.3 (41)	-1.4 (37)	5.6 (21)	43.3 (47)	14.6 (35)	-2.9 (43)
5th Percentile	66.2	38.0	4.2	37.2	20.5	5.0	7.9	54.1	19.3	3.5
1st Quartile	48.0	34.4	-2.5	25.1	13.2	-0.3	5.2	46.5	15.3	-0.8
Median	37.1	27.7	-5.1	20.7	9.9	-2.3	2.8	42.9	13.4	-3.6
3rd Quartile	28.1	23.6	-8.6	17.3	7.3	-4.6	0.1	38.0	10.6	-6.0
95th Percentile	17.6	16.7	-15.0	9.4	0.6	-10.2	-5.1	32.6	4.8	-12.5

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

3 Years Ending December 31, 2021  
IM U.S. Small Cap Growth Equity (MF)



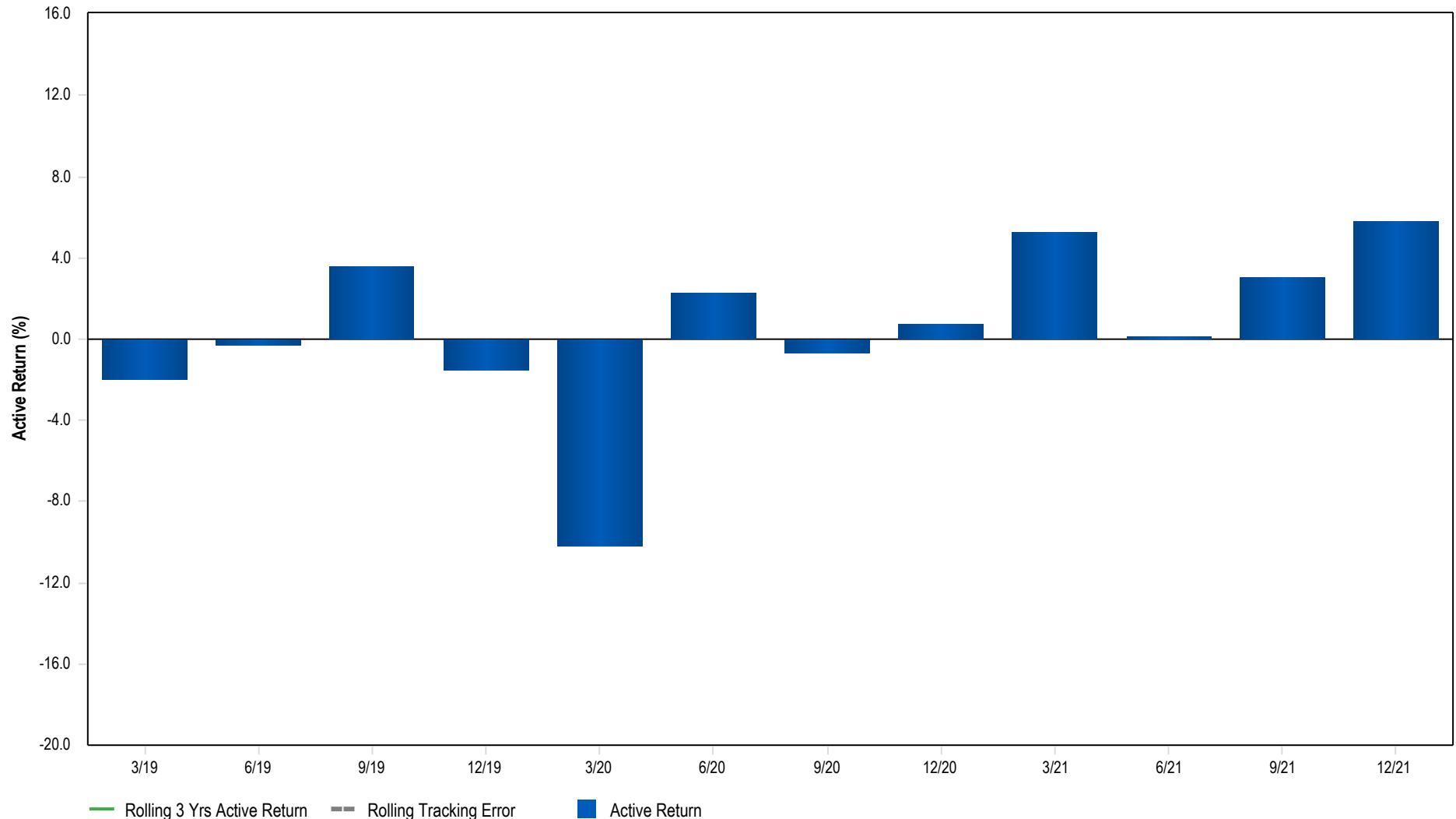
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Frontier Capital Appreciation	5.8	18.2	18.2	21.6				18.1	28.9		
Russell 2000 Growth Index	0.0	2.8	2.8	21.2	14.5	11.7	14.1	34.6	28.5	-9.3	22.2
Difference	5.8	15.4	15.4	0.4				-16.5	0.4		



Bristol County Retirement System  
Frontier Capital Appreciation

1 Quarter Ending December 31, 2021

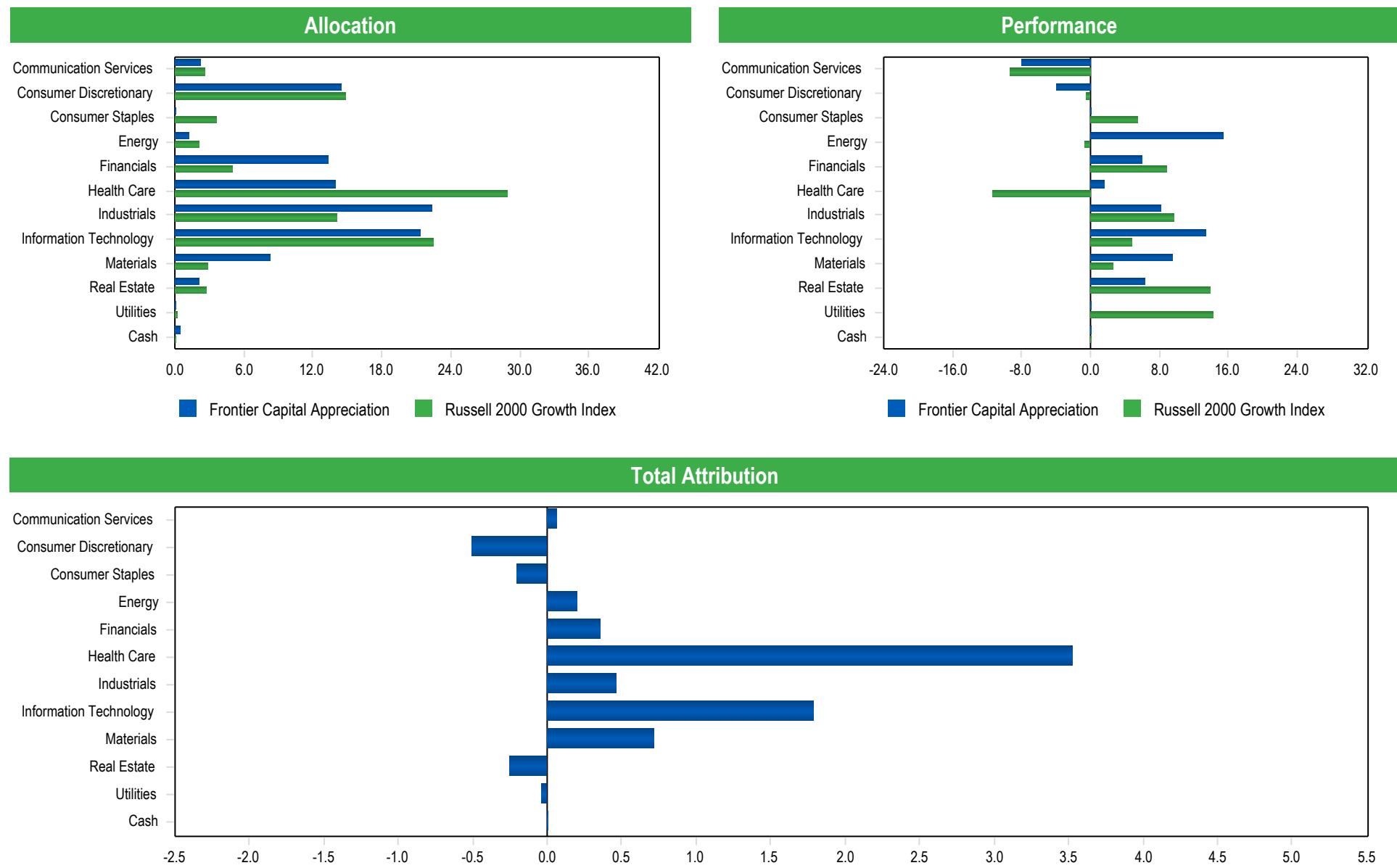
Buy-and-Hold Portfolio	6.1
Portfolio Trading	-0.3
Actual Return	5.8
Benchmark Return	0.0
Actual Active Return	5.8
Stock Selection	5.2
Sector Selection	3.0
Interaction	-2.1
Total Selection	6.1
Portfolio Trading	-0.3
Benchmark Trading	0.0
Active Trading Impact	-0.3
Buy & Hold Active Return	5.8

	Allocation — 10/01/2021		Performance — 1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	
Communication Services	2.3	2.7	-8.0	-9.5	0.0	0.0	0.0	0.1
Consumer Discretionary	14.4	14.8	-4.0	-0.5	-0.5	0.0	0.0	-0.5
Consumer Staples	0.0	3.6	0.0	5.6	0.0	-0.2	0.0	-0.2
Energy	1.2	2.1	15.5	-0.7	0.3	0.0	-0.1	0.2
Financials	13.4	5.1	6.0	8.9	-0.1	0.7	-0.2	0.4
Health Care	14.0	28.9	1.6	-11.4	3.8	1.7	-2.0	3.5
Industrials	22.3	14.1	8.3	9.8	-0.2	0.8	-0.1	0.5
Information Technology	21.4	22.5	13.4	4.8	1.9	-0.1	-0.1	1.8
Materials	8.3	2.9	9.6	2.7	0.2	0.1	0.4	0.7
Real Estate	2.1	2.8	6.5	13.9	-0.2	-0.1	0.1	-0.3
Utilities	0.0	0.3	0.0	14.2	0.0	0.0	0.0	0.0
Cash	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	6.1	0.0	5.2	3.0	-2.1	6.1

# Bristol County Retirement System

## Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2021



Bristol County Retirement System  
Buy and Hold Style Attribution

1 Quarter Ending December 31, 2021

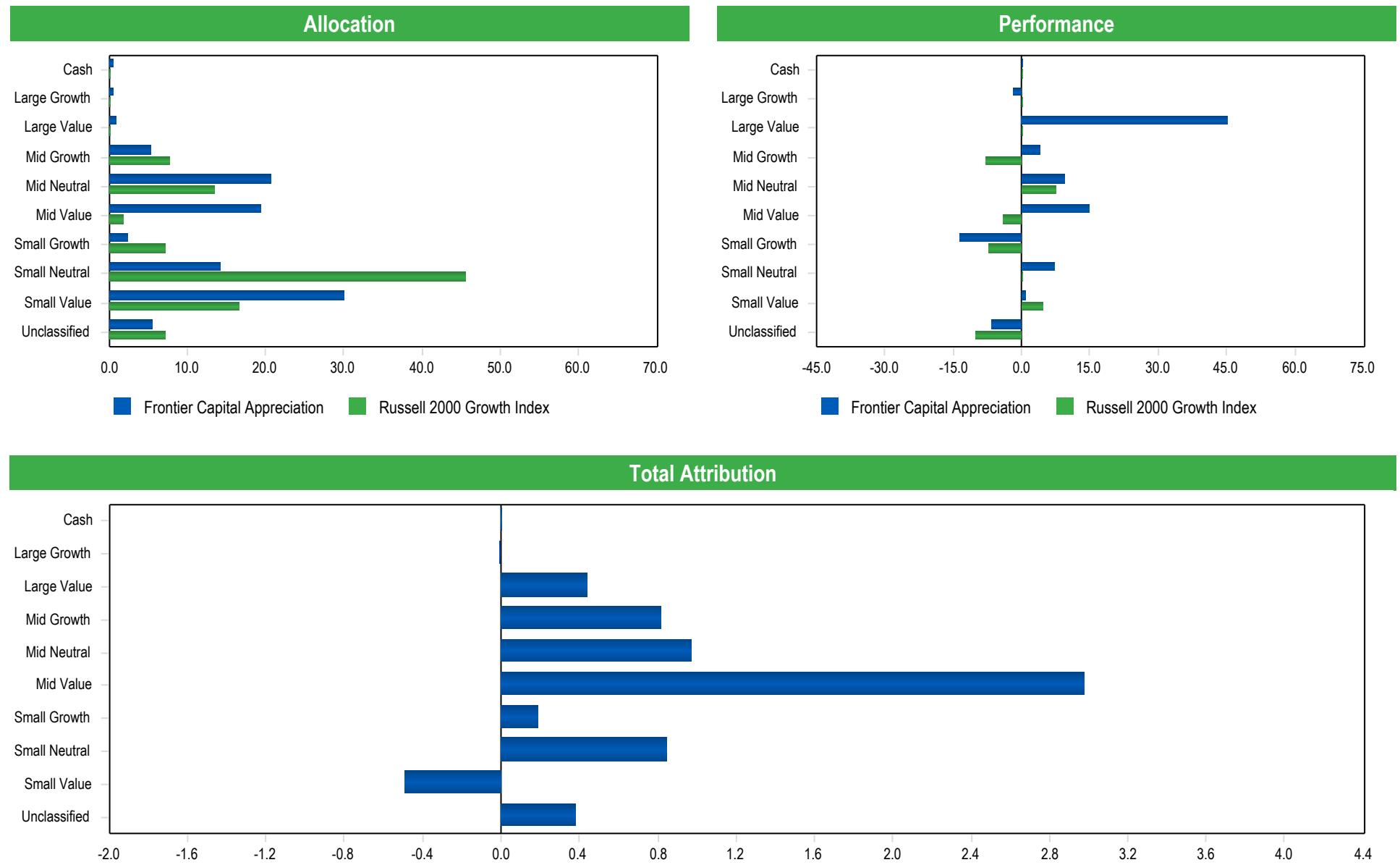
Buy-and-Hold Portfolio	6.1
Portfolio Trading	-0.3
Actual Return	5.8
Benchmark Return	0.0
Actual Active Return	5.8
Stock Selection	3.9
Style Selection	1.4
Interaction	0.8
Total Selection	6.1
Portfolio Trading	-0.3
Benchmark Trading	0.0
Active Trading Impact	-0.3
Buy & Hold Active Return	5.8

	Allocation-10/01/2021		Performance-1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	
Cash	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Large Growth	0.6	0.0	-1.8	0.0	0.0	0.0	0.0	0.0
Large Value	1.0	0.0	45.2	0.0	0.0	0.4	0.0	0.4
Mid Growth	5.3	7.8	4.0	-7.8	0.9	0.2	-0.3	0.8
Mid Neutral	20.7	13.5	9.6	7.5	0.3	0.5	0.2	1.0
Mid Value	19.4	1.9	14.9	-4.2	0.4	-0.7	3.3	3.0
Small Growth	2.5	7.2	-13.6	-7.4	-0.4	0.3	0.3	0.2
Small Neutral	14.3	45.6	7.1	0.4	3.1	-0.1	-2.1	0.8
Small Value	30.2	16.7	0.9	4.6	-0.6	0.6	-0.5	-0.5
Unclassified	5.5	7.3	-6.5	-10.2	0.3	0.2	-0.1	0.4
Total	100.0	100.0	6.1	0.0	3.9	1.4	0.8	6.1

# Bristol County Retirement System

## Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2021

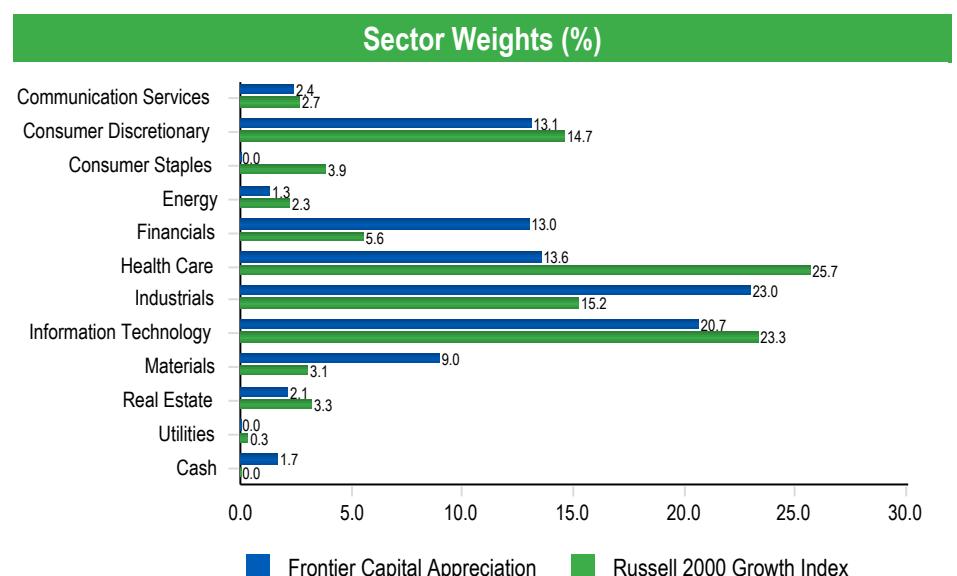
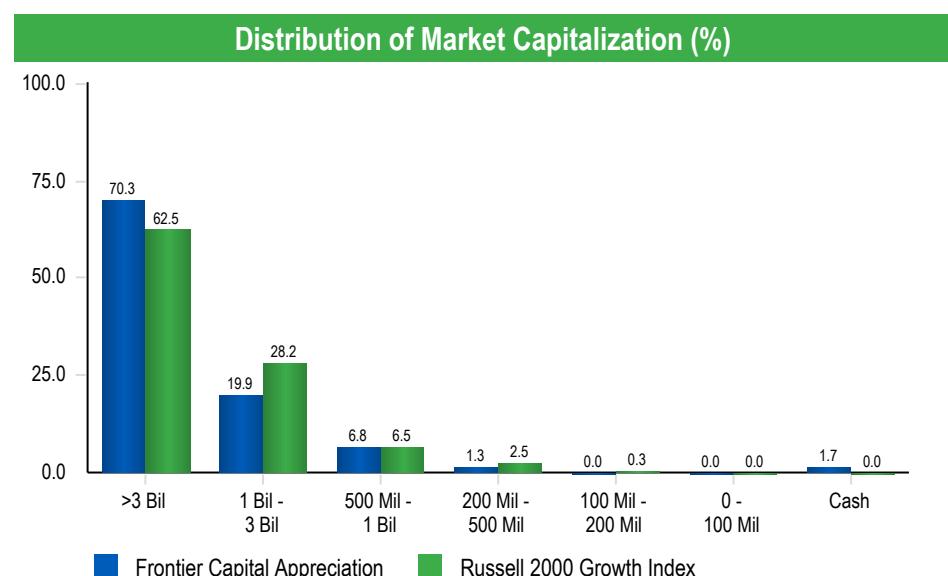


Bristol County Retirement System  
Frontier Capital Appreciation

As of December 31, 2021

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Builders FirstSource Inc	3.0	0.0	3.0	65.7
MACOM Technology Solutions Holdings Inc	2.2	0.3	1.9	20.7
KBR Inc	1.8	0.4	1.4	21.2
Wolfspeed Inc	1.8	0.0	1.8	38.5
Dana Inc	1.7	0.1	1.6	3.0
Caesars Entertainment Inc	1.6	0.0	1.6	-16.7
LPL Financial Holdings Inc	1.5	0.0	1.5	2.3
Insulet Corp	1.5	0.0	1.5	-6.4
Cooper Cos Inc (The)	1.4	0.0	1.4	1.4
Controladora Vuela Compania de Aviacion SA de CV	1.4	0.0	1.4	-17.6
% of Portfolio	17.9	0.8	17.1	

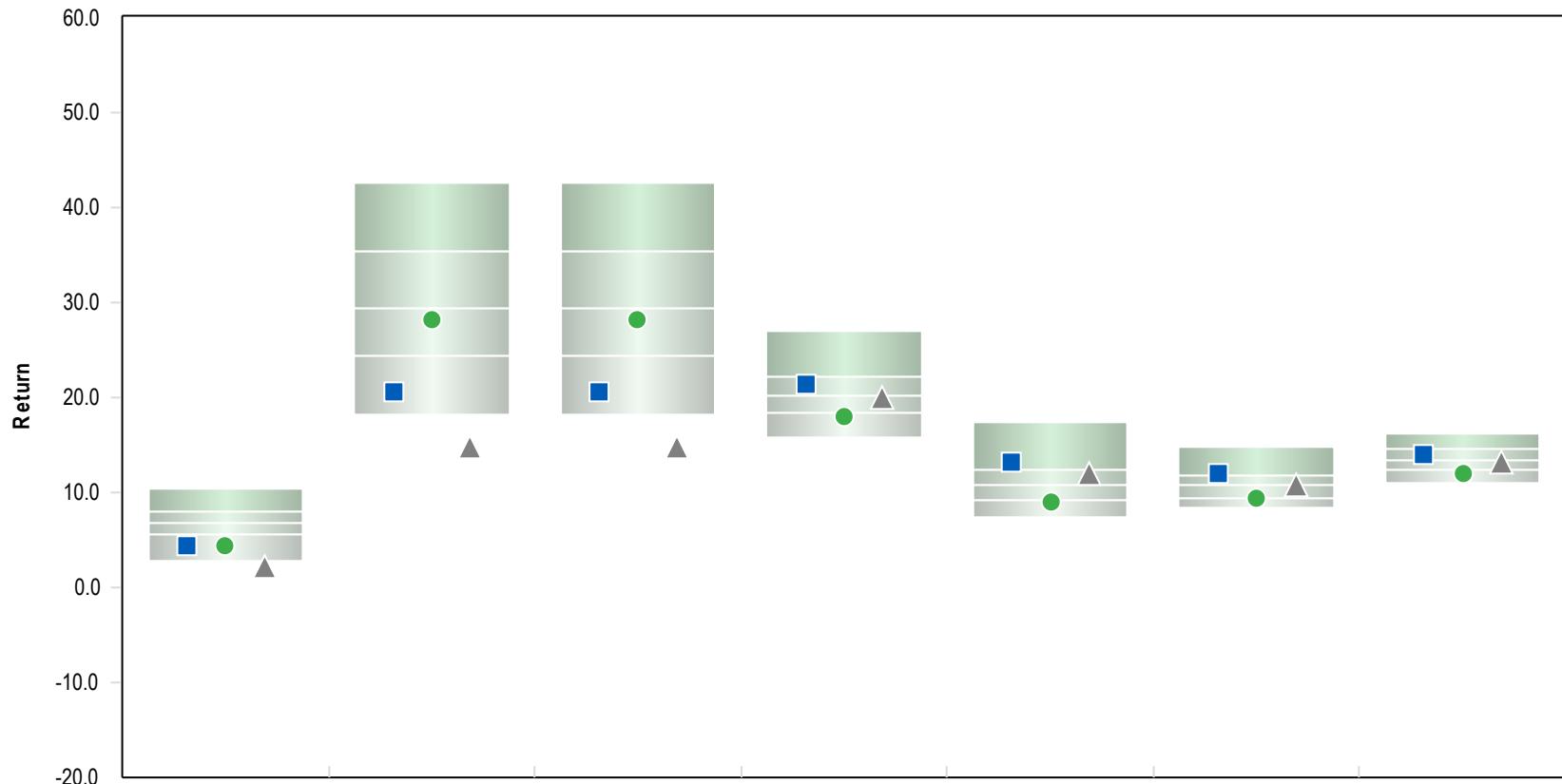
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	7,859,317,321	3,964,526,582
Median Mkt. Cap (\$)	4,511,867,780	1,225,120,470
Price/Earnings ratio	19.1	24.1
Price/Book ratio	2.9	4.8
5 Yr. EPS Growth Rate (%)	20.2	22.1
Current Yield (%)	0.5	0.4
Beta (3 Years, Monthly)	1.1	1.0
Number of Stocks	142	1,246



# Bristol County Retirement System

## IM U.S. Small Cap Value Equity (SA+CF)

As of December 31, 2021



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Earnest Partners	4.3 (88)	20.6 (90)	20.6 (90)	21.4 (32)	13.2 (18)	12.0 (22)	14.1 (35)
Russell 2000 Value Index	4.4 (88)	28.3 (54)	28.3 (54)	18.0 (80)	9.1 (77)	9.5 (75)	12.0 (83)
Russell 2000 Index	2.1 (97)	14.8 (99)	14.8 (99)	20.0 (53)	12.0 (31)	10.8 (50)	13.2 (56)

5th Percentile	10.4	42.7	42.7	27.0	17.3	14.7	16.2
1st Quartile	8.1	35.4	35.4	22.1	12.4	11.7	14.6
Median	6.9	29.4	29.4	20.1	10.9	10.7	13.4
3rd Quartile	5.6	24.5	24.5	18.4	9.1	9.4	12.4
95th Percentile	2.9	18.2	18.2	15.7	7.5	8.4	11.0

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM U.S. Small Cap Value Equity (SA+CF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Earnest Partners	17.8 (11)	25.8 (41)	-13.4 (41)	20.0 (8)	24.4 (62)	-4.5 (53)	8.9 (15)	34.9 (74)	14.9 (74)	2.8 (12)
Russell 2000 Value Index	4.6 (53)	22.4 (74)	-12.9 (37)	7.8 (75)	31.7 (17)	-7.5 (77)	4.2 (65)	34.5 (75)	18.1 (47)	-5.5 (69)
Russell 2000 Index	20.0 (8)	25.5 (45)	-11.0 (25)	14.6 (26)	21.3 (78)	-4.4 (52)	4.9 (58)	38.8 (47)	16.3 (60)	-4.2 (60)
5th Percentile	22.2	33.7	-5.6	21.6	36.7	2.2	11.3	49.6	28.6	6.0
1st Quartile	11.7	27.3	-11.4	14.8	30.5	-1.6	7.7	42.3	21.2	0.7
Median	5.3	24.9	-14.2	11.6	26.8	-4.3	5.7	38.1	17.6	-3.1
3rd Quartile	0.9	22.0	-16.9	7.8	21.6	-7.2	2.2	34.5	14.7	-6.4
95th Percentile	-4.6	16.3	-20.4	3.4	16.8	-14.4	-6.2	27.4	10.0	-13.0

Parentheses contain percentile rankings.

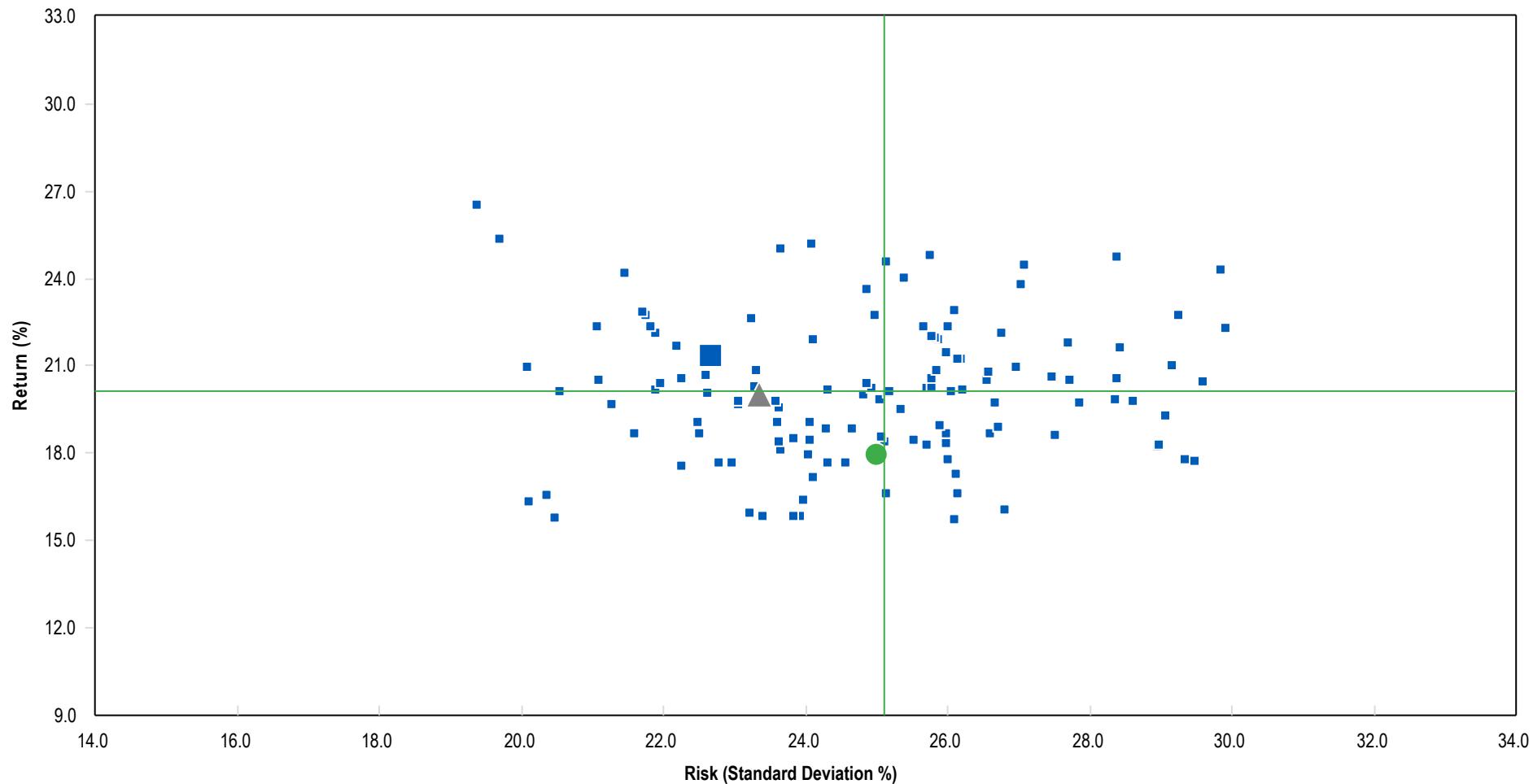
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Peer Group Scattergram

IM U.S. Small Cap Value Equity (SA+CF)

3 Years Ending December 31, 2021



	Standard Return	Standard Deviation
Earnest Partners	21.4	22.7
Russell 2000 Value Index	18.0	25.0
Russell 2000 Index	20.0	23.4
Median	20.1	25.1

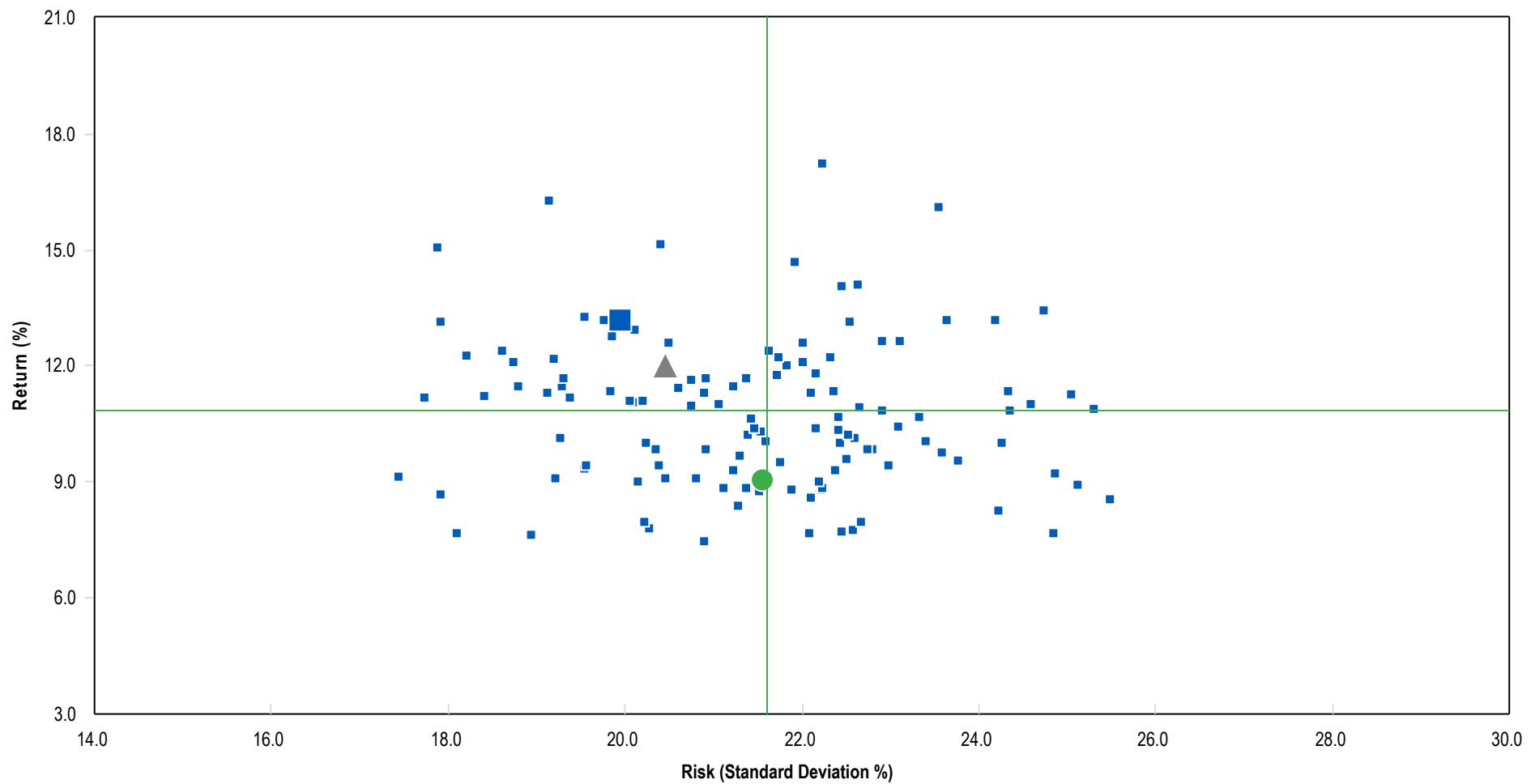
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Peer Group Scattergram

IM U.S. Small Cap Value Equity (SA+CF)

5 Years Ending December 31, 2021



	Return	Risk
Earnest Partners	13.2	19.9
Russell 2000 Value Index	9.1	21.6
Russell 2000 Index	12.0	20.5
Median	10.9	21.6

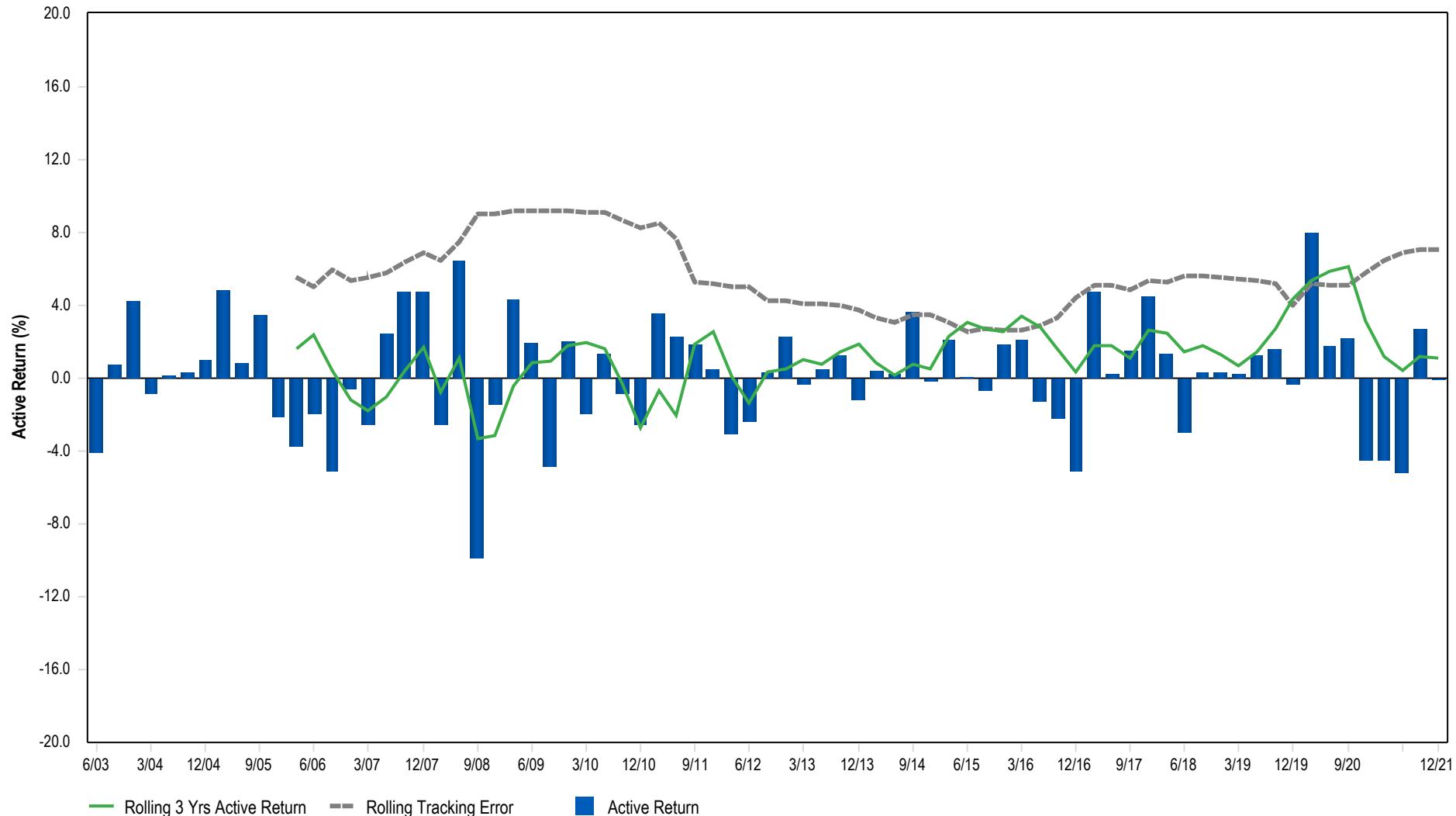
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Earnest Partners	4.3	20.6	20.6	21.4	13.2	12.0	14.1	17.8	25.8	-13.4	20.0
Russell 2000 Value Index	4.4	28.3	28.3	18.0	9.1	9.5	12.0	4.6	22.4	-12.9	7.8
Difference	-0.1	-7.7	-7.7	3.4	4.1	2.5	2.1	13.2	3.4	-0.5	12.2



Bristol County Retirement System  
Earnest Partners

1 Quarter Ending December 31, 2021

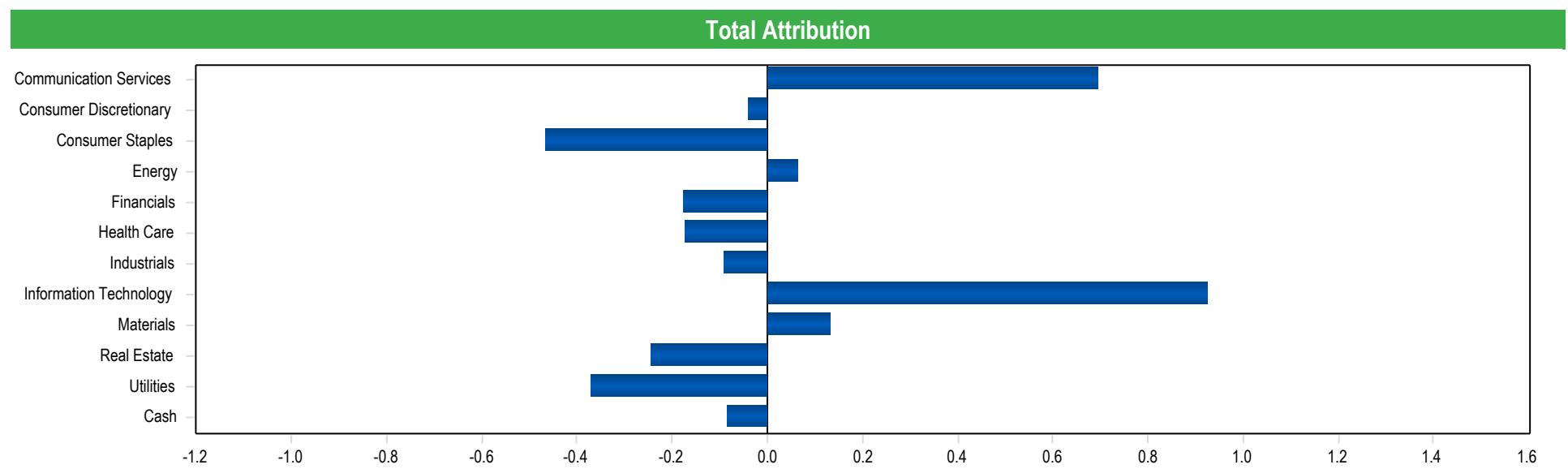
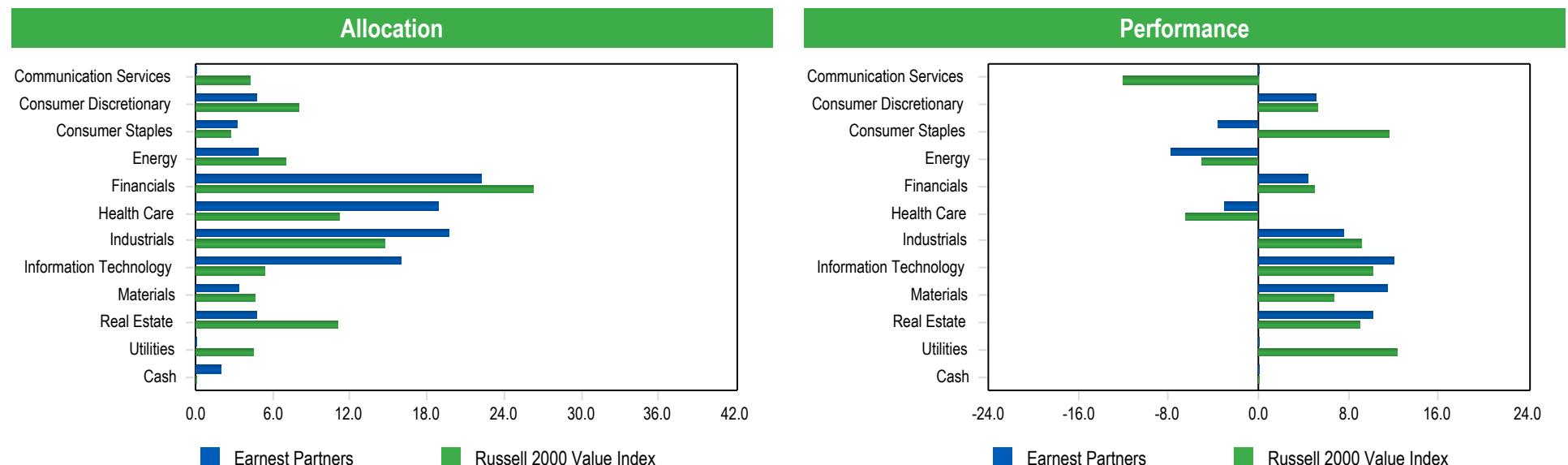
Buy-and-Hold Portfolio	4.5
Portfolio Trading	-0.1
Actual Return	4.3
Benchmark Return	4.4
Actual Active Return	0.0
Stock Selection	-0.2
Sector Selection	0.1
Interaction	0.3
Total Selection	0.2
Portfolio Trading	-0.1
Benchmark Trading	0.1
Active Trading Impact	-0.2
Buy & Hold Active Return	0.0

	Allocation — 10/01/2021		Performance — 1 Quarter Ending December 31, 2021		Attribution			Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction	
Communication Services	0.0	4.3	0.0	-12.1	0.0	0.7	0.0	0.7
Consumer Discretionary	4.8	8.0	5.2	5.3	0.0	0.0	0.0	0.0
Consumer Staples	3.3	2.8	-3.6	11.7	-0.4	0.0	-0.1	-0.5
Energy	5.0	7.1	-7.7	-5.0	-0.2	0.2	0.1	0.1
Financials	22.3	26.2	4.4	5.1	-0.2	0.0	0.0	-0.2
Health Care	18.8	11.2	-3.1	-6.5	0.4	-0.8	0.3	-0.2
Industrials	19.7	14.8	7.5	9.3	-0.3	0.2	-0.1	-0.1
Information Technology	15.9	5.4	12.1	10.2	0.1	0.6	0.2	0.9
Materials	3.4	4.6	11.4	6.7	0.2	0.0	-0.1	0.1
Real Estate	4.8	11.1	10.2	9.1	0.1	-0.3	-0.1	-0.2
Utilities	0.0	4.6	0.0	12.4	0.0	-0.4	0.0	-0.4
Cash	2.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1
Total	100.0	100.0	4.5	4.3	-0.2	0.1	0.3	0.2

# Bristol County Retirement System

## Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2021



Bristol County Retirement System  
Buy and Hold Style Attribution

1 Quarter Ending December 31, 2021

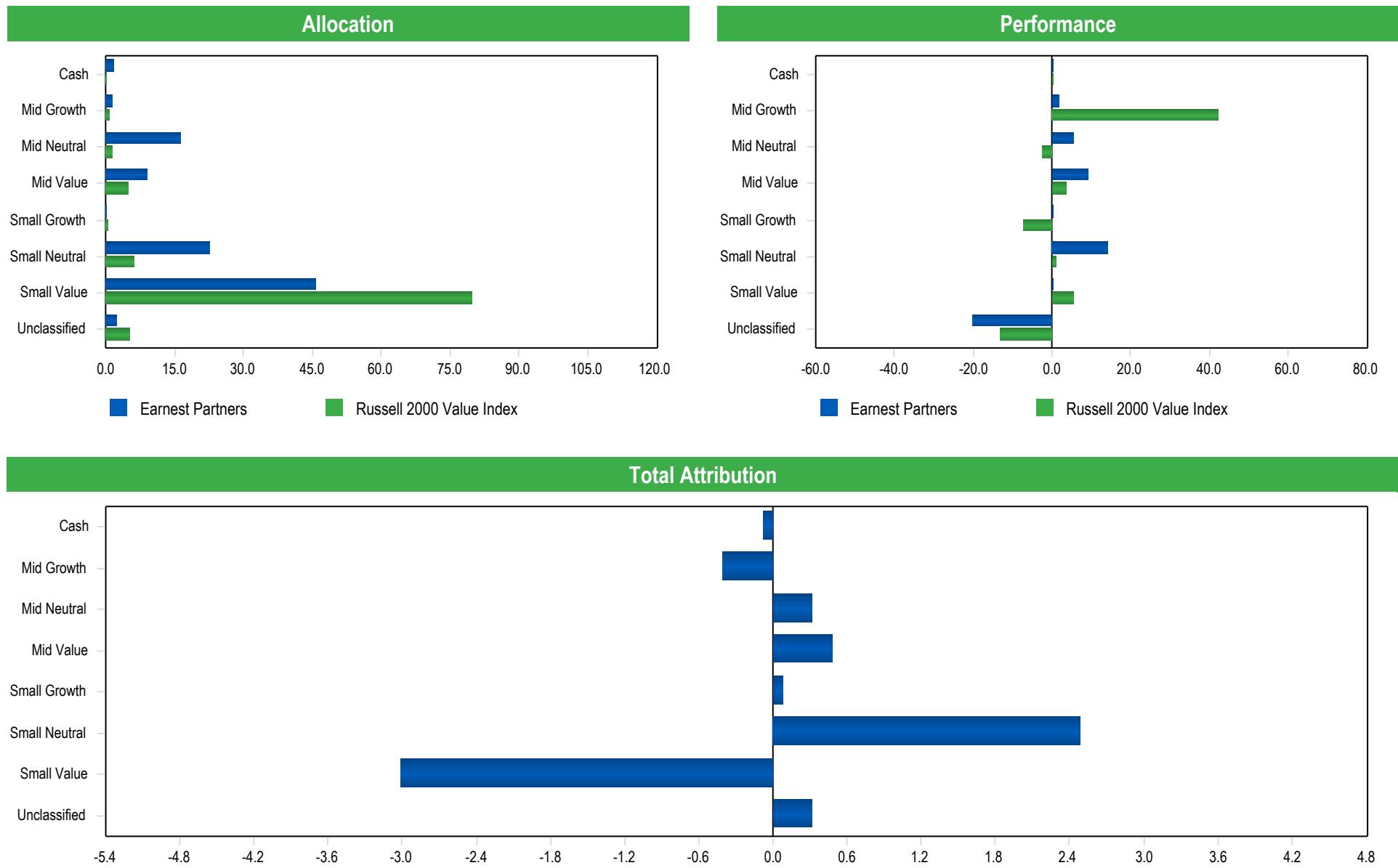
Buy-and-Hold Portfolio	4.5
Portfolio Trading	-0.1
Actual Return	4.3
Benchmark Return	4.4
Actual Active Return	0.0
Stock Selection	-4.1
Style Selection	-1.3
Interaction	5.5
Total Selection	0.2
Portfolio Trading	-0.1
Benchmark Trading	0.1
Active Trading Impact	-0.2
Buy & Hold Active Return	0.0

	Performance-1 Quarter Ending December 31, 2021				Attribution			
	Allocation-10/01/2021		31, 2021		Stock	Style	Interaction	
	Portfolio	Benchmark	Portfolio	Benchmark				
Cash	2.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1
Mid Growth	1.4	1.0	1.9	42.3	-0.4	0.2	-0.2	-0.4
Mid Neutral	16.4	1.7	5.5	-2.7	0.1	-1.0	1.2	0.3
Mid Value	9.0	5.2	9.3	3.8	0.3	0.0	0.2	0.5
Small Growth	0.0	0.7	0.0	-7.5	0.0	0.1	0.0	0.1
Small Neutral	22.8	6.2	14.3	1.2	0.8	-0.5	2.2	2.5
Small Value	45.8	79.8	-0.2	5.5	-4.5	-0.4	1.9	-3.0
Unclassified	2.6	5.4	-20.1	-13.3	-0.4	0.5	0.2	0.3
Total	100.0	100.0	4.5	4.3	-4.1	-1.3	5.5	0.2

# Bristol County Retirement System

## Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2021



Bristol County Retirement System  
Earnest Partners

As of December 31, 2021

Top Ten Equity Holdings				Portfolio Characteristics			
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)			
Casella Waste Systems Inc	4.6	0.0	4.6	12.5	Wtd. Avg. Mkt. Cap (\$)	5,895,974,915	3,013,808,147
Franklin Electric Co Inc	4.1	0.0	4.1	18.7	Median Mkt. Cap (\$)	3,371,066,330	1,065,967,000
GATX Corp.	3.8	0.2	3.6	16.9	Price/Earnings ratio	19.5	13.5
Catalent Inc	3.3	0.0	3.3	-3.8	Price/Book ratio	2.5	1.8
Houlihan Lokey Inc	3.2	0.0	3.2	12.9	5 Yr. EPS Growth Rate (%)	16.9	16.0
Darling Ingredients Inc	3.0	0.0	3.0	-3.6	Current Yield (%)	1.3	1.7
FormFactor Inc	3.0	0.0	3.0	22.5	Beta (5 Years, Monthly)	0.9	1.0
CMC Materials Inc	2.9	0.0	2.9	56.5	Number of Stocks	53	1,451
Molina Healthcare Inc.	2.6	0.0	2.6	17.2			
CONMED Corp	2.5	0.0	2.5	8.5			
% of Portfolio	33.0	0.2	32.8				

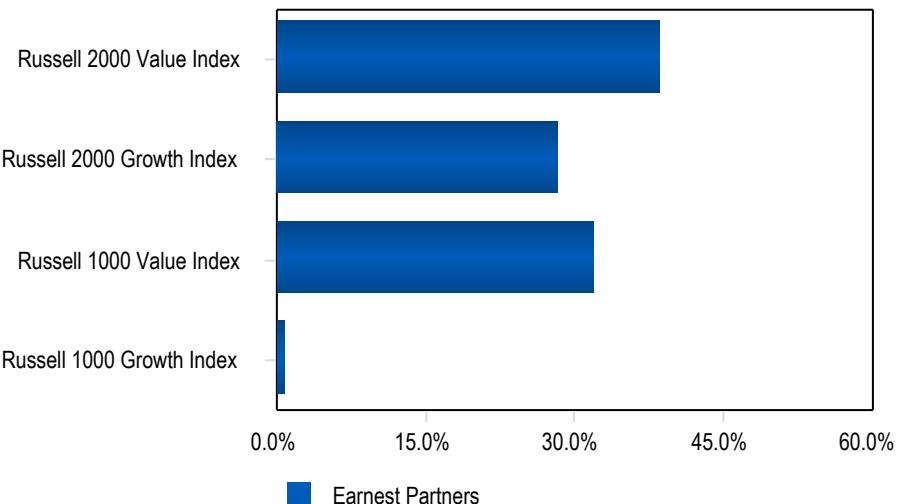
  

Distribution of Market Capitalization (%)		Sector Weights (%)	
>3 Bil	70.7	Communication Services	0.0
1 Bil - 3 Bil	20.7	Consumer Discretionary	4.9
500 Mil - 1 Bil	6.2	Consumer Staples	3.0
200 Mil - 500 Mil	1.2	Energy	4.5
100 Mil - 200 Mil	0.0	Financials	22.7
0 - 100 Mil	0.3	Health Care	16.6
Cash	1.2	Industrials	19.6
	0.0	Information Technology	18.8
		Materials	3.6
		Real Estate	11.6
		Utilities	5.0
		Cash	1.2

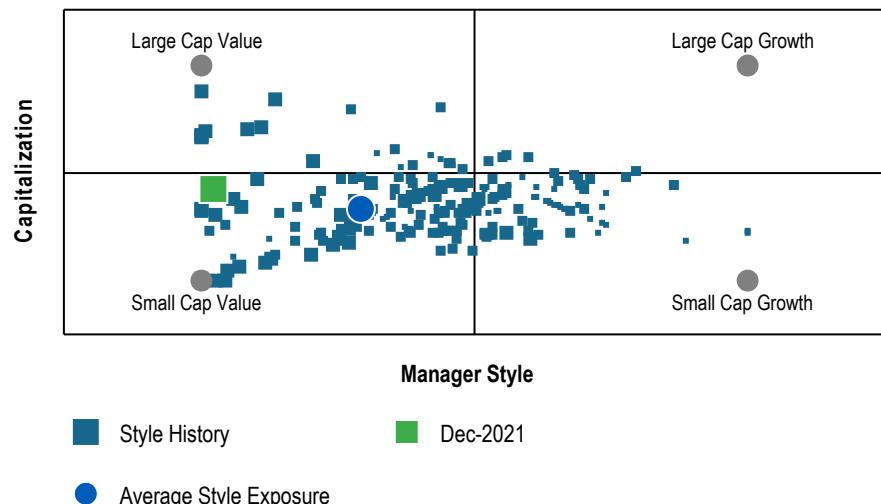
  

Earnest Partners      Russell 2000 Value Index

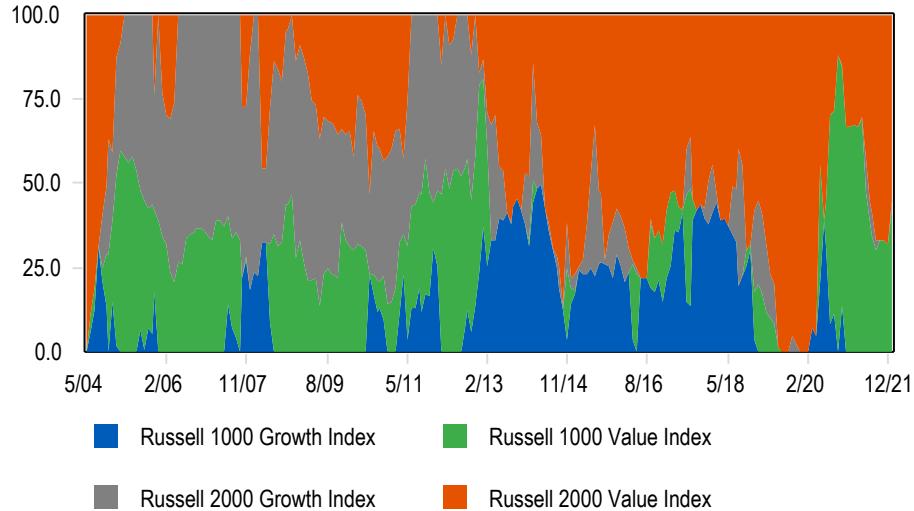
### Investment Style Exposure



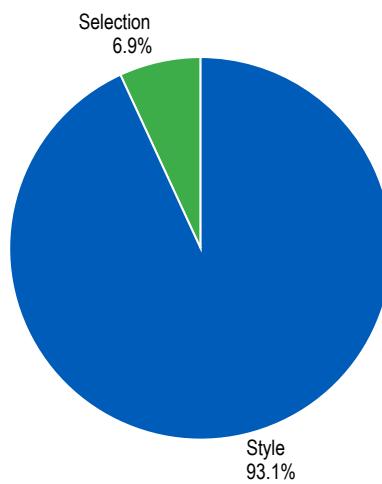
### Style Map(12 Months)



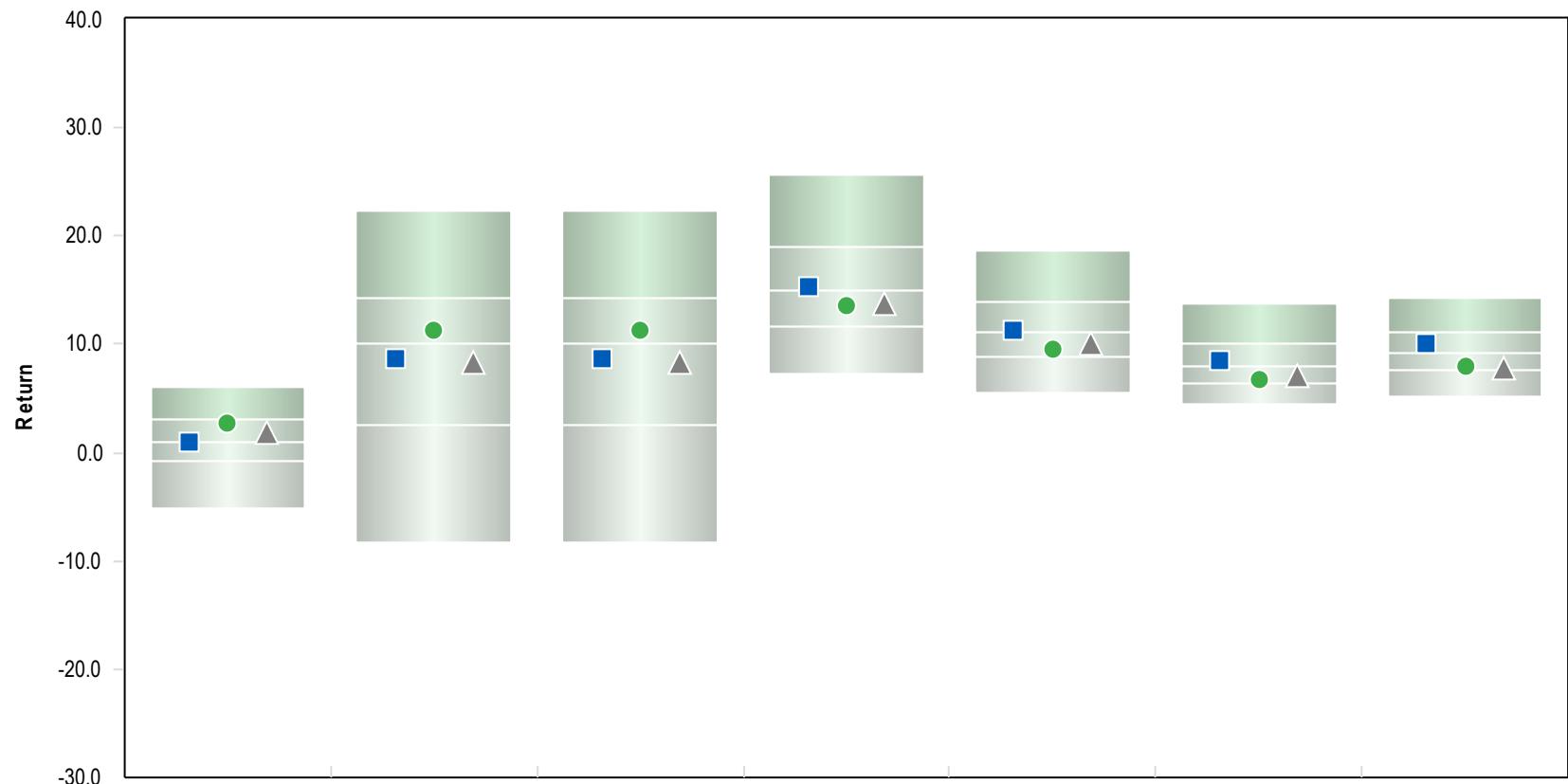
### Style History(12 Months)



### Return Variance



## **International Equity**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total International Equity	0.9 (52)	8.7 (56)	8.7 (56)	15.3 (48)	11.3 (47)	8.5 (44)	10.0 (38)
● MSCI EAFE (net)	2.7 (29)	11.3 (44)	11.3 (44)	13.5 (61)	9.5 (70)	6.8 (72)	8.0 (68)
▲ MSCI AC World ex USA	1.9 (40)	8.3 (57)	8.3 (57)	13.7 (60)	10.1 (61)	7.1 (66)	7.8 (71)

5th Percentile	6.1	22.3	22.3	25.6	18.6	13.7	14.3
1st Quartile	3.0	14.3	14.3	18.9	13.9	10.1	11.1
Median	1.0	10.0	10.0	14.9	11.1	8.0	9.2
3rd Quartile	-0.8	2.6	2.6	11.6	8.9	6.4	7.5
95th Percentile	-5.2	-8.4	-8.4	7.2	5.6	4.4	5.2

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

Bristol County Retirement System  
IM International Equity (SA+CF)

As of December 31, 2021



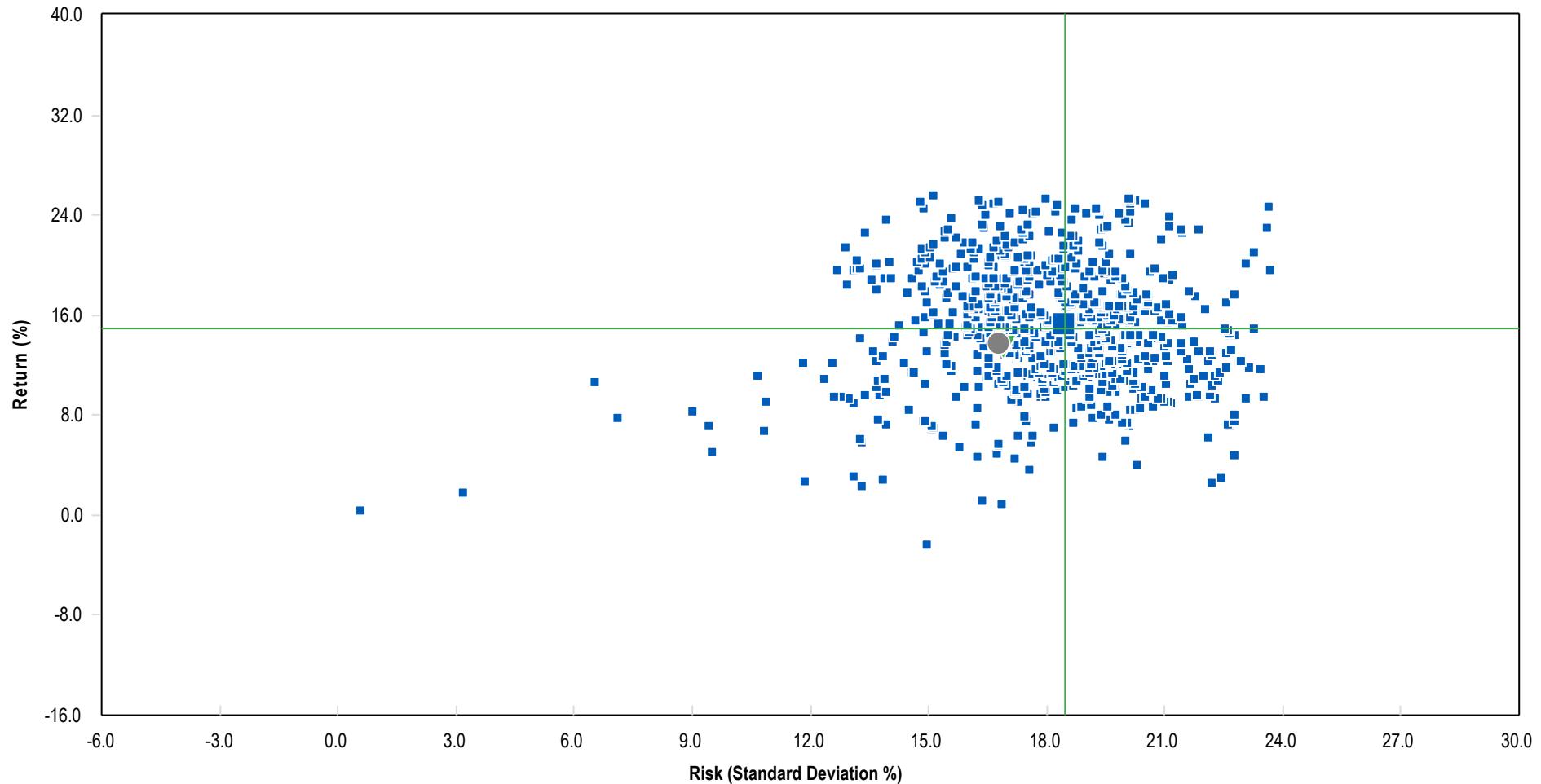
	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
■ Total International Equity	14.7 (49)	22.8 (50)	-12.7 (28)	27.7 (65)	8.4 (29)	-4.3 (61)	-3.2 (58)	21.8 (45)	24.4 (19)	-14.2 (59)
● MSCI EAFE (net)	7.8 (71)	22.0 (56)	-13.8 (38)	25.0 (80)	1.0 (71)	-0.8 (48)	-4.9 (75)	22.8 (41)	17.3 (70)	-12.1 (44)
▲ MSCI AC World ex USA	11.1 (60)	22.1 (54)	-13.8 (38)	27.8 (65)	5.0 (45)	-5.3 (64)	-3.4 (60)	15.8 (61)	17.4 (70)	-13.3 (52)

5th Percentile	42.5	34.3	-6.5	47.3	17.1	14.9	9.4	37.1	30.2	-3.5
1st Quartile	23.0	27.3	-12.3	37.0	9.1	3.6	1.0	26.7	23.1	-10.0
Median	14.2	22.7	-14.8	30.7	4.2	-1.6	-2.4	19.9	19.9	-13.0
3rd Quartile	6.7	18.5	-17.5	25.7	0.4	-9.3	-5.0	5.5	16.8	-16.7
95th Percentile	-2.9	10.4	-21.8	18.7	-5.0	-16.9	-9.3	-3.9	7.7	-23.1

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

IM International Equity (SA+CF)  
3 Years Ending December 31, 2021

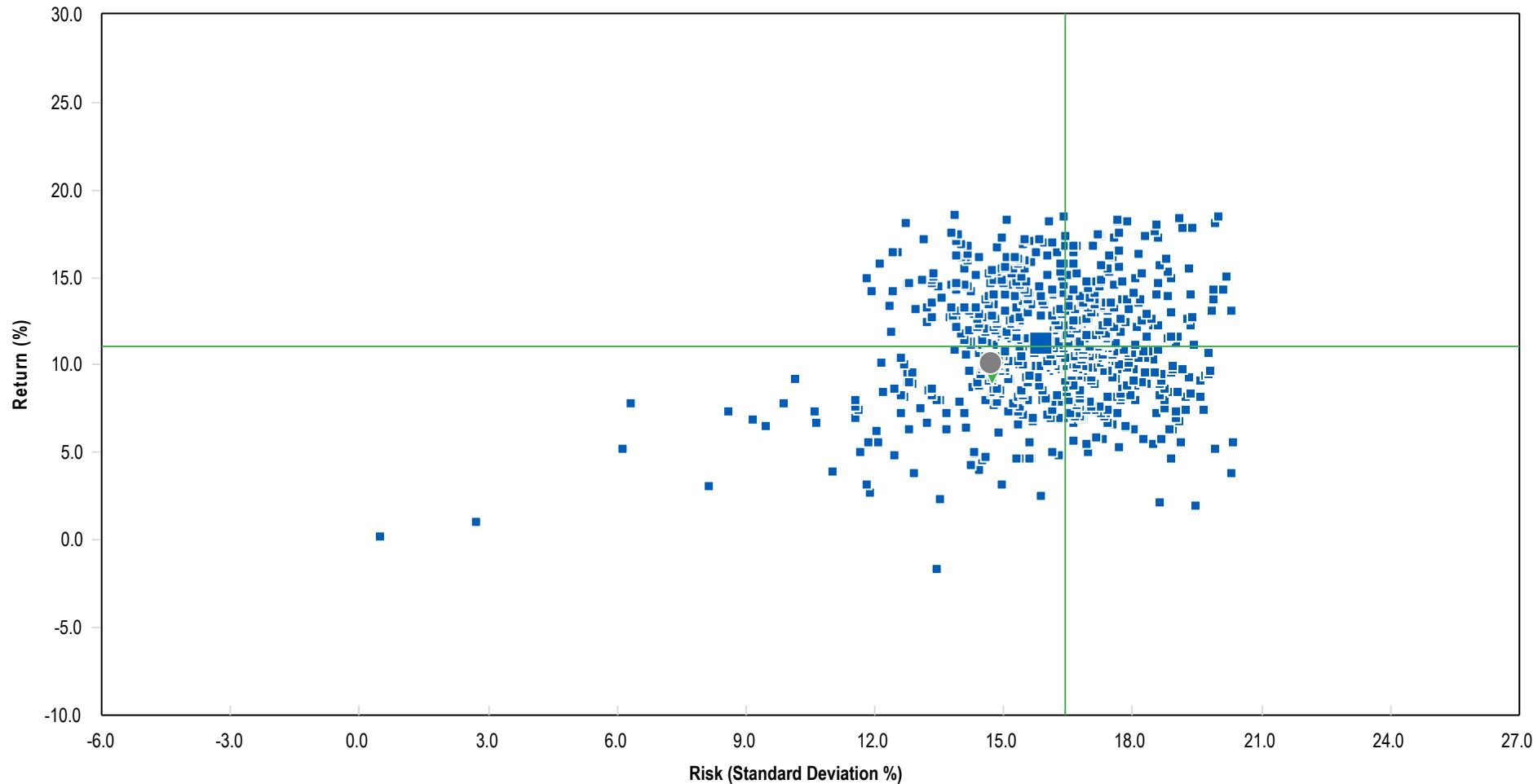


	Return	Risk
Total International Equity	15.3	18.4
MSCI EAFE (net)	13.5	16.9
MSCI AC World ex USA	13.7	16.8
Median	14.9	18.5

Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

IM International Equity (SA+CF)  
5 Years Ending December 31, 2021



	Return	Standard Deviation
Total International Equity	11.3	15.9
MSCI EAFE (net)	9.5	14.7
MSCI AC World ex USA	10.1	14.7
Median	11.1	16.4

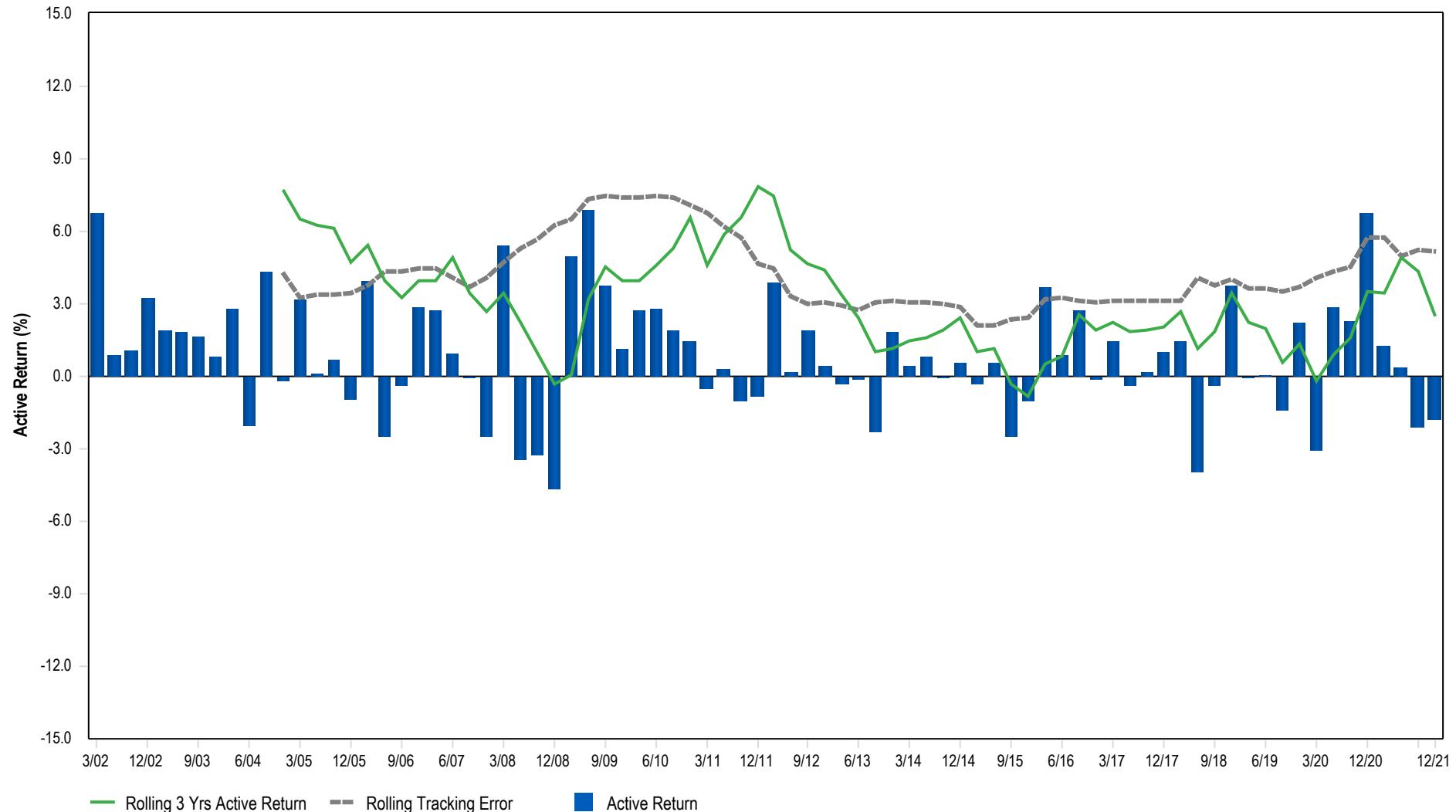
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Total International Equity	0.9	8.7	8.7	15.3	11.3	8.5	10.0	14.7	22.8	-12.7	27.7
MSCI EAFE (net)	2.7	11.3	11.3	13.5	9.5	6.8	8.0	7.8	22.0	-13.8	25.0
Difference	-1.8	-2.6	-2.6	1.8	1.8	1.7	2.0	6.9	0.8	1.1	2.7

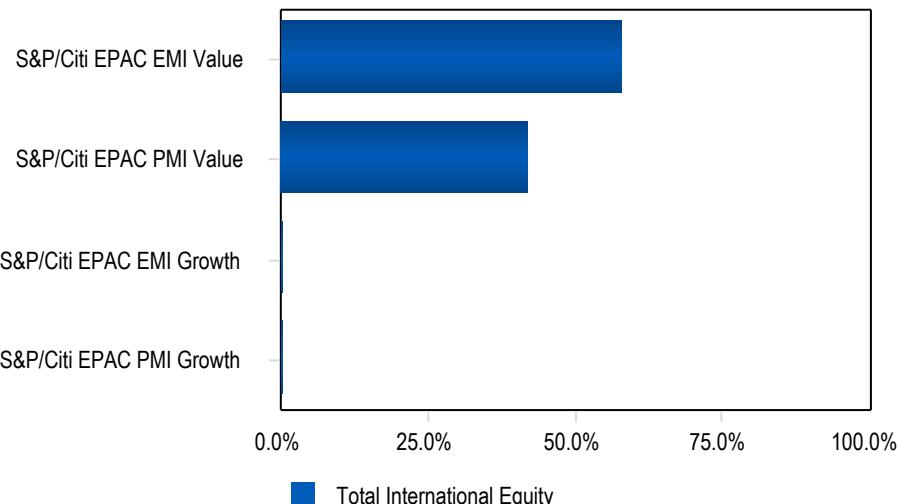


# Bristol County Retirement System

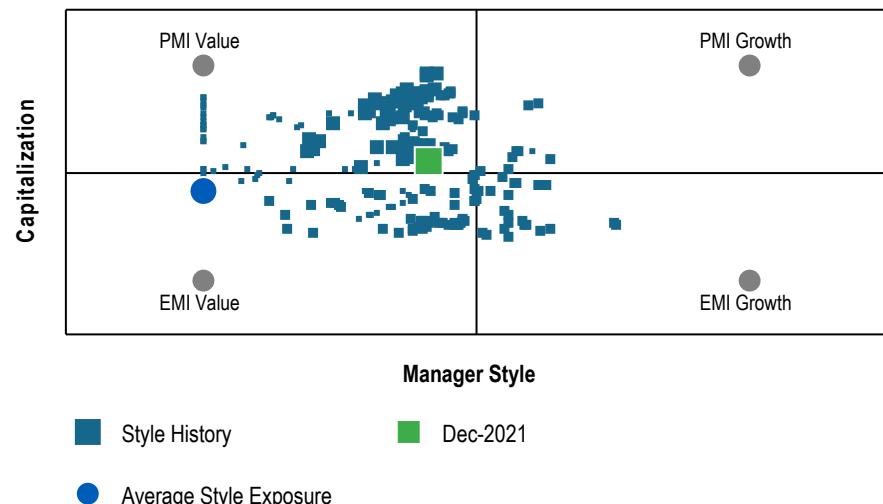
## Total International Equity

Ending December 31, 2021

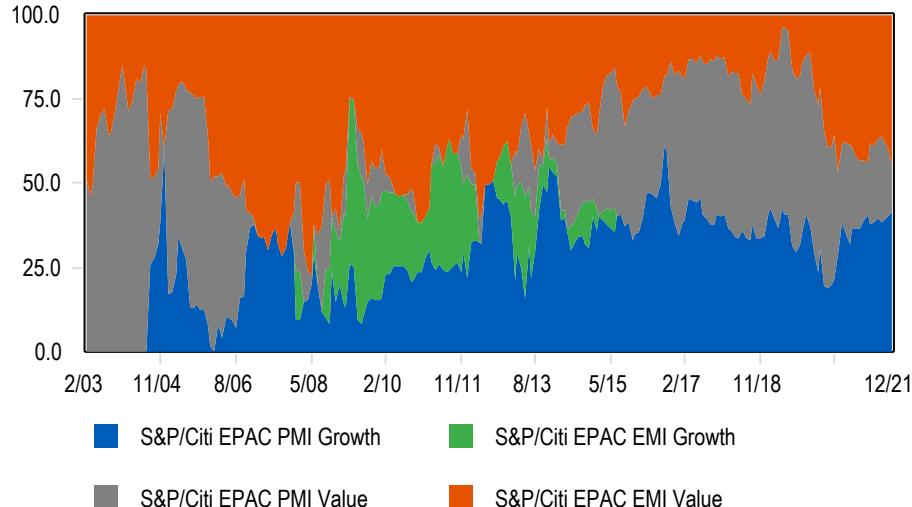
### Investment Style Exposure



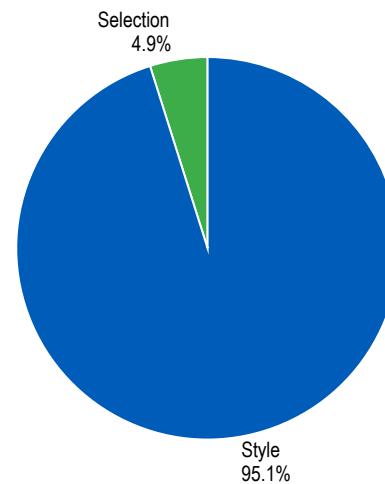
### Style Map(36 Months)



### Style History(36 Months)



### Return Variance

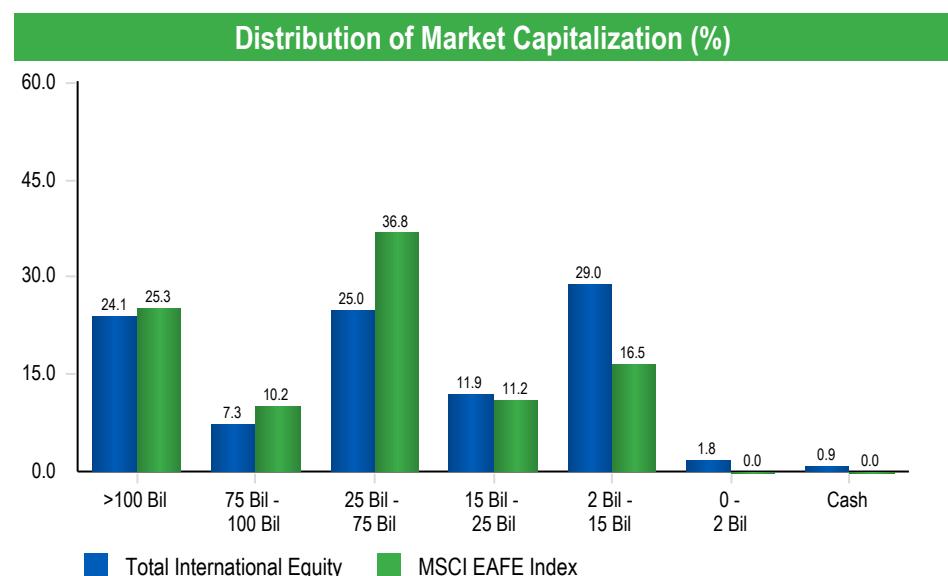


# Bristol County Retirement System

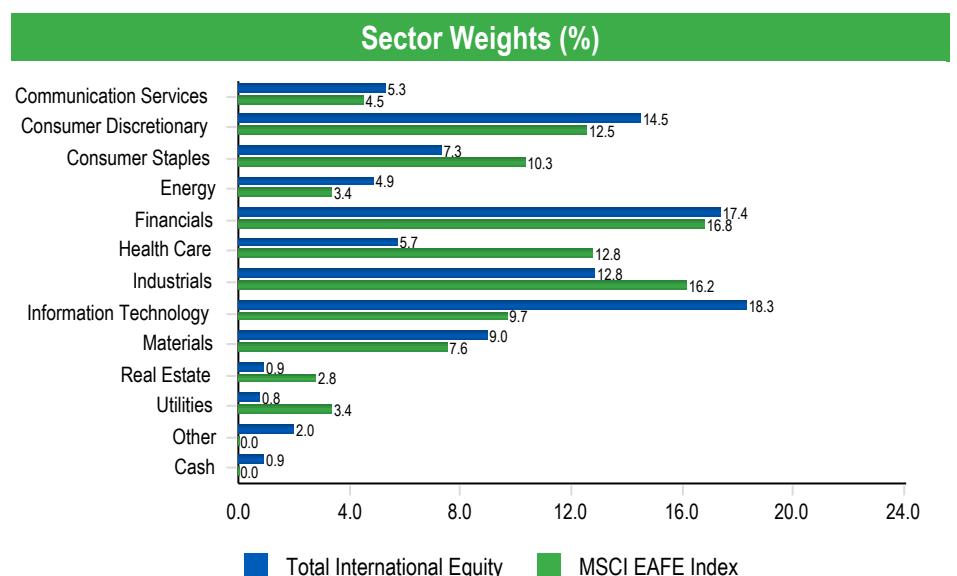
## Total International Equity

As of December 31, 2021

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Taiwan Semiconductor Manuf	2.2	0.0	2.2	7.0
Samsung Electronics Co Ltd	1.9	0.0	1.9	1.5
Samsung Electronics Co Ltd	1.7	0.0	1.7	4.9
SK Hynix Inc	1.4	0.0	1.4	26.2
Nestle SA, Cham Und Vevey	1.3	2.3	-1.0	15.7
Roche Holding AG	1.2	1.7	-0.5	13.5
Keyence Corp	1.2	0.7	0.5	4.5
Novo Nordisk A/S	1.2	1.1	0.1	16.1
Tencent Holdings LTD	1.1	0.0	1.1	-1.2
IHS Markit Ltd	1.0	0.0	1.0	14.2
% of Portfolio	14.2	5.8	8.4	



Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	89,873,650,198	85,033,075,269
Median Mkt. Cap (\$)	7,898,019,083	14,673,011,783
Price/Earnings ratio	12.8	16.5
Price/Book ratio	2.6	2.8
5 Yr. EPS Growth Rate (%)	13.7	14.3
Current Yield (%)	2.8	2.7
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	953	829



Bristol County Retirement System  
Total International Equity

As of December 31, 2021

**Ten Best Performers**

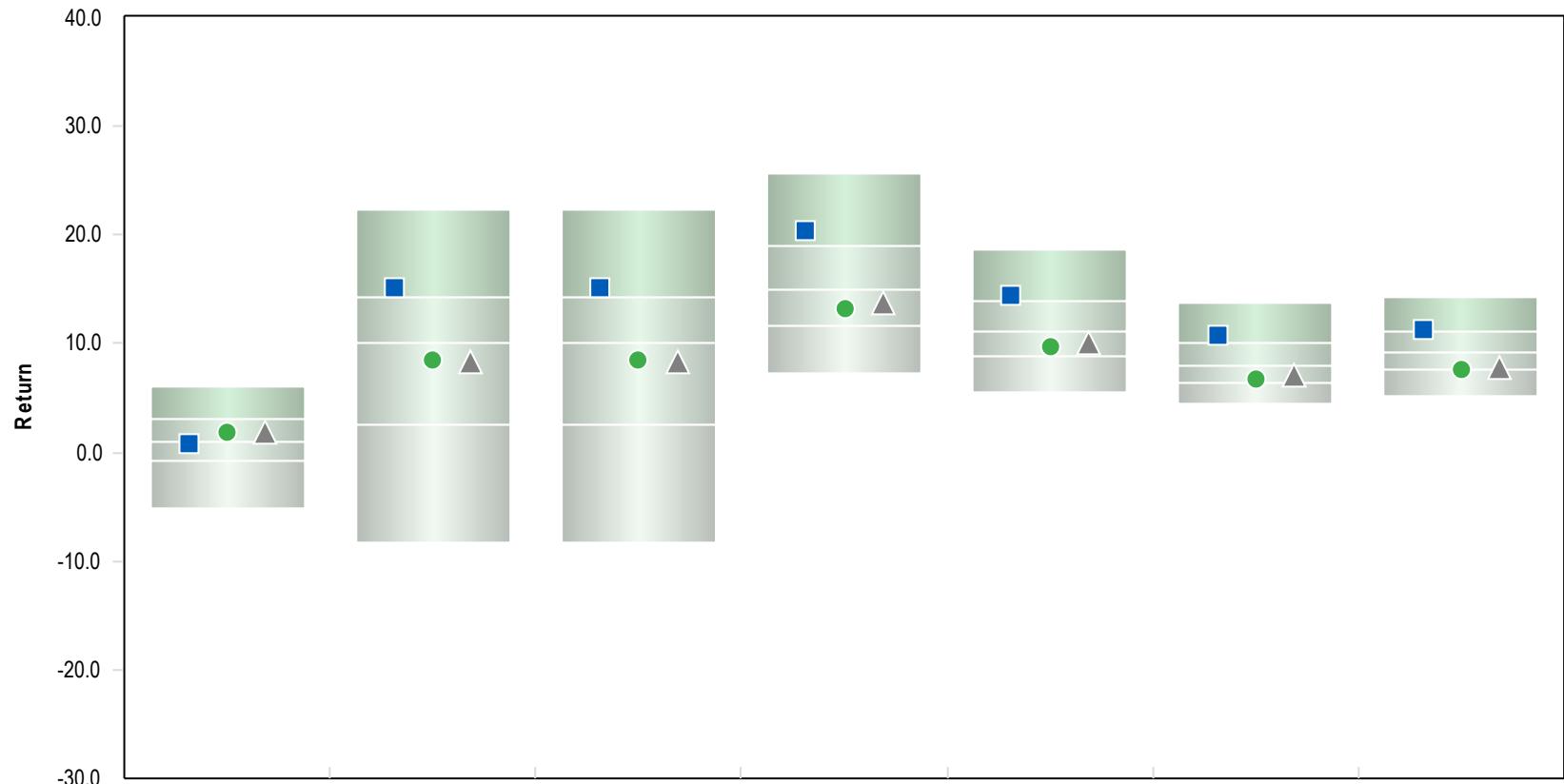
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Royal Bafokeng Platinum Ltd	0.0	0.0	0.0	97.9
PTT Global Chemical Public Co Ltd	0.0	0.0	0.0	97.3
Dexerials Corp	0.0	0.0	0.0	82.6
Wallenius Wilhelmsen ASA	0.0	0.0	0.0	53.1
Meiko Electronics Co Ltd	0.0	0.0	0.0	52.4
Unipar Carbocloro SA	0.0	0.0	0.0	46.6
Cie Financiere Richemont AG, Zug	0.5	0.5	0.0	43.9
Jingjin Equipment Inc	0.0	0.0	0.0	43.4
Anhui Kouzi Distillery Co Ltd	0.0	0.0	0.0	42.4
Shinko Electric Industries Co Ltd	0.0	0.0	0.0	42.2
% of Portfolio	0.5	0.5	0.0	

**Ten Worst Performers**

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Cineworld Group	0.1	0.0	0.1	-59.2
RENOVA Inc	0.0	0.0	0.0	-56.1
A-Living Smart City Services Co Ltd	0.1	0.0	0.1	-52.1
PAX Global Technology Ltd	0.0	0.0	0.0	-44.1
Hangzhou Tigermed Consulting Co Ltd	0.0	0.0	0.0	-40.4
Sumitomo Dainippon Pharma Co	0.0	0.0	0.0	-35.8
Supermax Corp Berhad	0.0	0.0	0.0	-34.2
Allegro eu SA	0.2	0.0	0.2	-33.9
Pingdingshan Tianan Coal Mining Co Ltd	0.0	0.0	0.0	-33.5
Pact Group Holdings Ltd	0.0	0.0	0.0	-33.3
% of Portfolio	0.4	0.0	0.4	

Bristol County Retirement System  
IM International Equity (SA+CF)

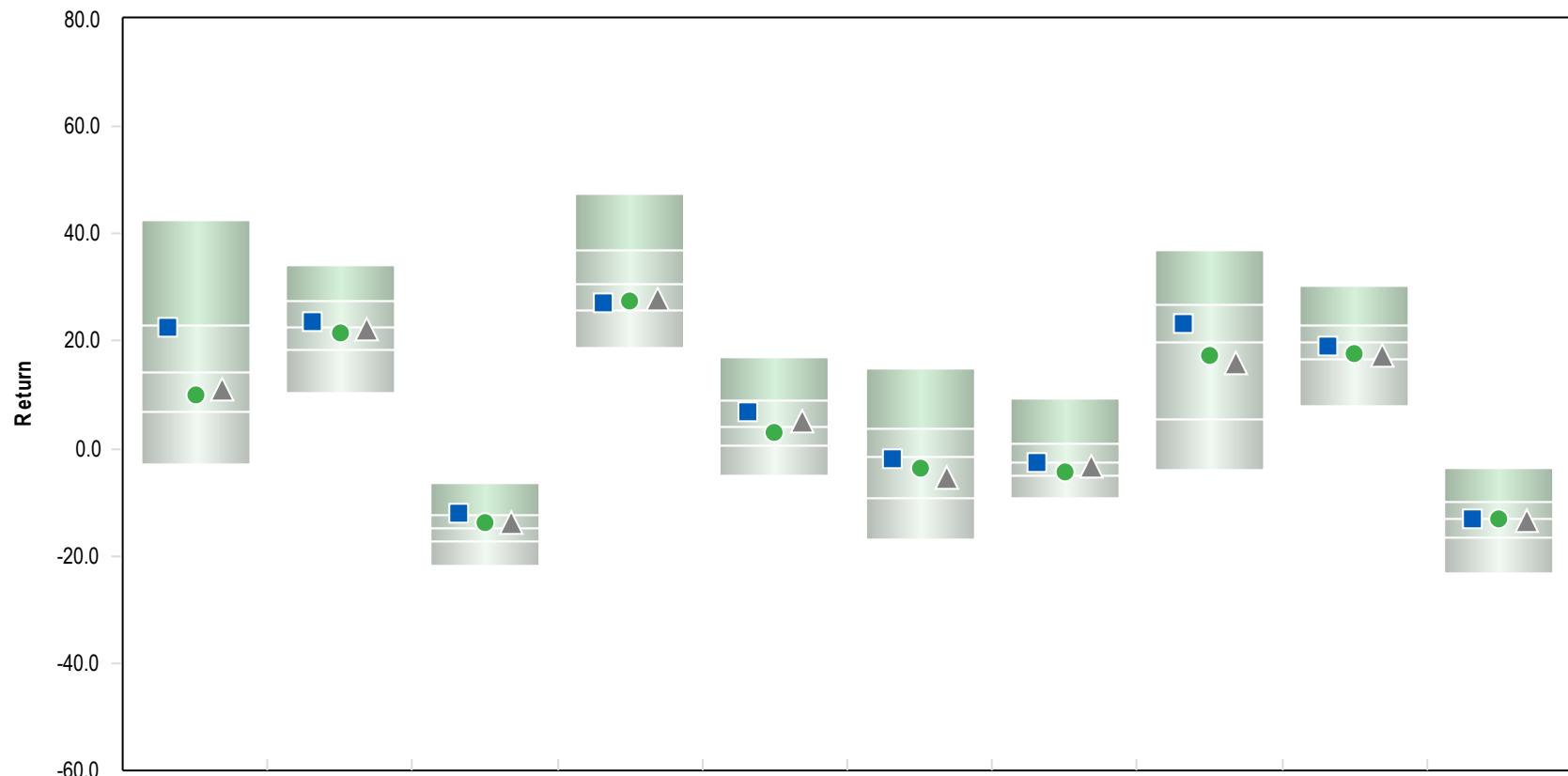
As of December 31, 2021



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Arrowstreet Capital	0.7 (53)	15.2 (22)	15.2 (22)	20.5 (18)	14.4 (22)	10.8 (20)	11.4 (22)
Arrowstreet Capital Index*	1.9 (39)	8.5 (57)	8.5 (57)	13.2 (64)	9.8 (67)	6.8 (71)	7.7 (73)
MSCI AC World ex USA	1.9 (40)	8.3 (57)	8.3 (57)	13.7 (60)	10.1 (61)	7.1 (66)	7.8 (71)

5th Percentile	6.1	22.3	22.3	25.6	18.6	13.7	14.3
1st Quartile	3.0	14.3	14.3	18.9	13.9	10.1	11.1
Median	1.0	10.0	10.0	14.9	11.1	8.0	9.2
3rd Quartile	-0.8	2.6	2.6	11.6	8.9	6.4	7.5
95th Percentile	-5.2	-8.4	-8.4	7.2	5.6	4.4	5.2

\*80% MSCI EAFE/20% MSCI EME



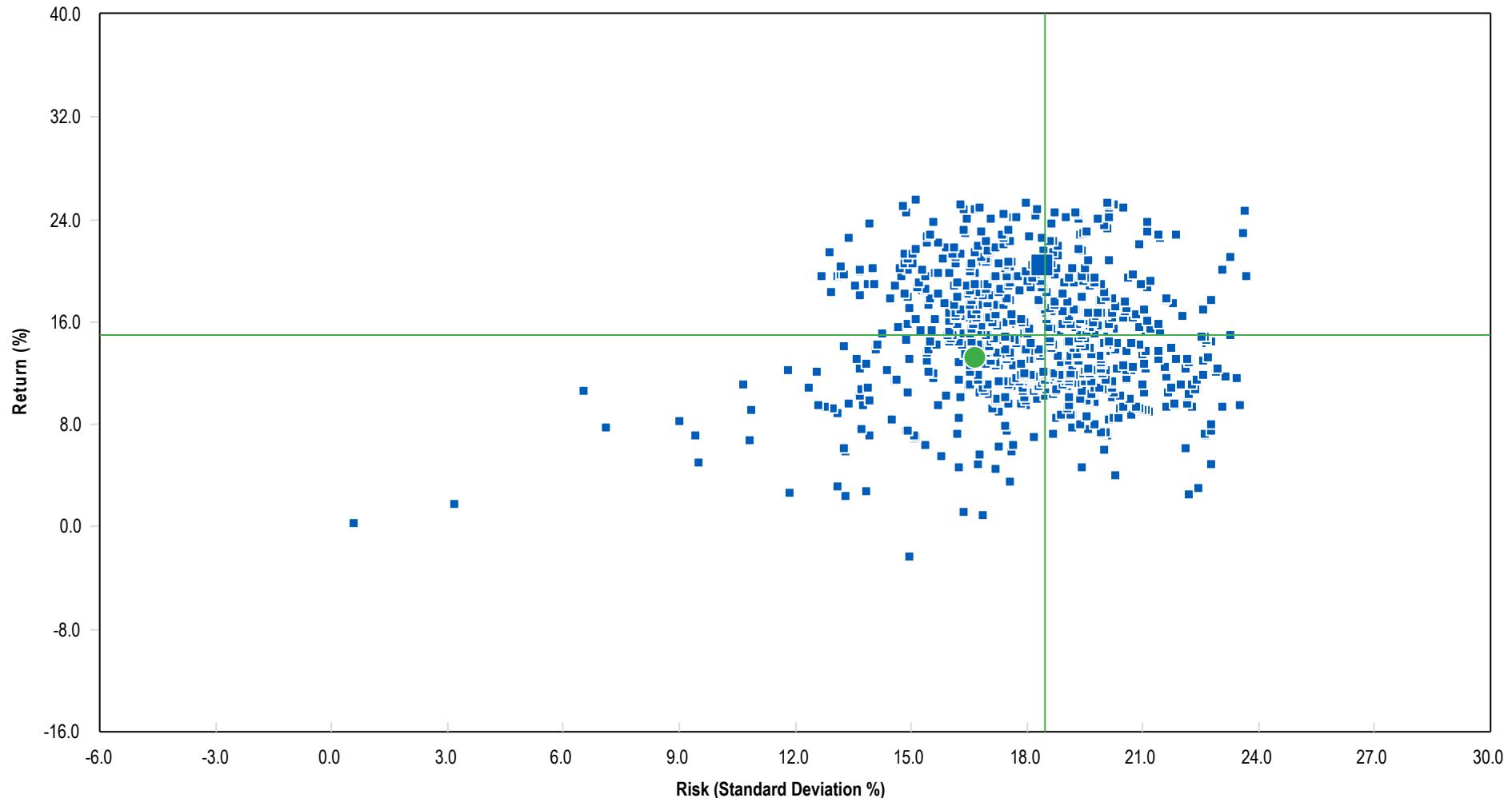
	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
■ Arrowstreet Capital	22.8 (26)	23.6 (45)	-12.0 (23)	27.3 (68)	6.9 (36)	-1.9 (52)	-2.7 (53)	23.4 (39)	19.1 (58)	-13.0 (50)
● Arrowstreet Capital Index*	10.1 (64)	21.4 (60)	-13.8 (39)	27.5 (67)	3.2 (56)	-3.6 (59)	-4.2 (68)	17.4 (57)	17.6 (69)	-13.3 (52)
▲ MSCI AC World ex USA	11.1 (60)	22.1 (54)	-13.8 (38)	27.8 (65)	5.0 (45)	-5.3 (64)	-3.4 (60)	15.8 (61)	17.4 (70)	-13.3 (52)

5th Percentile	42.5	34.3	-6.5	47.3	17.1	14.9	9.4	37.1	30.2	-3.5
1st Quartile	23.0	27.3	-12.3	37.0	9.1	3.6	1.0	26.7	23.1	-10.0
Median	14.2	22.7	-14.8	30.7	4.2	-1.6	-2.4	19.9	19.9	-13.0
3rd Quartile	6.7	18.5	-17.5	25.7	0.4	-9.3	-5.0	5.5	16.8	-16.7
95th Percentile	-2.9	10.4	-21.8	18.7	-5.0	-16.9	-9.3	-3.9	7.7	-23.1

\*80% MSCI EAFE/20% MSCI EME

Bristol County Retirement System  
Peer Group Scattergram

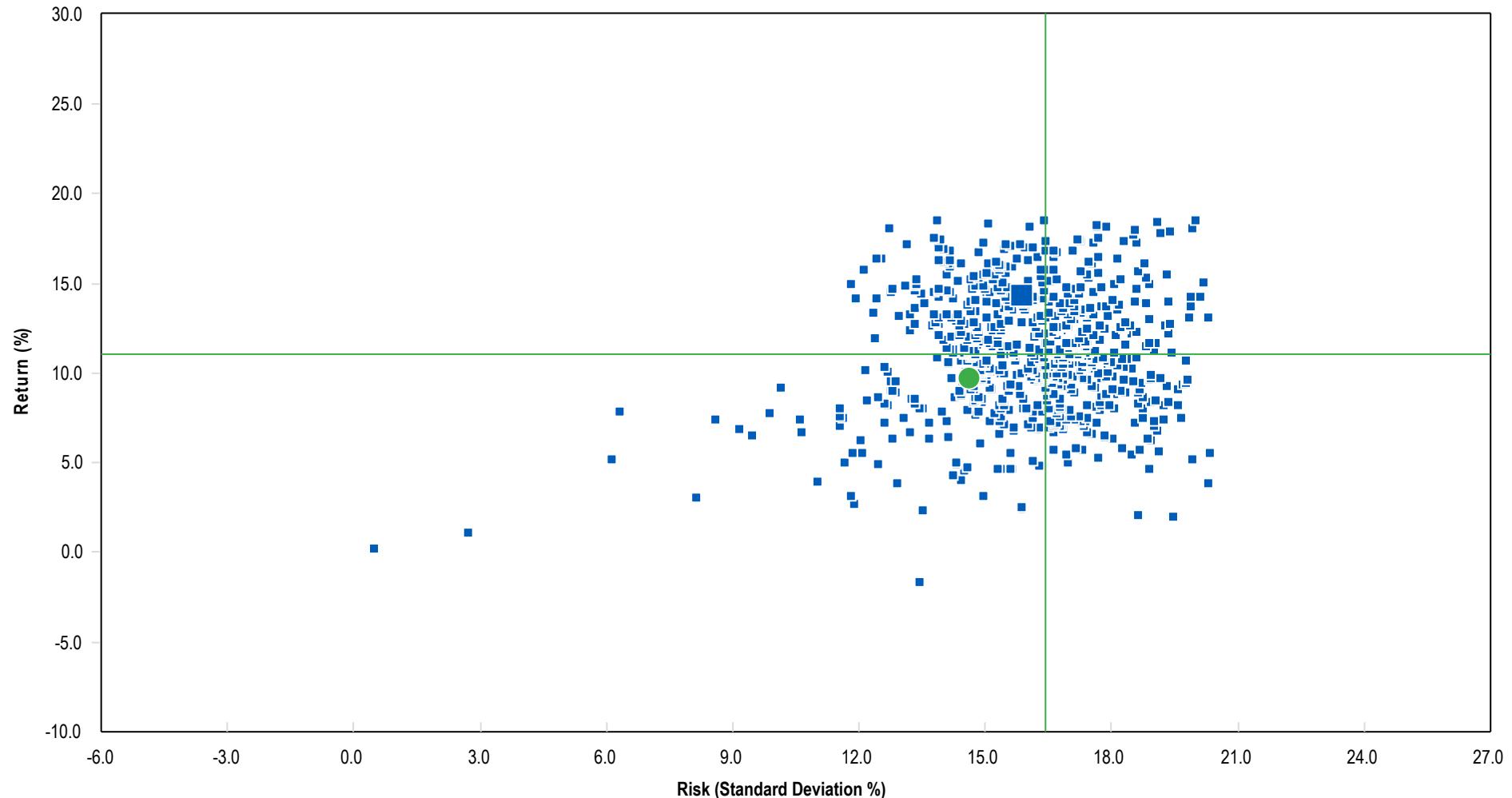
IM International Equity (SA+CF)  
3 Years Ending December 31, 2021



\*80% MSCI EAFE/20% MSCI EME.

Bristol County Retirement System  
Peer Group Scattergram

IM International Equity (SA+CF)  
5 Years Ending December 31, 2021



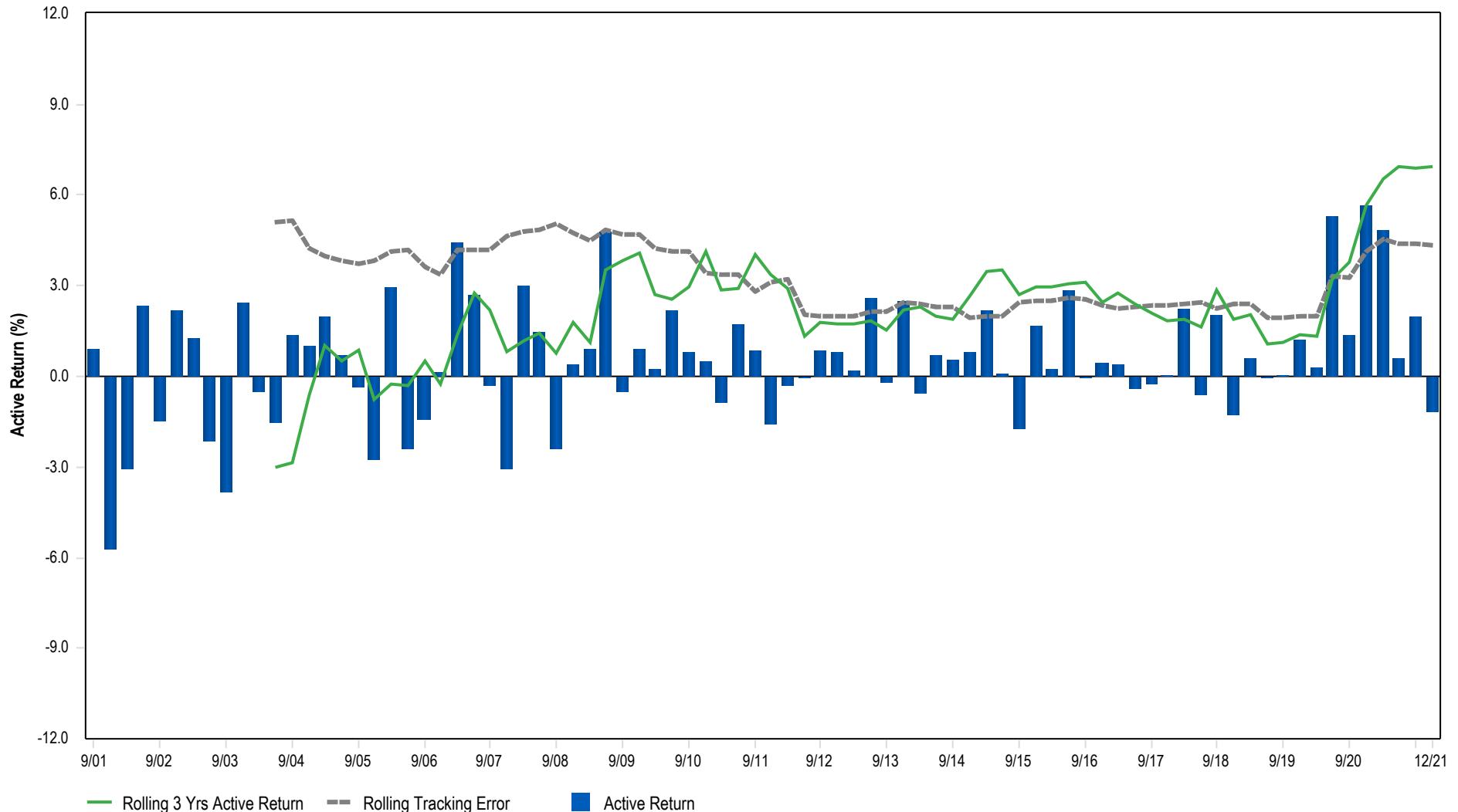
\*80% MSCI EAFE/20% MSCI EME.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

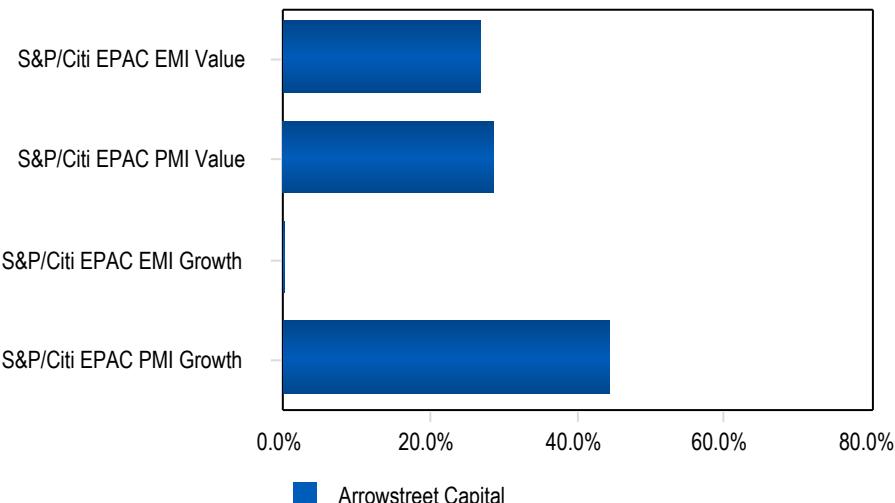
As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Arrowstreet Capital	0.7	15.2	15.2	20.5	14.4	10.8	11.4	22.8	23.6	-12.0	27.3
Arrowstreet Capital Index*	1.9	8.5	8.5	13.2	9.8	6.8	7.7	10.1	21.4	-13.8	27.5
Difference	-1.2	6.7	6.7	7.3	4.6	4.0	3.7	12.7	2.2	1.8	-0.2

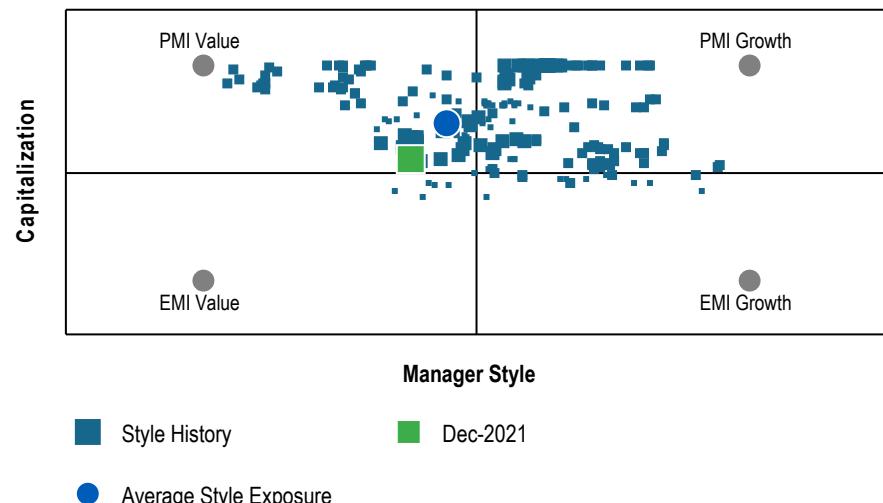


\*80% MSCI EAFE (Net)/20% MSCI EMF.  
Gross of Fees

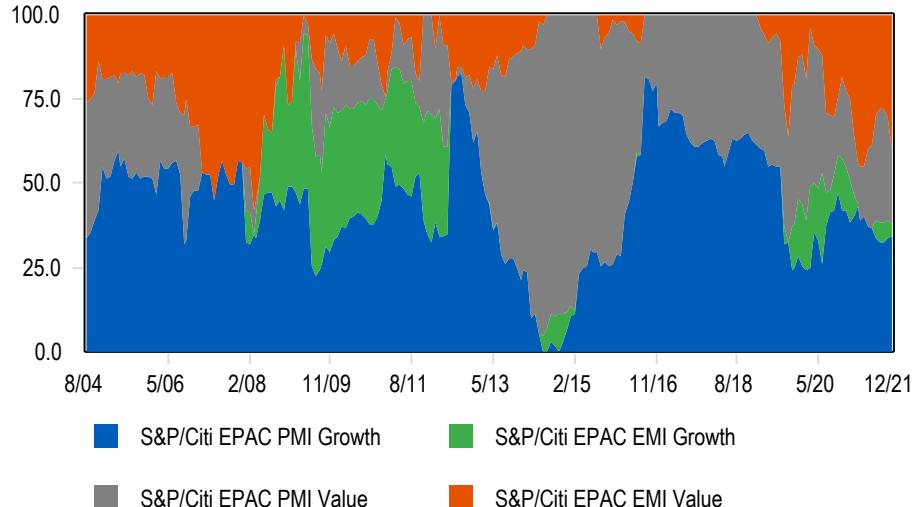
### Investment Style Exposure



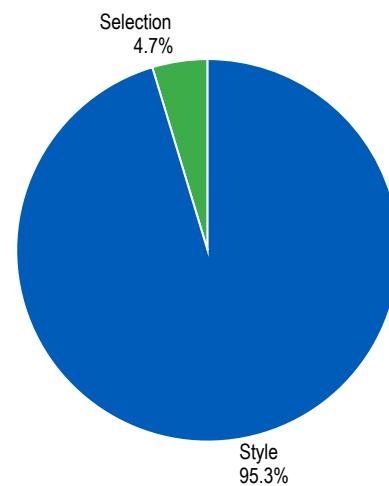
### Style Map(36 Months)



### Style History(36 Months)



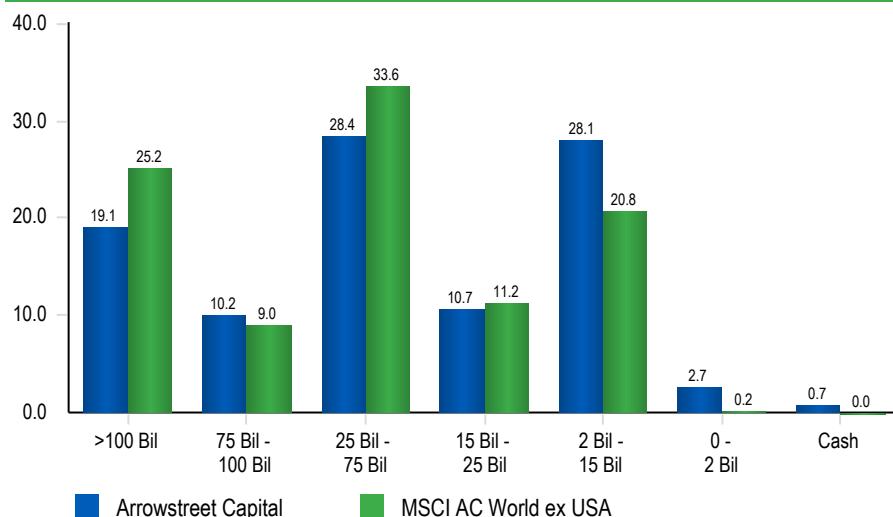
### Return Variance



### Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
ishare Inc - iShares MSCI Taiwan ETF	4.4	0.0	4.4	8.0
ASML Holding NV	2.9	1.2	1.7	7.6
Samsung Electronics Co Ltd	2.9	1.2	1.7	4.9
Roche Holding AG	1.7	1.1	0.6	13.5
Volkswagen AG	1.4	0.1	1.3	-10.1
Taiwan Semiconductor	1.4	2.0	-0.6	8.2
Eni SpA	1.3	0.1	1.2	3.9
Gazprom PJSC	1.2	0.2	1.0	-8.1
Wolters Kluwer NV	1.0	0.1	0.9	11.0
Mitsui OSK Lines Ltd	0.9	0.0	0.9	9.4
% of Portfolio	19.1	6.0	13.1	

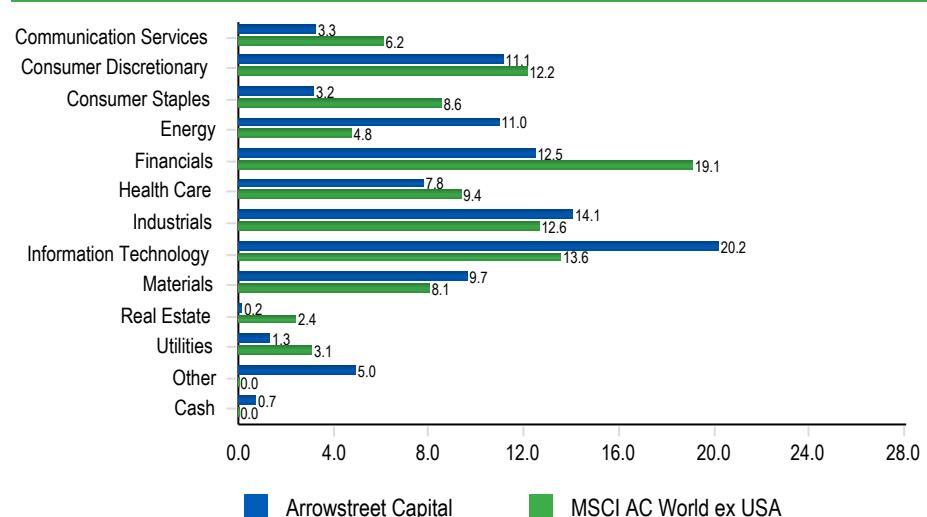
### Distribution of Market Capitalization (%)

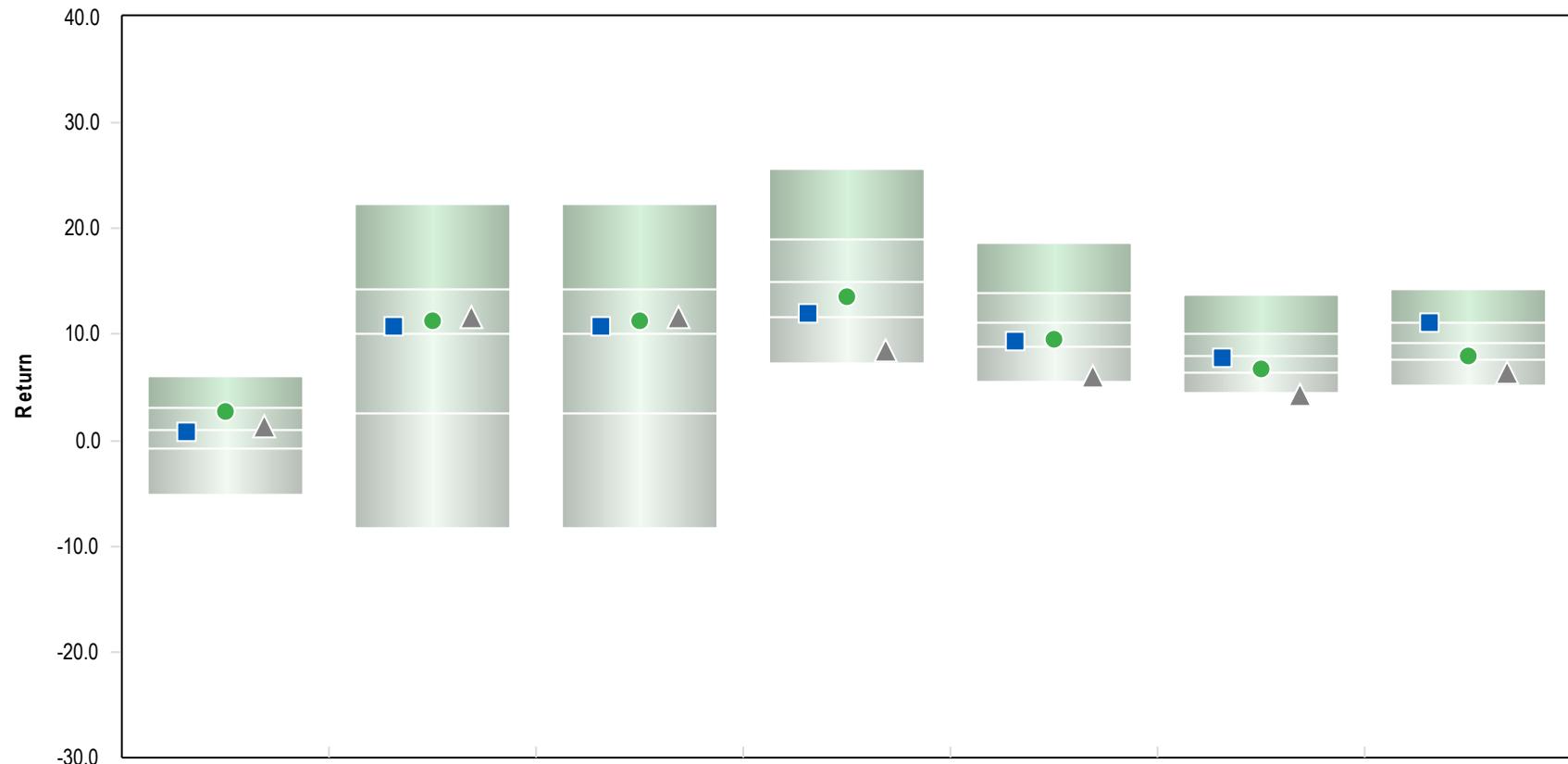


### Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	77,728,582,746	95,992,322,449
Median Mkt. Cap (\$)	6,566,958,377	10,163,410,426
Price/Earnings ratio	10.3	15.0
Price/Book ratio	2.4	2.7
5 Yr. EPS Growth Rate (%)	19.3	15.0
Current Yield (%)	3.2	2.6
Beta (5 Years, Monthly)	1.1	1.0
Number of Stocks	770	2,338

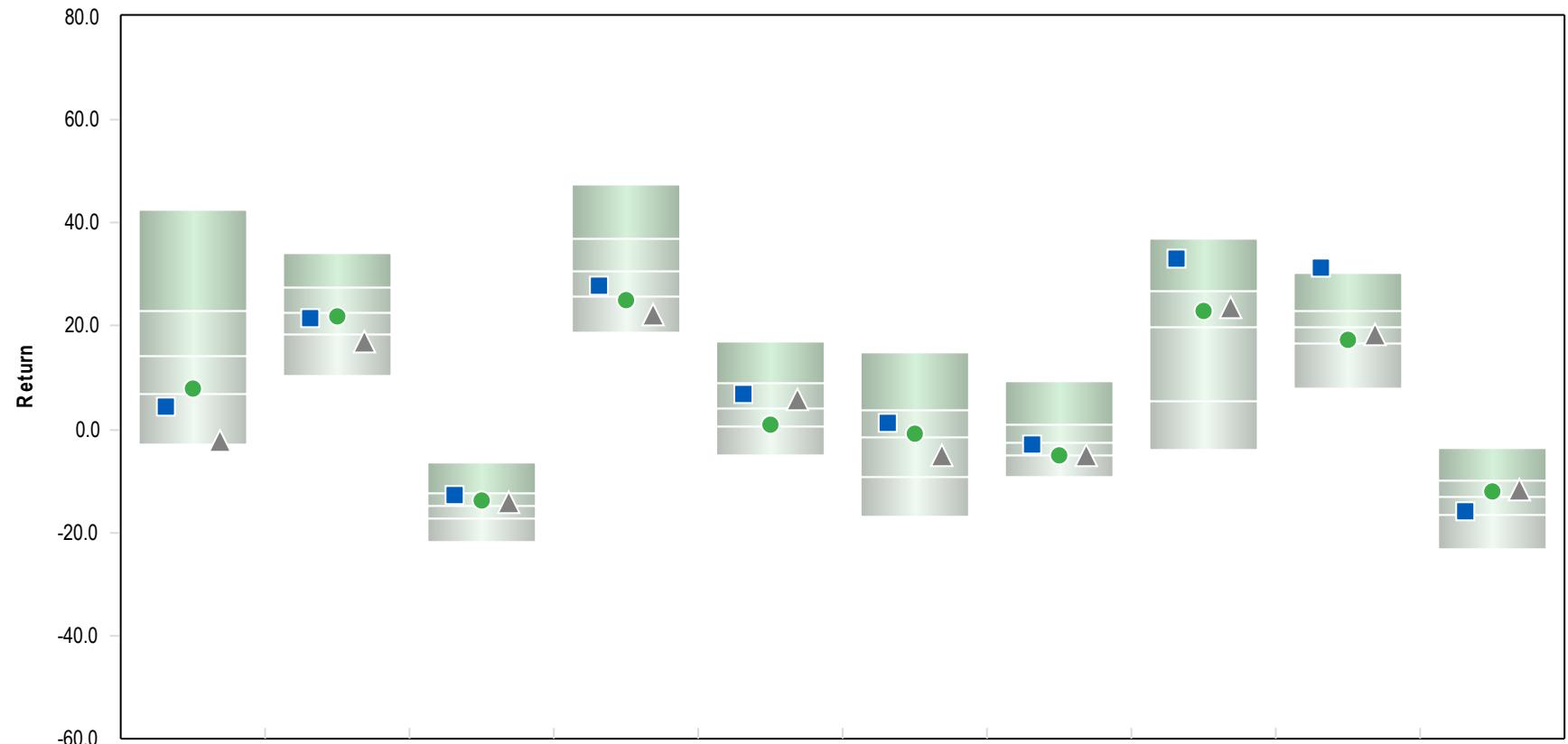
### Sector Weights (%)





	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Freedom Capital Intl	0.8 (52)	10.7 (47)	10.7 (47)	12.0 (72)	9.4 (71)	7.8 (53)	11.2 (24)
MSCI EAFE (net)	2.7 (29)	11.3 (44)	11.3 (44)	13.5 (61)	9.5 (70)	6.8 (72)	8.0 (68)
MSCI EAFE Value	1.2 (48)	11.6 (42)	11.6 (42)	8.5 (93)	6.0 (94)	4.3 (97)	6.4 (89)
5th Percentile	6.1	22.3	22.3	25.6	18.6	13.7	14.3
1st Quartile	3.0	14.3	14.3	18.9	13.9	10.1	11.1
Median	1.0	10.0	10.0	14.9	11.1	8.0	9.2
3rd Quartile	-0.8	2.6	2.6	11.6	8.9	6.4	7.5
95th Percentile	-5.2	-8.4	-8.4	7.2	5.6	4.4	5.2

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Freedom Capital Intl	4.4 (82)	21.4 (60)	-12.9 (29)	28.0 (63)	6.8 (36)	1.4 (37)	-2.9 (54)	33.2 (9)	31.5 (5)	-15.8 (70)
MSCI EAFE (net)	7.8 (71)	22.0 (56)	-13.8 (38)	25.0 (80)	1.0 (71)	-0.8 (48)	-4.9 (75)	22.8 (41)	17.3 (70)	-12.1 (44)
MSCI EAFE Value	-2.1 (94)	16.8 (84)	-14.3 (44)	22.1 (90)	5.7 (42)	-5.2 (64)	-4.9 (75)	23.6 (38)	18.4 (62)	-11.6 (40)

5th Percentile	42.5	34.3	-6.5	47.3	17.1	14.9	9.4	37.1	30.2	-3.5
1st Quartile	23.0	27.3	-12.3	37.0	9.1	3.6	1.0	26.7	23.1	-10.0
Median	14.2	22.7	-14.8	30.7	4.2	-1.6	-2.4	19.9	19.9	-13.0
3rd Quartile	6.7	18.5	-17.5	25.7	0.4	-9.3	-5.0	5.5	16.8	-16.7
95th Percentile	-2.9	10.4	-21.8	18.7	-5.0	-16.9	-9.3	-3.9	7.7	-23.1

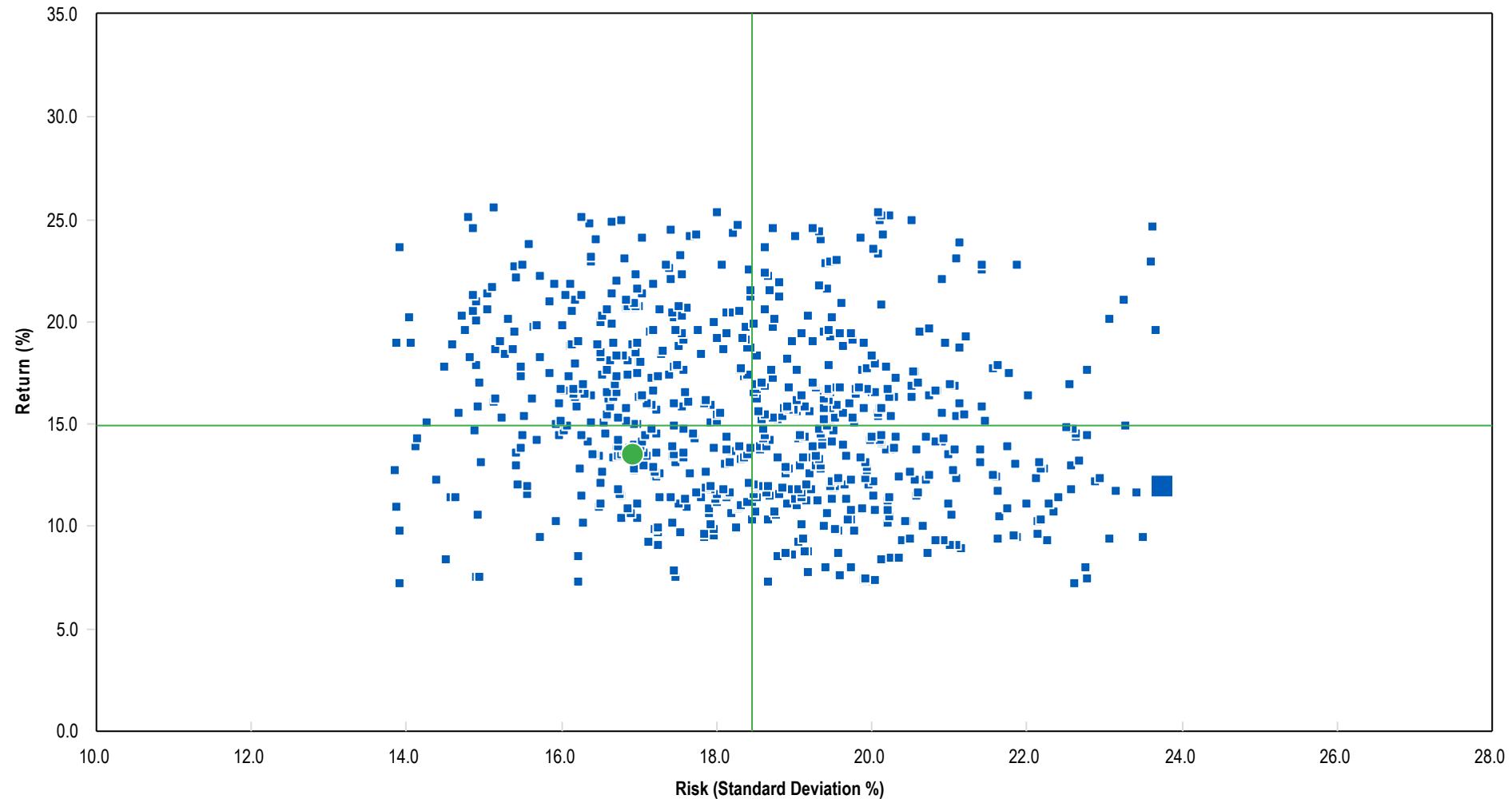
Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Peer Group Scattergram

IM International Equity (SA+CF)

3 Years Ending December 31, 2021



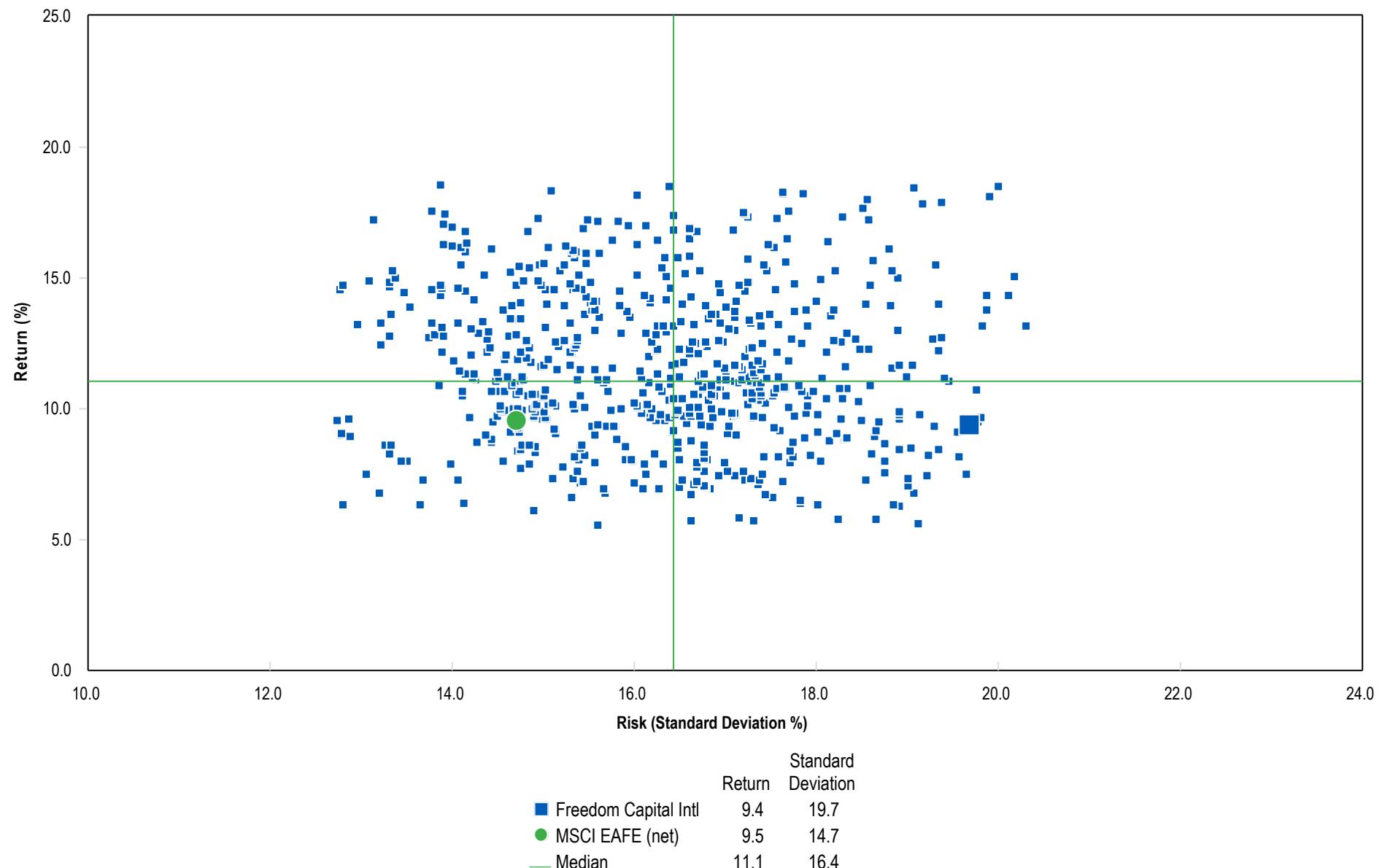
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Peer Group Scattergram

IM International Equity (SA+CF)

5 Years Ending December 31, 2021



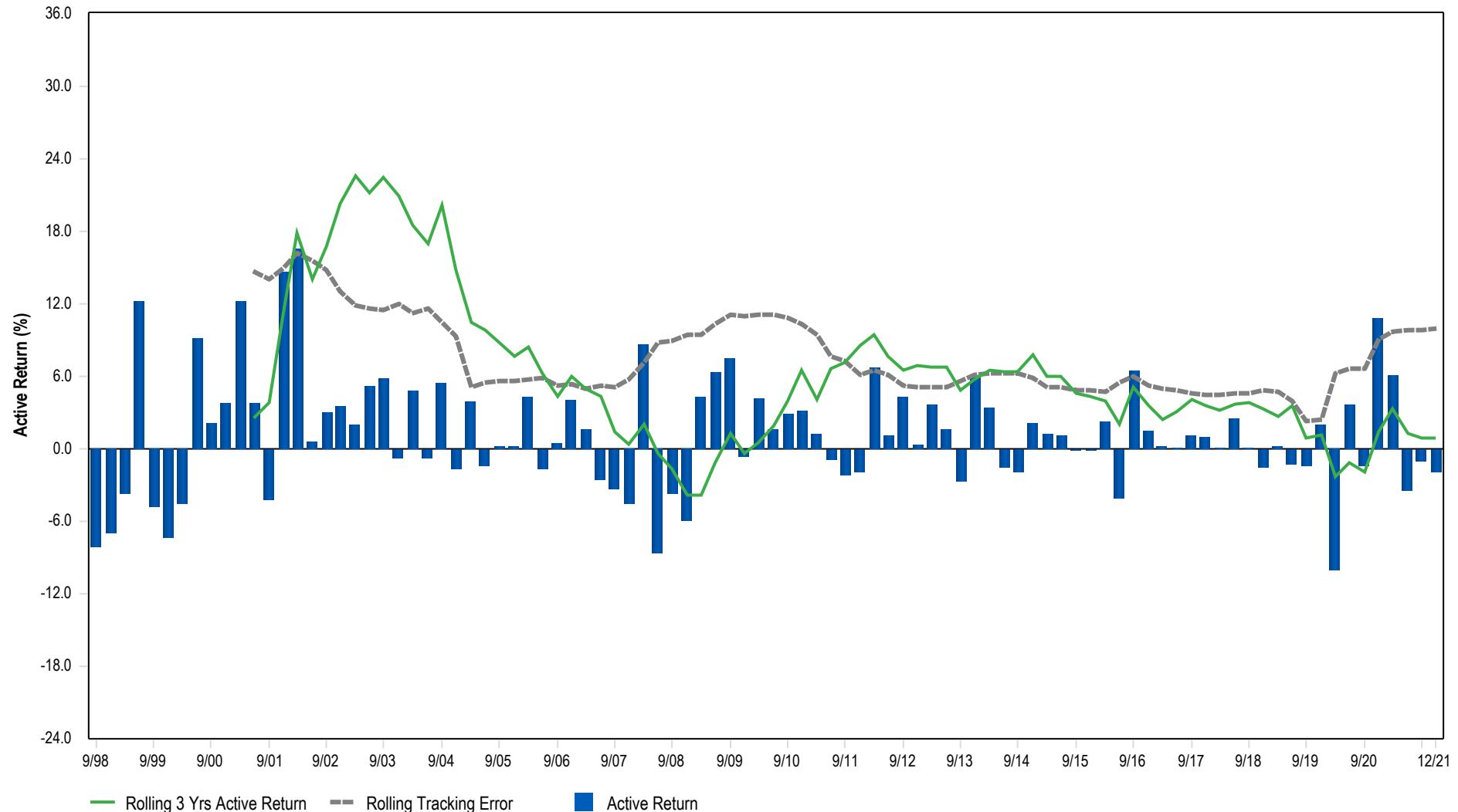
Calculation based on monthly periodicity.

# Bristol County Retirement System

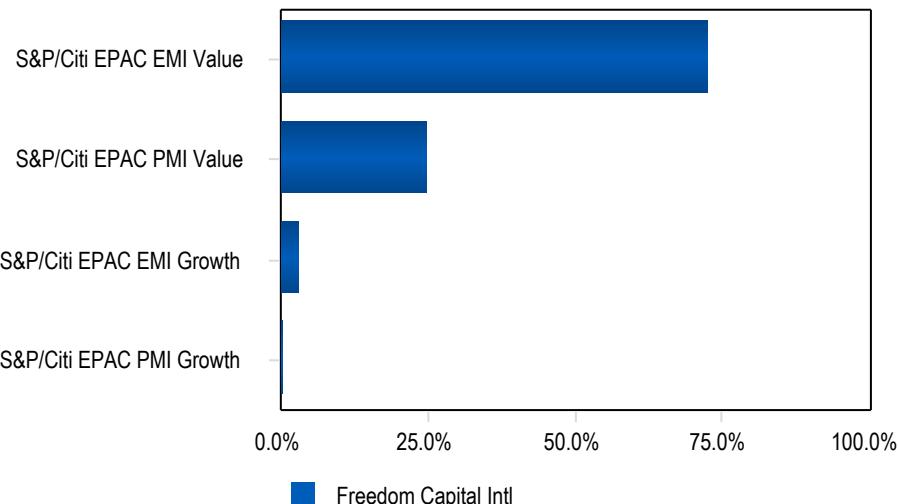
## Comparative Performance & Rolling Return

As of December 31, 2021

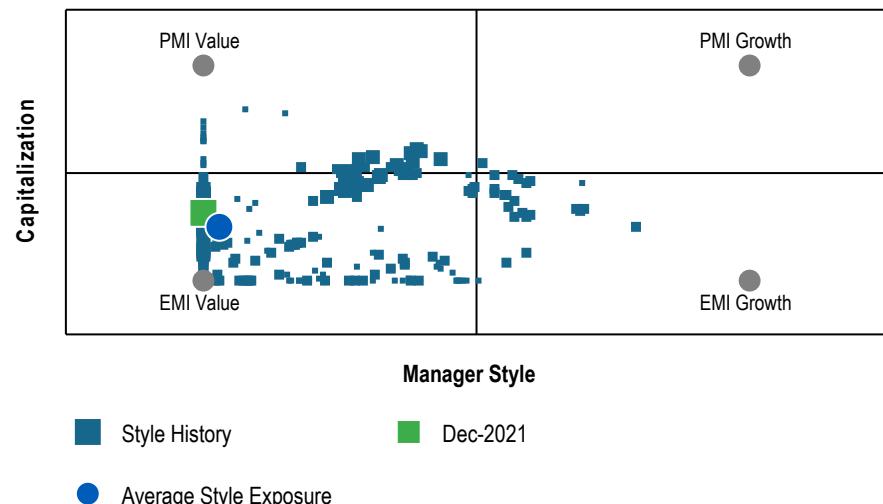
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Freedom Capital Intl	0.8	10.7	10.7	12.0	9.4	7.8	11.2	4.4	21.4	-12.9	28.0
MSCI EAFE (net)	2.7	11.3	11.3	13.5	9.5	6.8	8.0	7.8	22.0	-13.8	25.0
Difference	-1.9	-0.6	-0.6	-1.5	-0.1	1.0	3.2	-3.4	-0.6	0.9	3.0



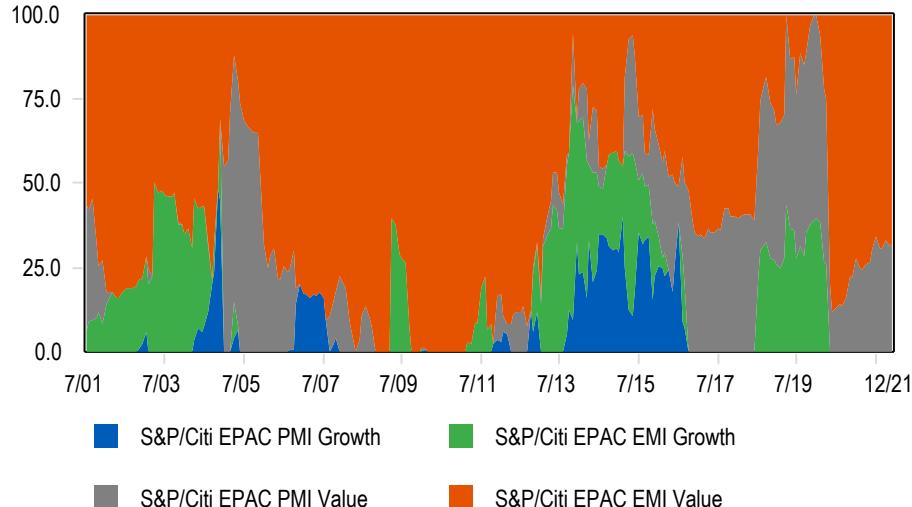
### Investment Style Exposure



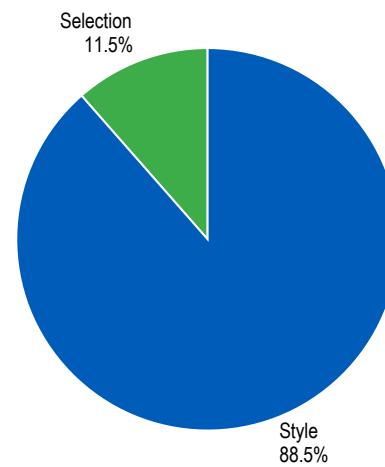
### Style Map(36 Months)



### Style History(36 Months)



### Return Variance



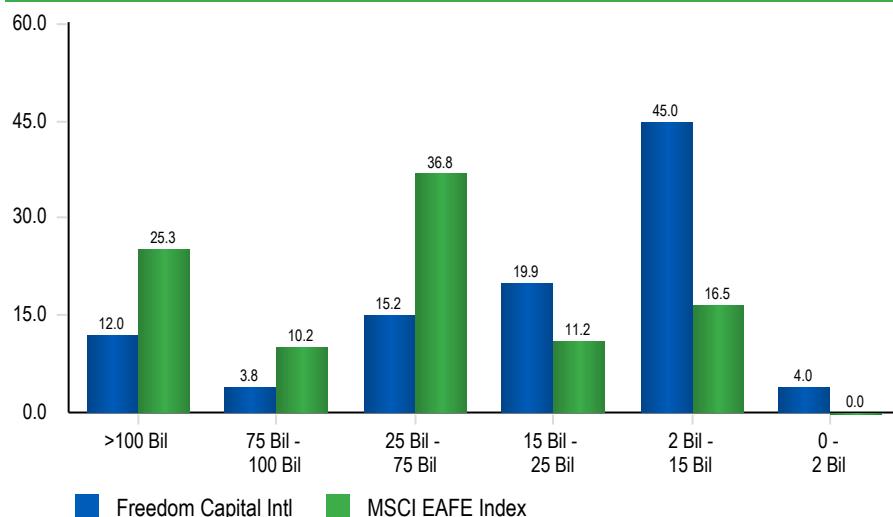
Bristol County Retirement System  
Freedom Capital Intl

As of December 31, 2021

**Top Ten Equity Holdings**

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Popular Inc	2.8	0.0	2.8	5.6
Publicis Groupe SA	2.6	0.1	2.5	-0.3
DNB Bank ASA	2.3	0.1	2.2	
Bellway PLC	2.3	0.0	2.3	4.7
Toronto-Dominion Bank (The)	2.3	0.0	2.3	16.6
Taylor Wimpey PLC	2.3	0.1	2.2	16.1
SK Hynix Inc	2.2	0.0	2.2	26.2
Infosys Ltd	2.1	0.0	2.1	14.7
Kia Corporation	2.1	0.0	2.1	0.4
Magna International Inc	2.0	0.0	2.0	7.8
% of Portfolio	23.0	0.3	22.7	

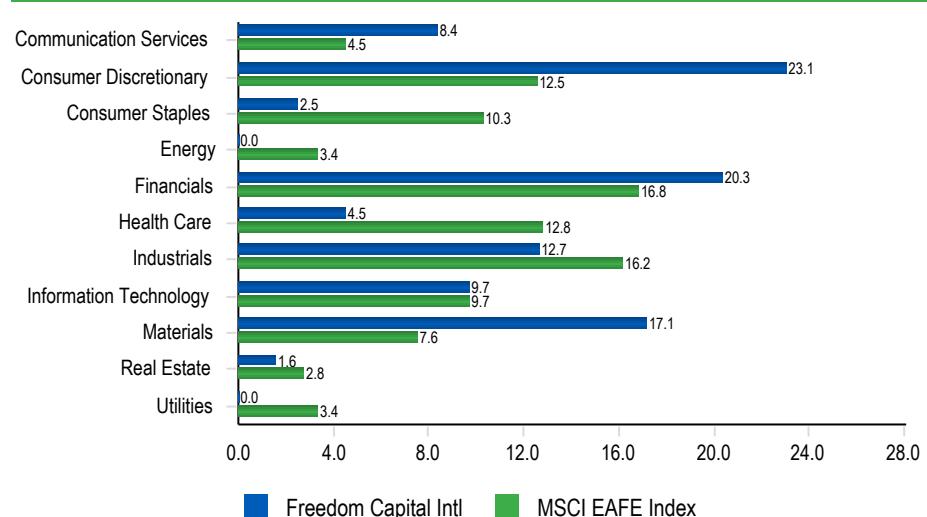
**Distribution of Market Capitalization (%)**



**Portfolio Characteristics**

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	41,247,826,248	85,033,075,269
Median Mkt. Cap (\$)	13,180,691,441	14,673,011,783
Price/Earnings ratio	12.1	16.5
Price/Book ratio	1.8	2.8
5 Yr. EPS Growth Rate (%)	10.9	14.3
Current Yield (%)	2.7	2.7
Beta (5 Years, Monthly)	1.3	1.0
Number of Stocks	66	829

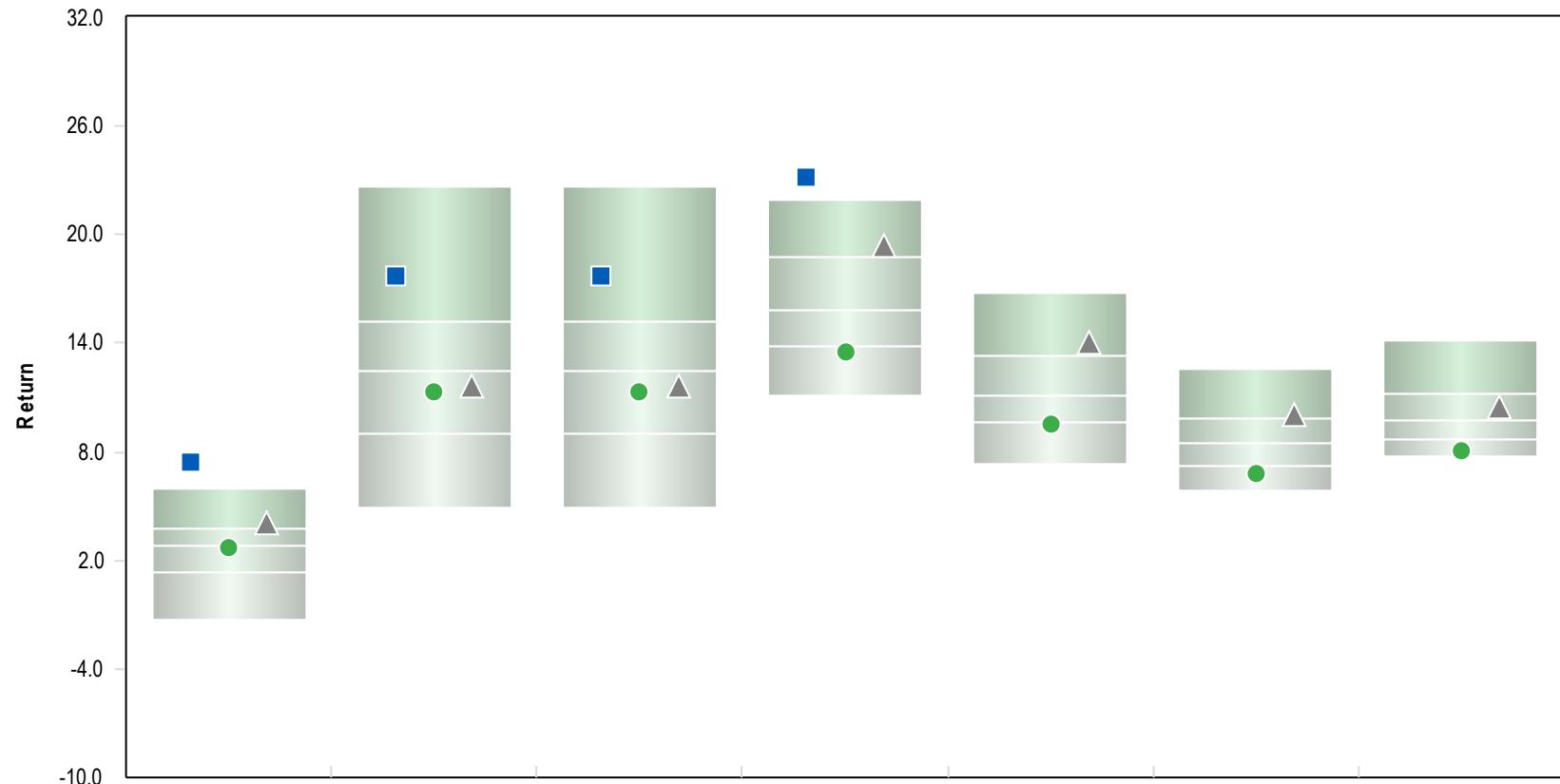
**Sector Weights (%)**



# Bristol County Retirement System

## IM International Core Equity (SA+CF)

As of December 31, 2021



■ Fiera International Equity

● MSCI EAFE (Net)

▲ MSCI EAFE Growth Index

5th Percentile	6.0	22.6	22.6	21.9	16.8	12.6	14.2
1st Quartile	3.8	15.2	15.2	18.8	13.3	9.9	11.3
Median	2.8	12.4	12.4	15.8	11.1	8.4	9.8
3rd Quartile	1.3	9.1	9.1	13.8	9.7	7.2	8.7
95th Percentile	-1.3	4.9	4.9	11.1	7.3	5.9	7.7

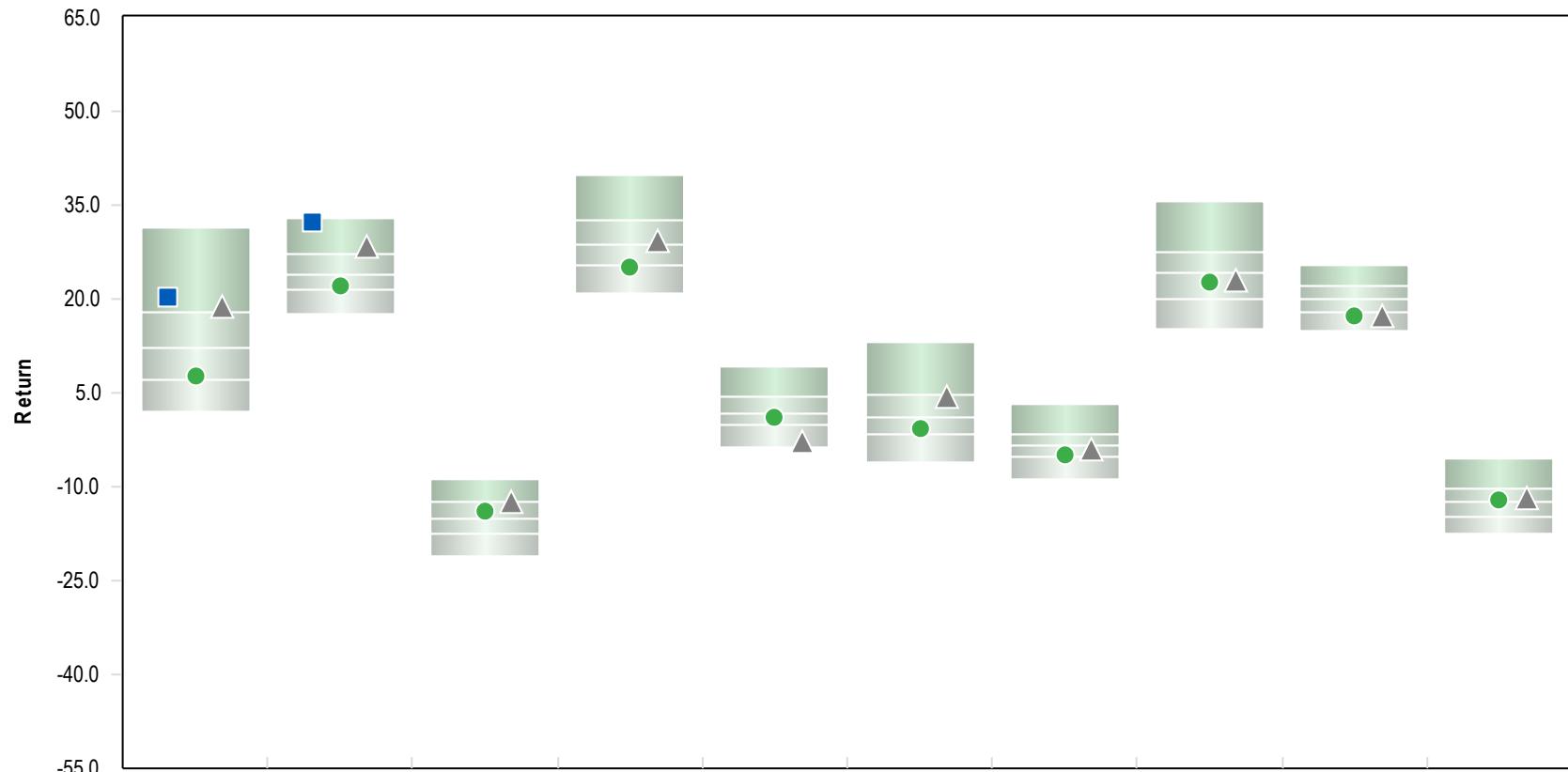
Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM International Core Equity (SA+CF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
■ Fiera International Equity	20.2 (19)	32.3 (7)	-	25.0 (79)	1.0 (61)	-0.8 (69)	-4.9 (71)	22.8 (60)	17.3 (80)	-12.1 (47)
● MSCI EAFE (Net)	7.8 (70)	22.0 (68)	-13.8 (34)	22.0 (21)	4.0 (46)	3.5 (34)	-6.5 (21)	22.9 (60)	17.3 (80)	-10.0 (11)
▲ MSCI EAFE Growth Index	18.7 (22)	28.4 (17)	-12.5 (26)	29.3 (46)	-2.7 (91)	4.5 (26)	-4.1 (62)	22.9 (60)	17.3 (80)	-11.8 (42)

5th Percentile	31.5	32.8	-8.8	39.8	9.1	13.1	3.2	35.5	25.3	-5.4
1st Quartile	17.9	27.2	-12.5	32.5	4.3	4.8	-1.5	27.5	22.1	-10.3
Median	12.2	24.0	-15.1	28.7	1.8	1.1	-3.3	24.1	20.0	-12.4
3rd Quartile	7.0	21.4	-17.6	25.5	-0.2	-1.7	-5.1	20.0	17.8	-14.8
95th Percentile	1.9	17.6	-21.2	20.8	-3.7	-6.1	-8.9	15.3	15.0	-17.6

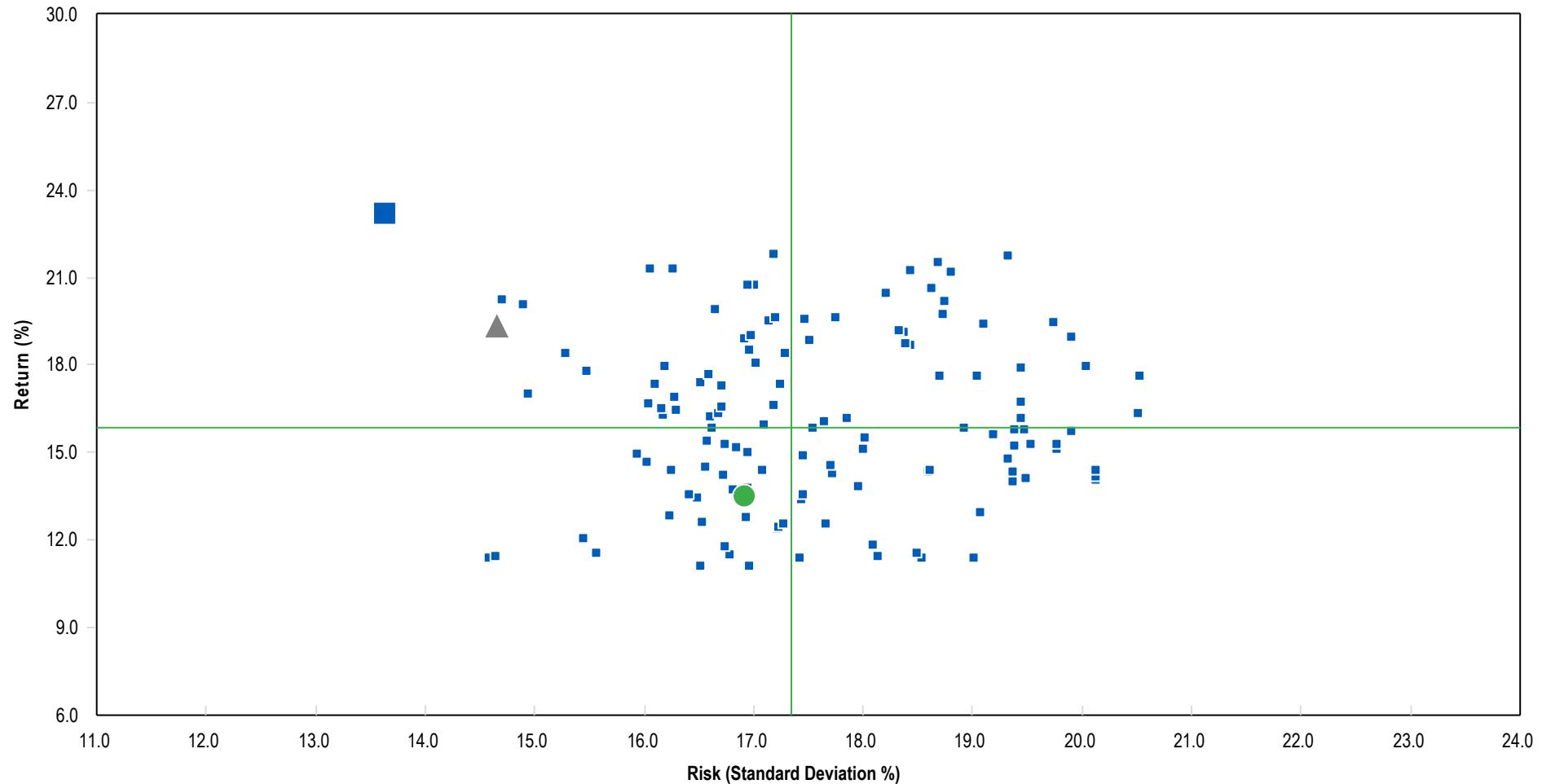
Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Peer Group Scattergram

IM International Core Equity (SA+CF)

3 Years Ending December 31, 2021



	Return	Standard Deviation
Fiera International Equity	23.2	13.6
MSCI EAFE (Net)	13.5	16.9
MSCI EAFE Growth Index	19.4	14.7
Median	15.8	17.3

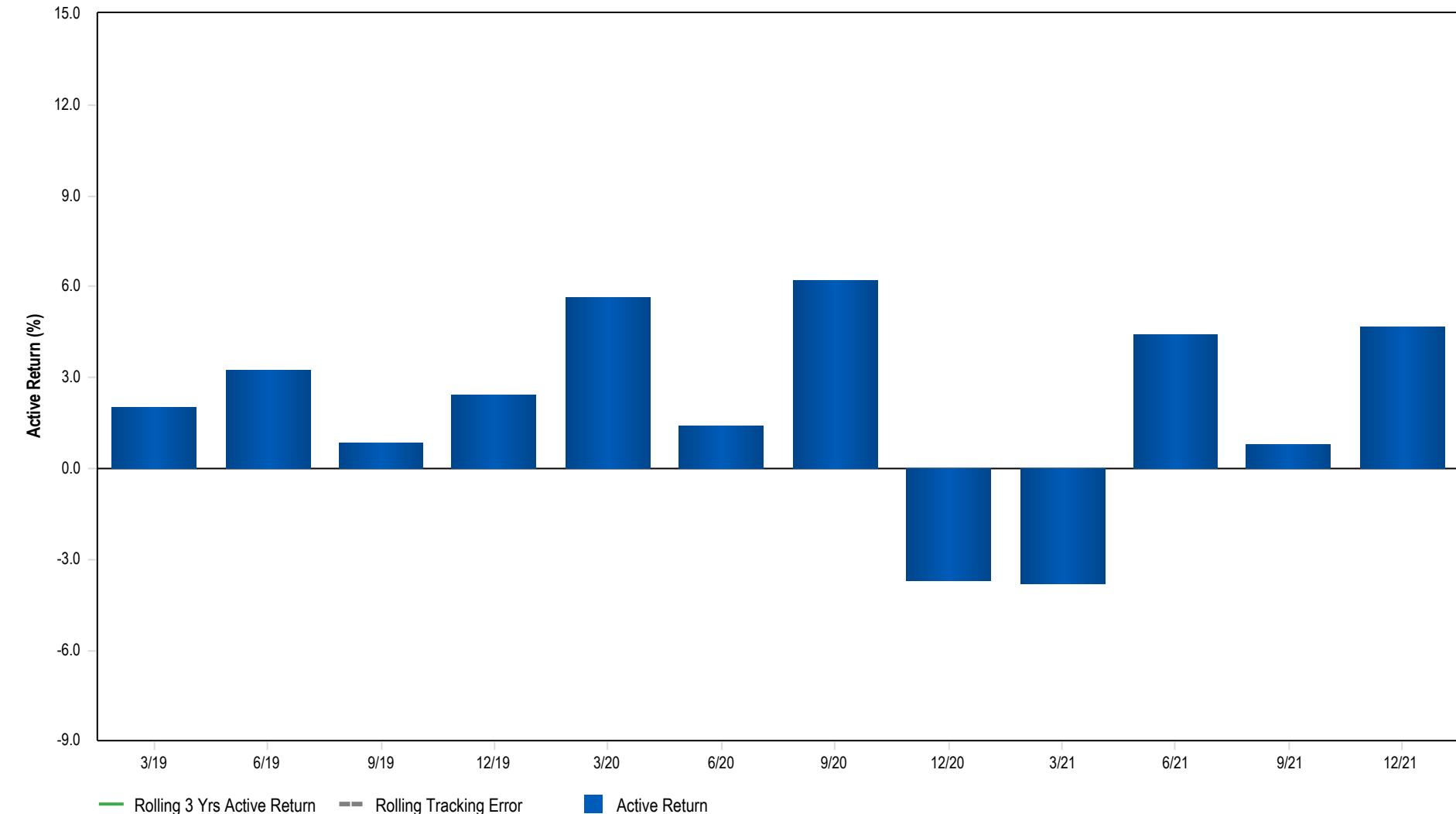
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Fiera International Equity	7.4	17.7	17.7	23.2				20.2	32.3		
MSCI EAFE (Net)	2.7	11.3	11.3	13.5	9.5	6.8	8.0	7.8	22.0	-13.8	25.0
Difference	4.7	6.4	6.4	9.7				12.4	10.3		



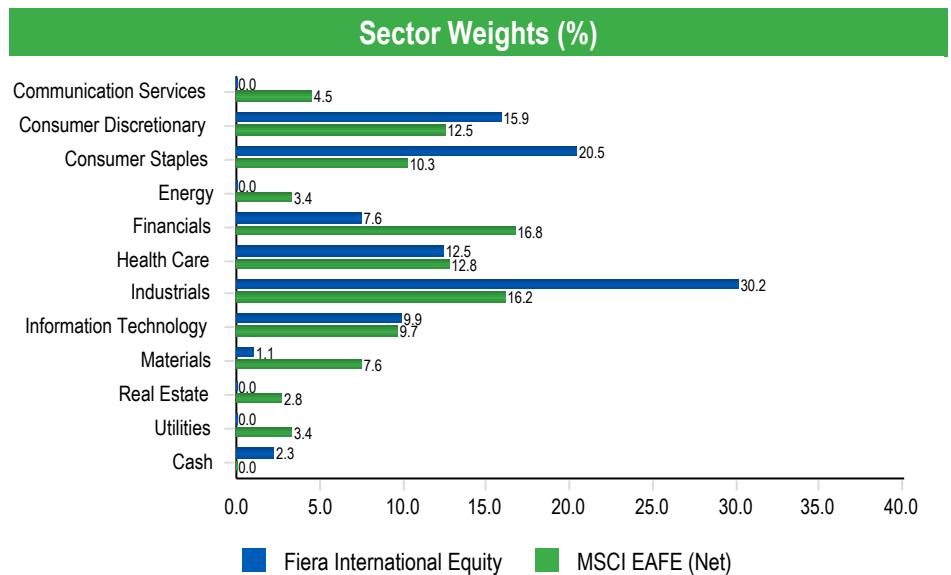
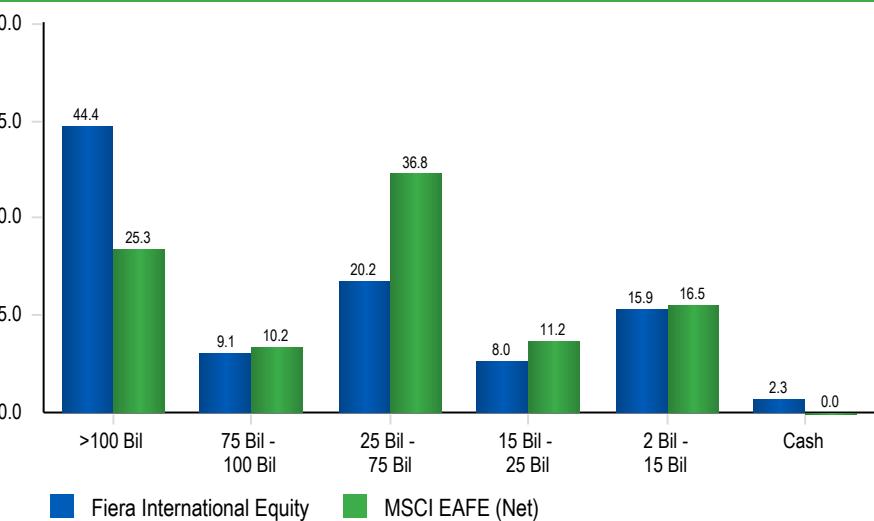
Bristol County Retirement System  
Fiera International Equity

As of December 31, 2021

Top Ten Equity Holdings					Portfolio Characteristics		
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)		Portfolio	Benchmark
Nestle SA, Cham Und Vevey	6.7	2.3	4.4	15.7	Wtd. Avg. Mkt. Cap (\$)	109,361,932,887	85,033,075,269
Novo Nordisk A/S	5.6	1.1	4.5	16.1	Median Mkt. Cap (\$)	44,258,106,059	14,673,011,783
IHS Markit Ltd	5.4	0.0	5.4	14.2	Price/Earnings ratio	33.6	16.5
Keyence Corp	5.3	0.7	4.6	4.5	Price/Book ratio	5.1	2.8
Diageo PLC	4.7	0.7	4.0	12.2	5 Yr. EPS Growth Rate (%)	9.1	14.3
Roche Holding AG	4.6	1.7	2.9	13.5	Current Yield (%)	1.5	2.7
LVMH Moet Hennessy Louis Vuitton SE	4.4	1.3	3.1	14.9	Beta (3 Years, Monthly)	0.7	1.0
L'Oreal S.A., Paris	4.3	0.7	3.6	14.7	Number of Stocks	32	829
Canadian National Railway Co	3.5	0.0	3.5	6.6			
CIE Generale	3.3	0.4	2.9	11.0			
% of Portfolio	47.8	8.9	38.9				

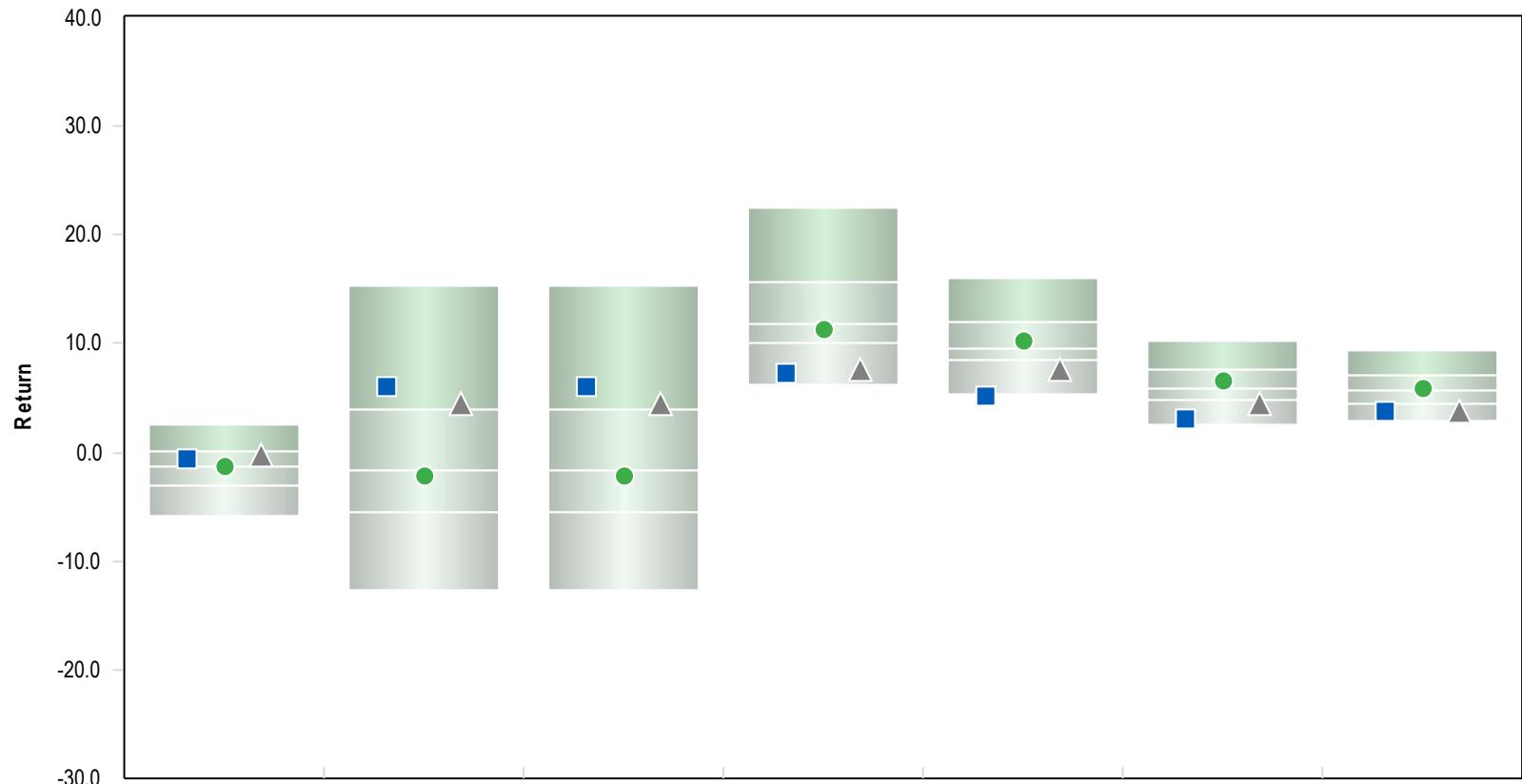
Distribution of Market Capitalization (%)		Sector Weights (%)	
>100 Bil	44.4	Communication Services	4.5
75 Bil - 100 Bil	9.1	Consumer Discretionary	15.9
25 Bil - 75 Bil	20.2	Consumer Staples	20.5
15 Bil - 25 Bil	8.0	Energy	3.4
2 Bil - 15 Bil	15.9	Financials	7.6
Cash	2.3	Health Care	12.8
	0.0	Industrials	30.2
		Information Technology	19.9
		Materials	7.6
		Real Estate	2.8
		Utilities	3.4
		Cash	12.3



# Bristol County Retirement System

## IM Emerging Markets Equity (MF)

As of December 31, 2021



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Lazard Emerging Markets	-0.6 (41)	6.1 (17)	6.1 (17)	7.3 (92)	5.2 (96)	3.1 (94)	3.7 (89)
MSCI Emerging Markets Index	-1.2 (50)	-2.2 (56)	-2.2 (56)	11.3 (57)	10.3 (40)	6.5 (38)	5.9 (47)
MSCI Emerging Markets Value	-0.3 (35)	4.5 (23)	4.5 (23)	7.6 (91)	7.5 (88)	4.5 (81)	3.8 (88)

5th Percentile	2.6	15.3	15.3	22.5	16.0	10.3	9.3
1st Quartile	0.1	3.9	3.9	15.7	12.0	7.6	7.1
Median	-1.3	-1.6	-1.6	11.8	9.6	5.9	5.6
3rd Quartile	-3.0	-5.4	-5.4	10.0	8.4	4.9	4.4
95th Percentile	-5.9	-12.7	-12.7	6.3	5.4	2.6	2.8

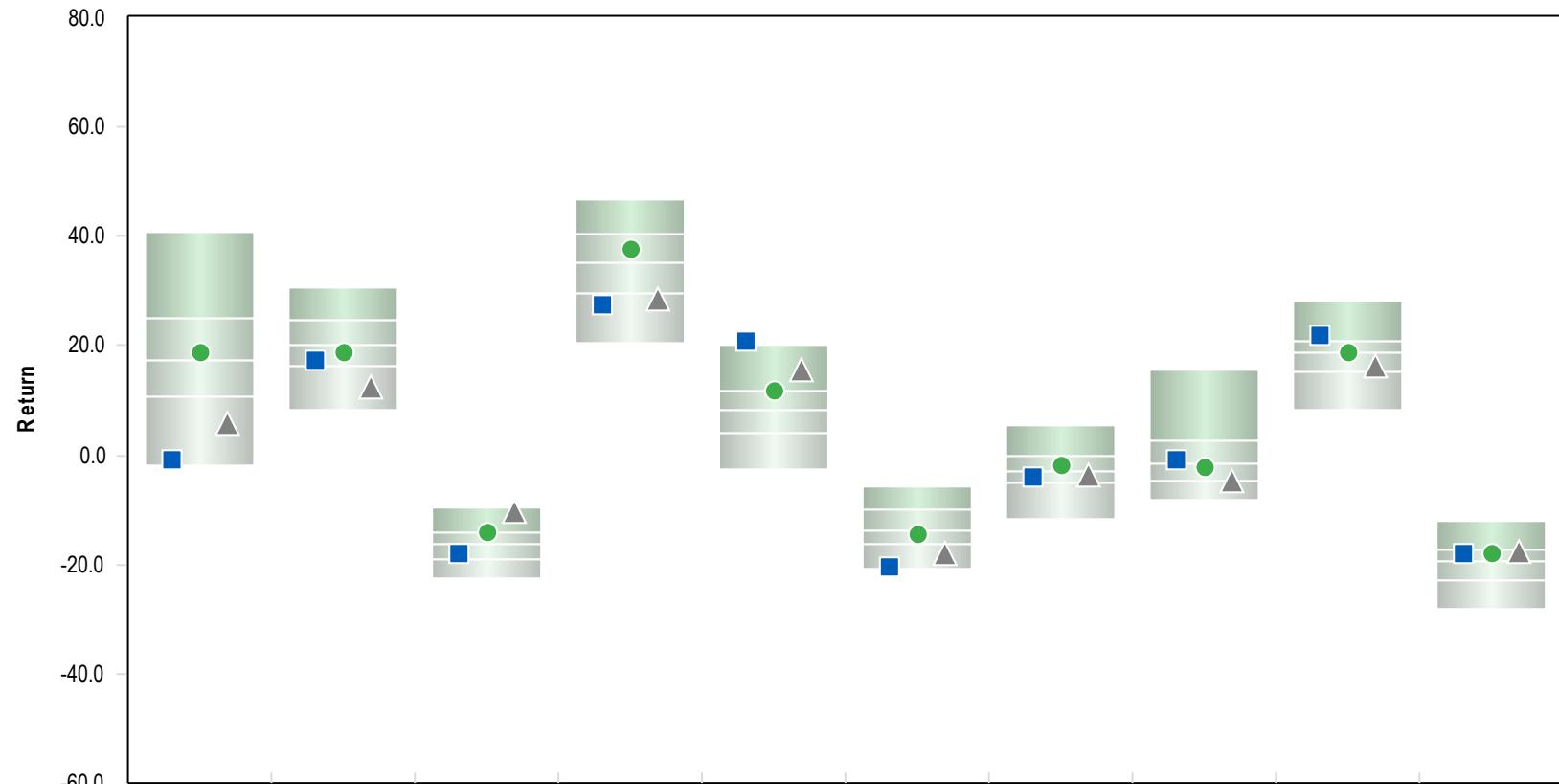
Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM Emerging Markets Equity (MF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Lazard Emerging Markets	-1.0 (95)	17.5 (69)	-18.1 (65)	27.5 (82)	20.9 (5)	-20.4 (94)	-4.0 (64)	-0.8 (45)	21.8 (19)	-18.1 (33)
MSCI Emerging Markets Index	18.7 (44)	18.9 (58)	-14.2 (28)	37.8 (37)	11.6 (27)	-14.6 (61)	-1.8 (40)	-2.3 (56)	18.6 (53)	-18.2 (33)
MSCI Emerging Markets Value	6.0 (87)	12.5 (86)	-10.3 (7)	28.7 (78)	15.5 (12)	-18.2 (85)	-3.6 (57)	-4.7 (75)	16.4 (70)	-17.6 (26)

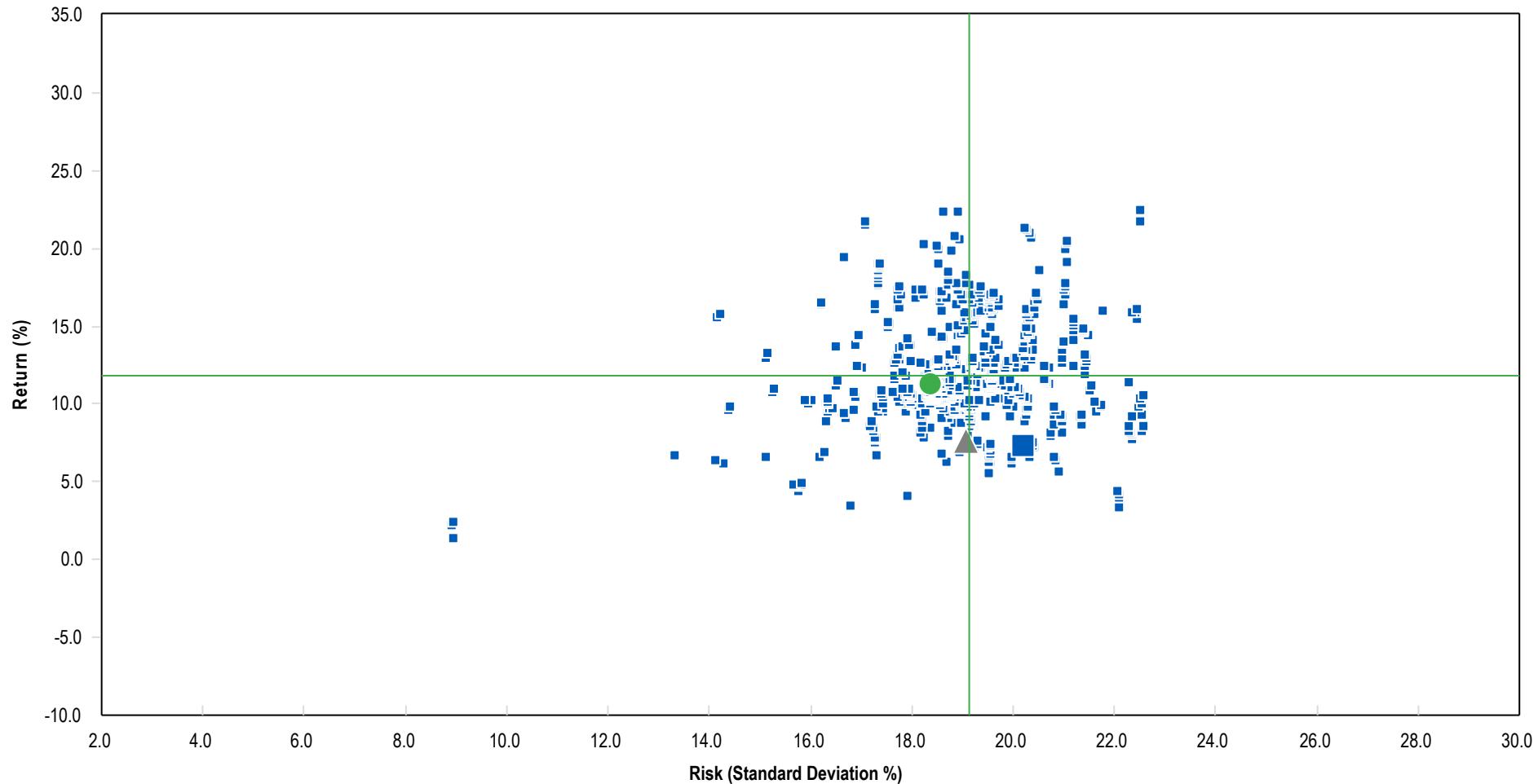
5th Percentile	40.7	30.6	-9.7	46.8	20.2	-5.8	5.5	15.5	28.2	-11.9
1st Quartile	24.9	24.5	-14.0	40.4	11.8	-10.0	-0.2	2.7	20.7	-17.4
Median	17.5	20.1	-16.4	35.4	8.4	-13.7	-2.9	-1.4	18.8	-19.5
3rd Quartile	10.8	16.3	-19.0	29.4	4.0	-16.2	-5.0	-4.7	15.4	-23.1
95th Percentile	-1.9	8.1	-22.6	20.4	-2.7	-20.9	-11.7	-8.3	8.3	-28.1

Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

3 Years Ending December 31, 2021  
IM Emerging Markets Equity (MF)



	Return	Standard Deviation
Lazard Emerging Markets	7.3	20.2
MSCI Emerging Markets Index	11.3	18.4
MSCI Emerging Markets Value	7.6	19.1
Median	11.8	19.1

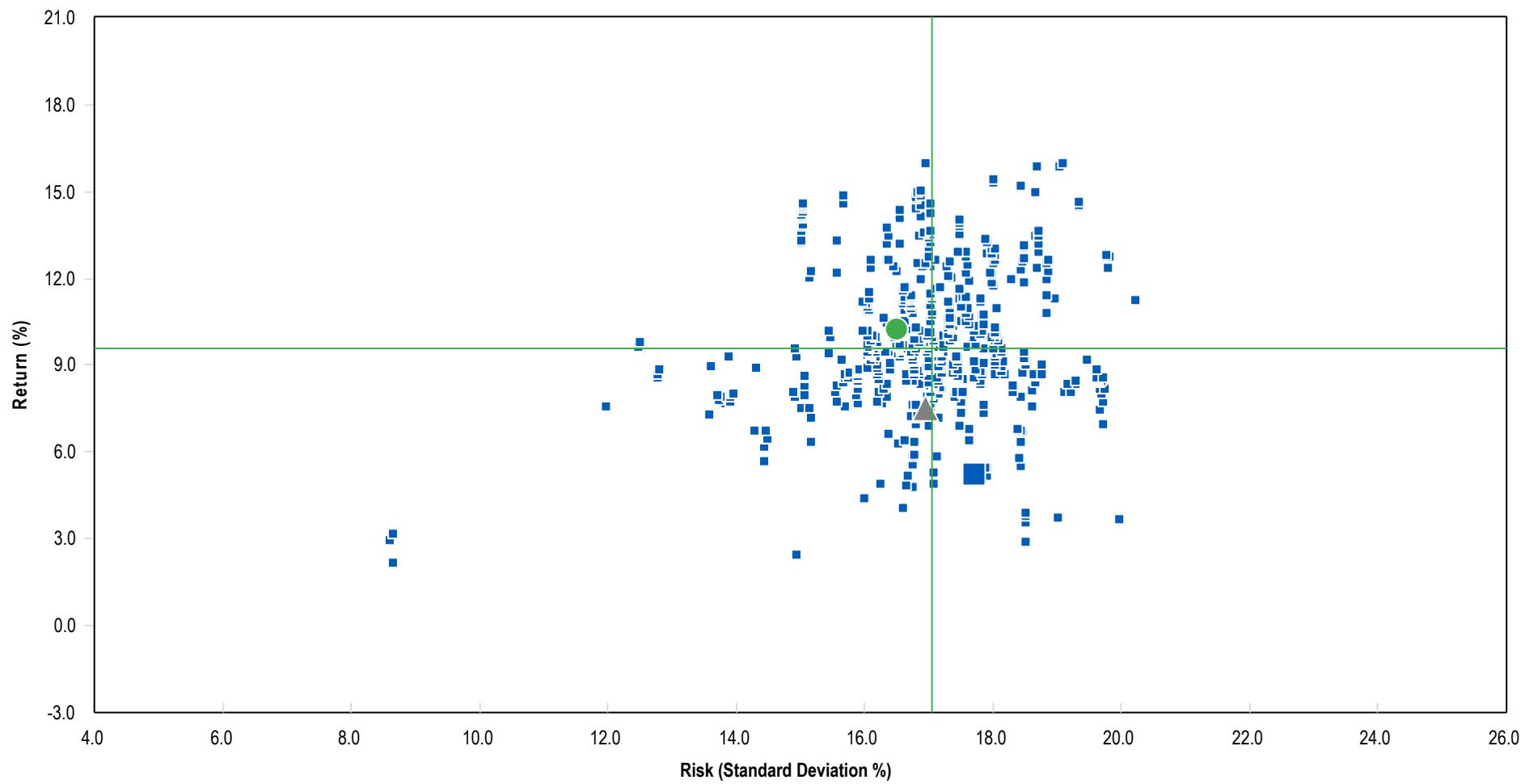
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Peer Group Scattergram

5 Years Ending December 31, 2021

IM Emerging Markets Equity (MF)



	Return	Standard Deviation
Lazard Emerging Markets	5.2	17.7
MSCI Emerging Markets Index	10.3	16.5
MSCI Emerging Markets Value	7.5	16.9
Median	9.6	17.0

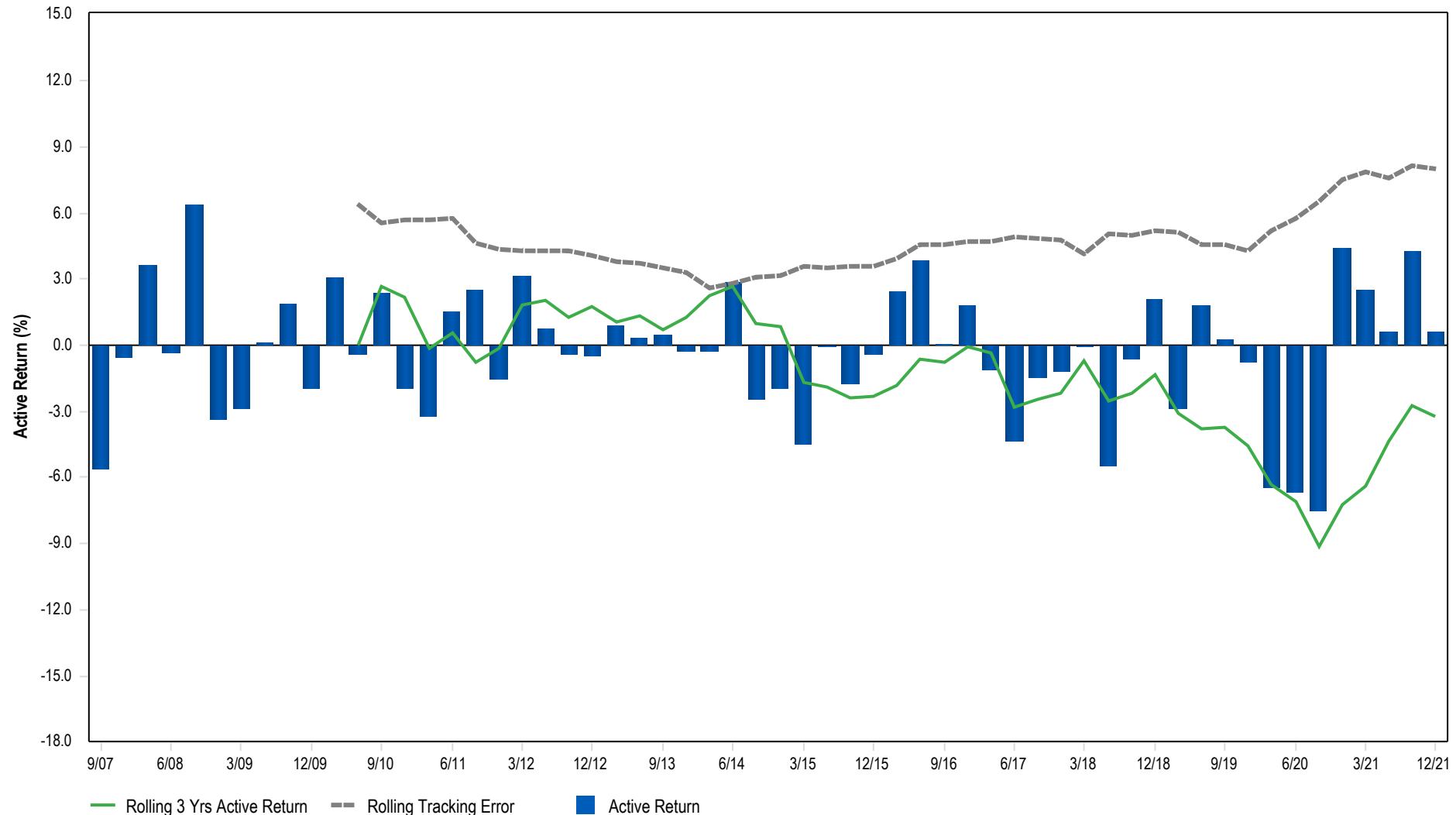
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Lazard Emerging Markets	-0.6	6.1	6.1	7.3	5.2	3.1	3.7	-1.0	17.5	-18.1	27.5
MSCI Emerging Markets Index	-1.2	-2.2	-2.2	11.3	10.3	6.5	5.9	18.7	18.9	-14.2	37.8
Difference	0.6	8.3	8.3	-4.0	-5.1	-3.4	-2.2	-19.7	-1.4	-3.9	-10.3

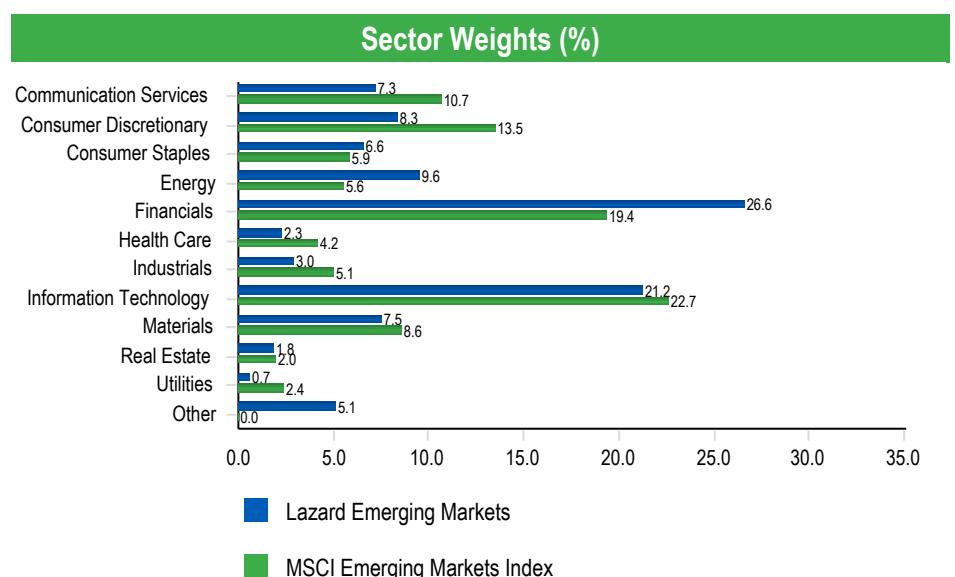
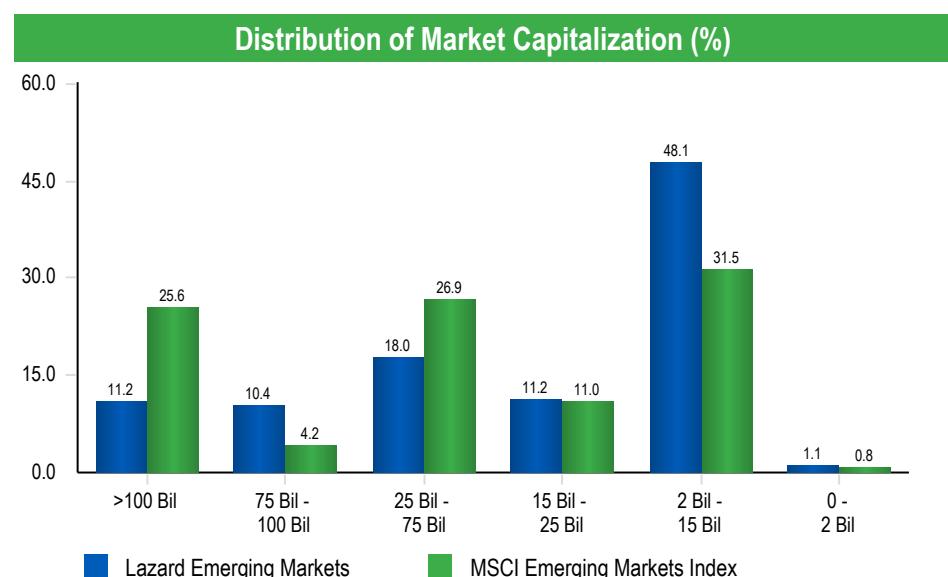


Bristol County Retirement System  
Lazard Emerging Markets

As of December 31, 2021

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Samsung Electronics Co Ltd	3.8	4.0	-0.2	4.9
SK Hynix Inc	3.7	0.8	2.9	26.2
China Construction Bank Corp	3.6	0.8	2.8	-3.4
Vanguard FTSE Emerging Markets ETF	2.6	0.0	2.6	-0.1
iShares Core MSCI Emerging Markets ETF	2.5	0.0	2.5	-0.9
PT Telekomunikasi Indonesia (Persero) TBK	2.4	0.2	2.2	14.1
Novatek Microelectronics Corp	2.1	0.1	2.0	32.1
Petroleo Brasileiro S.A.- Petrobras	2.0	0.3	1.7	17.7
PT Bank Mandiri (Persero) TBK	1.9	0.1	1.8	14.5
Quanta Computer Inc	1.9	0.1	1.8	22.7
% of Portfolio	26.5	6.4	20.1	

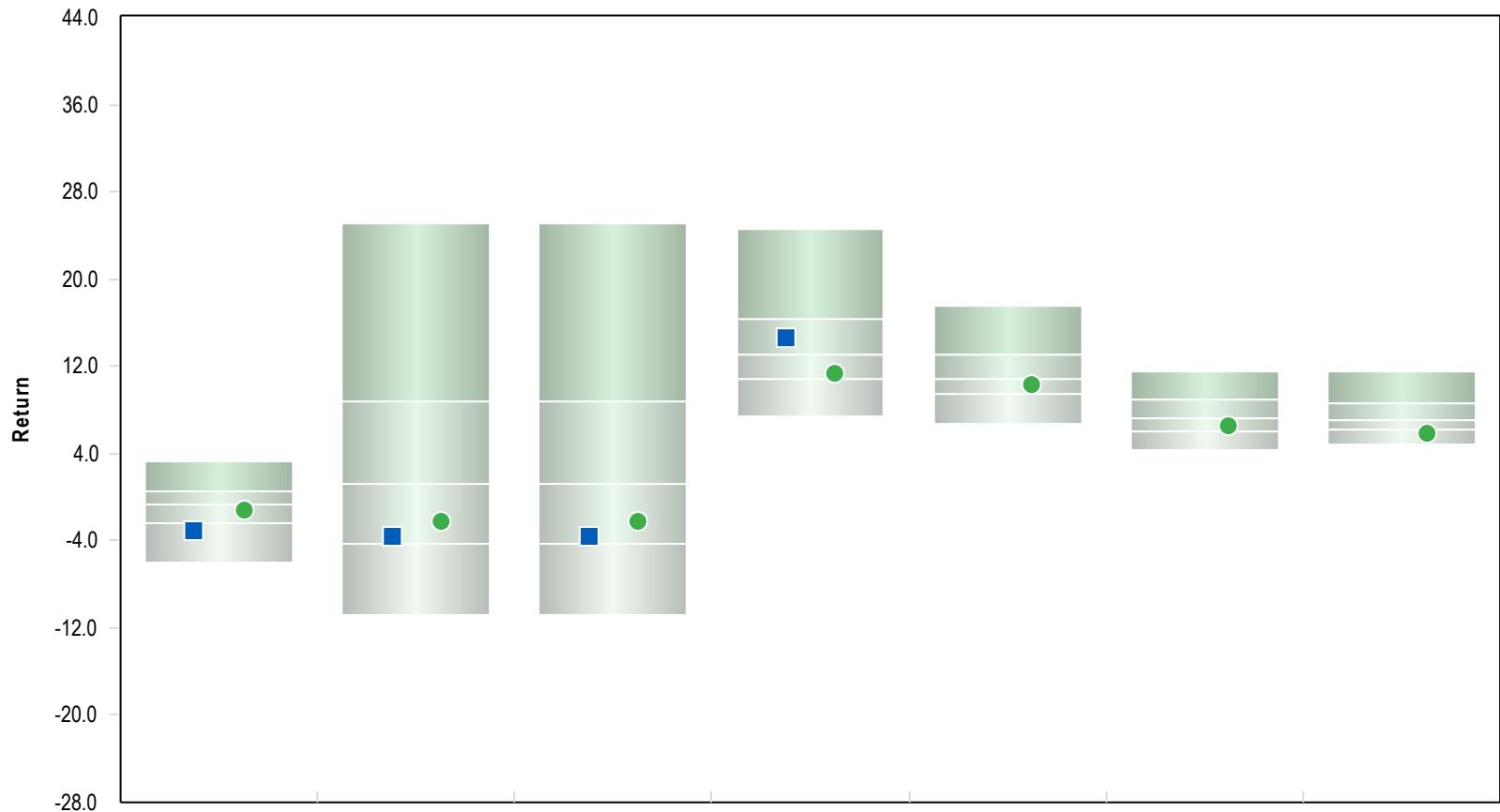
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	52,351,827,637	127,559,244,043
Median Mkt. Cap (\$)	12,909,600,640	6,932,552,048
Price/Earnings ratio	8.5	12.0
Price/Book ratio	2.2	2.8
5 Yr. EPS Growth Rate (%)	12.6	16.7
Current Yield (%)	4.7	2.3
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	74	1,420



# Bristol County Retirement System

## IM Emerging Markets Equity (SA+CF)

As of December 31, 2021



■ Aberdeen Emerging Markets

● MSCI Emerging Markets Index

1 Qtr                    YTD                    1 Yr                    3 Yrs                    5 Yrs                    7 Yrs                    10 Yrs

-3.0 (79)	-3.7 (72)	-3.7 (72)	14.6 (37)			
-1.2 (61)	-2.2 (65)	-2.2 (65)	11.3 (69)	10.3 (60)	6.5 (66)	5.9 (77)

5th Percentile

3.3	25.1	25.1	24.6	17.6	11.5	11.5
-----	------	------	------	------	------	------

1st Quartile

0.5	8.9	8.9	16.4	13.1	8.9	8.7
-----	-----	-----	------	------	-----	-----

Median

-0.7	1.2	1.2	13.1	10.8	7.3	7.1
------	-----	-----	------	------	-----	-----

3rd Quartile

-2.4	-4.2	-4.2	10.9	9.5	6.0	6.2
------	------	------	------	-----	-----	-----

95th Percentile

-6.0	-10.9	-10.9	7.3	6.8	4.3	4.8
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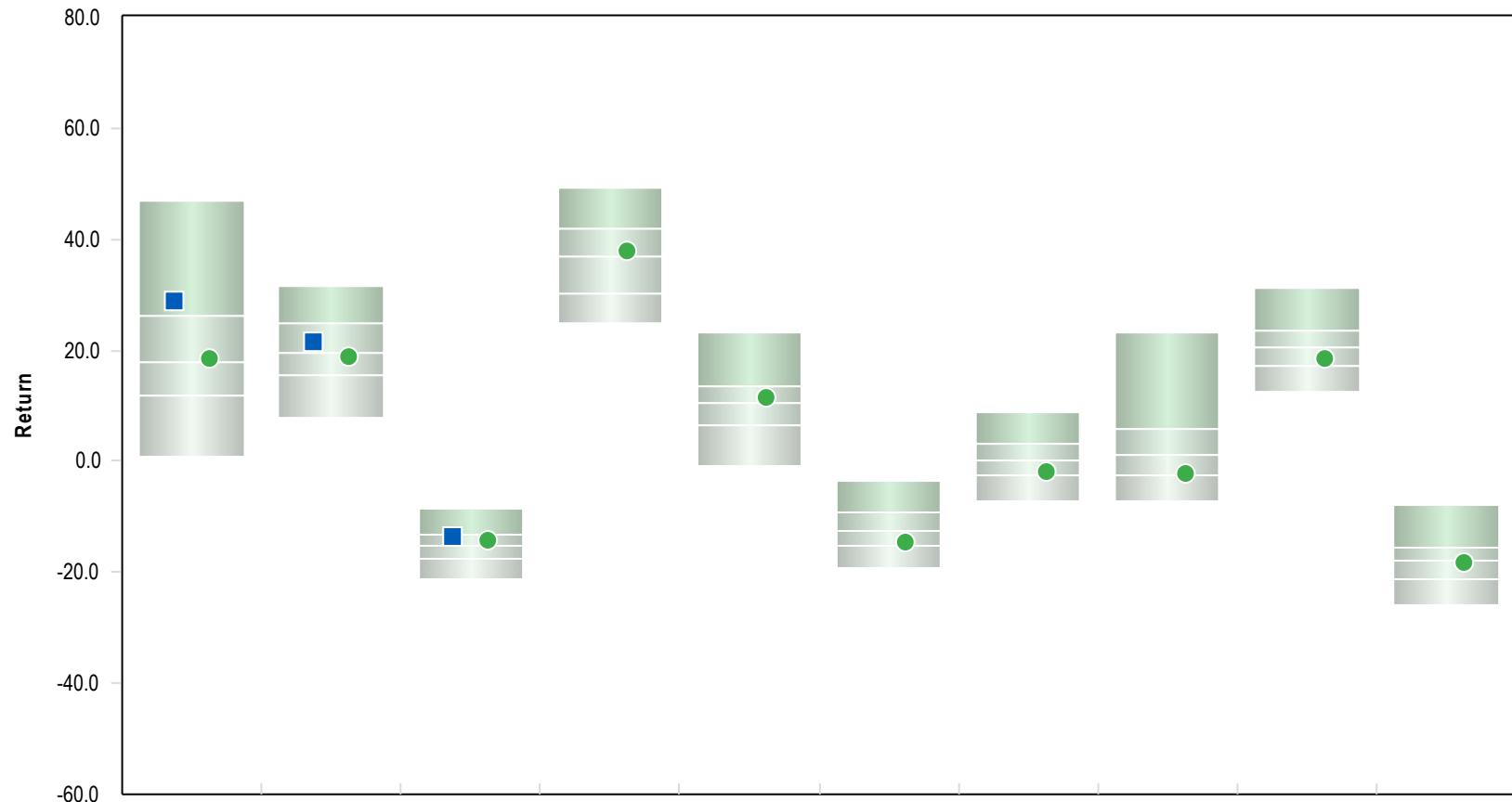
Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM Emerging Markets Equity (SA+CF)

As of December 31, 2021



■ Aberdeen Emerging Markets

● MSCI Emerging Markets Index

2020      2019      2018      2017      2016      2015      2014      2013      2012      2011

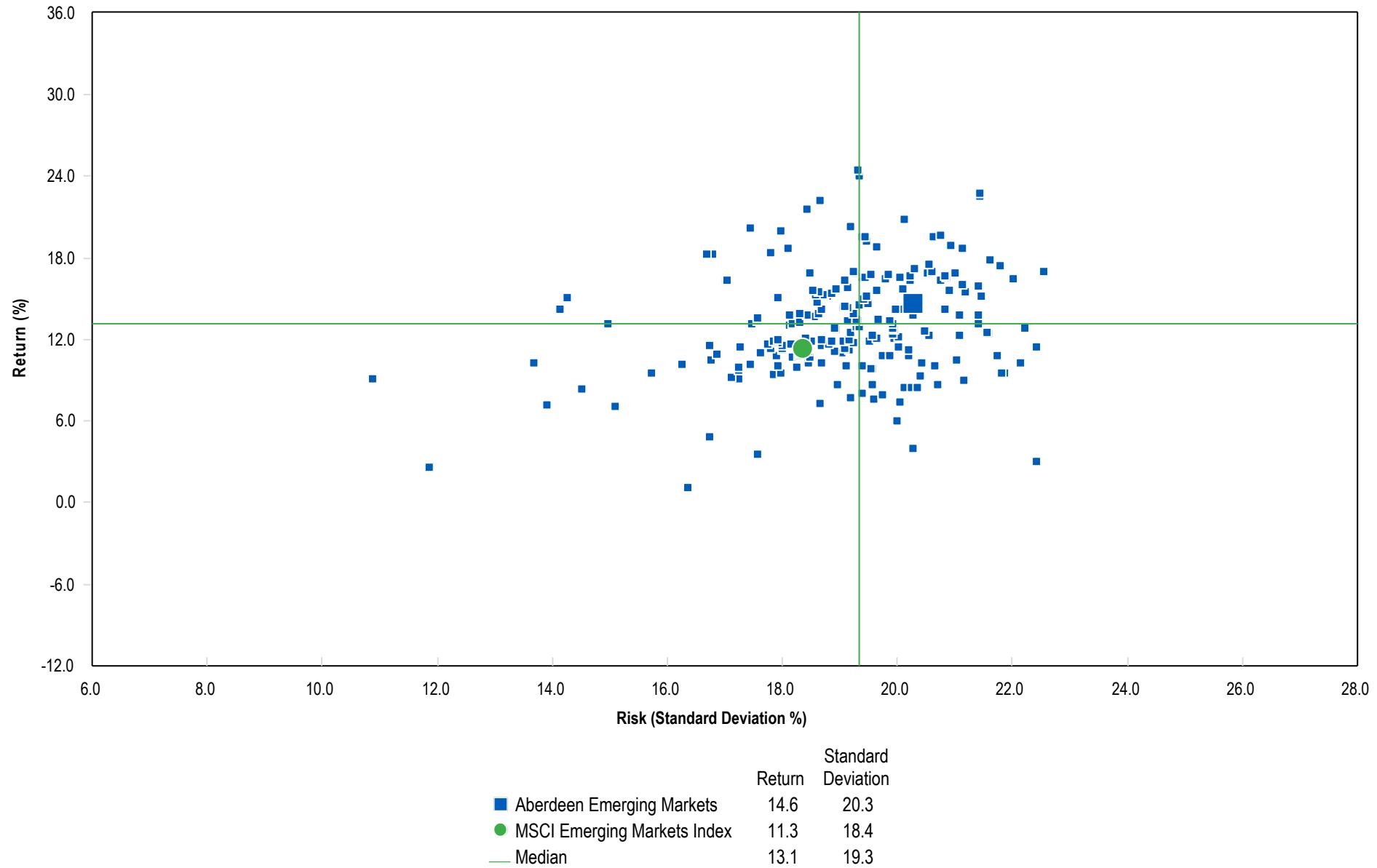
5th Percentile	47.1	31.5	-8.7	49.2	23.1	-3.5	8.9	23.3	31.2	-8.0
1st Quartile	26.2	25.0	-13.3	41.8	13.6	-9.3	3.1	5.9	23.5	-15.6
Median	18.0	19.5	-15.2	36.8	10.4	-12.6	0.0	1.0	20.6	-17.9
3rd Quartile	11.7	15.6	-17.4	30.2	6.4	-15.3	-2.4	-2.6	17.3	-21.3
95th Percentile	0.9	7.7	-21.4	24.7	-0.9	-19.1	-7.3	-7.2	12.7	-26.0

Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

3 Years Ending December 31, 2021  
IM Emerging Markets Equity (SA+CF)



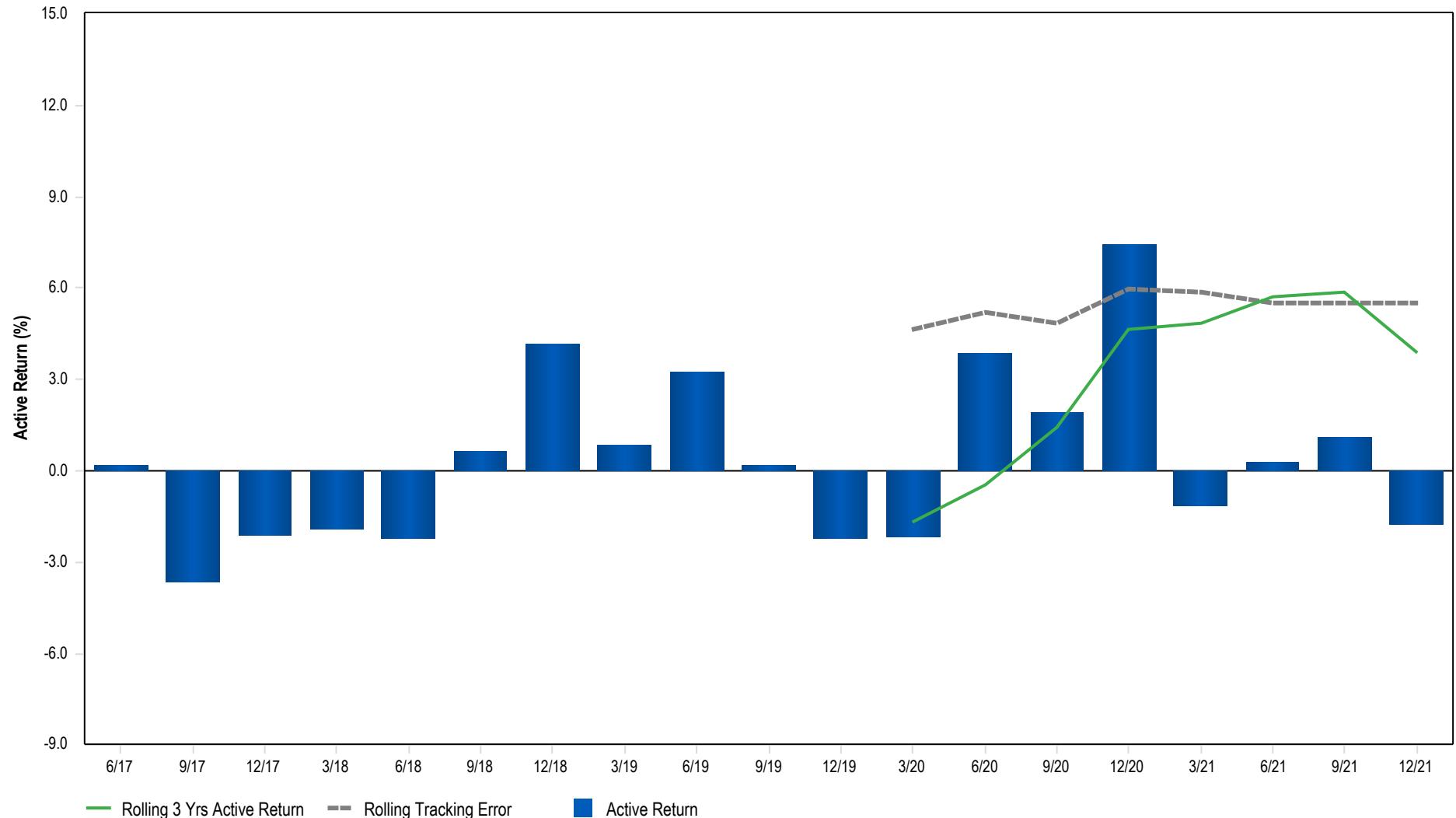
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Aberdeen Emerging Markets	-3.0	-3.7	-3.7	14.6				28.7	21.5	-13.7	
MSCI Emerging Markets Index	-1.2	-2.2	-2.2	11.3	10.3	6.5	5.9	18.7	18.9	-14.2	37.8
Difference	-1.8	-1.5	-1.5	3.3				10.0	2.6	0.5	

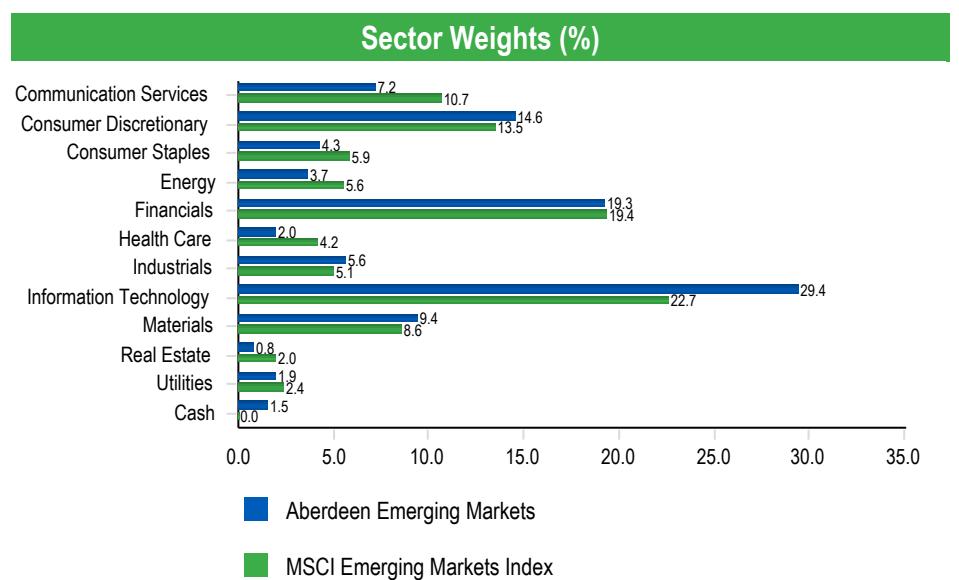
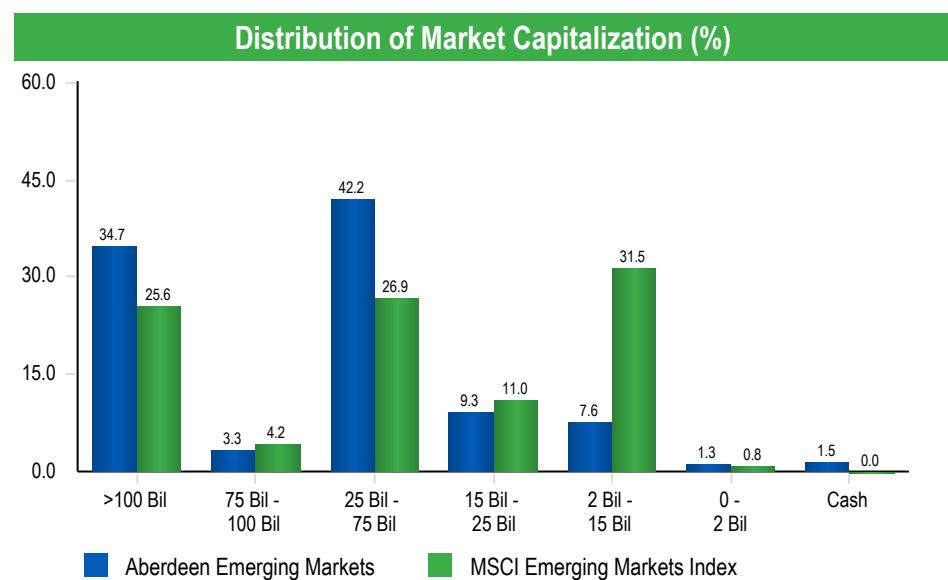


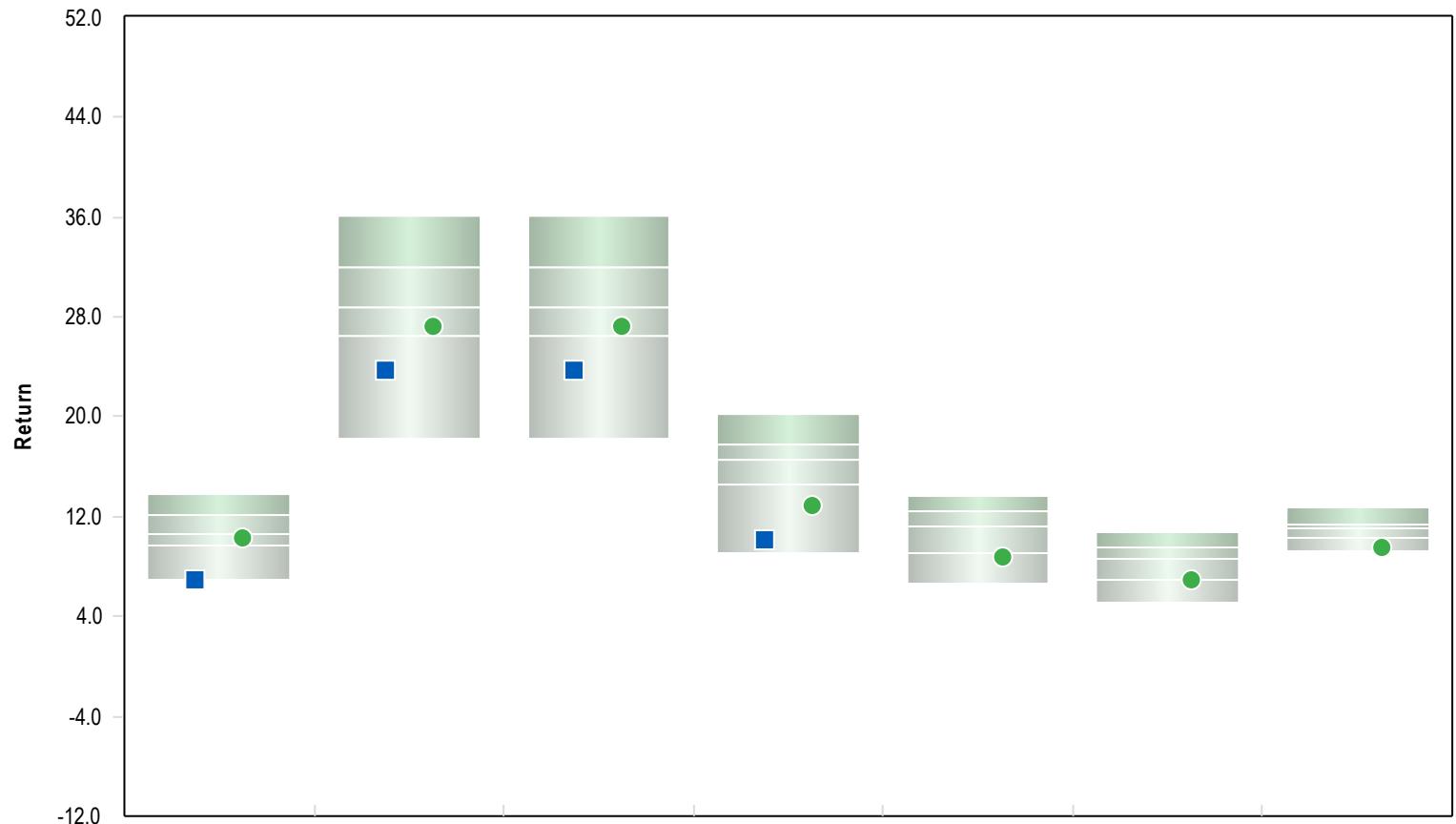
Bristol County Retirement System  
Aberdeen Emerging Markets

As of December 31, 2021

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Taiwan Semiconductor Manuf	9.4	7.0	2.4	7.0
Samsung Electronics Co Ltd	8.5	0.6	7.9	1.5
Tencent Holdings LTD	5.2	4.3	0.9	-1.2
Alibaba Group Holding Ltd	3.5	2.9	0.6	-16.5
Housing Development Finance Corp Ltd	2.9	0.8	2.1	-6.5
China Merchants Bank Co Ltd	2.0	0.4	1.6	-2.6
ASML Holding NV	1.8	0.0	1.8	7.6
Novatek JSC	1.8	0.3	1.5	-12.2
Grupo Financiero Banorte SA De CV Gfnorte	1.7	0.2	1.5	2.7
Lg Chem Ltd	1.7	0.3	1.4	-21.4
% of Portfolio	38.5	16.8	21.7	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	166,901,343,535	127,559,244,043
Median Mkt. Cap (\$)	34,732,584,767	6,932,552,048
Price/Earnings ratio	16.9	12.0
Price/Book ratio	3.5	2.8
5 Yr. EPS Growth Rate (%)	19.1	16.7
Current Yield (%)	2.0	2.3
Beta (3 Years, Monthly)	1.1	1.0
Number of Stocks	69	1,420





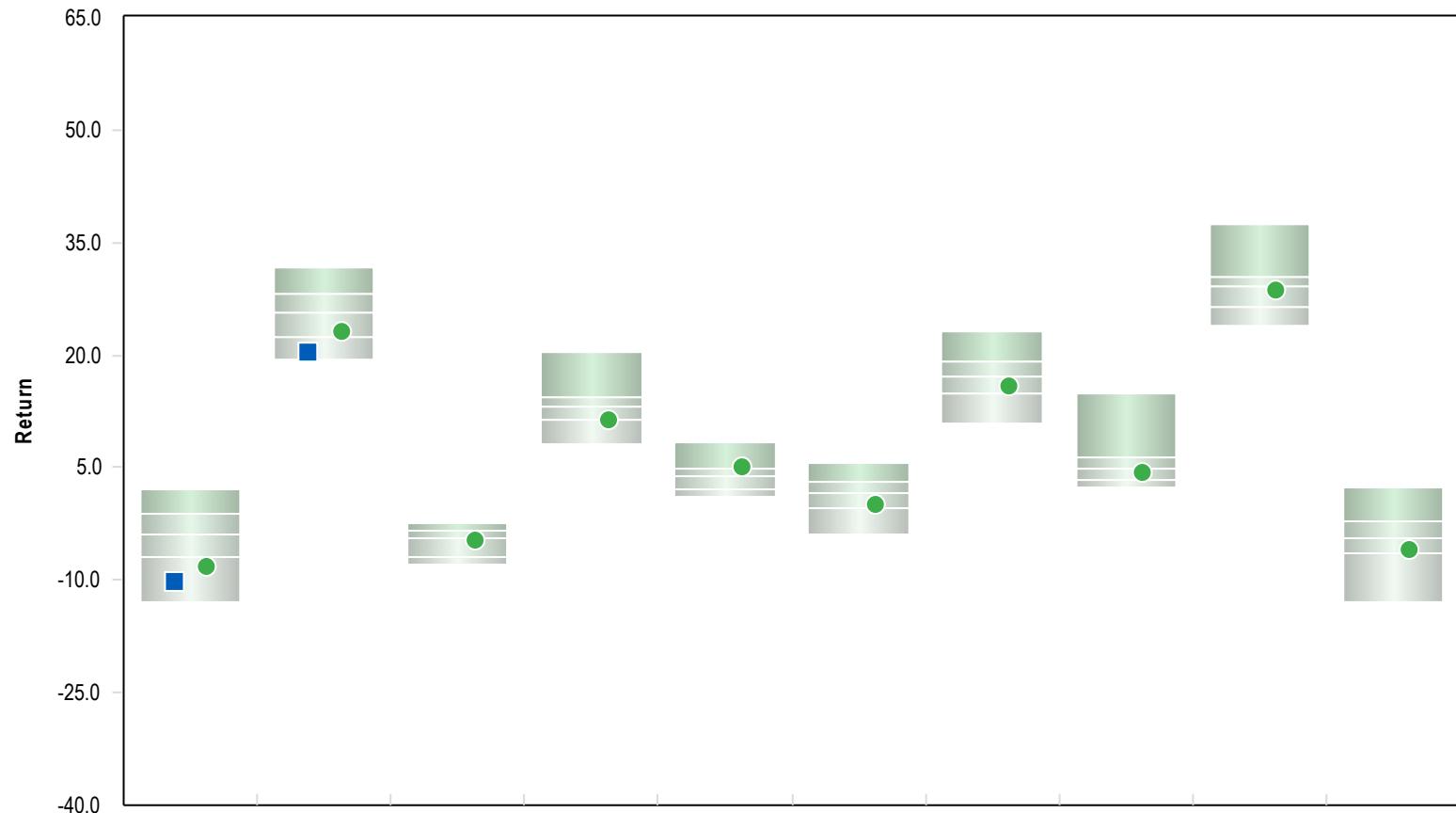
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Brookfield Global Real Estate	6.9 (96)	23.8 (89)	23.8 (89)	10.2 (94)	8.8 (78)	7.0 (76)	9.6 (94)
FTSE EPRA/NAREIT Developed Index	10.4 (60)	27.2 (71)	27.2 (71)	12.9 (85)	8.8 (78)	7.0 (76)	9.6 (94)
5th Percentile	13.8	36.1	36.1	20.2	13.7	10.8	12.7
1st Quartile	12.1	32.0	32.0	17.8	12.4	9.5	11.4
Median	10.7	28.8	28.8	16.5	11.3	8.7	11.1
3rd Quartile	9.6	26.5	26.5	14.5	9.1	7.0	10.3
95th Percentile	7.0	18.2	18.2	9.1	6.6	5.2	9.3

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM Global REIT (SA+CF)

As of December 31, 2021



■ Brookfield Global Real Estate

● FTSE EPRA/NAREIT Developed Index

2020	-10.3 (90)	20.4 (90)
2019	20.4 (90)	23.1 (68)
2018	-4.7 (52)	-4.7 (52)
2017	11.4 (75)	17.0 (75)
2016	5.0 (22)	5.0 (22)
2015	0.1 (72)	3.8 (72)
2014	15.9 (65)	18.0 (65)
2013	4.4 (64)	4.4 (64)
2012	28.7 (57)	28.7 (57)
2011	-5.8 (67)	-8.2 (67)

5th Percentile

2020	2.1	31.6	-2.5	20.3	8.3	5.6	23.2	15.0	37.5	2.4
2019	-1.3	28.2	-3.4	14.4	4.8	3.1	19.1	6.3	30.5	-2.1
2018	-3.8	25.7	-4.5	13.2	3.9	1.6	17.0	4.9	29.2	-4.5
2017	-7.0	22.5	-6.9	11.4	2.1	-0.3	15.0	3.3	26.5	-6.3
2016	-13.0	19.3	-7.9	8.1	1.0	-4.0	10.9	2.2	23.9	-13.1

1st Quartile

2020	2.1	31.6	-2.5	20.3	8.3	5.6	23.2	15.0	37.5	2.4
2019	-1.3	28.2	-3.4	14.4	4.8	3.1	19.1	6.3	30.5	-2.1
2018	-3.8	25.7	-4.5	13.2	3.9	1.6	17.0	4.9	29.2	-4.5
2017	-7.0	22.5	-6.9	11.4	2.1	-0.3	15.0	3.3	26.5	-6.3
2016	-13.0	19.3	-7.9	8.1	1.0	-4.0	10.9	2.2	23.9	-13.1

Median

2020	2.1	31.6	-2.5	20.3	8.3	5.6	23.2	15.0	37.5	2.4
2019	-1.3	28.2	-3.4	14.4	4.8	3.1	19.1	6.3	30.5	-2.1
2018	-3.8	25.7	-4.5	13.2	3.9	1.6	17.0	4.9	29.2	-4.5
2017	-7.0	22.5	-6.9	11.4	2.1	-0.3	15.0	3.3	26.5	-6.3
2016	-13.0	19.3	-7.9	8.1	1.0	-4.0	10.9	2.2	23.9	-13.1

3rd Quartile

2020	2.1	31.6	-2.5	20.3	8.3	5.6	23.2	15.0	37.5	2.4
2019	-1.3	28.2	-3.4	14.4	4.8	3.1	19.1	6.3	30.5	-2.1
2018	-3.8	25.7	-4.5	13.2	3.9	1.6	17.0	4.9	29.2	-4.5
2017	-7.0	22.5	-6.9	11.4	2.1	-0.3	15.0	3.3	26.5	-6.3
2016	-13.0	19.3	-7.9	8.1	1.0	-4.0	10.9	2.2	23.9	-13.1

95th Percentile

2020	2.1	31.6	-2.5	20.3	8.3	5.6	23.2	15.0	37.5	2.4
2019	-1.3	28.2	-3.4	14.4	4.8	3.1	19.1	6.3	30.5	-2.1
2018	-3.8	25.7	-4.5	13.2	3.9	1.6	17.0	4.9	29.2	-4.5
2017	-7.0	22.5	-6.9	11.4	2.1	-0.3	15.0	3.3	26.5	-6.3
2016	-13.0	19.3	-7.9	8.1	1.0	-4.0	10.9	2.2	23.9	-13.1

Parentheses contain percentile rankings.

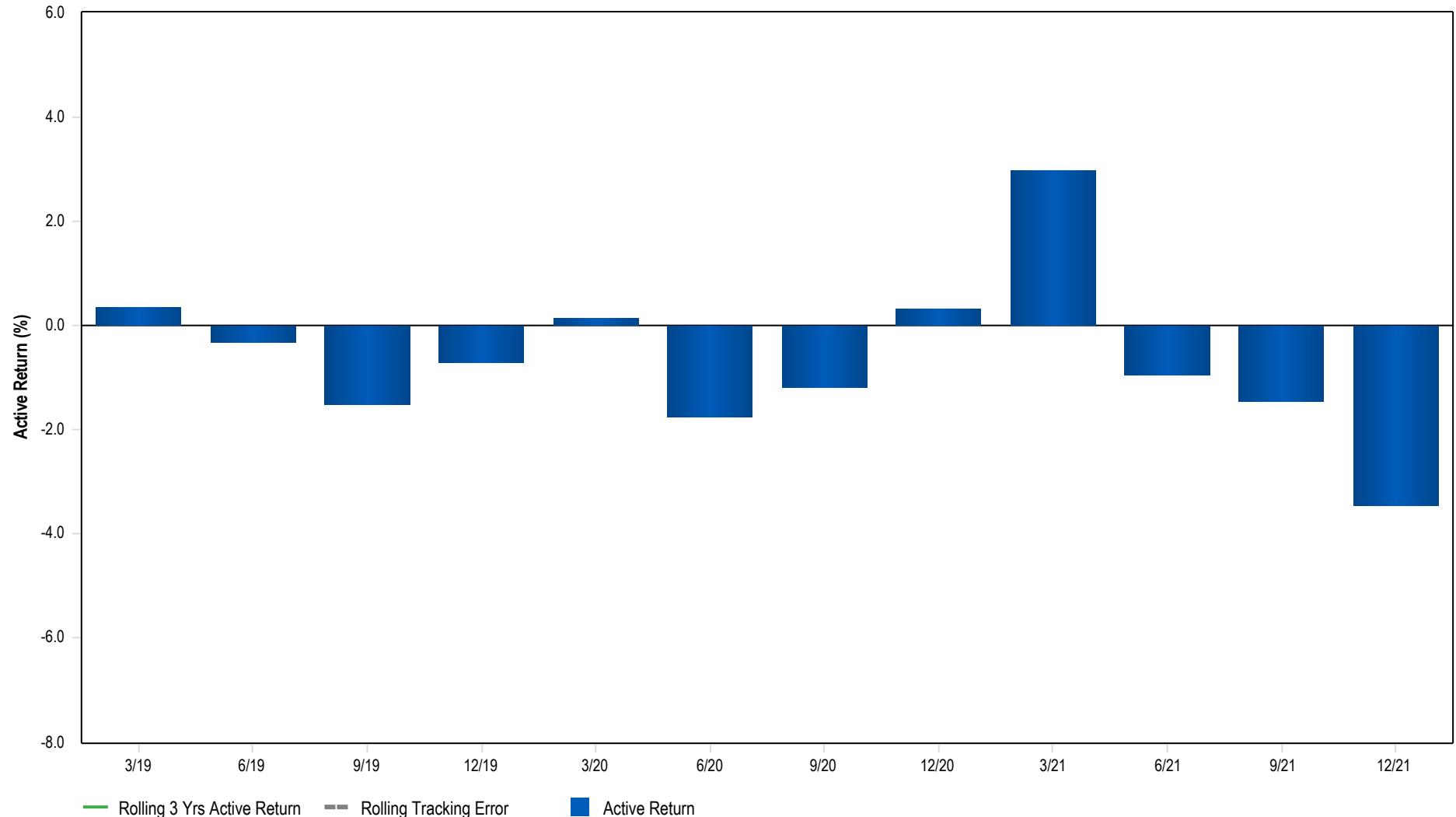
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Brookfield Global Real Estate	6.9	23.8	23.8	10.2				-10.3	20.4		
FTSE EPRA/NAREIT Developed Index	10.4	27.2	27.2	12.9	8.8	7.0	9.6	-8.2	23.1	-4.7	11.4
Difference	-3.5	-3.4	-3.4	-2.7				-2.1	-2.7		



## **Domestic Fixed Income**

# Bristol County Retirement System

## IM U.S. Broad Market Core Fixed Income (SA+CF)

As of December 31, 2021



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Domestic Fixed	0.0 (30)	-1.2 (51)	-1.2 (51)	5.9 (23)	4.3 (38)	3.7 (36)	3.9 (20)
Blmbg. U.S. Aggregate	0.0 (34)	-1.5 (69)	-1.5 (69)	4.8 (92)	3.6 (94)	3.0 (94)	2.9 (93)
5th Percentile	0.2	0.9	0.9	6.7	4.8	4.3	4.5
1st Quartile	0.1	-0.6	-0.6	5.8	4.4	3.8	3.8
Median	0.0	-1.2	-1.2	5.5	4.1	3.5	3.5
3rd Quartile	-0.1	-1.6	-1.6	5.0	3.8	3.2	3.2
95th Percentile	-0.4	-2.1	-2.1	4.5	3.5	3.0	2.9

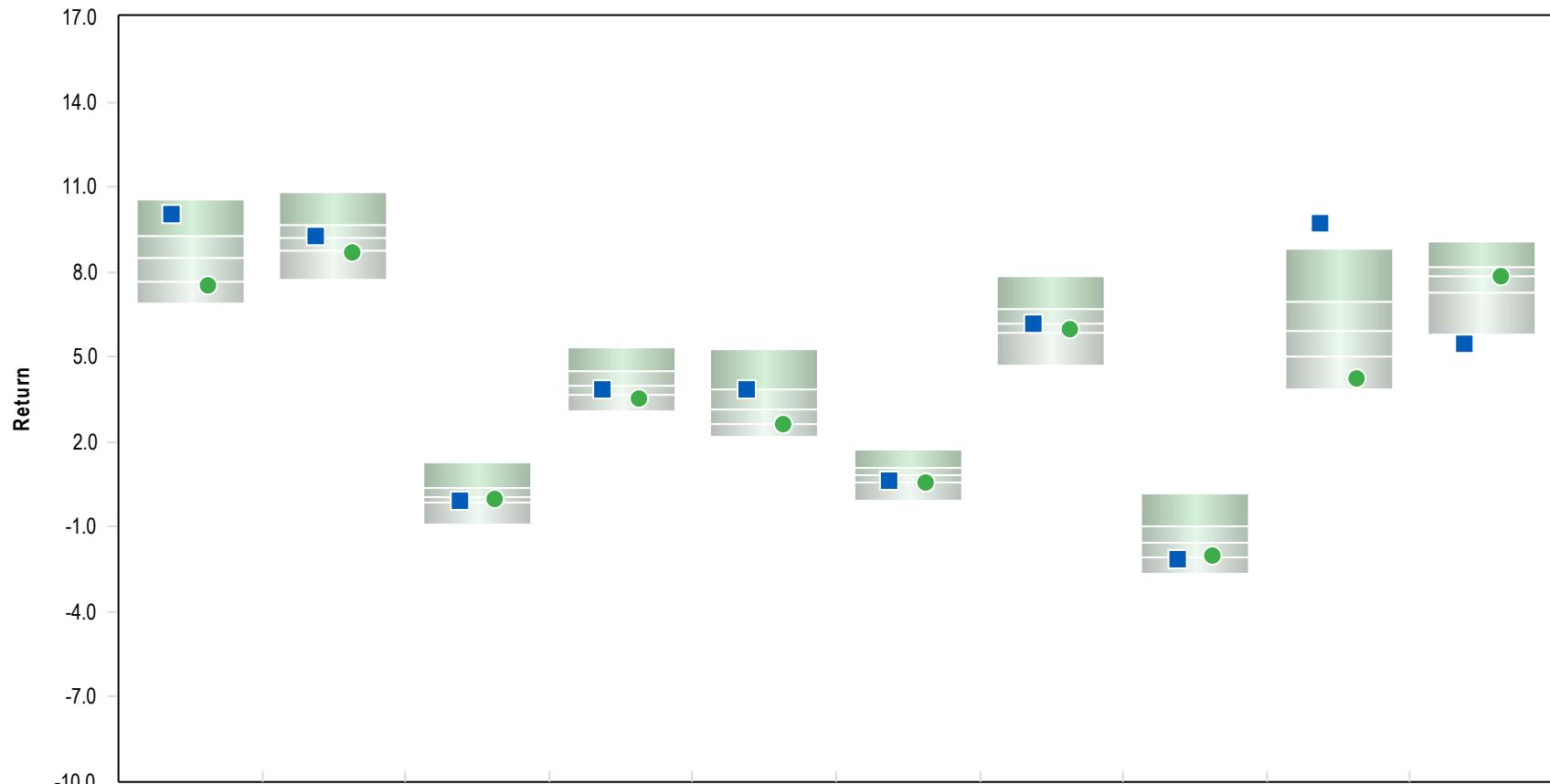
Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM U.S. Broad Market Core Fixed Income (SA+CF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total Domestic Fixed	10.0 (12)	9.3 (47)	-0.1 (70)	3.8 (62)	3.9 (25)	0.7 (64)	6.1 (51)	-2.1 (82)	9.7 (5)	5.5 (98)
Blmbg. U.S. Aggregate	7.5 (88)	8.7 (78)	0.0 (61)	3.5 (84)	2.6 (76)	0.5 (76)	6.0 (68)	-2.0 (73)	4.2 (90)	7.8 (50)

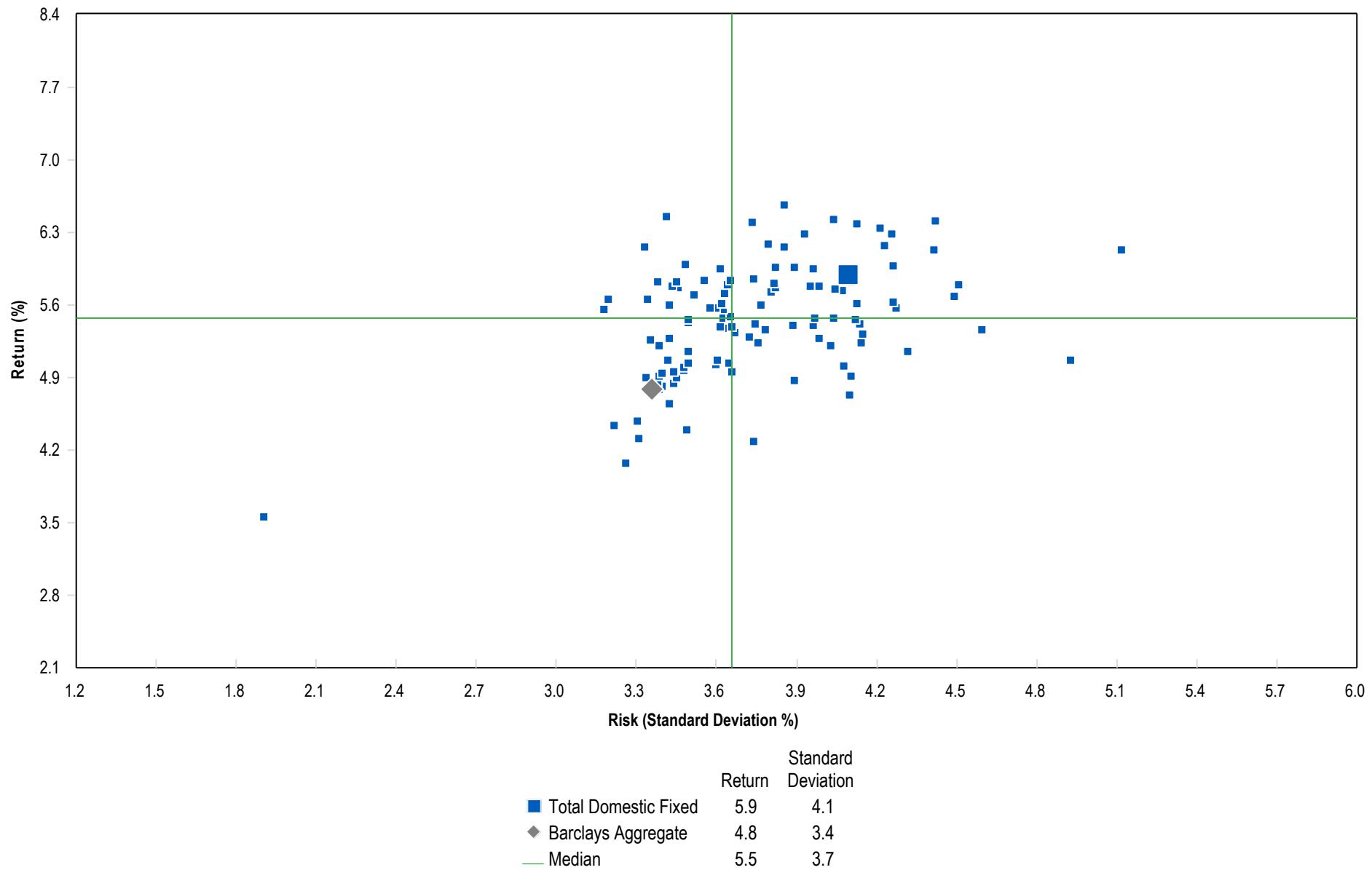
5th Percentile	10.5	10.8	1.3	5.3	5.3	1.7	7.8	0.2	8.8	9.1
1st Quartile	9.3	9.6	0.4	4.5	3.9	1.1	6.7	-1.0	7.0	8.2
Median	8.5	9.2	0.1	4.0	3.1	0.8	6.1	-1.6	5.9	7.8
3rd Quartile	7.7	8.7	-0.2	3.6	2.6	0.6	5.8	-2.0	5.0	7.2
95th Percentile	6.9	7.7	-0.9	3.1	2.2	-0.1	4.7	-2.6	3.9	5.8

Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

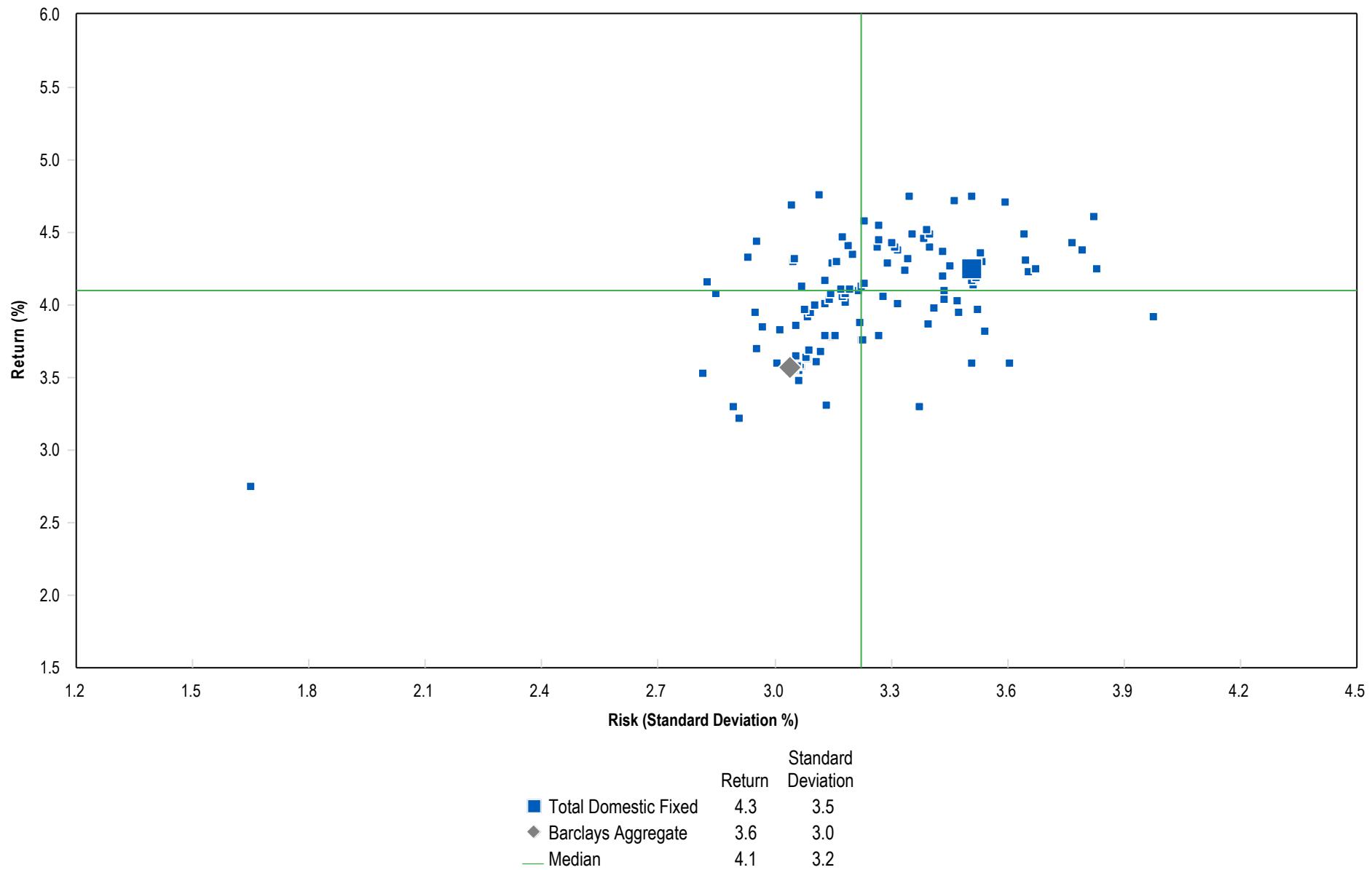
3 Years Ending December 31, 2021  
IM U.S. Broad Market Core Fixed Income (SA+CF)



Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

5 Years Ending December 31, 2021  
IM U.S. Broad Market Core Fixed Income (SA+CF)



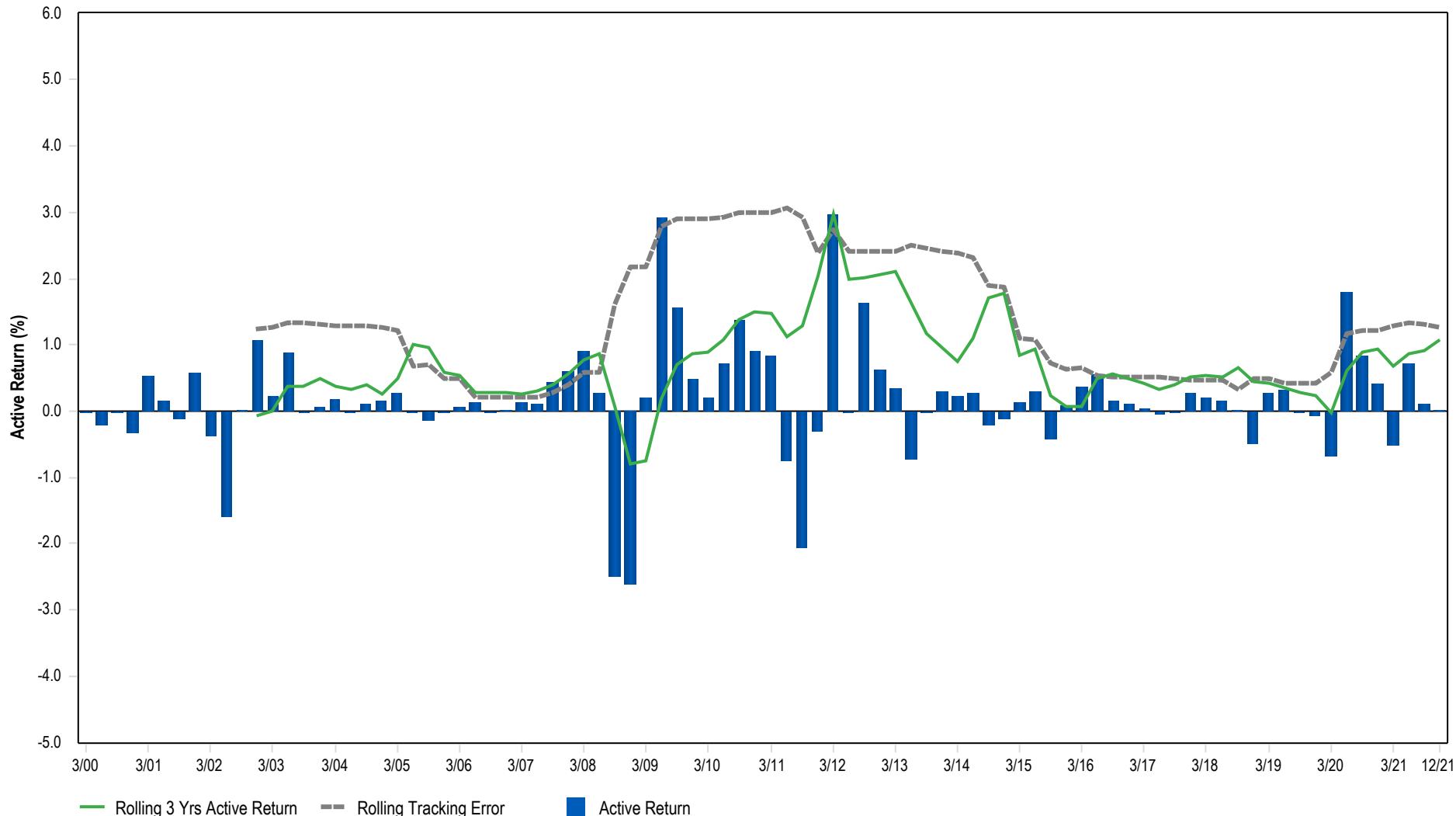
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Total Domestic Fixed	0.0	-1.2	-1.2	5.9	4.3	3.7	3.9	10.0	9.3	-0.1	3.8
Barclays Aggregate	0.0	-1.5	-1.5	4.8	3.6	3.0	2.9	7.5	8.7	0.0	3.5
Difference	0.0	0.3	0.3	1.1	0.7	0.7	1.0	2.5	0.6	-0.1	0.3

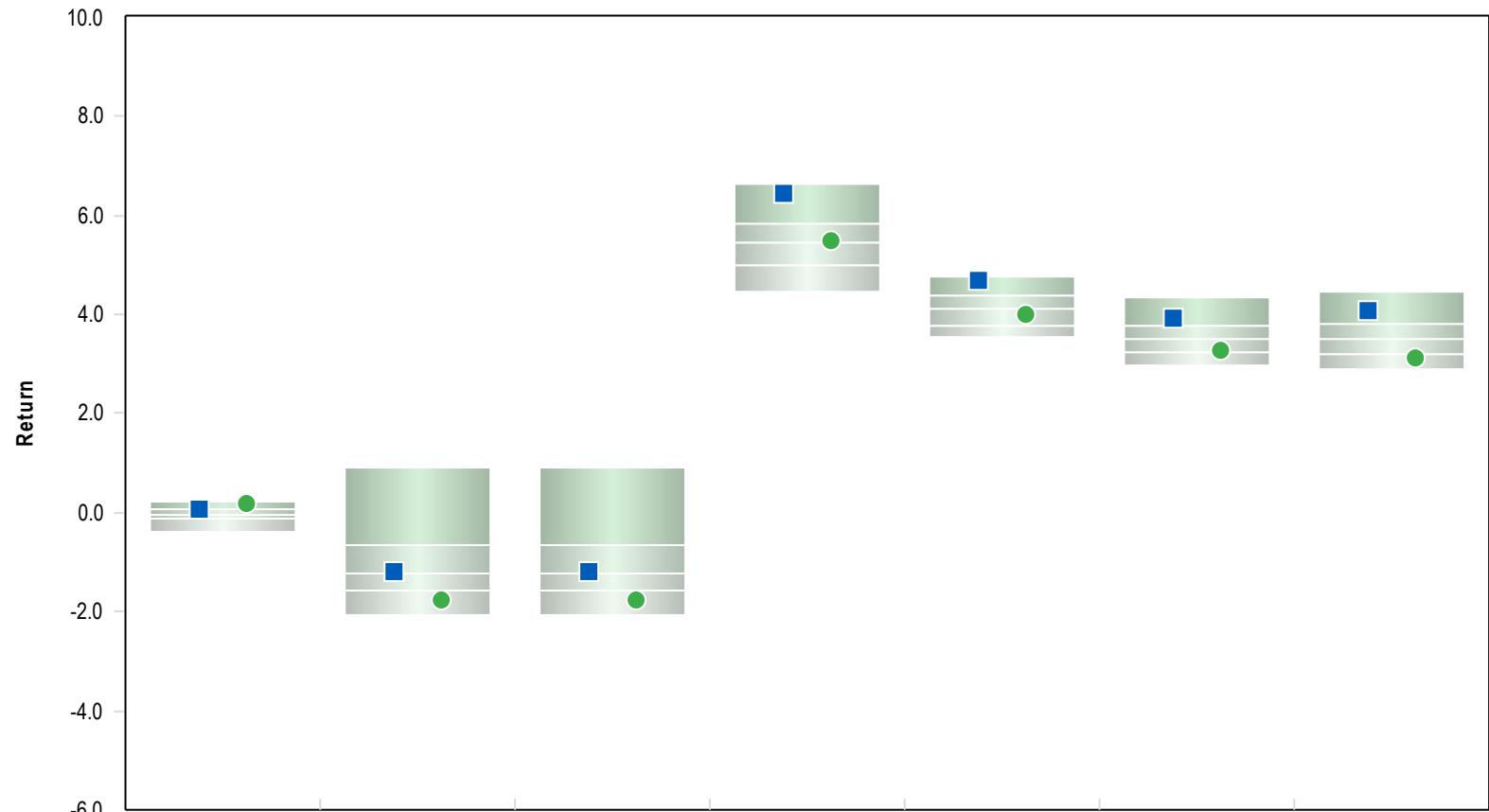


Gross of Fees

# Bristol County Retirement System

## IM U.S. Broad Market Core Fixed Income (SA+CF)

As of December 31, 2021



■ Income Research & Management

● Blmbg. U.S. Gov't/Credit

1 Qtr

0.1 (17)

YTD

-1.2 (49)

1 Yr

-1.2 (49)

3 Yrs

6.4 (8)

5 Yrs

4.7 (11)

7 Yrs

3.9 (14)

10 Yrs

4.1 (12)

0.2 (6)

-1.7 (90)

-2.0 (90)

-2.0 (90)

5.5 (49)

4.0 (62)

3.3 (71)

3.1 (78)

5th Percentile

0.2

0.9

0.9

6.7

4.8

4.3

4.5

1st Quartile

0.1

-0.6

-0.6

5.8

4.4

3.8

3.8

Median

0.0

-1.2

-1.2

5.5

4.1

3.5

3.5

3rd Quartile

-0.1

-1.6

-1.6

5.0

3.8

3.2

3.2

95th Percentile

-0.4

-2.1

-2.1

4.5

3.5

3.0

2.9

Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM U.S. Broad Market Core Fixed Income (SA+CF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Income Research & Management	10.9 (2)	10.1 (8)	-0.2 (79)	4.5 (26)	4.0 (22)	0.2 (88)	7.2 (10)	-1.4 (40)	7.7 (12)	8.3 (23)
Blmbg. U.S. Gov't/Credit	8.9 (33)	9.7 (23)	-0.4 (91)	4.0 (52)	3.0 (54)	0.1 (90)	6.0 (63)	-2.4 (91)	4.8 (78)	8.7 (11)

5th Percentile	10.5	10.8	1.3	5.3	5.3	1.7	7.8	0.2	8.8	9.1
1st Quartile	9.3	9.6	0.4	4.5	3.9	1.1	6.7	-1.0	7.0	8.2
Median	8.5	9.2	0.1	4.0	3.1	0.8	6.1	-1.6	5.9	7.8
3rd Quartile	7.7	8.7	-0.2	3.6	2.6	0.6	5.8	-2.0	5.0	7.2
95th Percentile	6.9	7.7	-0.9	3.1	2.2	-0.1	4.7	-2.6	3.9	5.8

Parentheses contain percentile rankings.

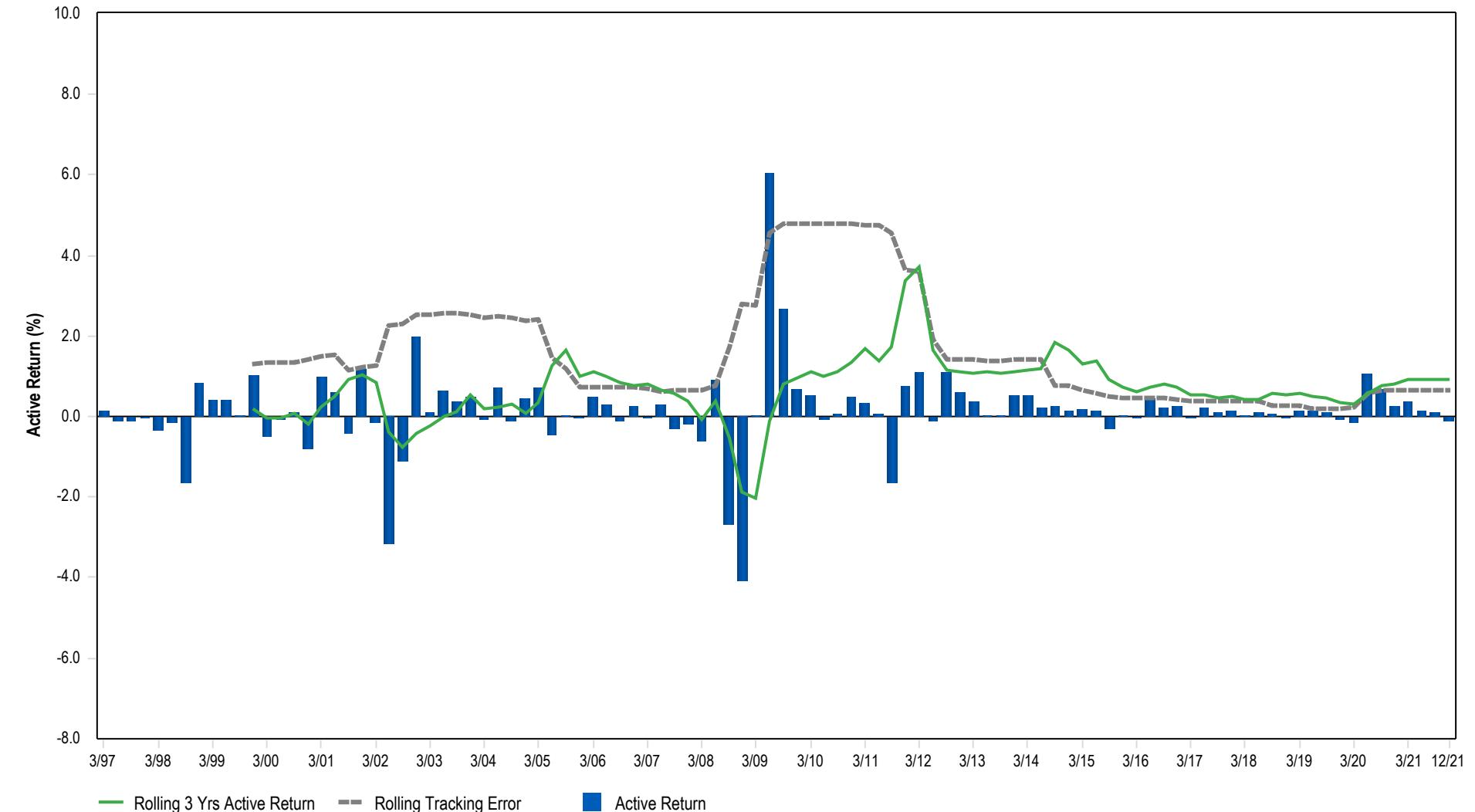
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

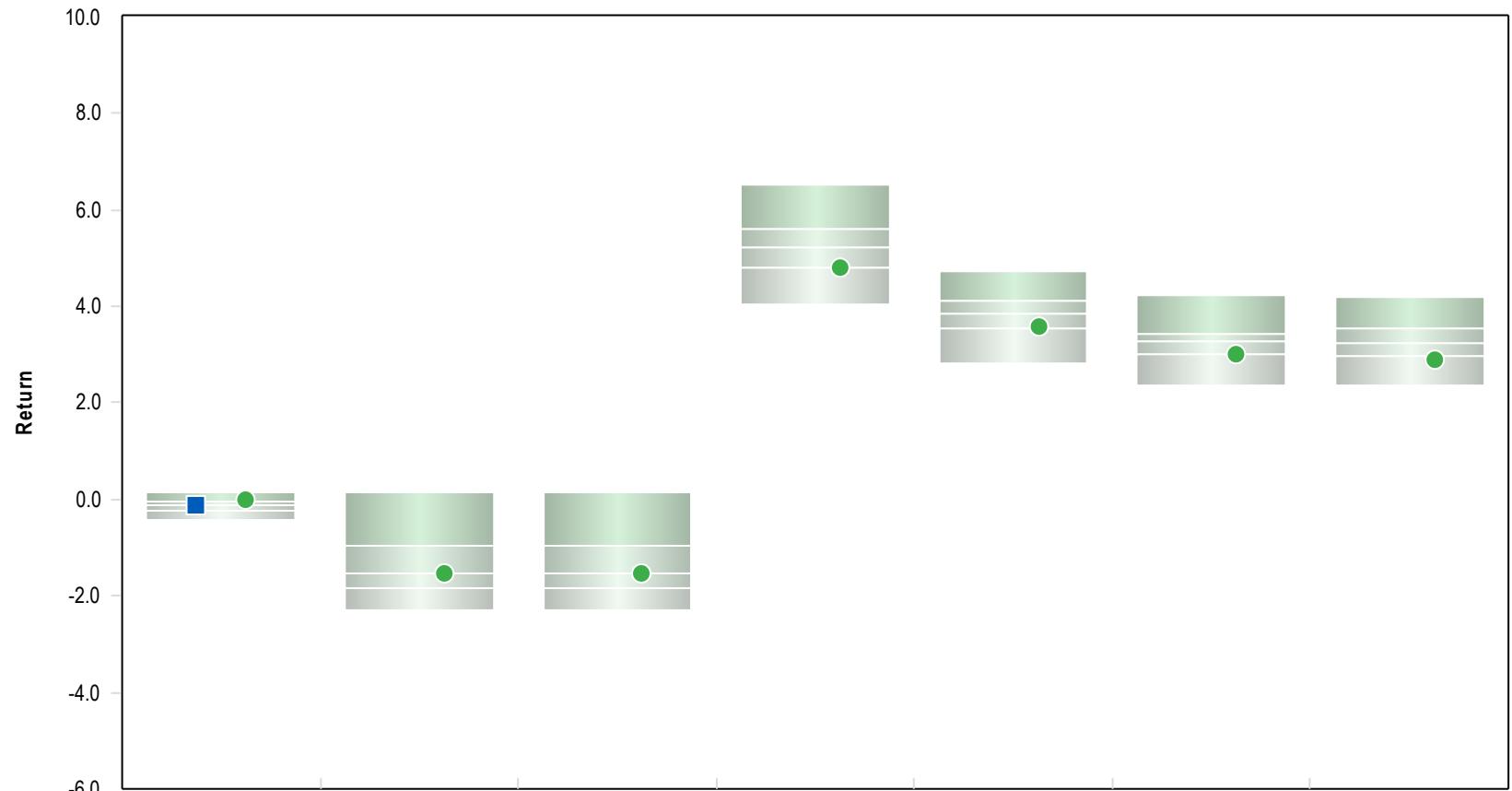
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Income Research & Management	0.1	-1.2	-1.2	6.4	4.7	3.9	4.1	10.9	10.1	-0.2	4.5
Bloomberg U.S. Gov't/Credit	0.2	-1.7	-1.7	5.5	4.0	3.3	3.1	8.9	9.7	-0.4	4.0
Difference	-0.1	0.5	0.5	0.9	0.7	0.6	1.0	2.0	0.4	0.2	0.5



# Bristol County Retirement System

## IM U.S. Broad Market Core Fixed Income (SA+CF)

As of December 31, 2021



■ NT Aggregate Bond Index

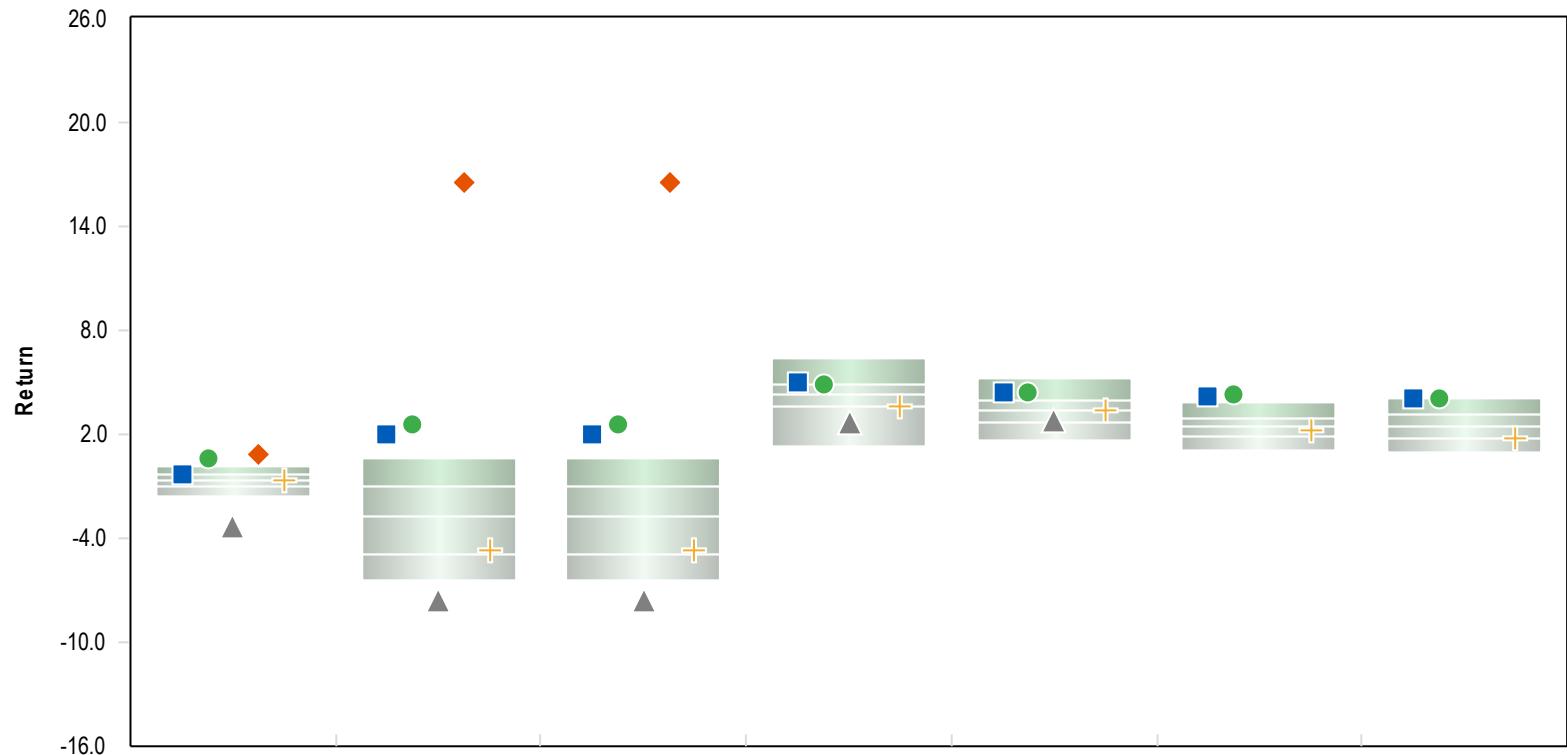
● Blmbg. U.S. Aggregate

5th Percentile	0.1	0.1	0.1	6.5	4.7	4.2	4.2
1st Quartile	0.0	-1.0	-1.0	5.6	4.1	3.4	3.5
Median	-0.1	-1.5	-1.5	5.2	3.8	3.3	3.3
3rd Quartile	-0.2	-1.8	-1.8	4.8	3.5	3.0	3.0
95th Percentile	-0.4	-2.3	-2.3	4.0	2.8	2.3	2.4

Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

## **Global Fixed Income**



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Global Fixed	-0.3 (26)	2.0 (1)	2.0 (1)	5.0 (21)	4.5 (13)	4.2 (4)	4.1 (6)
Broad Mkt Global Fixed Income	0.6 (1)	2.6 (1)	2.6 (1)	4.9 (27)	4.5 (13)	4.3 (4)	4.1 (6)
Emerging Market Debt Composite	-3.3 (99)	-7.6 (98)	-7.6 (98)	2.7 (88)	2.9 (73)		
Opportunistic Fixed Income	0.9 (1)	16.5 (1)	16.5 (1)				
Blmbg. Global Aggregate	-0.7 (50)	-4.7 (69)	-4.7 (69)	3.6 (76)	3.4 (51)	2.2 (58)	1.8 (75)

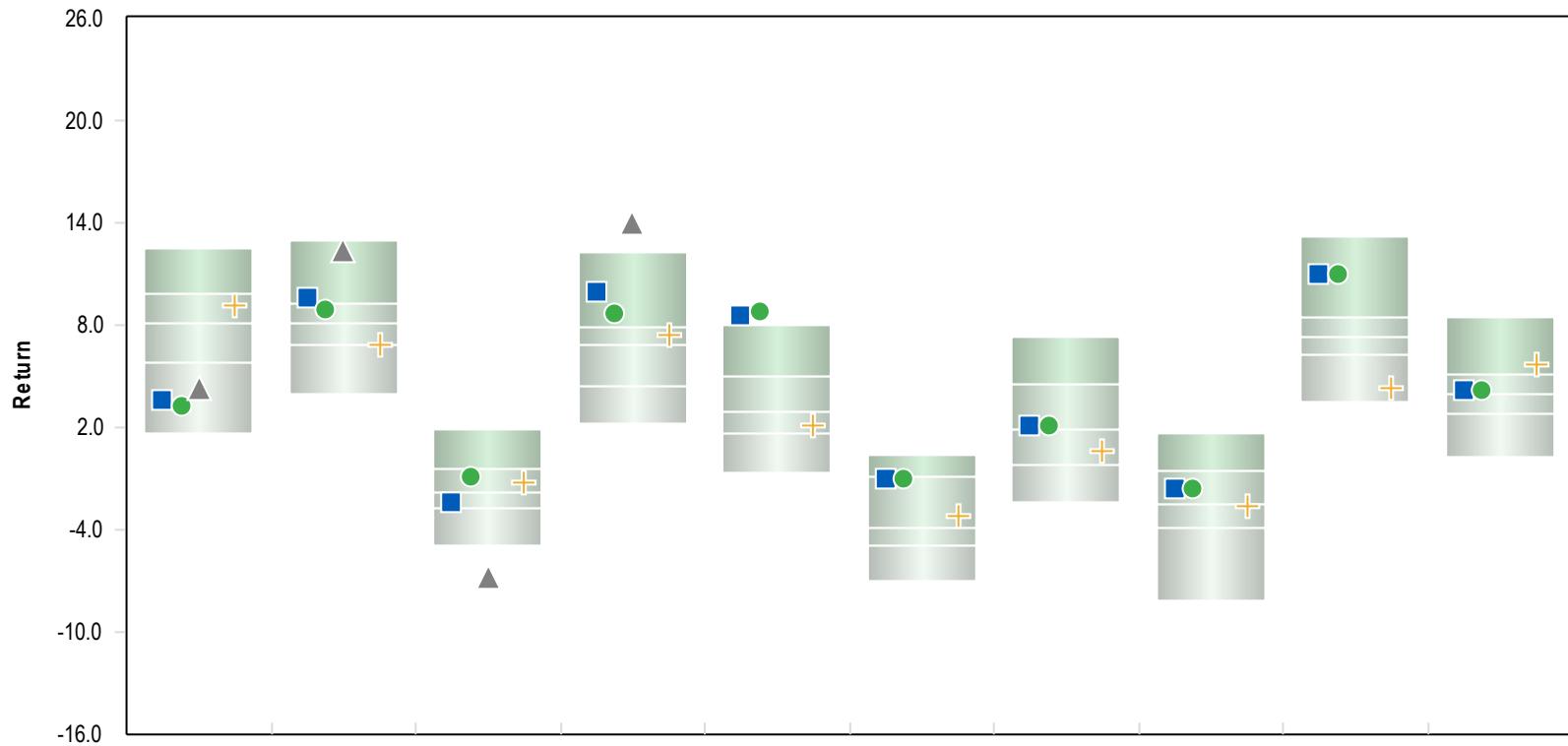
5th Percentile	0.1	0.6	0.6	6.4	5.2	3.9	4.1
1st Quartile	-0.3	-1.0	-1.0	4.9	4.0	2.9	3.1
Median	-0.7	-2.7	-2.7	4.3	3.4	2.5	2.4
3rd Quartile	-1.0	-4.9	-4.9	3.6	2.7	1.8	1.8
95th Percentile	-1.5	-6.4	-6.4	1.3	1.6	1.1	1.0

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM Global Fixed Income (MF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
■ Total Global Fixed	3.7 (92)	9.6 (22)	-2.4 (70)	10.0 (9)	8.5 (3)	-1.1 (27)	2.1 (47)	-1.5 (38)	11.0 (14)	4.2 (46)
● Broad Mkt Global Fixed Income	3.3 (92)	8.9 (31)	-0.9 (35)	8.7 (17)	8.8 (2)	-1.1 (27)	2.1 (47)	-1.5 (38)	11.0 (14)	4.2 (46)
▲ Emerging Market Debt Composite	4.3 (89)	12.4 (6)	-6.8 (100)	14.0 (1)						
◆ Opportunistic Fixed Income										
+ Blmbg. Global Aggregate	9.2 (36)	6.8 (78)	-1.2 (40)	7.4 (38)	2.1 (69)	-3.2 (41)	0.6 (62)	-2.6 (52)	4.3 (94)	5.6 (21)
5th Percentile	12.5	13.0	1.8	12.3	8.0	0.4	7.4	1.7	13.2	8.5
1st Quartile	9.8	9.3	-0.4	7.9	4.9	-0.9	4.5	-0.5	8.4	5.1
Median	8.1	8.1	-1.8	6.8	2.9	-3.8	1.9	-2.5	7.3	4.0
3rd Quartile	5.8	6.9	-2.8	4.4	1.7	-4.9	-0.1	-3.9	6.3	2.8
95th Percentile	1.7	4.0	-5.0	2.2	-0.6	-7.0	-2.3	-8.2	3.5	0.3

Parentheses contain percentile rankings.

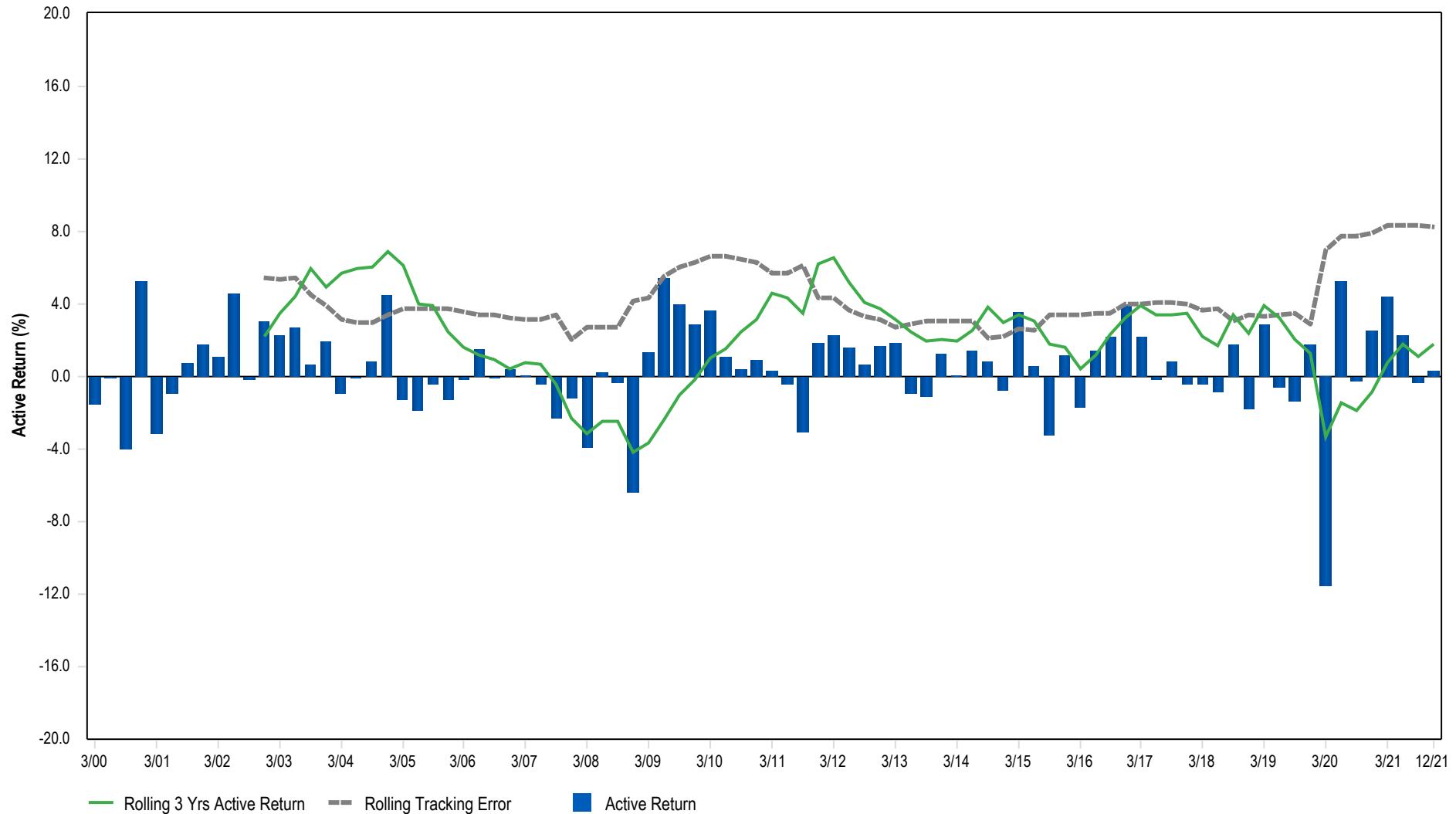
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Total Global Fixed	-0.3	2.0	2.0	5.0	4.5	4.2	4.1	3.7	9.6	-2.4	10.0
Bloomberg Global Aggregate	-0.7	-4.7	-4.7	3.6	3.4	2.2	1.8	9.2	6.8	-1.2	7.4
Difference	0.4	6.7	6.7	1.4	1.1	2.0	2.3	-5.5	2.8	-1.2	2.6



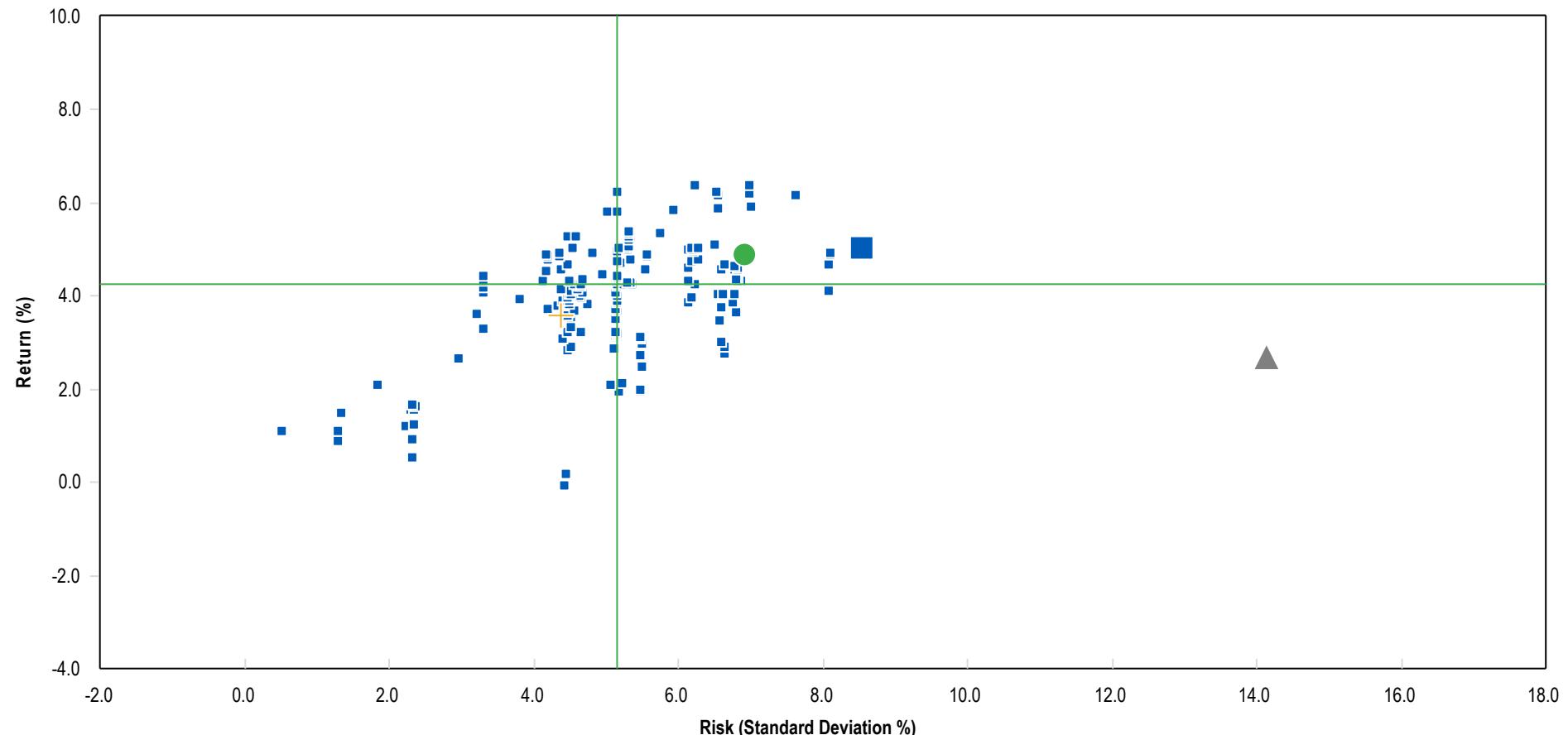
Net of fees.

# Bristol County Retirement System

## Peer Group Scattergram

3 Years Ending December 31, 2021

IM Global Fixed Income (MF)

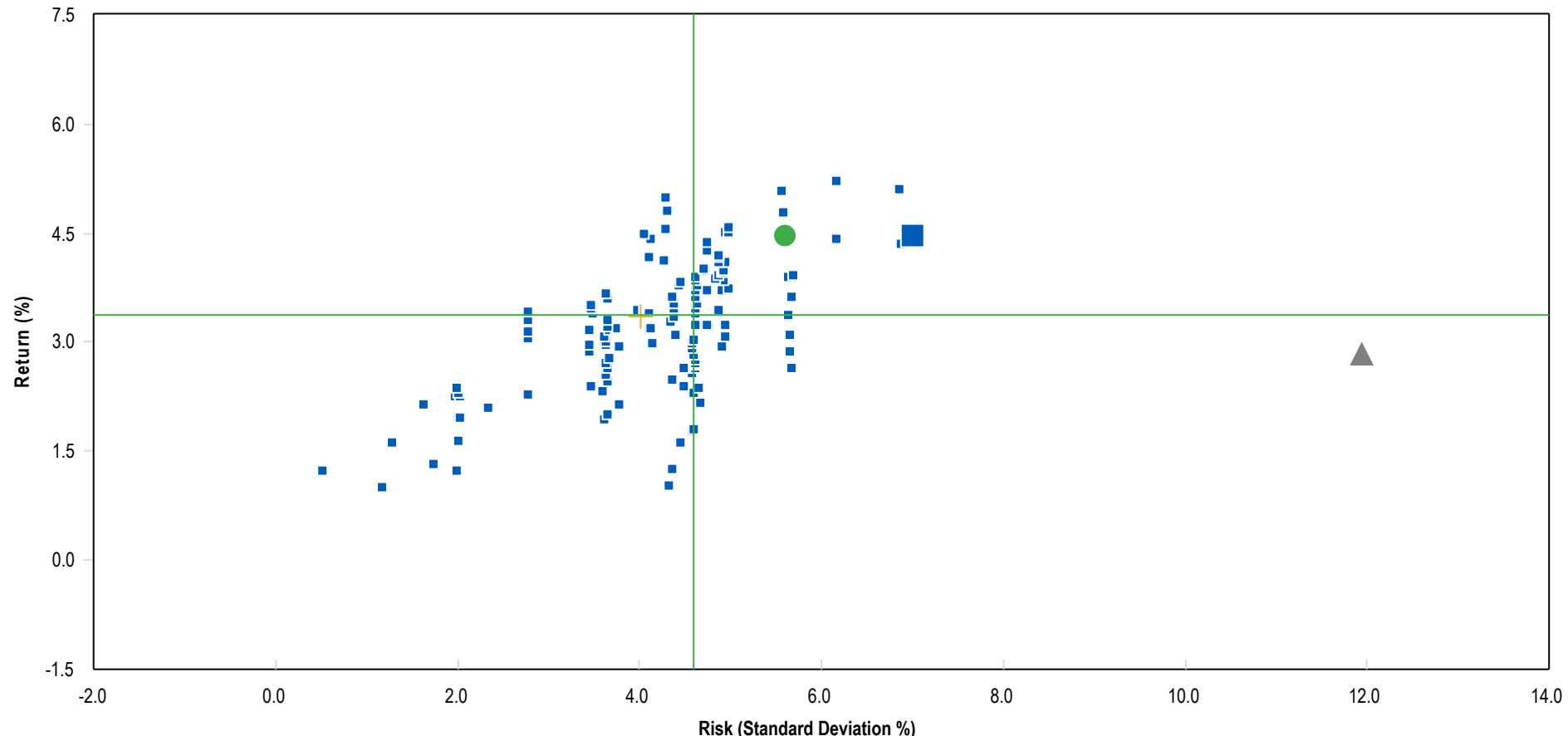


	Return	Standard Deviation
Total Global Fixed	5.0	8.5
Broad Mkt Global Fixed Income	4.9	6.9
Emerging Market Debt Composite	2.7	14.1
Opportunistic Fixed Income		
Blmbg. Global Aggregate	3.6	4.4
Median	4.3	5.2

Calculation based on monthly periodicity.

Bristol County Retirement System  
Peer Group Scattergram

5 Years Ending December 31, 2021  
IM Global Fixed Income (MF)



	Return	Standard Deviation
Total Global Fixed	4.5	7.0
Broad Mkt Global Fixed Income	4.5	5.6
Emerging Market Debt Composite	2.9	11.9
Opportunistic Fixed Income		
Blmbg. Global Aggregate	3.4	4.0
Median	3.4	4.6

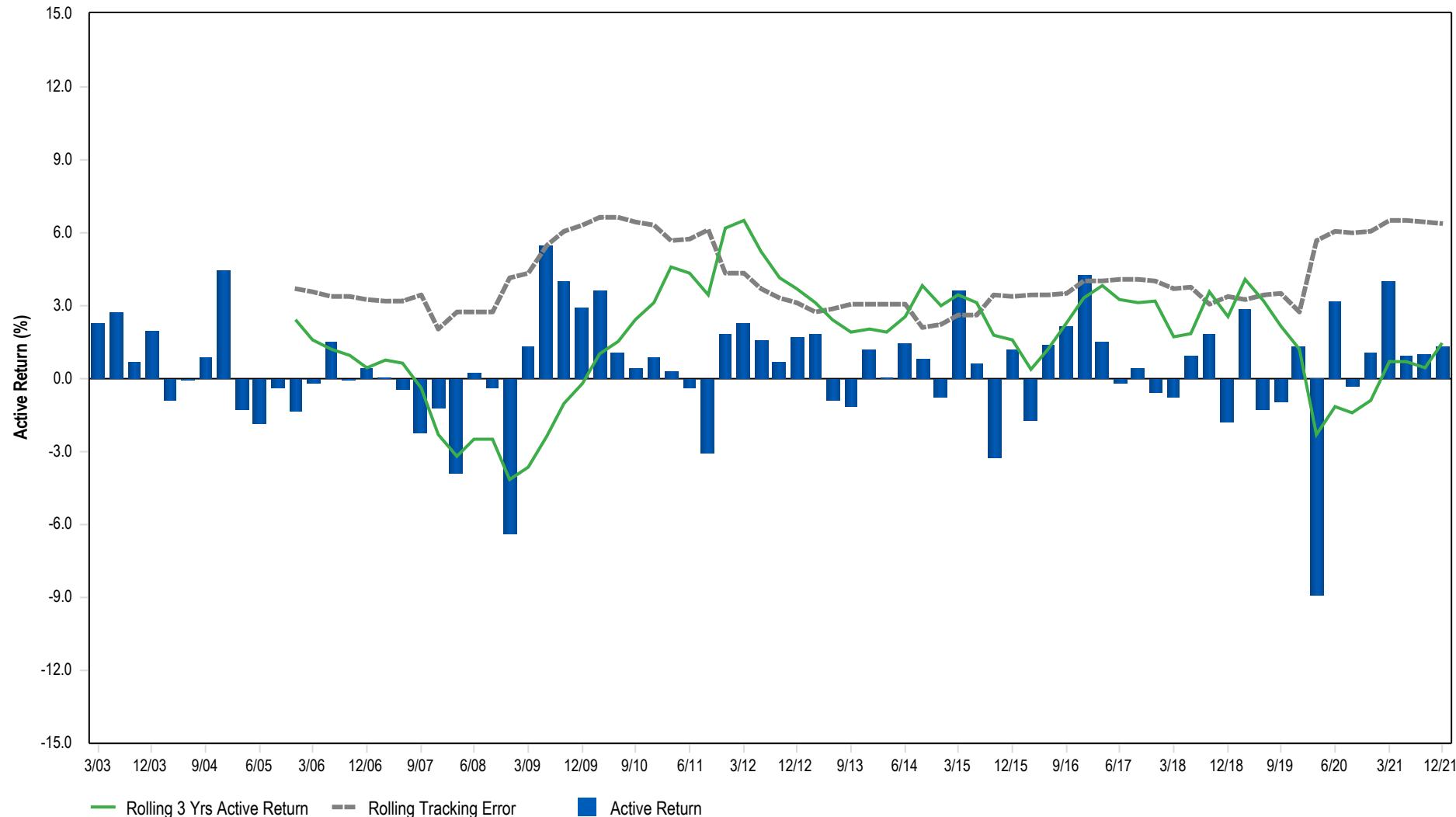
Calculation based on monthly periodicity.

# Bristol County Retirement System

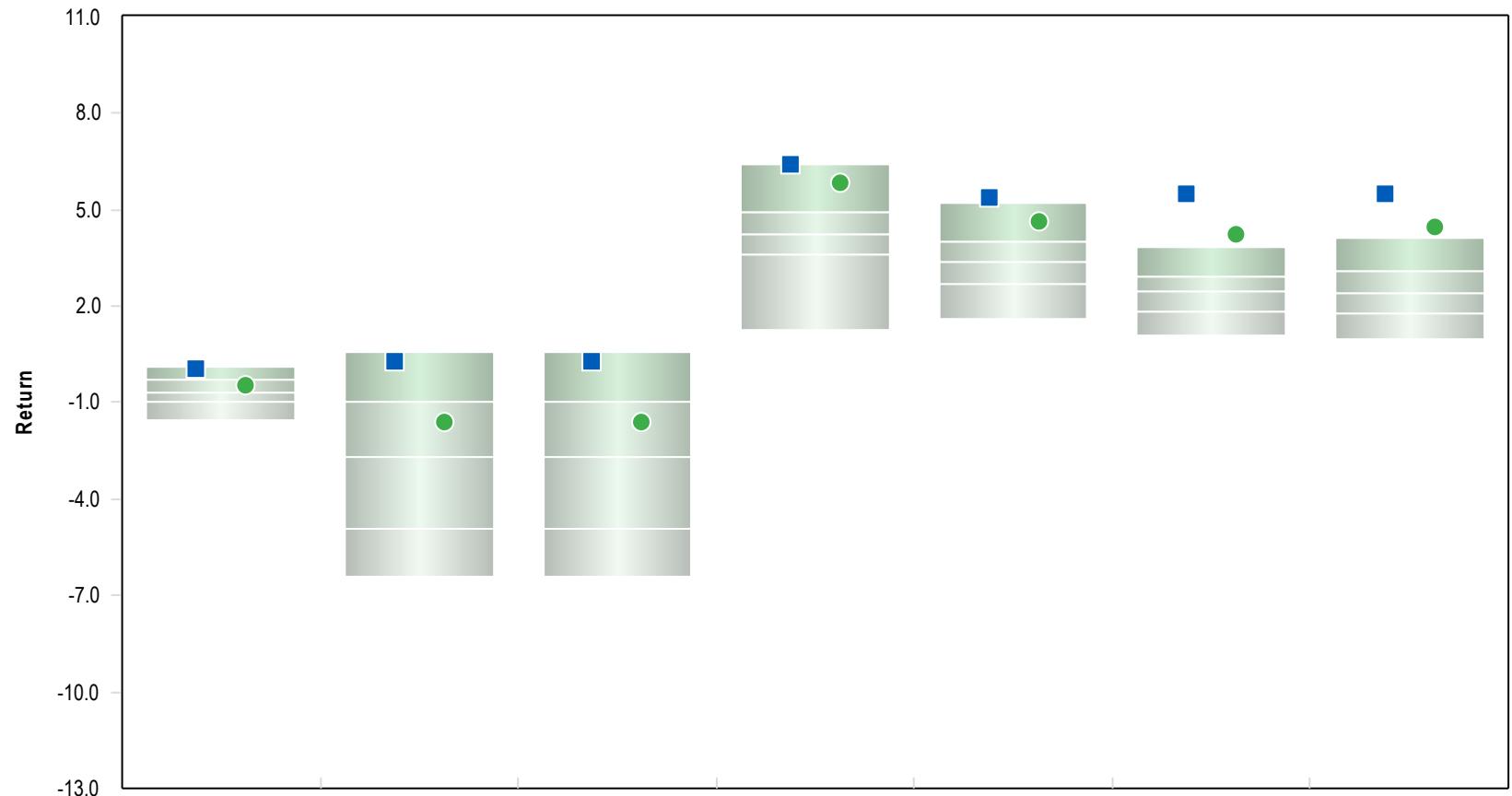
## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Broad Mkt Global Fixed Income	0.6	2.6	2.6	4.9	4.5	4.3	4.1	3.3	8.9	-0.9	8.7
Bloomberg Global Aggregate	-0.7	-4.7	-4.7	3.6	3.4	2.2	1.8	9.2	6.8	-1.2	7.4
Difference	1.3	7.3	7.3	1.3	1.1	2.1	2.3	-5.9	2.1	0.3	1.3



Net of fees.



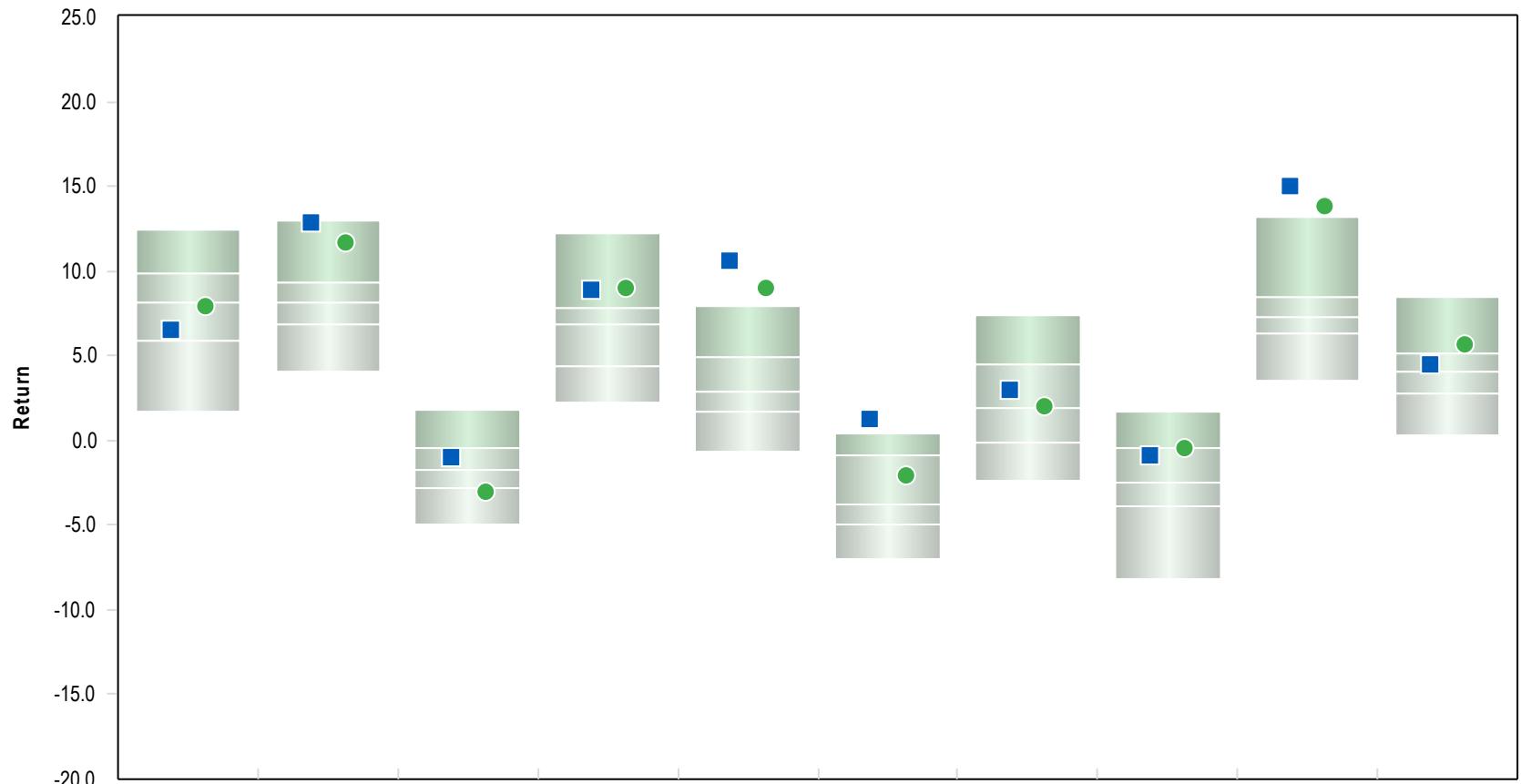
5th Percentile	0.1	0.6	0.6	6.4	5.2	3.9	4.1
1st Quartile	-0.3	-1.0	-1.0	4.9	4.0	2.9	3.1
Median	-0.7	-2.7	-2.7	4.3	3.4	2.5	2.4
3rd Quartile	-1.0	-4.9	-4.9	3.6	2.7	1.8	1.8
95th Percentile	-1.5	-6.4	-6.4	1.3	1.6	1.1	1.0

\*33.3% ML Global HY/33.3% JPM EMBI Global/33.3% LB Global Agg

# Bristol County Retirement System

## IM Global Fixed Income (MF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
PIMCO Diversified Income	6.5 (72)	12.8 (6)	-1.0 (36)	8.8 (16)	10.6 (2)	1.2 (1)	3.0 (38)	-0.9 (29)	15.0 (4)	4.4 (38)
PIMCO Diversified Index*	8.0 (57)	11.7 (8)	-3.0 (77)	9.0 (13)	9.0 (2)	-2.0 (34)	2.0 (48)	-0.5 (25)	13.9 (5)	5.7 (21)
5th Percentile	12.5	13.0	1.8	12.3	8.0	0.4	7.4	1.7	13.2	8.5
1st Quartile	9.8	9.3	-0.4	7.9	4.9	-0.9	4.5	-0.5	8.4	5.1
Median	8.1	8.1	-1.8	6.8	2.9	-3.8	1.9	-2.5	7.3	4.0
3rd Quartile	5.8	6.9	-2.8	4.4	1.7	-4.9	-0.1	-3.9	6.3	2.8
95th Percentile	1.7	4.0	-5.0	2.2	-0.6	-7.0	-2.3	-8.2	3.5	0.3

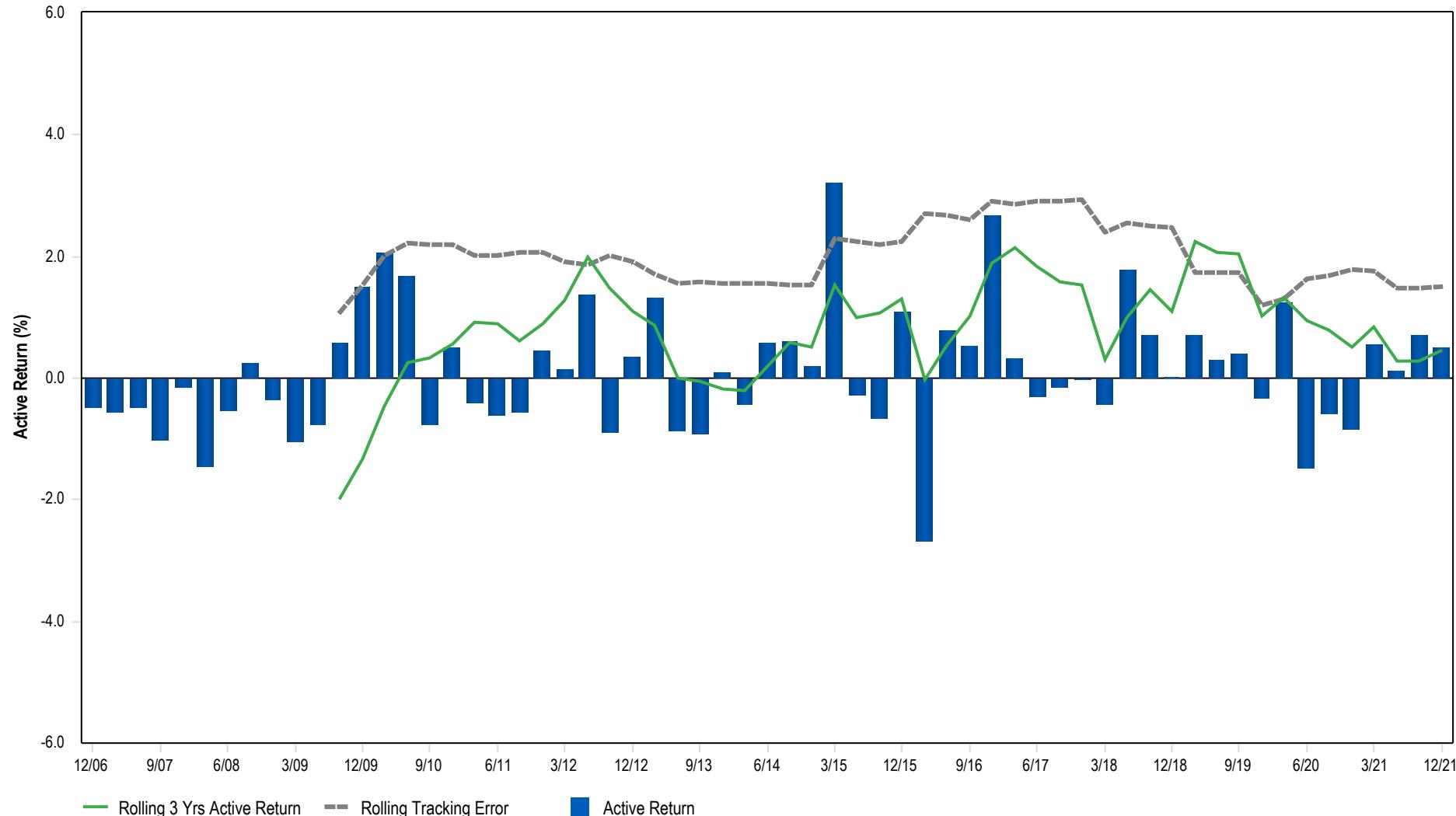
\*33.3% ML Global HY/33.3% JPM EMBI Global/33.3% LB Global Agg

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

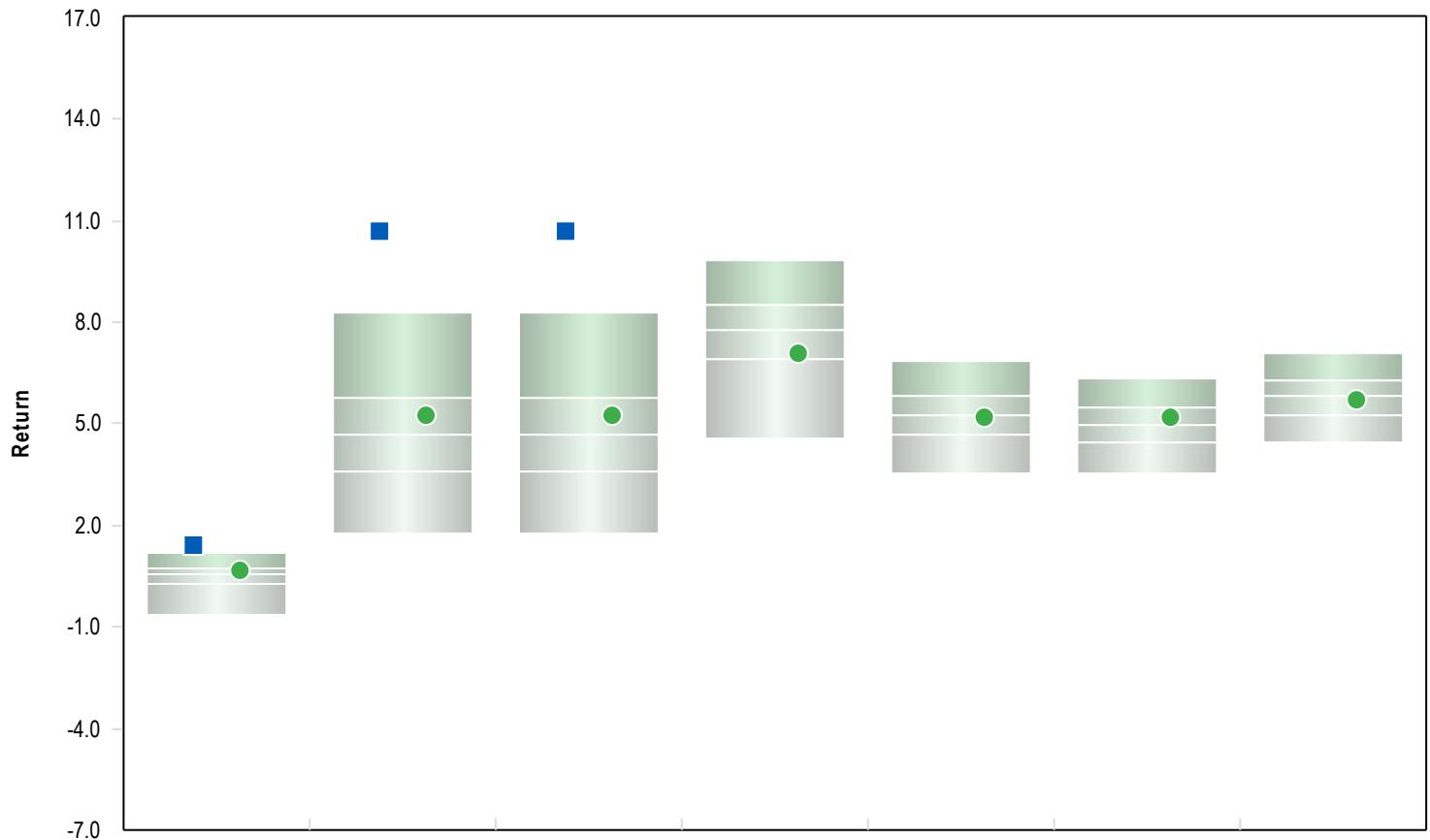
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
PIMCO Diversified Income	0.0	0.3	0.3	6.4	5.4	5.5	5.5	6.5	12.8	-1.0	8.8
PIMCO Diversified Index*	-0.5	-1.6	-1.6	5.9	4.6	4.2	4.5	8.0	11.7	-3.0	9.0
Difference	0.5	1.9	1.9	0.5	0.8	1.3	1.0	-1.5	1.1	2.0	-0.2



\*PIMCO Index: 33% BC Global Agg/33% ML Global HY/33% JPM EMBI Global.

Bristol County Retirement System  
IM U.S. High Yield Bonds (MF)

As of December 31, 2021



■ GoldenTree Multi-Sector Opportunistic Fund

● GoldenTree Blended Benchmark\*

5th Percentile

1.2 8.3 8.3 9.8 6.8 6.3 7.1

1st Quartile

0.7 5.8 5.8 8.5 5.8 5.5 6.3

Median

0.5 4.7 4.7 7.8 5.3 5.0 5.8

3rd Quartile

0.3 3.6 3.6 6.9 4.7 4.4 5.2

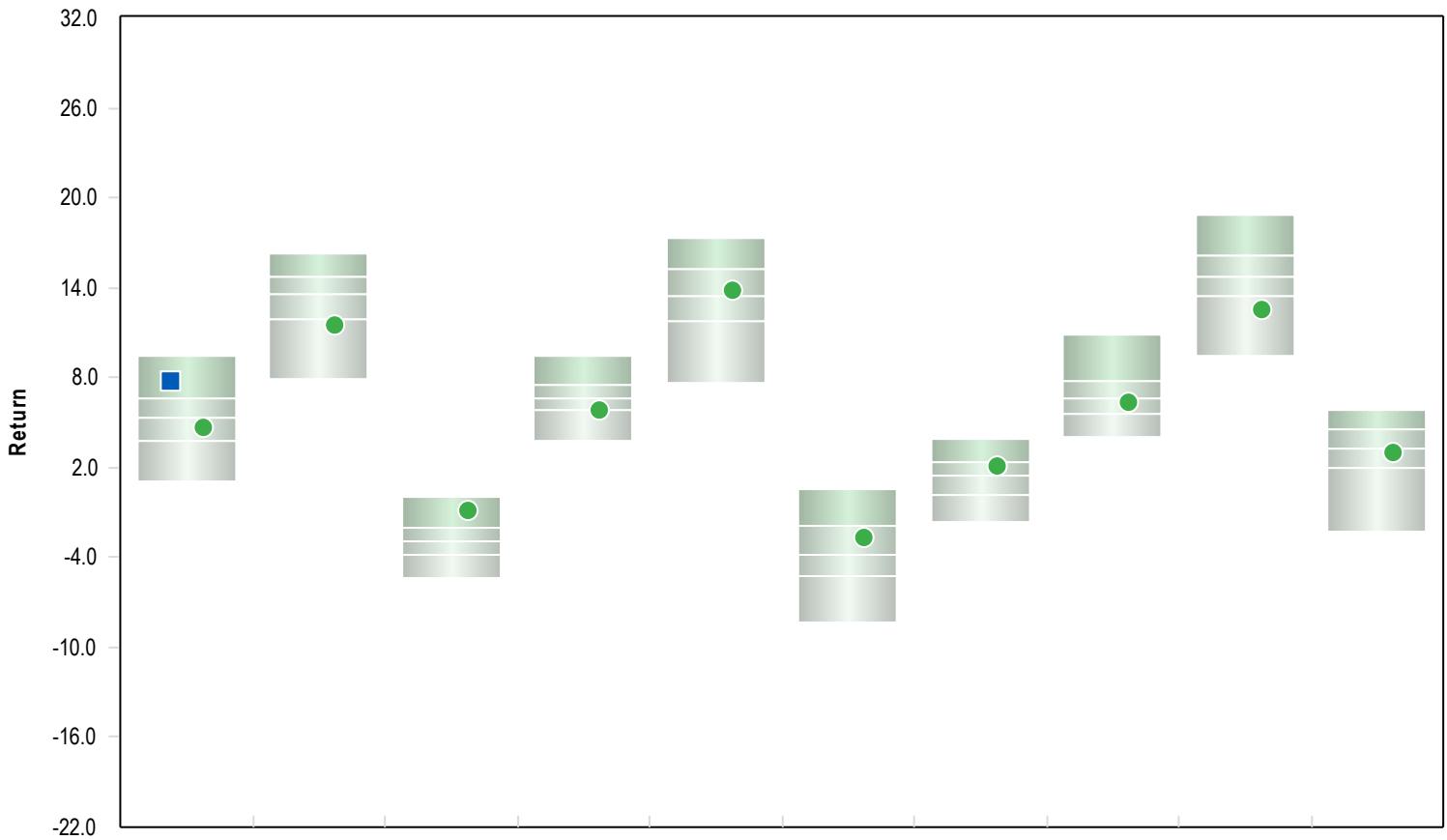
95th Percentile

-0.7 1.8 1.8 4.6 3.5 3.5 4.4

\*50% Merrill Lynch High Yield Index / 50% S&P/LSTA Leveraged Loan Index

Bristol County Retirement System  
IM U.S. High Yield Bonds (MF)

As of December 31, 2021



■ GoldenTree Multi-Sector Opportunistic Fund  
● GoldenTree Blended Benchmark\*

5th Percentile	9.5	16.3	0.0	9.4	17.3	0.5	3.9	10.8	18.8	5.9
1st Quartile	6.6	14.7	-2.0	7.5	15.3	-1.9	2.4	7.8	16.2	4.5
Median	5.3	13.5	-2.9	6.7	13.5	-3.8	1.5	6.6	14.7	3.3
3rd Quartile	3.8	11.9	-3.8	5.8	11.8	-5.3	0.2	5.5	13.5	1.9
95th Percentile	1.0	7.8	-5.4	3.7	7.6	-8.3	-1.7	4.0	9.5	-2.3

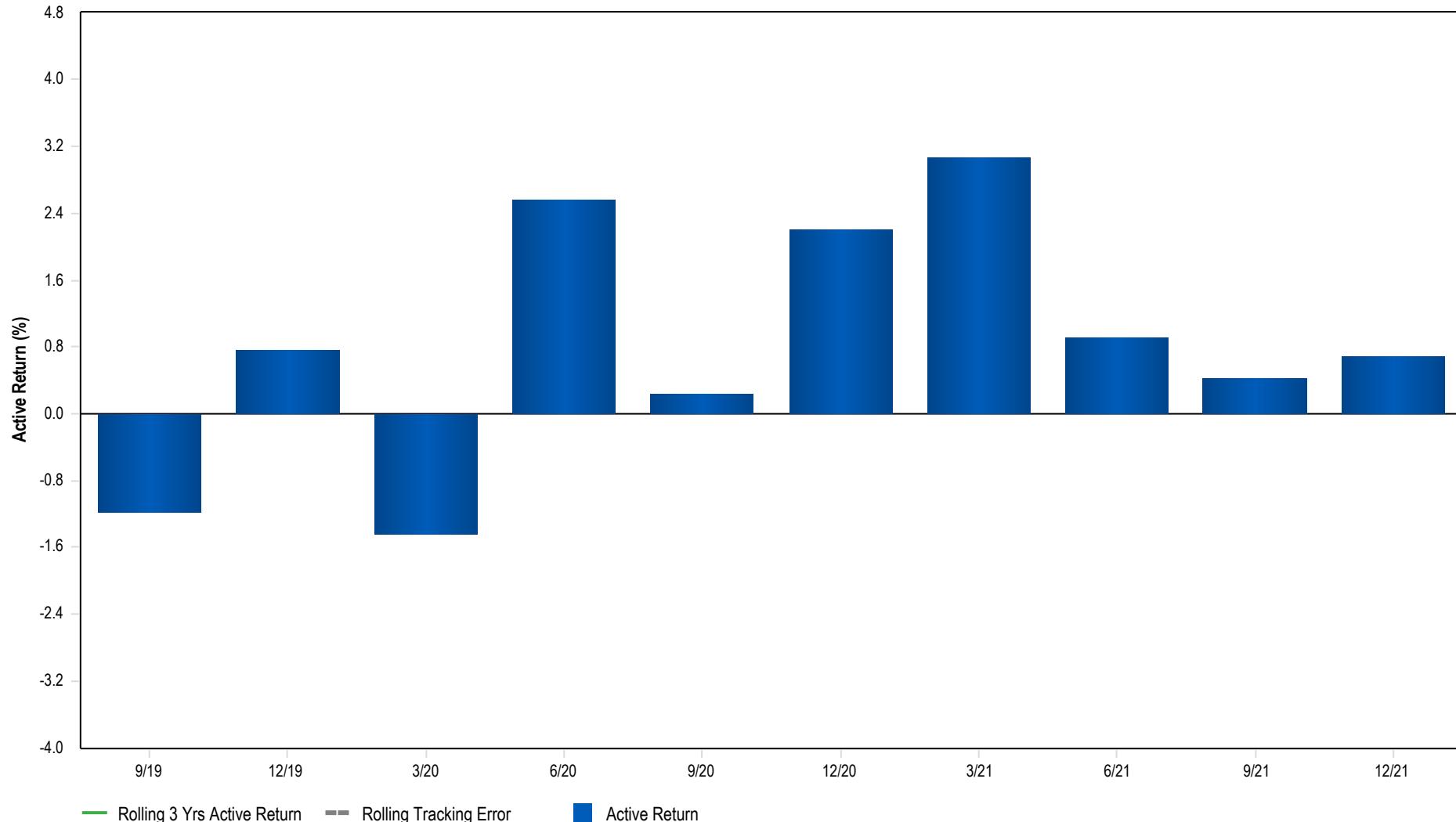
\*50% Merrill Lynch High Yield Index / 50% S&P/LSTA Leveraged Loan Index

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
GoldenTree Multi-Sector Opportunistic Fund	1.4	10.7	10.7					7.8			
GoldenTree Blended Benchmark*	0.7	5.3	5.3	7.1	5.2	5.2	5.7	4.7	11.5	-0.9	5.8
Difference	0.7	5.4	5.4					3.1			



— Rolling 3 Yrs Active Return    - - - Rolling Tracking Error

■ Active Return

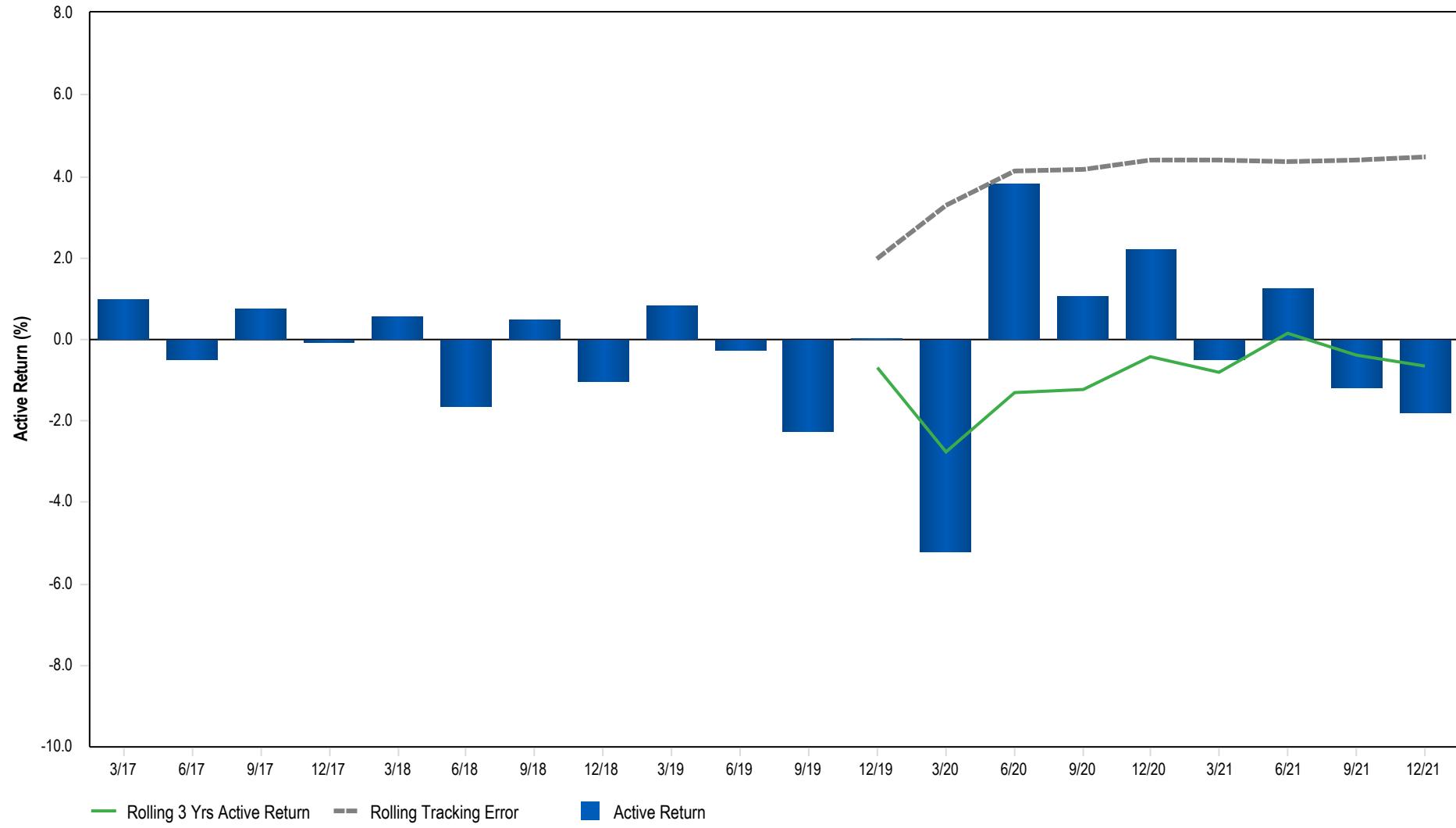
\*50% Merrill Lynch High Yield Index / 50% S&P/LSTA Leveraged Loan Index

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Emerging Market Debt Composite	-3.3	-7.6	-7.6	2.7	2.9			4.3	12.4	-6.8	14.0
50% JPM EMBI Global Diversified/50% JPM GBI-EM Global Diversified US	-1.5	-5.3	-5.3	4.0	3.8	3.0	3.1	4.0	14.3	-5.2	12.7
Difference	-1.8	-2.3	-2.3	-1.3	-0.9			0.3	-1.9	-1.6	1.3

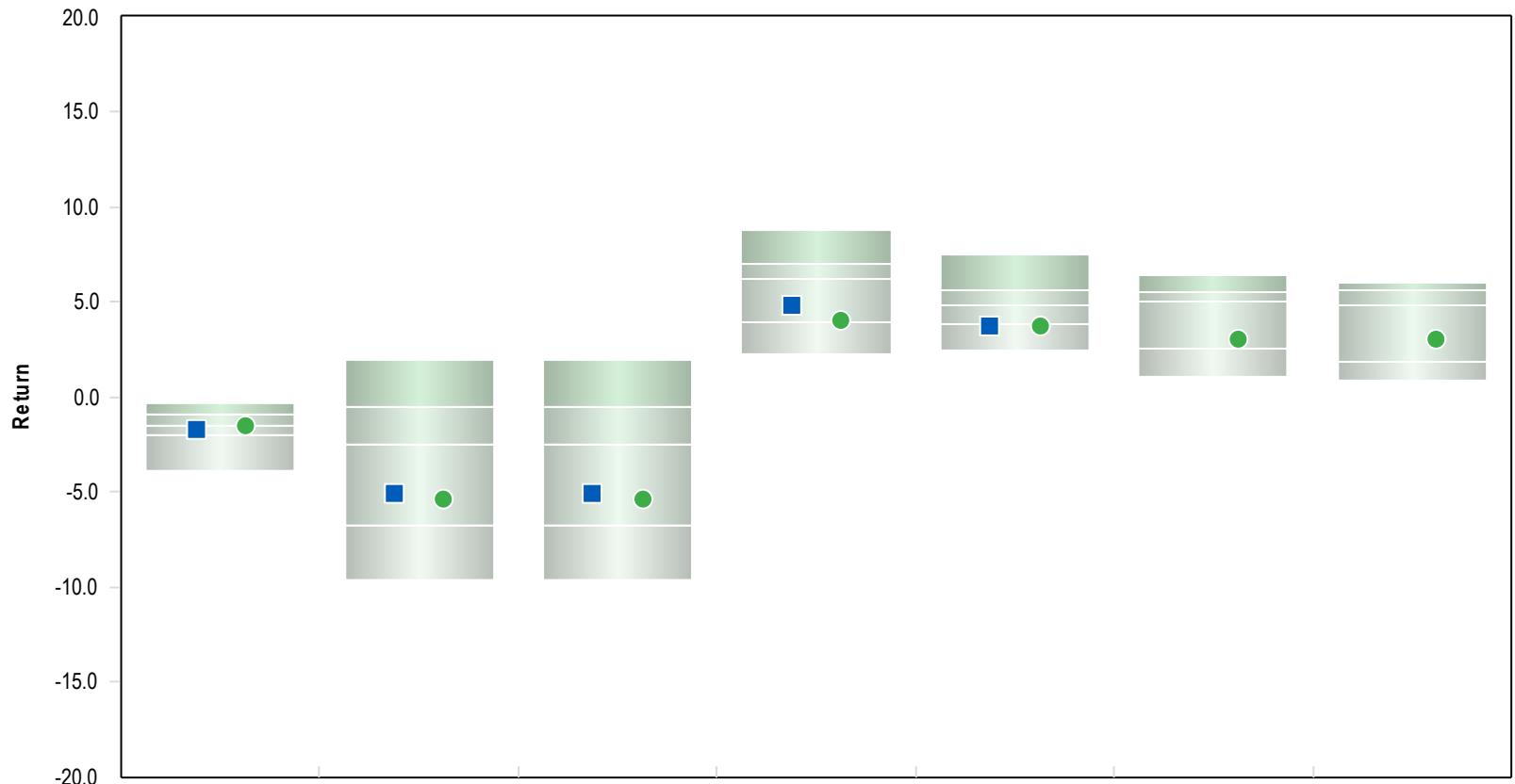


Net of fees.

# Bristol County Retirement System

## IM Emerging Market Debt Blend (SA+CF)

As of December 31, 2021



■ Stone Harbor EMD

● 50% JPM EMBI Global Div./  
50% JPM GBI-EM Global Div.

5th Percentile	-0.3	2.0	2.0	8.8	7.5	6.4	6.0
1st Quartile	-0.8	-0.5	-0.5	7.0	5.7	5.5	5.6
Median	-1.5	-2.5	-2.5	6.2	4.9	5.0	4.8
3rd Quartile	-2.0	-6.8	-6.8	4.0	3.9	2.5	1.9
95th Percentile	-3.9	-9.6	-9.6	2.3	2.5	1.1	0.9

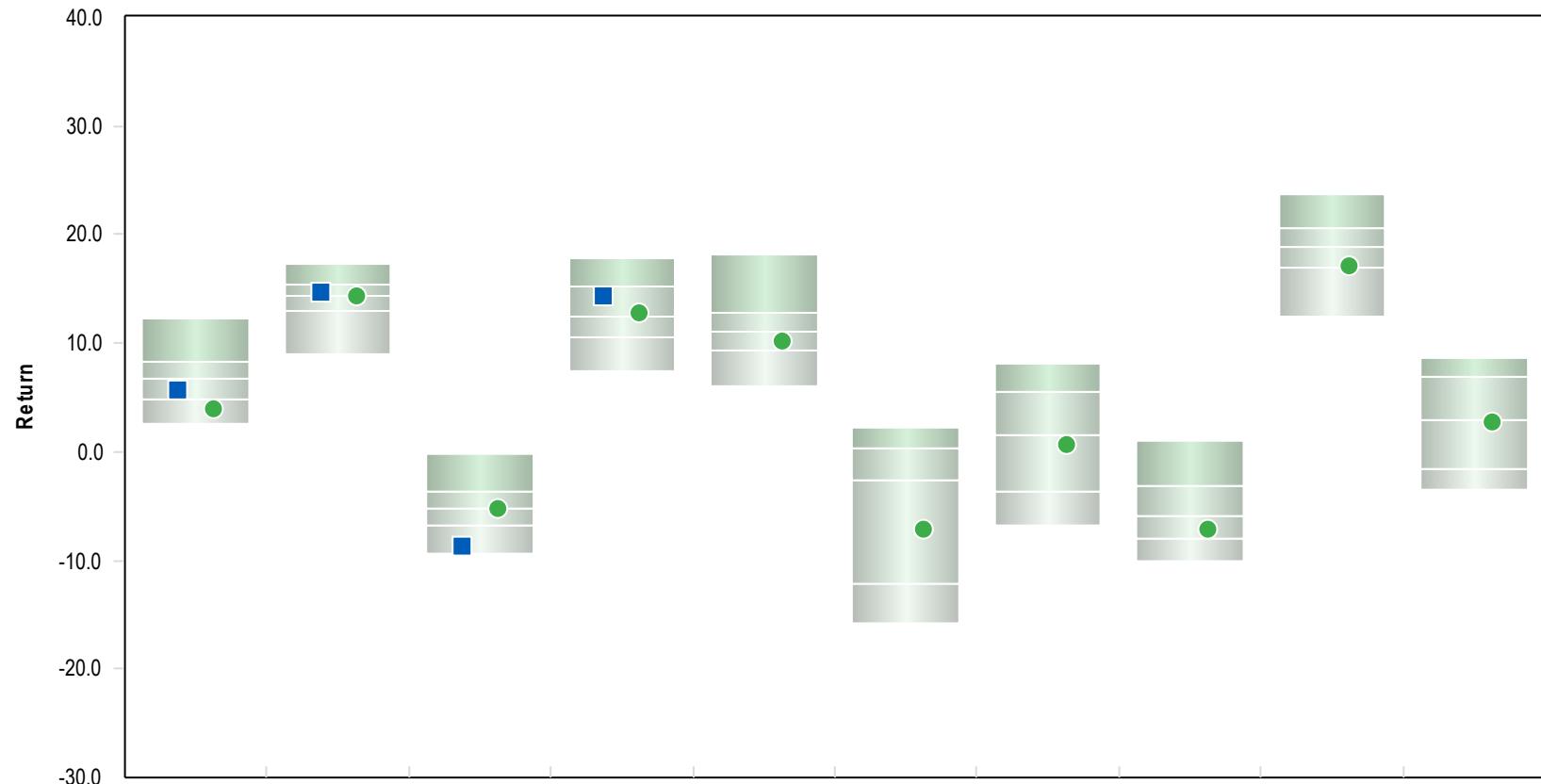
Parentheses contain percentile rankings.

Calculation based on monthly periodicity.

# Bristol County Retirement System

## IM Emerging Market Debt Blend (SA+CF)

As of December 31, 2021



■ Stone Harbor EMD

● 50% JPM EMBI Global Div./  
50% JPM GBI-EM Global Div.

5th Percentile	12.2	17.3	-0.2	17.7	18.2	2.2	8.1	1.1	23.7	8.6
1st Quartile	8.3	15.3	-3.6	15.2	12.8	0.3	5.5	-3.2	20.6	6.9
Median	6.7	14.3	-5.3	12.5	11.0	-2.7	1.5	-5.9	18.9	2.9
3rd Quartile	4.8	12.9	-6.8	10.5	9.3	-12.2	-3.6	-8.0	17.0	-1.6
95th Percentile	2.5	9.0	-9.3	7.4	6.1	-15.7	-6.8	-10.1	12.4	-3.5

Parentheses contain percentile rankings.

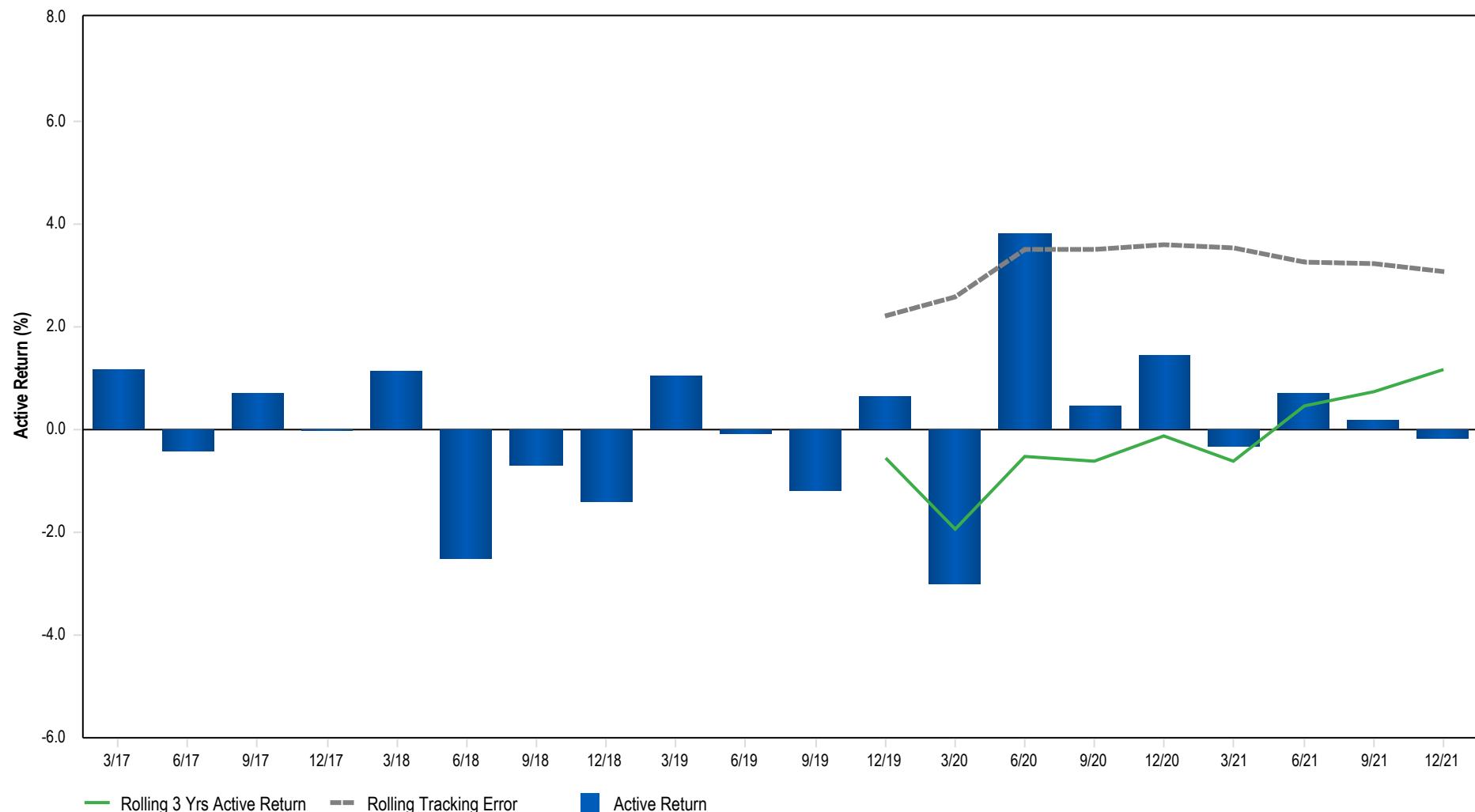
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

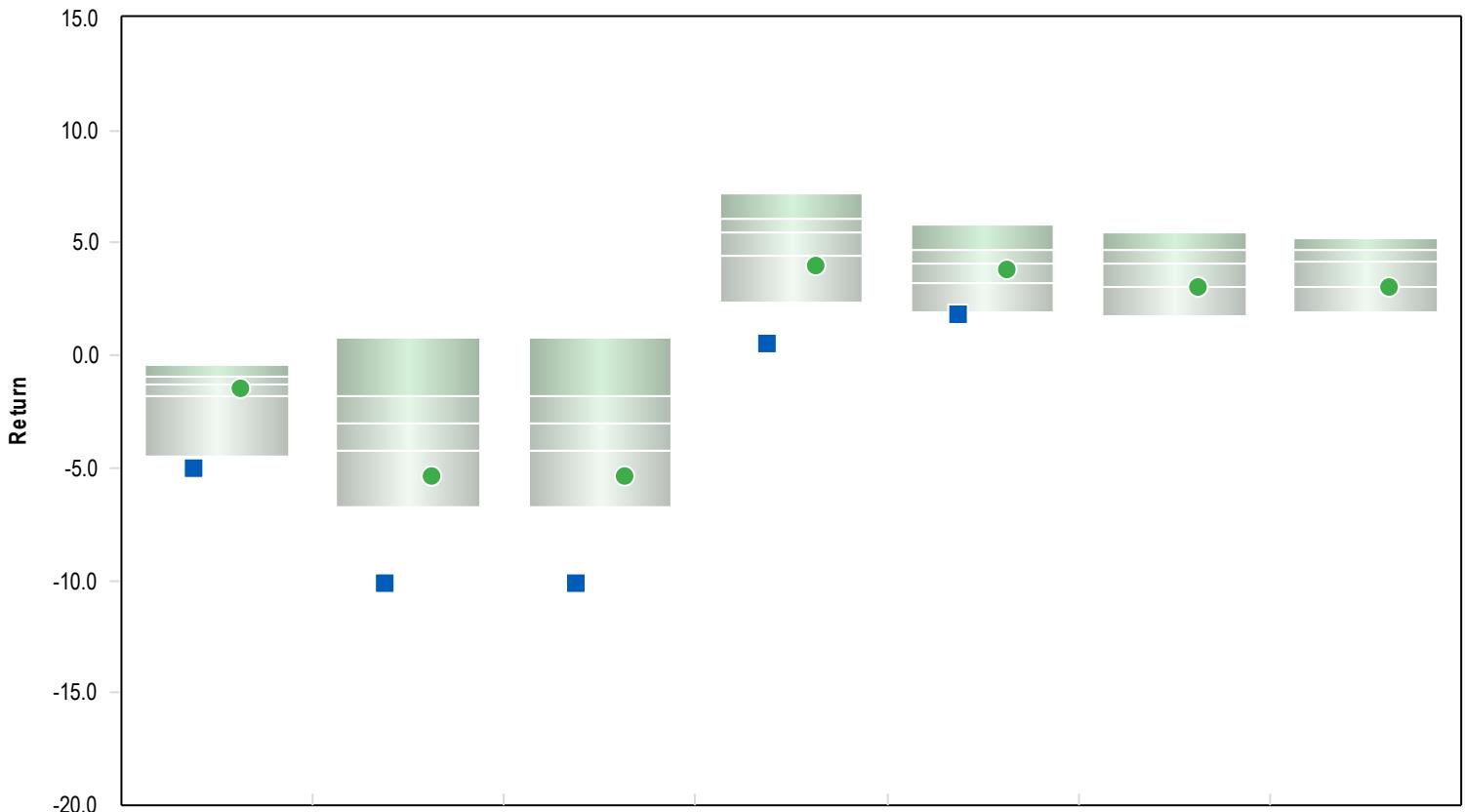
As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Stone Harbor EMD	-1.7	-5.0	-5.0	4.8	3.8			5.7	14.7	-8.7	14.3
50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified US	-1.5	-5.3	-5.3	4.0	3.8	3.0	3.1	4.0	14.3	-5.2	12.7
Difference	-0.2	0.3	0.3	0.8	0.0			1.7	0.4	-3.5	1.6



Bristol County Retirement System  
IM Emerging Markets Debt (MF)

As of December 31, 2021



■ Ashmore Emerging Markets Total Return  
● 50% JPM EMBI Global Div./  
50% JPM GBI-EM Global Div.

5th Percentile	-0.4	0.8	0.8	7.2	5.8	5.5	5.3
1st Quartile	-1.0	-1.8	-1.8	6.1	4.7	4.7	4.7
Median	-1.2	-3.0	-3.0	5.4	4.1	4.0	4.2
3rd Quartile	-1.8	-4.2	-4.2	4.4	3.2	3.0	3.1
95th Percentile	-4.5	-6.8	-6.8	2.4	1.9	1.7	1.9

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

Bristol County Retirement System  
IM Emerging Markets Debt (MF)

As of December 31, 2021



■ Ashmore Emerging Markets Total Return  
● 50% JPM EMBI Global Div./  
50% JPM GBI-EM Global Div.

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Ashmore Emerging Markets Total Return	2.9 (88)	9.9 (93)	-5.3 (42)	13.7 (10)						
50% JPM EMBI Global Div./ 50% JPM GBI-EM Global Div.	4.0 (77)	14.3 (30)	-5.2 (39)	12.7 (22)	10.2 (55)	-7.1 (83)	0.7 (57)	-7.1 (62)	17.2 (65)	2.8 (70)

5th Percentile	8.5	16.4	-1.8	14.3	15.0	2.0	6.5	-0.5	22.9	7.5
1st Quartile	7.2	14.6	-4.3	12.5	13.1	-0.6	4.0	-4.7	19.7	6.1
Median	5.6	13.6	-5.9	10.5	10.4	-2.6	1.3	-6.6	18.6	5.1
3rd Quartile	4.2	12.2	-7.1	9.0	8.9	-4.5	-1.9	-7.7	16.3	1.0
95th Percentile	2.1	8.8	-9.0	6.7	5.6	-13.7	-6.2	-10.4	11.2	-5.7

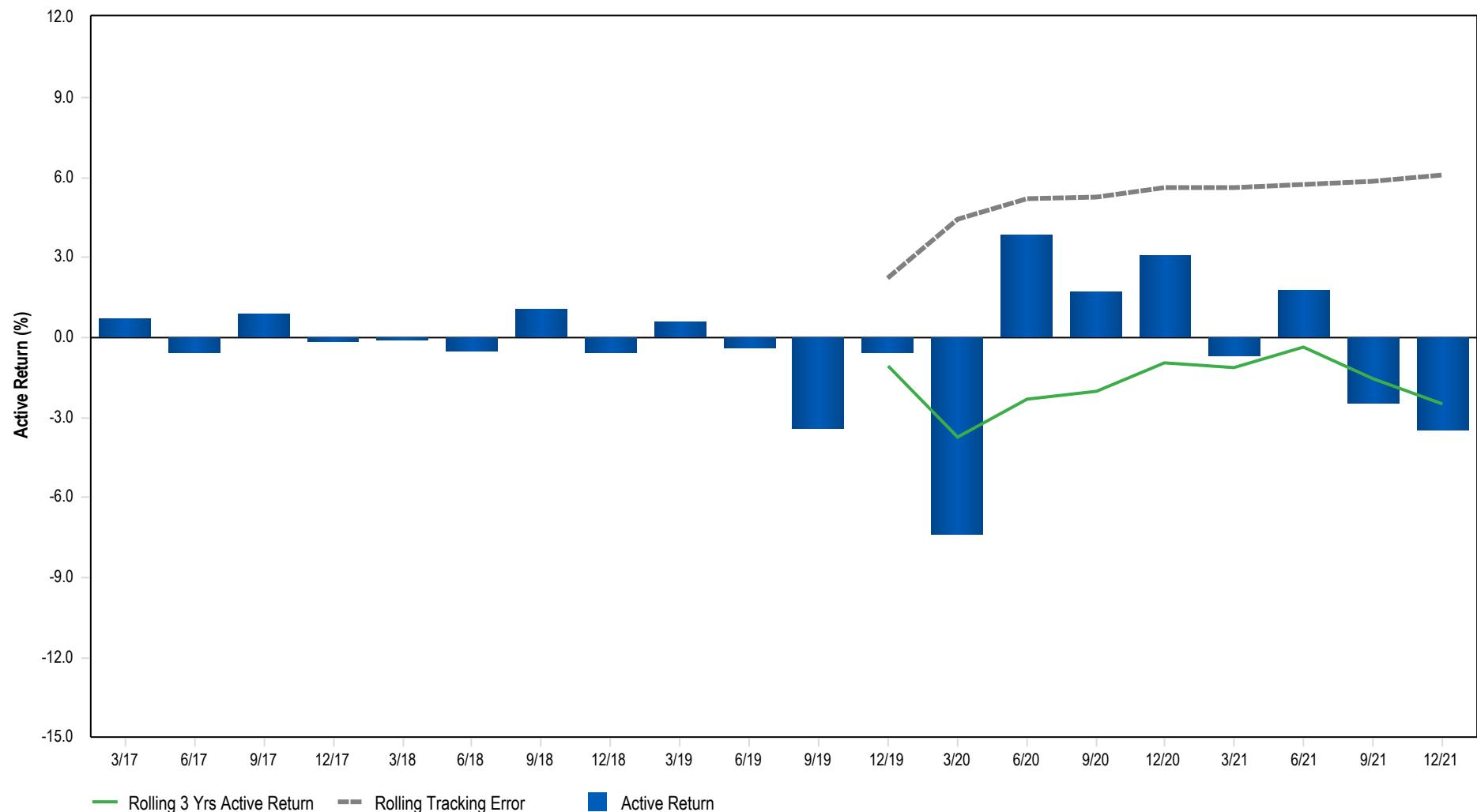
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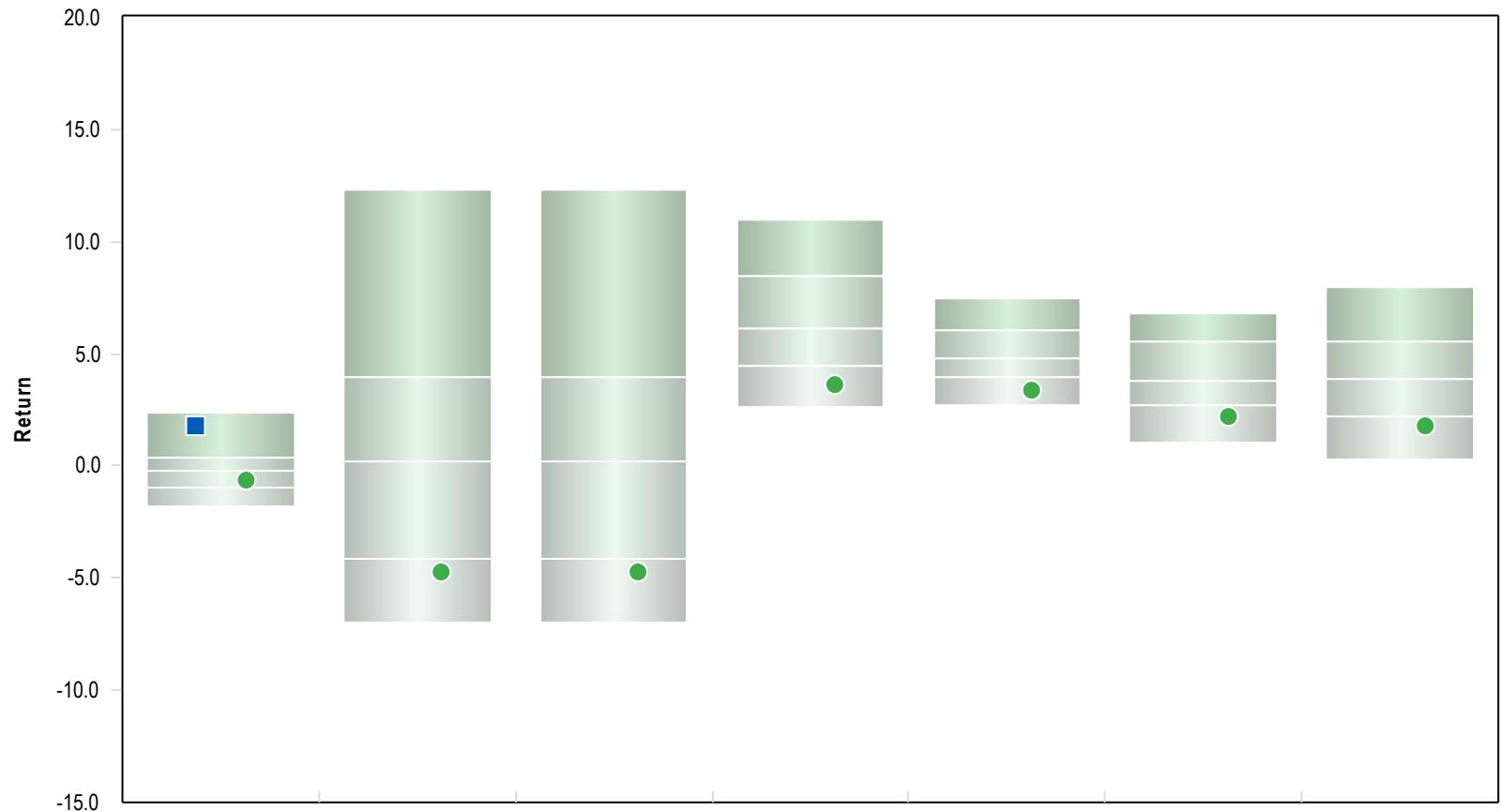
# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Ashmore Emerging Markets Total Return	-5.0	-10.1	-10.1	0.5	1.8			2.9	9.9	-5.3	13.7
50% JPM EMBI Global Diversified/ 50% JPM GBI-EM Global Diversified US	-1.5	-5.3	-5.3	4.0	3.8	3.0	3.1	4.0	14.3	-5.2	12.7
Difference	-3.5	-4.8	-4.8	-3.5	-2.0			-1.1	-4.4	-0.1	1.0





■ EnTrust Global Recovery Fund

● Blmbg. Global Aggregate

1 Qtr                    YTD                    1 Yr                    3 Yrs                    5 Yrs                    7 Yrs                    10 Yrs

1.8 (7)                -4.7 (81)                -4.7 (81)                3.6 (88)                3.4 (87)                2.2 (85)                1.8 (84)

5th Percentile

2.4                    12.3                    12.3                    11.0                    7.5                    6.8                    8.0

1st Quartile

0.4                    4.0                    4.0                    8.5                    6.0                    5.6                    5.6

Median

-0.2                    0.2                    0.2                    6.1                    4.8                    3.8                    3.9

3rd Quartile

-1.0                    -4.2                    -4.2                    4.4                    4.0                    2.7                    2.2

95th Percentile

-1.8                    -7.0                    -7.0                    2.6                    2.7                    1.0                    0.3

Parentheses contain percentile rankings.

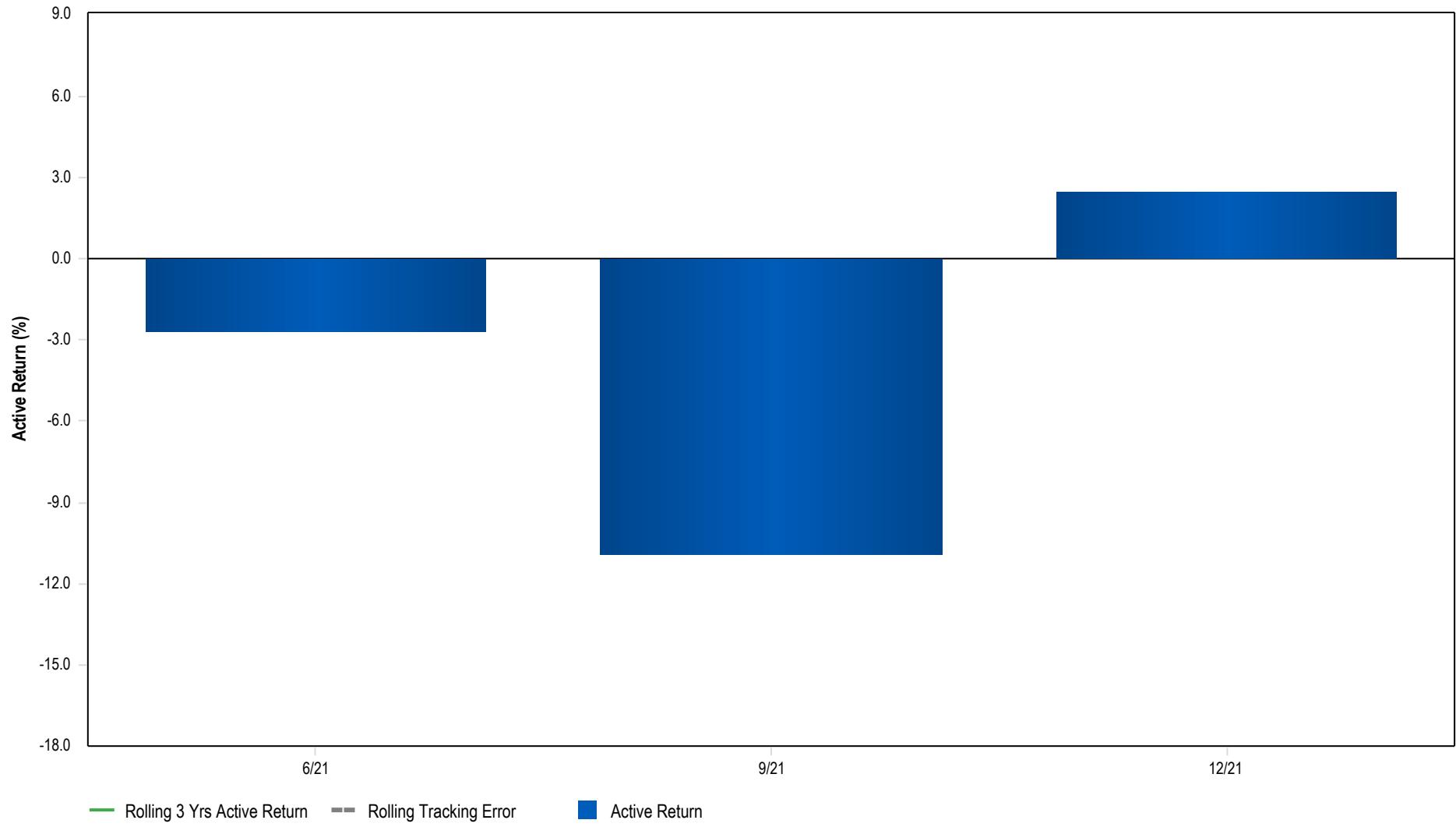
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

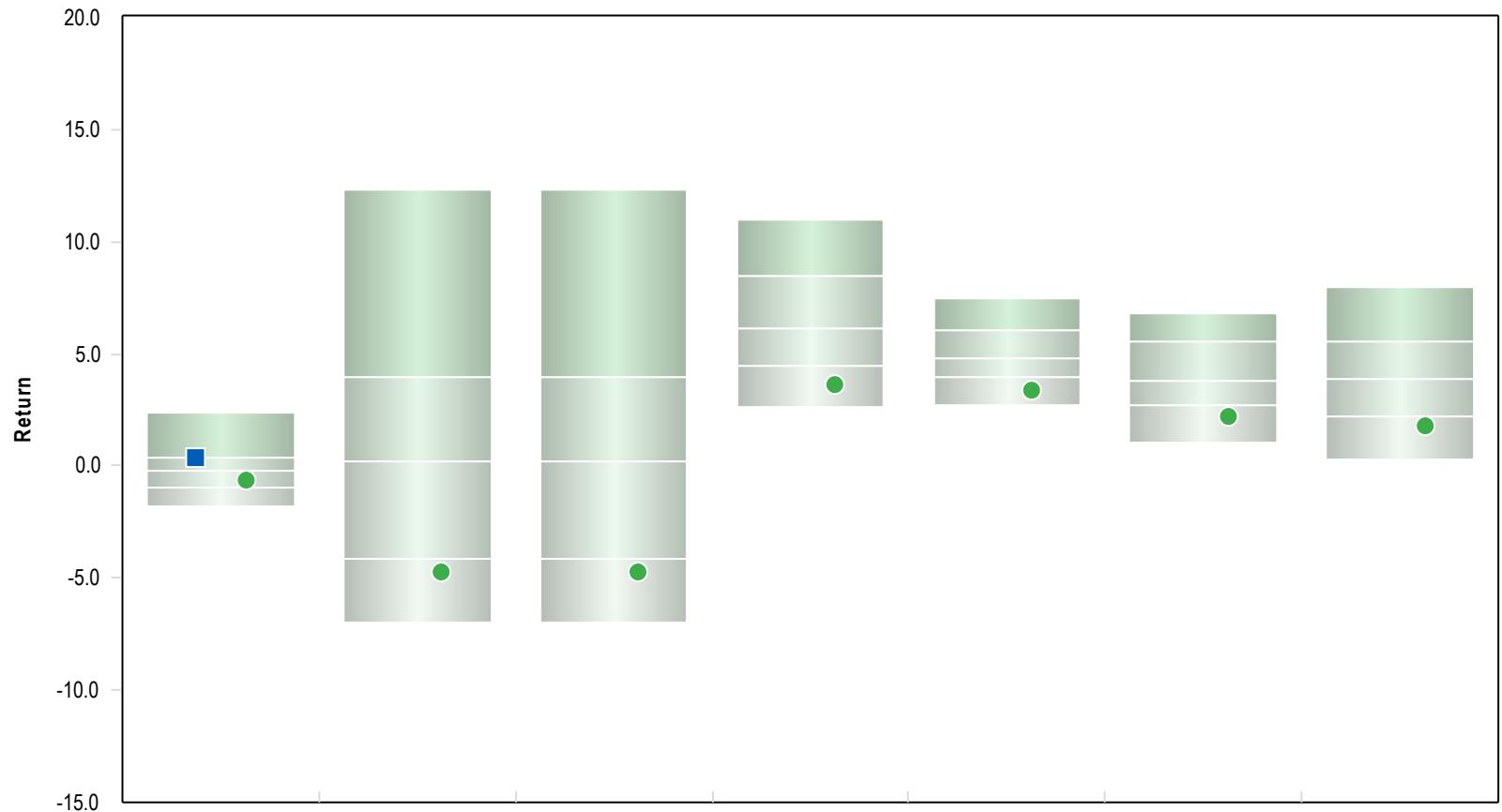
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
EnTrust Global Recovery Fund	1.8										
Bloomberg Global Aggregate	-0.7	-4.7	-4.7	3.6	3.4	2.2	1.8	9.2	6.8	-1.2	7.4
Difference		2.5									



# Bristol County Retirement System

## IM Global Fixed Income (SA+CF)

As of December 31, 2021



■ Bardin Hill Opportunistic Credit

● Blmbg. Global Aggregate

5th Percentile	2.4	12.3	12.3	11.0	7.5	6.8	8.0
1st Quartile	0.4	4.0	4.0	8.5	6.0	5.6	5.6
Median	-0.2	0.2	0.2	6.1	4.8	3.8	3.9
3rd Quartile	-1.0	-4.2	-4.2	4.4	4.0	2.7	2.2
95th Percentile	-1.8	-7.0	-7.0	2.6	2.7	1.0	0.3

Parentheses contain percentile rankings.

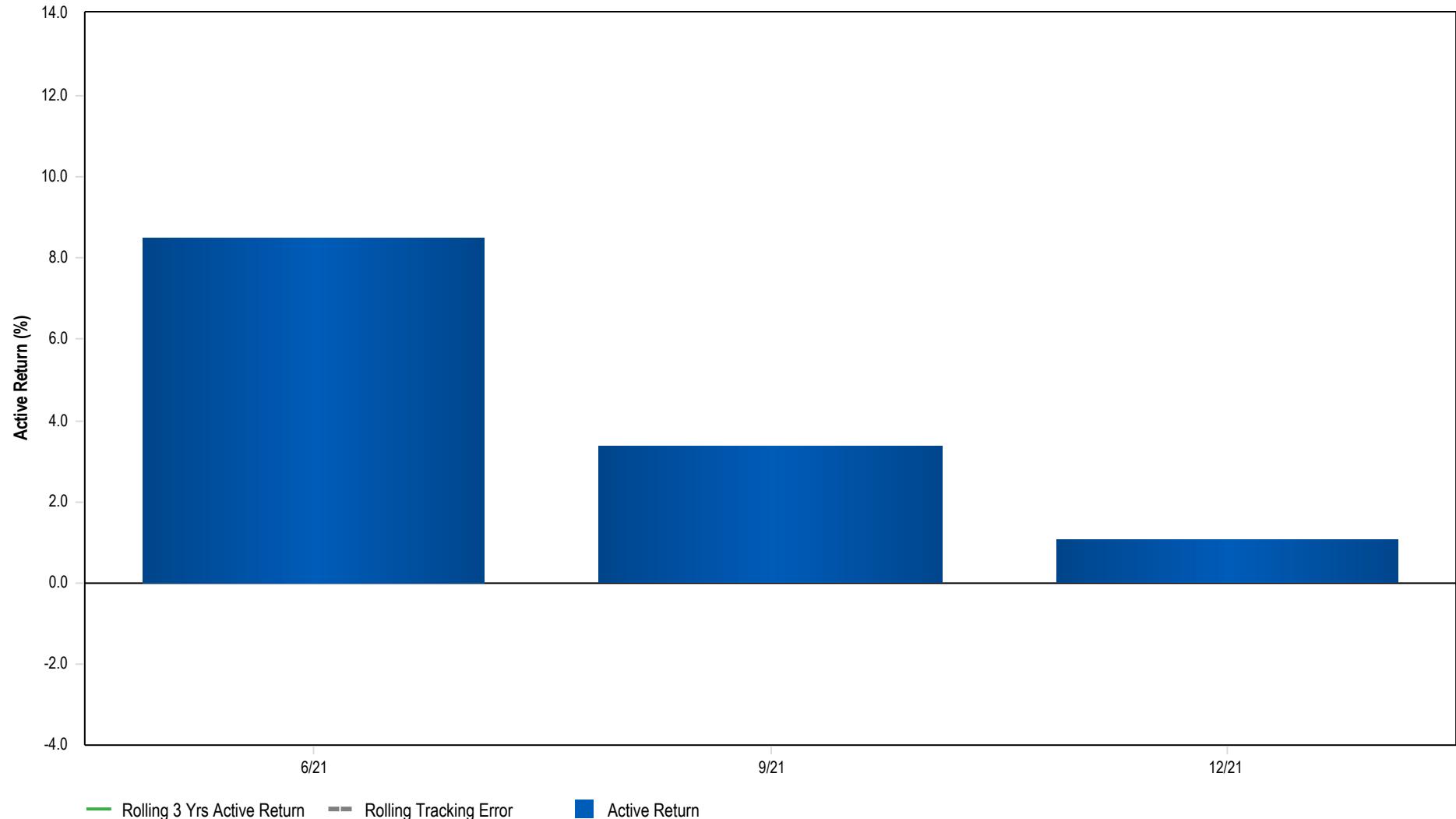
Calculation based on monthly periodicity.

# Bristol County Retirement System

## Comparative Performance & Rolling Return

As of December 31, 2021

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2020	2019	2018	2017
Bardin Hill Opportunistic Credit	0.4										
Blmbg. Global Aggregate	-0.7	-4.7	-4.7	3.6	3.4	2.2	1.8	9.2	6.8	-1.2	7.4
Difference		1.1									



## **Other Fixed Income**

Bristol County Retirement System

Comparative Performance - IRR

As of December 31, 2021

	Market Value (\$)	%	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Invesco Mortgage Recovery Fund	64,669	0.0	0.0	-0.7	-0.7	-1.8	1.5	10.1	16.1	13.7	03/31/2010

Bristol County Retirement System  
Schedule of Investable Assets

Invesco Mortgage Recovery Fund  
Since Inception Ending December 31, 2021

Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Contributions (\$)	Withdrawals (\$)	Gain/Loss (\$)	Ending Market Value (\$)	%Return	Unit Value	Income (\$)	Income % of Beginning Market Value
Jun-2010	2,047,799		2,089,844	42,045		2,151,396	5.7	105.7	27,307	0.0
Sep-2010	2,151,396	739,731	921,104	181,373	142,577	3,033,704	5.9	112.0	75,028	3.5
Dec-2010	3,033,704	-448,204	33,362	481,566	96,495	2,681,995	3.7	116.1	209,106	6.9
Mar-2011	2,681,995	-265,432	215,509	480,941	114,718	2,531,281	4.3	121.1	206,684	7.7
Jun-2011	2,531,281	-248,483	200,172	448,655	-37,226	2,245,572	-1.7	119.1	33,871	1.3
Sep-2011	2,245,572	1,186,159	1,302,619	116,460	-15,163	3,416,568	-0.7	118.3	8,310	0.4
Dec-2011	3,416,568	-974,627		974,627	7,383	2,449,324	0.2	118.6	38,619	1.1
Mar-2012	2,449,324	-880,764		880,764	106,038	1,674,598	4.6	124.1	18,649	0.8
Jun-2012	1,674,598	-3,746	159,003	162,749	44,872	1,715,724	2.5	127.1	75,013	4.5
Sep-2012	1,715,724	-10,305		10,305	37,498	1,742,917	2.2	129.9		0.0
Dec-2012	1,742,917	-510,562		510,562	85,492	1,317,847	5.9	137.6		0.0
Mar-2013	1,317,847	-65,326		65,326	22,847	1,275,368	1.7	140.0		0.0
Jun-2013	1,275,368	-59,917	20,152	80,069	26,281	1,241,732	2.2	143.1		0.0
Sep-2013	1,241,732	221,939	221,939		2,024	1,465,695	0.1	143.3		0.0
Dec-2013	1,465,695	132,967	329,829	196,862	124,547	1,723,209	8.1	154.9		0.0
Mar-2014	1,723,209	-97,979		97,979	39,216	1,664,446	2.4	158.5		0.0
Jun-2014	1,664,446	-64,464	70,551	135,015	53,465	1,653,447	3.3	163.8		0.0
Sep-2014	1,653,447	-38,489	40,092	78,581	82,363	1,697,321	5.1	172.2		0.0
Dec-2014	1,697,321	53,602	88,065	34,463	315,116	2,066,039	18.0	203.2		0.0
Mar-2015	2,066,039	-338,868	42,571	381,439	49,102	1,776,273	2.9	209.0		0.0
Jun-2015	1,776,273	28,704	28,704		67,010	1,871,987	3.9	217.2		0.0
Sep-2015	1,871,987	-239,366	44,631	283,997	184,643	1,817,264	11.3	241.8		0.0
Dec-2015	1,817,264	-255,351		255,351	107,519	1,669,432	6.9	258.4		0.0
Mar-2016	1,669,432	9,080	57,199	48,119	-204	1,678,308	0.0	258.4		0.0
Jun-2016	1,678,308	-423,449		423,449	62,718	1,317,577	5.0	271.3		0.0
Sep-2016	1,317,577	-175,341		175,341	1,890	1,144,126	0.2	271.7		0.0
Dec-2016	1,144,126	-1,965		1,965	-85,161	1,057,000	-7.4	251.5		0.0
Mar-2017	1,057,000				-25,343	1,031,657	-2.4	245.5		0.0
Jun-2017	1,031,657	-559,332		559,332	-399	471,926	-0.1	245.3		0.0
Sep-2017	471,926	-80,808		80,808	-25,848	365,270	-6.6	229.1		0.0

\*% return represents a time weighted return.

Bristol County Retirement System  
Schedule of Investable Assets

Invesco Mortgage Recovery Fund

Since Inception Ending December 31, 2021

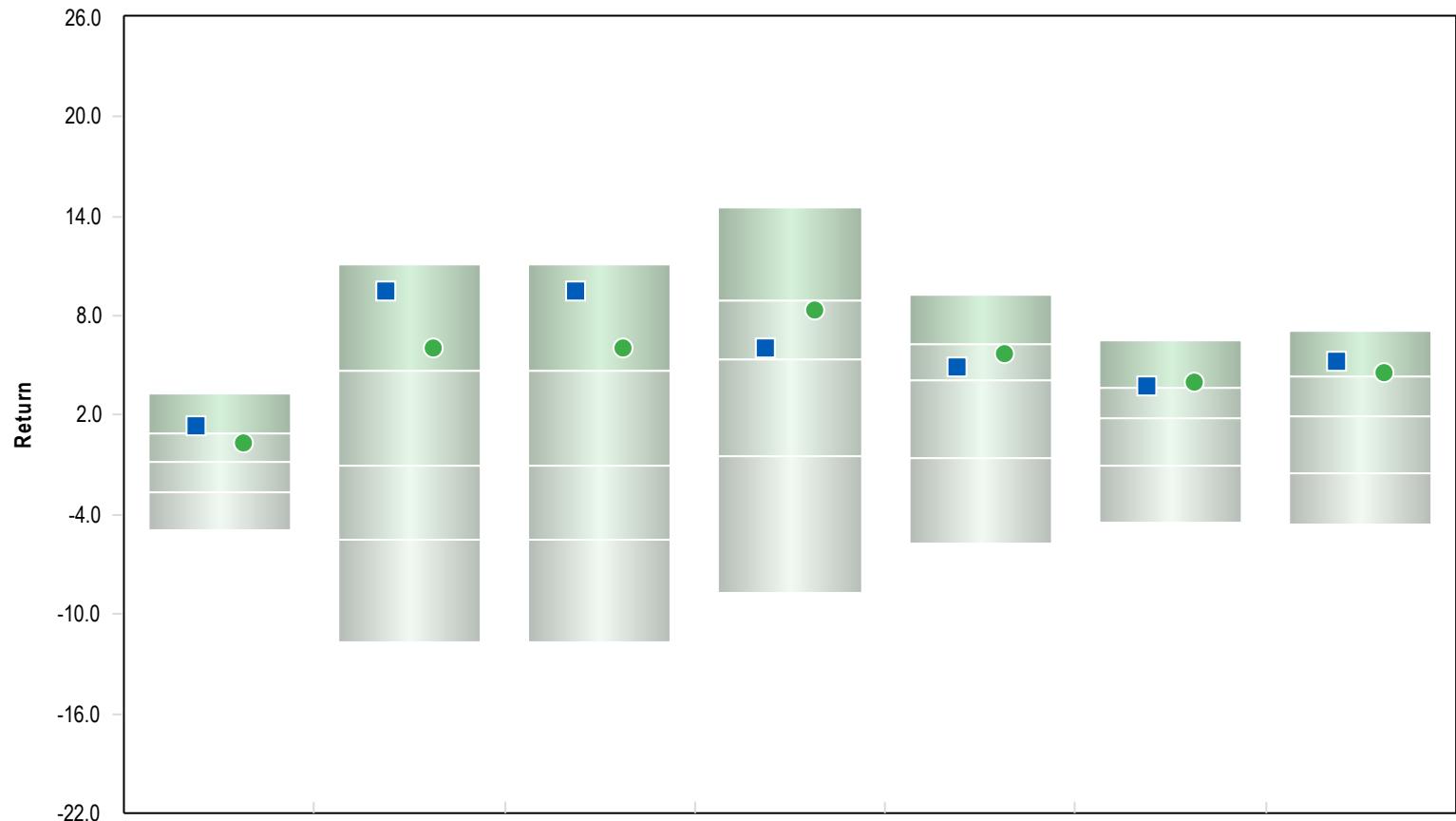
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Contributions (\$)	Withdrawals (\$)	Gain/Loss (\$)	Ending Market Value (\$)	%Return	Unit Value	Income (\$)	Income % of Beginning Market Value
Dec-2017	365,270				18,088	383,358	5.0	240.4		0.0
Mar-2018	383,358	840	840		12,252	396,450	3.4	248.5		0.0
Jun-2018	396,450	-76,638		76,638	22,664	342,476	5.8	262.8		0.0
Sep-2018	342,476				13,122	355,598	3.8	272.9		0.0
Dec-2018	355,598				18,584	374,182	5.2	287.1		0.0
Mar-2019	374,182	-126,979		126,979	5,019	252,222	1.4	291.1		0.0
Jun-2019	252,222				-824	251,398	-0.3	290.1		0.0
Sep-2019	251,398				-41	251,357	0.0	290.1		0.0
Dec-2019	251,357				-11,356	240,001	-4.5	277.0		0.0
Mar-2020	240,001				-1,073	238,928	-0.4	275.7		0.0
Jun-2020	238,928				-136	238,792	-0.1	275.6		0.0
Sep-2020	238,792				367	239,159	0.2	276.0		0.0
Dec-2020	239,159	-172,673		172,673	-1,356	65,130	-2.0	270.4		0.0
Mar-2021	65,130				-371	64,759	-0.6	268.8		0.0
Jun-2021	64,759				918	65,677	1.4	272.6		0.0
Sep-2021	65,677				-1,008	64,669	-1.5	268.4		0.0
Dec-2021	64,669					64,669	0.0	268.4		0.0
	-1,698,247	5,866,186		7,564,433	1,659,319	64,669	8.8	268.4	692,587	0.0

\*% return represents a time weighted return.

## **Alternatives**

Bristol County Retirement System  
Fund of Funds Hedge Funds

As of December 31, 2021



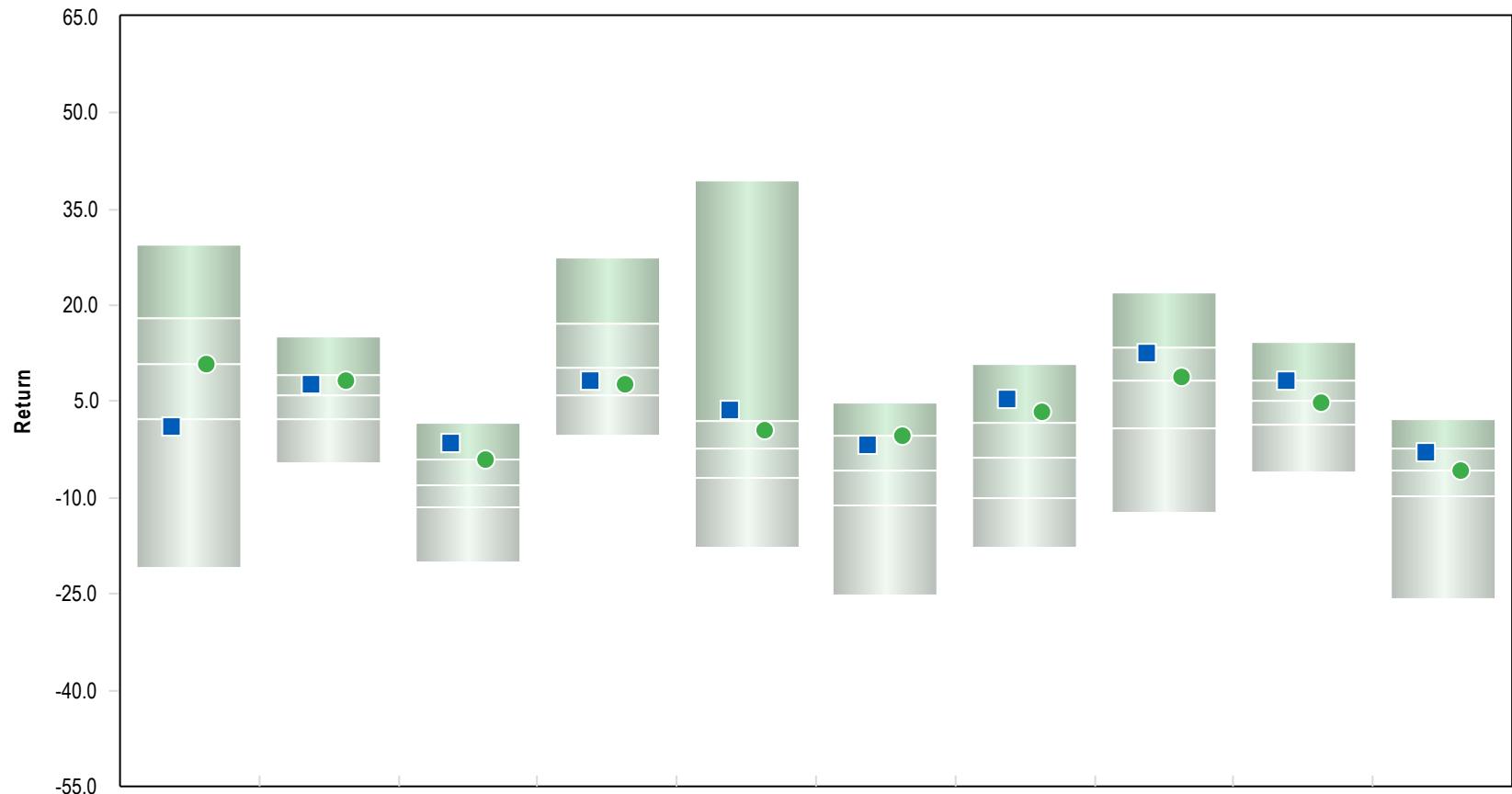
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ PRIT Absolute Return	1.3 (20)	9.5 (8)	9.5 (8)	6.1 (46)	4.9 (41)	3.7 (24)	5.2 (16)
● HFRI Fund of Funds Composite Index	0.3 (36)	6.0 (20)	6.0 (20)	8.4 (30)	5.7 (32)	4.1 (22)	4.5 (21)

5th Percentile	3.3	11.1	11.1	14.6	9.3	6.5	7.1
1st Quartile	0.9	4.7	4.7	9.0	6.2	3.6	4.3
Median	-0.8	-1.0	-1.0	5.4	4.1	1.8	2.0
3rd Quartile	-2.6	-5.4	-5.4	-0.4	-0.6	-1.1	-1.5
95th Percentile	-4.9	-11.7	-11.7	-8.7	-5.8	-4.5	-4.6

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.

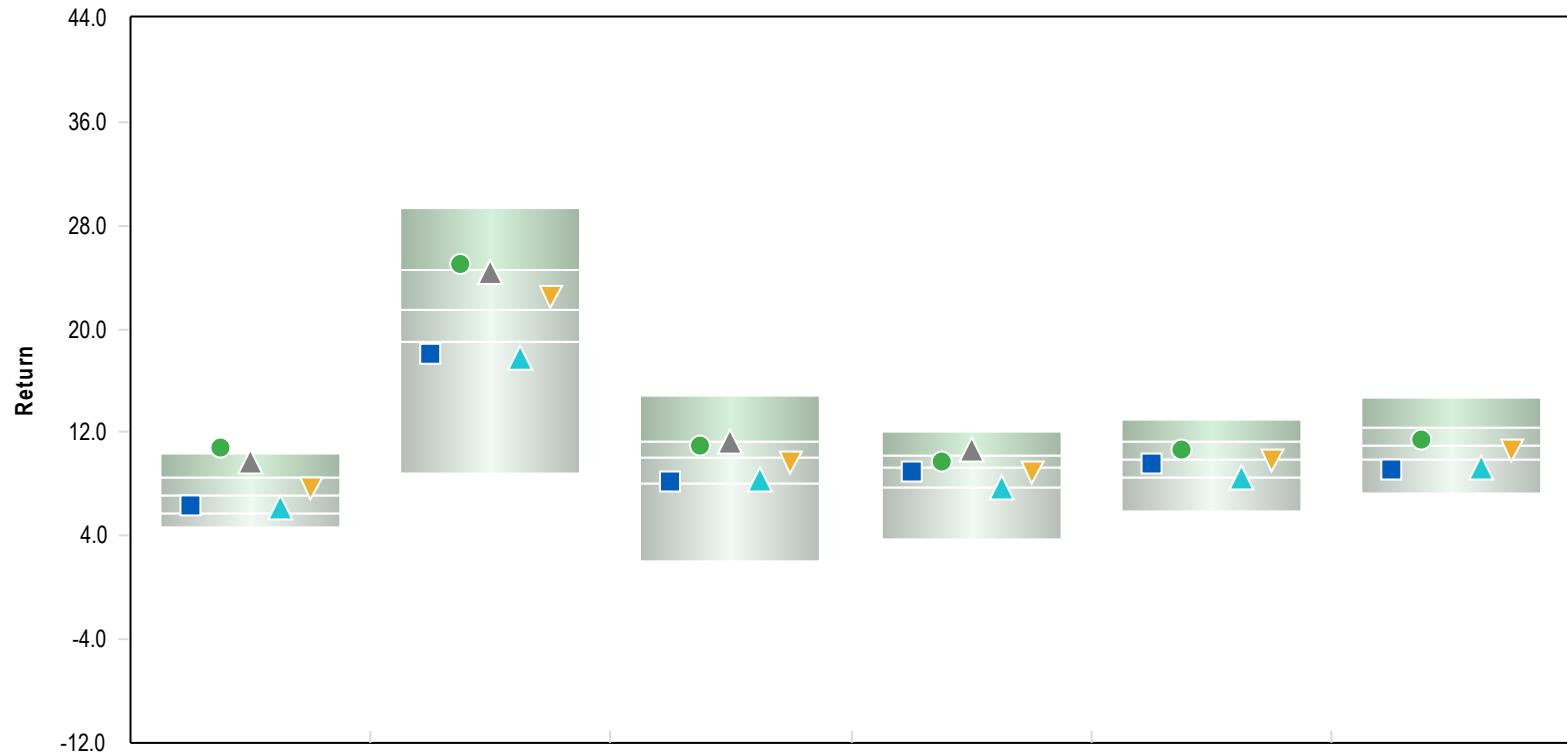
Bristol County Retirement System  
Fund of Funds Hedge Funds

As of December 31, 2021



	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
PRIT Absolute Return	1.3 (77)	7.7 (35)	-1.6 (15)	8.2 (64)	3.6 (20)	-1.9 (34)	5.5 (9)	12.6 (29)	8.4 (24)	-2.8 (28)
HFRI F of F Composite Index	10.9 (50)	8.4 (30)	-4.0 (25)	7.8 (66)	0.5 (33)	-0.3 (25)	3.4 (18)	9.0 (47)	4.8 (53)	-5.7 (50)
5th Percentile	29.5	15.1	1.7	27.4	39.5	4.9	10.8	22.0	14.4	2.4
1st Quartile	18.0	9.2	-4.1	17.3	2.0	-0.4	1.7	13.3	8.2	-2.4
Median	10.9	5.9	-8.1	10.3	-2.4	-5.6	-3.8	8.2	5.2	-5.8
3rd Quartile	2.3	2.3	-11.5	6.0	-6.8	-11.3	-10.2	1.0	1.5	-9.7
95th Percentile	-21.0	-4.5	-20.1	-0.3	-17.7	-25.3	-17.7	-12.4	-6.1	-25.8

Parentheses contain percentile rankings.  
Calculation based on monthly periodicity.



	1 Qtr	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Real Estate	6.4 (70)	18.1 (77)	8.2 (75)	8.9 (55)	9.6 (59)	9.2 (81)
RREEF America REIT II	10.9 (1)	25.0 (22)	11.0 (32)	9.8 (37)	10.7 (34)	11.5 (40)
Intercontinental	9.7 (11)	24.3 (27)	11.3 (25)	10.6 (18)		
NCREIF Property Index	6.2 (72)	17.7 (77)	8.4 (73)	7.8 (76)	8.6 (75)	9.3 (81)
NCREIF ODCE Equal Weighted	7.7 (36)	22.6 (45)	9.7 (54)	9.0 (54)	9.9 (51)	10.6 (62)

5th Percentile	10.3	29.3	14.9	12.1	13.0	14.7
1st Quartile	8.5	24.5	11.3	10.2	11.2	12.3
Median	7.1	21.5	10.1	9.2	10.0	11.0
3rd Quartile	5.7	19.0	8.1	7.8	8.5	10.0
95th Percentile	4.7	8.8	2.0	3.8	5.9	7.3

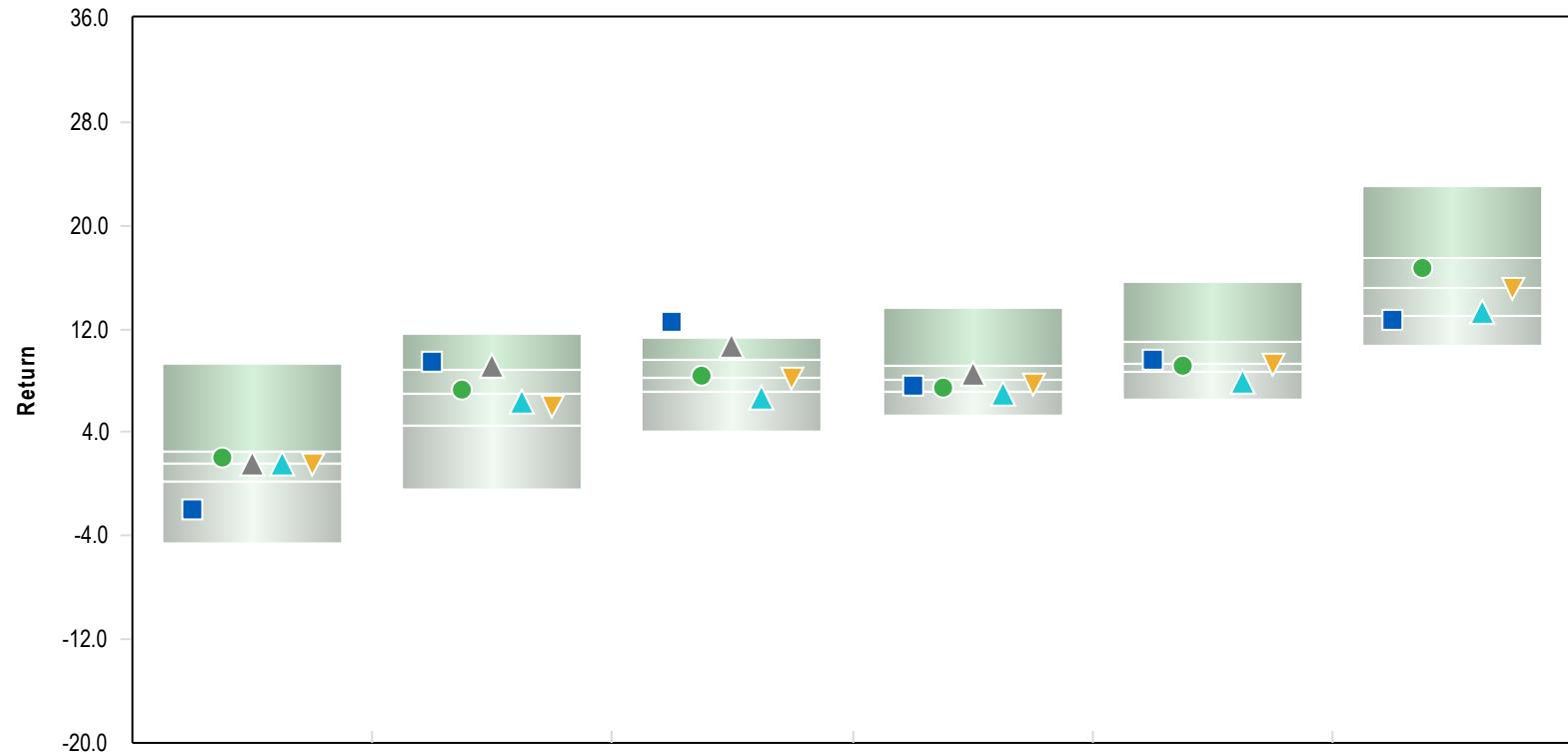
Parentheses contain percentile rankings.

Calculation based on quarterly periodicity.

# Bristol County Retirement System

## IM U.S. Open End Private Real Estate (SA+CF)

As of December 31, 2021



	2020	2019	2018	2017	2016	2015
Total Real Estate	-2.0 (90)	9.5 (22)	12.6 (3)	7.6 (59)	9.6 (48)	12.8 (82)
RREEF America REIT II	2.1 (39)	7.3 (41)	8.4 (47)	7.4 (65)	9.1 (58)	16.7 (34)
Intercontinental	1.6 (47)	9.1 (24)	10.7 (13)	8.5 (41)		
NCREIF Property Index	1.6 (49)	6.4 (63)	6.7 (80)	7.0 (77)	8.0 (81)	13.3 (72)
NCREIF ODCE Equal Weighted	1.6 (53)	6.1 (71)	8.3 (51)	7.8 (53)	9.3 (52)	15.2 (51)

5th Percentile	9.3	11.6	11.3	13.6	15.6	23.0
1st Quartile	2.5	8.8	9.6	9.1	11.0	17.5
Median	1.6	7.0	8.3	8.1	9.3	15.2
3rd Quartile	0.2	4.6	7.2	7.1	8.7	13.0
95th Percentile	-4.5	-0.4	4.1	5.3	6.5	10.7

Parentheses contain percentile rankings.

Calculation based on quarterly periodicity.

# Bristol County Retirement System

## Total Active Hard Assets and Real Estate Composite Overview

As of December 31, 2021

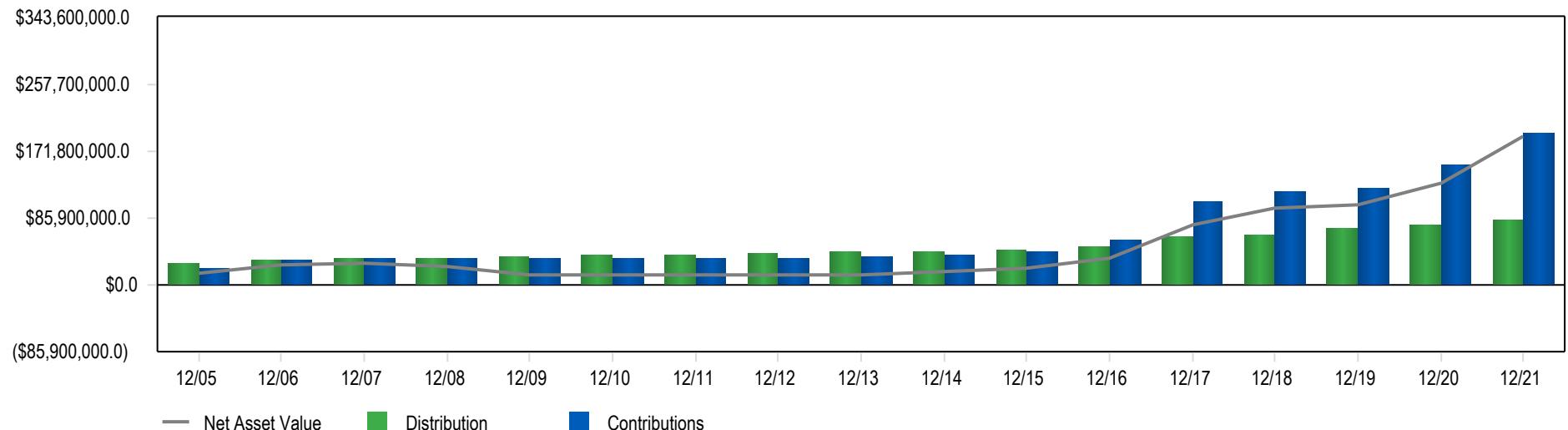
### Cash Flow Summary

Capital Committed: \$190,927,501  
 Total Contributions: \$204,193,252  
 Remaining Capital Commitment: -\$2,737,382

Total Distributions: \$83,616,238  
 Market Value: \$190,409,109

Inception Date: 01/01/1995  
 Inception IRR: 14.6  
 TVPI: 1.3

### Cash Flow Analysis



Bristol County Retirement System

Hard Asset Summary of Partnership

As of December 31, 2021

Partnerships	Vintage Year	Investment Strategy	Capital Commitment (\$)	Contributions (\$)	Distributions (\$)	Market Value (\$)	IRR (%)	DPI Multiple	TVPI Multiple	Remaining Commitment (\$)
<b>Closed-End Real Estate</b>			<b>76,776,354</b>	<b>79,093,087</b>	<b>61,567,004</b>	<b>33,397,628</b>	<b>15.2</b>	<b>0.8</b>	<b>1.2</b>	<b>4,278,970</b>
Invesco Mortgage Recovery II	2016	Real Estate	15,000,000	16,416,062	13,292,489	4,688,864	5.2	0.8	1.1	4,278,970
TerraCap Partners IV	2017	Value-Add Real Estate	10,000,000	10,900,671	5,604,801	9,375,462	11.7	0.5	1.4	
TerraCap Partners V	2020	Value-Add Real Estate	17,500,000	17,500,000	206,615	19,333,302	16.4	-	1.1	
<b>Closed-End Infrastructure</b>			<b>13,000,000</b>	<b>14,974,087</b>	<b>9,101,742</b>	<b>10,200,181</b>	<b>11.7</b>	<b>0.6</b>	<b>1.3</b>	<b>1,917,721</b>
GCM Customized Infrastructures Strategies II, LP	2015	Infrastructure	13,000,000	14,974,087	9,101,742	10,200,181	11.7	0.6	1.3	1,917,721
<b>Closed-End Timber</b>			<b>8,578,397</b>	<b>4,503,328</b>	<b>4,829,961</b>	<b>3,271,642</b>	<b>8.6</b>	<b>1.1</b>	<b>1.8</b>	<b>4,115,927</b>
Brookfield Timberlands Fund V	2013	Timber	5,000,000	1,166,607	678,114	1,131,832	7.8	0.6	1.6	3,874,251
Eastern Timberland Opportunities II	2014	Timber	2,500,000	2,258,324	1,551,617	2,139,810	7.9	0.7	1.6	241,676
<b>Total Hard Assets</b>			<b>190,927,501</b>	<b>204,193,252</b>	<b>83,616,238</b>	<b>190,409,109</b>	<b>14.6</b>	<b>0.4</b>	<b>1.3</b>	<b>-2,737,382</b>

\* Composites and Total Hard Assets include prior funds that have been fully liquidated

Bristol County Retirement System  
Comparative Performance - IRR

As of December 31, 2021

	Market Value (\$)	%	1 Quarter	1 Quarter Ending Sep-2021	1 Quarter Ending Jun-2021	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Real Assets</b>													
<b>Closed-End Real Estate</b>	<b>33,397,628</b>	<b>3.6</b>	<b>9.6</b>	<b>0.9</b>	<b>1.0</b>	<b>17.0</b>	<b>17.0</b>	<b>6.3</b>	<b>8.4</b>	<b>8.4</b>	<b>6.8</b>	<b>15.2</b>	<b>01/01/0001</b>
Invesco Mortgage Recovery II	4,688,864	0.5	-0.2	3.1	4.0	9.8	9.8	-10.9	2.4			5.2	05/20/2016
TerraCap Partners IV	9,375,462	1.0	11.3	0.7	0.0	18.6	18.6	10.6				11.7	07/17/2018
TerraCap Partners V	19,333,302	2.1	11.7	0.4	0.9	18.0	18.0					16.4	10/16/2020
<b>Closed-End Infrastructure</b>	<b>10,200,181</b>	<b>1.1</b>	<b>1.7</b>	<b>1.4</b>	<b>5.8</b>	<b>8.4</b>	<b>8.4</b>	<b>12.5</b>	<b>12.5</b>			<b>11.7</b>	<b>03/10/2016</b>
GCM Customized Infrastructures Strategies II, LP	10,200,181	1.1	1.7	1.4	5.8	8.4	8.4	12.5	12.5			11.7	03/10/2016
<b>Closed-End Timber</b>	<b>3,271,642</b>	<b>0.3</b>	<b>0.6</b>	<b>3.7</b>	<b>2.3</b>	<b>8.3</b>	<b>8.3</b>	<b>5.9</b>	<b>6.9</b>	<b>7.5</b>		<b>8.6</b>	<b>12/23/2013</b>
Brookfield Timberlands Fund V	1,131,832	0.1	-2.7	1.4	1.3	1.4	1.4	5.1	6.8	5.8		7.8	12/23/2013
Eastern Timberland Opportunities II	2,139,810	0.2	2.3	4.8	2.7	11.6	11.6	6.3	6.9	8.2		7.9	07/03/2014

Bristol County Retirement System  
Private Equity Composite Overview

As of December 31, 2021

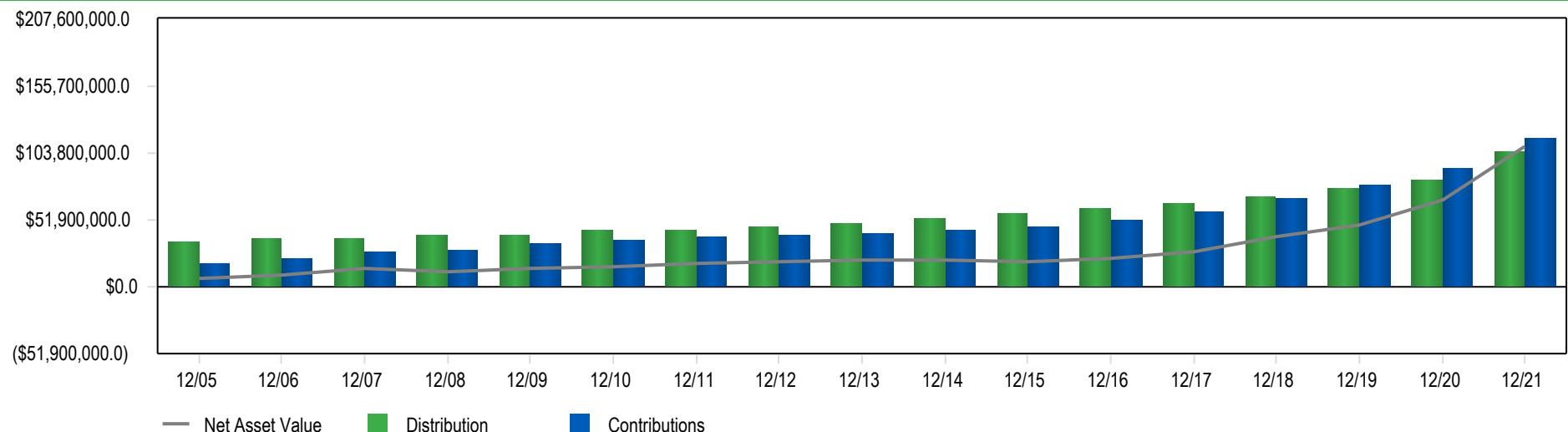
Cash Flow Summary

Capital Committed: \$186,179,547  
Total Contributions: \$115,504,540  
Remaining Capital Commitment: \$73,269,710

Total Distributions: \$104,682,107  
Market Value: \$108,552,341

Inception Date: 01/05/1995  
Inception IRR: 177.7  
TVPI: 1.8

Cash Flow Analysis



# Bristol County Retirement System

## Private Equity Summary of Partnership

As of December 31, 2021

Partnerships	Vintage Year	Capital Commitment (\$)	Contributions (\$)	Distributions (\$)	Market Value (\$)	IRR (%)	DPI Multiple	TVPI Multiple	Remaining Commitment (\$)
DuPont Capital Management II	2005	5,000,000	3,665,072	3,431,182	372,482	0.5	0.9	1.0	1,592,634
BlackRock Vesey Street Fund III	2005	5,000,000	4,433,304	5,839,094	153,717	4.1	1.3	1.4	650,000
DN Partners II	2005	6,000,000	2,829,275	28,285	2,221,933	-2.1	0.0	0.8	3,170,725
BlackRock Vesey Street Fund IV	2007	10,000,000	9,370,622	14,616,214	838,223	8.1	1.6	1.7	2,260,127
Mesirow PE Fund V	2008	5,000,000	4,297,431	7,260,658	4,072,308	17.2	1.7	2.6	706,700
PRIT Vintage 2014	2014	9,090,291	8,344,076	8,000,759	12,522,005	24.7	1.0	2.5	768,603
PRIT Vintage 2015	2015	12,307,878	11,899,640	11,207,142	21,763,939	31.9	0.9	2.8	572,606
PRIT Vintage 2016	2016	8,302,928	7,189,193	3,206,023	10,933,106	24.7	0.4	2.0	1,132,855
PRIT Vintage 2017	2017	15,589,476	12,270,015	2,256,980	18,436,662	29.2	0.2	1.7	3,356,774
PRIT Vintage 2018	2018	14,323,604	10,964,563	1,985,328	15,862,645	36.2	0.2	1.6	3,375,394
PRIT Vintage 2019	2019	9,425,656	6,180,416	1,685,501	9,174,694	57.9	0.3	1.8	3,279,927
PRIT Vintage 2020	2020	10,366,266	4,668,255	8,306	4,900,428	11.2	0.0	1.1	5,699,732
PRIT Vintage 2021	2021	17,178,635	4,358,896	-668	3,400,014	-49.3	-	0.8	12,821,876
PRIT Vintage 2022						-	-	-	
GCM Grosvenor SOF III	2020	20,000,000	3,900,187		3,900,187	0.0	-	1.0	16,133,472
Pomona Capital Fund X	2020	20,000,000				-	-	-	20,000,000
<b>Total Private Equity</b>		<b>186,179,547</b>	<b>115,504,540</b>	<b>104,682,107</b>	<b>108,552,341</b>	<b>177.7</b>	<b>0.9</b>	<b>1.8</b>	<b>73,269,710</b>

\*Active Private Equity managers shown

Bristol County Retirement System  
Active Private Equity Funds

As of December 31, 2021

Internal Rates of Return

	Market Value (\$)	%	1 Quarter	1 Quarter Ending Sep-2021	1 Quarter Ending Jun-2021	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
<b>Total Private Equity</b>	<b>108,552,341</b>	<b>11.6</b>	<b>9.1</b>	<b>12.4</b>	<b>11.1</b>	<b>57.7</b>	<b>57.7</b>	<b>31.7</b>	<b>27.0</b>	<b>20.7</b>	<b>17.2</b>	<b>177.7</b>	<b>01/05/1995</b>
BlackRock Vesey Street Fund III	153,717	0.0	2.3	7.6	-4.0	13.9	13.9	-0.5	-4.7	3.1	8.3	4.1	07/17/2006
DuPont Capital Management II	372,482	0.0	6.5	-1.4	1.0	10.1	10.1	-2.2	-1.0	-3.7	2.7	0.5	08/14/2006
DN Partners II	2,221,933	0.2	0.0	0.0	1.3	1.3	1.3	4.7	19.4	3.5	-1.1	-2.1	01/11/2007
BlackRock Vesey Street Fund IV	838,223	0.1	0.0	-6.2	-1.2	23.9	23.9	6.2	8.5	6.7	10.1	8.1	02/24/2009
Mesirow PE Fund V	4,072,308	0.4	0.0	4.7	17.4	43.4	43.4	29.7	22.2	18.8	18.6	17.2	04/09/2009
PRIT Vintage 2014	12,522,005	1.3	14.3	13.1	9.0	59.7	59.7	30.2	29.9	25.9		24.7	05/01/2014
PRIT Vintage 2015	21,763,939	2.3	9.9	14.0	12.1	72.1	72.1	38.7	36.7	31.9		31.9	03/01/2015
PRIT Vintage 2016	10,933,106	1.2	9.2	15.9	7.9	56.1	56.1	31.8	26.3			24.7	03/01/2016
PRIT Vintage 2017	18,436,662	2.0	4.9	16.1	10.0	56.7	56.7	37.4				29.2	04/30/2017
PRIT Vintage 2018	15,862,645	1.7	12.7	10.6	18.1	66.1	66.1	40.7				36.2	05/30/2018
PRIT Vintage 2019	9,174,694	1.0	30.3	13.0	28.9	109.2	109.2					57.9	03/31/2019
PRIT Vintage 2020	4,900,428	0.5	1.2	15.6	-11.0	21.2	21.2					11.2	02/29/2020
PRIT Vintage 2021	3,400,014	0.4	-26.7	5.3	-49.0	-49.3	-49.3					-49.3	03/31/2021
PRIT Vintage 2022		0.0											
GCM Grosvenor SOF III	3,900,187	0.4										0.0	12/15/2021
Pomona Capital Fund X		0.0											