

Bristol County Retirement System

ANALYSIS OF INVESTMENT PERFORMANCE

As of December 31, 2018

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ANALYSIS OF INVESTMENT PERFORMANCE

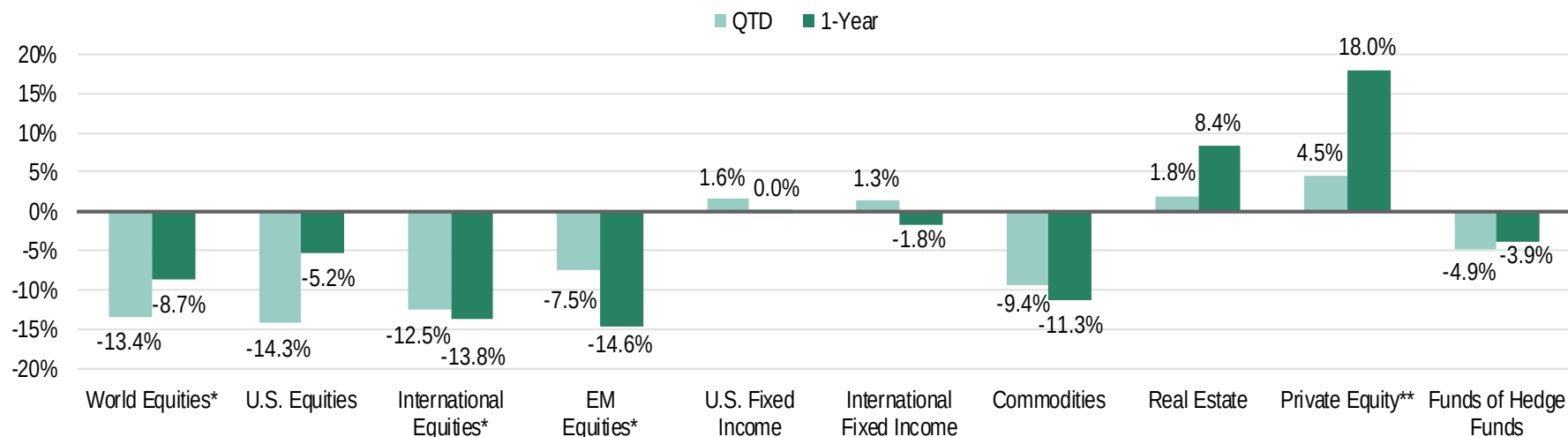
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Financial Market Conditions

Q4 2018 In Review

Summary of Investment Returns



Quarterly Synopsis

- World equity markets fell in Q4. Concerns about slowing global economic growth and trade tension stung markets.
- U.S. equity declined in the quarter. Fears about weaker economic growth and future corporate earnings hurt stocks.
- International equities were lower due to nervousness about decelerating growth, trade disagreements and Brexit.
- Emerging market equity declined in Q4 with worries over slowing growth in China and global trade.
- U.S. fixed income rose in the quarter. Investors flocked to safe assets like U.S. Treasuries in a period of high market volatility.
- Non-U.S. fixed income also gained in Q4, reflecting investors' risk aversion.
- Hedge funds fell during the quarter. Equity hedge and macro strategies posted declines.

* Net of Dividends

** Performance as of Q2 2018 because Q3 2018 and Q4 2018 performance data is not yet available.

Sources: Investment Metrics, Thomson One, FactSet

Q4 2018 Index Returns

Asset Class	Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World Equity	MSCI World ¹	-13.42	-8.71	-8.71	6.30	4.56	9.67
U.S. Equity	Russell 3000	-14.30	-5.24	-5.24	8.97	7.91	13.18
Non-U.S. Equity	MSCI EAFE ¹	-12.54	-13.79	-13.79	2.87	0.53	6.32
Emerging Market Equity	MSCI EM ¹	-7.47	-14.58	-14.58	9.25	1.65	8.02
U.S. Fixed Income	Bloomberg Barclays U.S. Aggregate	1.64	0.01	0.01	2.06	2.52	3.48
Non-U.S. Fixed Income	FTSE ² Non-U.S. WGBI (Unhedged)	1.31	-1.82	-1.82	3.32	0.28	1.27
Commodities	Bloomberg Commodity Index	-9.41	-11.25	-11.25	0.30	-8.80	-3.78
Private Real Estate	NFI-ODCE ³	1.76	8.35	8.35	8.24	10.41	7.00
Private Equity	Thomson Reuters Private Equity ⁴	4.50	7.71	18.01	12.11	14.42	10.09
Hedge Funds	HFRI Fund of Funds Composite	-4.85	-3.92	-3.92	1.34	1.42	3.13

¹ Net of Dividends

² 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.

³ NCREIF Fund Index (NFI) – Open End Diversified Core Equity (ODCE)

⁴ Performance as of Q2 2018 because Q3 2018 and Q4 2018 performance data is not yet available.

Sources: Investment Metrics, Thomson One, FactSet

Q4 2018 In Review: U.S. Economy

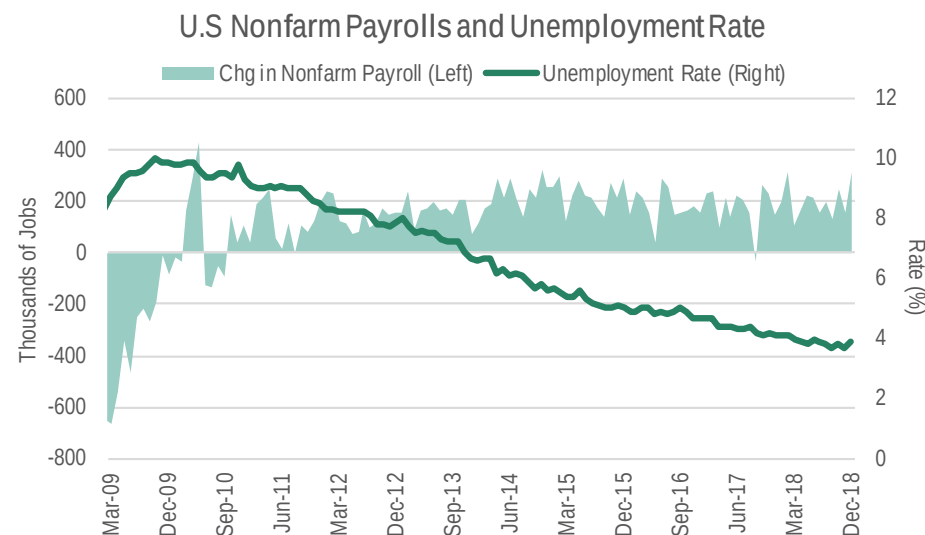
GDP Growth

- The release of Q4 2018 GDP data has been delayed due to the partial U.S. government shutdown. Although the government has reopened, the Bureau of Economic Analysis (BEA) is awaiting the underlying data it needs from other government agencies to assess GDP growth during the quarter.
- Real GDP grew at a rate of 3.4% in Q3 2018, which is 0.1% lower than previously reported, according to the BEA's third estimate of economic growth for that quarter.
- In the BEA's third revision to Q3 GDP, it noted that personal consumption expenditures and exports were revised down, and private inventory investment was revised up.



Employment Picture

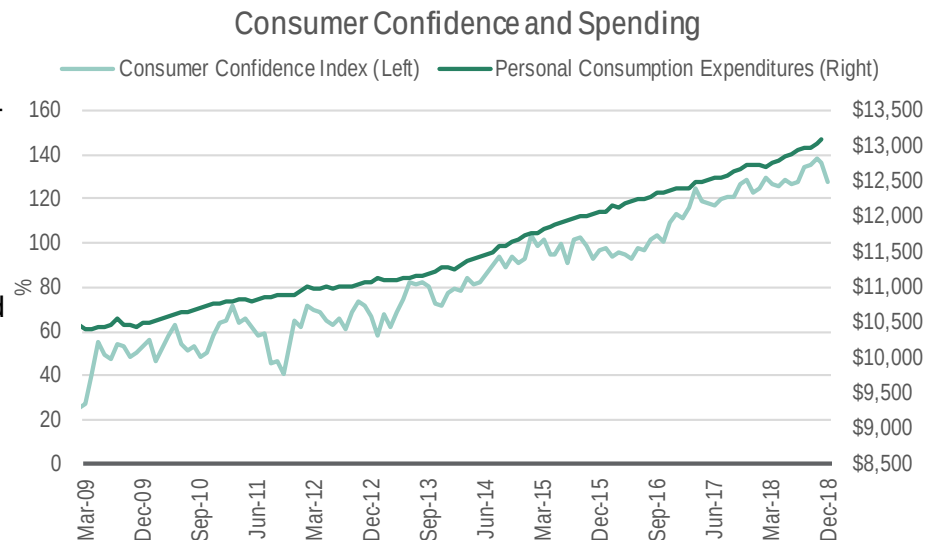
- The unemployment rate rose to 3.9% in December. Nonfarm payrolls rose by 762,000 over the quarter.
- Employment gains were led by health care, food services and drinking places, construction, manufacturing and retail.
- Employment in industries such as mining, wholesale trade, transportation and warehousing, information, financial activities, and government, showed little change.



Q4 2018 In Review: U.S. Economy

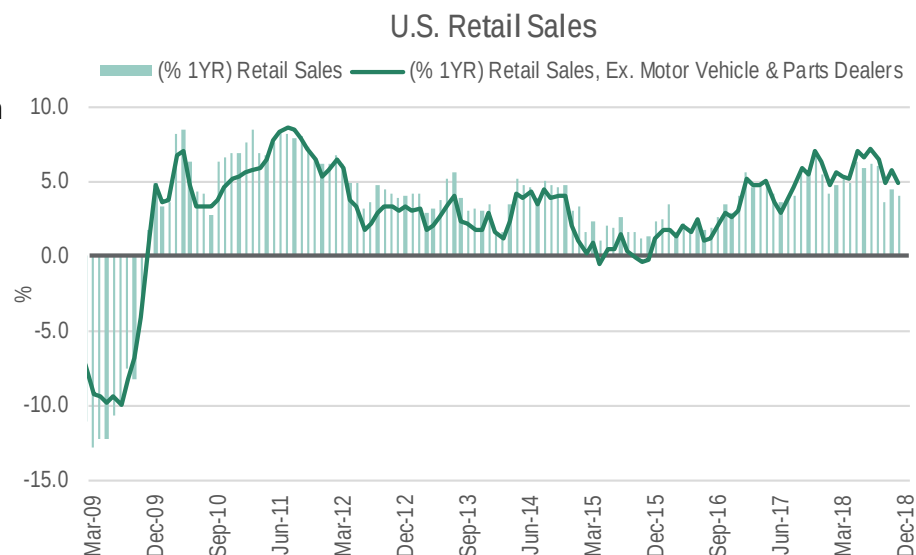
Consumer Confidence and Spending

- Sentiment declined in Q4, as the Conference Board's Consumer Confidence Index decreased from 135.3 at the end of September to 128.1 at the end of December.
- Personal consumption expenditures increased during the quarter.
- Consumer confidence fell as global trade tensions persisted and worries grew about the state of the global economy.



Retail Sales

- Retail sales ended November* up 4% from one year ago.
- Online retail sales, furniture and electronics sales gained most in November.
- November's relatively strong retail sales data followed a solid October, keeping expectations in place for strong results overall for Q4.

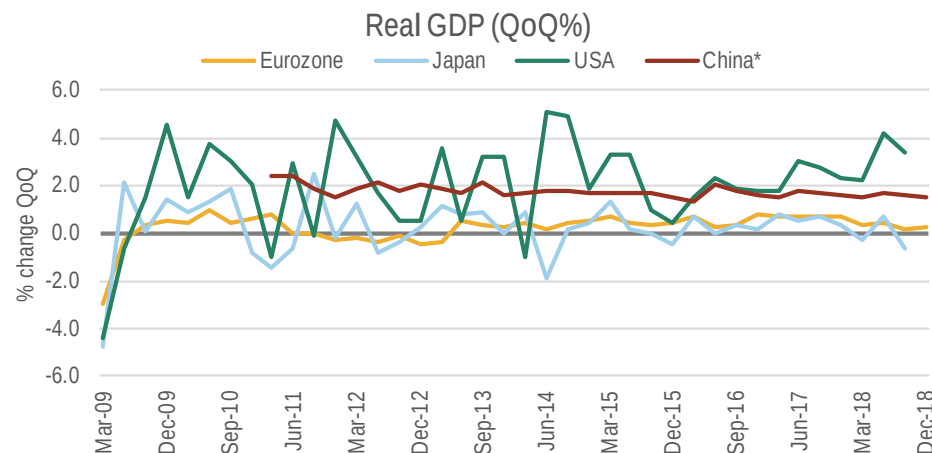


*The most recent data available.
Source this page: FactSet

Q4 2018 In Review: Global Economy

World GDP Growth

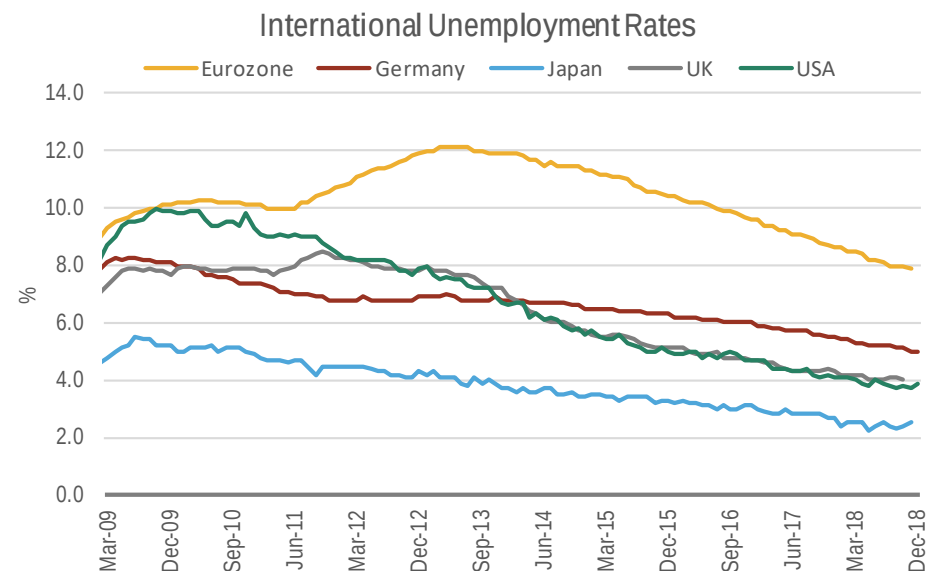
- Eurozone GDP growth remained weak in Q4, gaining 0.2% quarter over quarter (QoQ). The Eurozone's annual growth rate fell to 1.2% at the end of 2018.
- China's GDP growth declined by 0.1% QoQ to 1.5% in Q4. The country's annual growth rate slowed to 6.4%.
- Japan's GDP was negative QoQ in Q3**, coming in at -0.6%. The Japanese economy's annual growth rate is now flat at 0%.
- The U.S. Q4 GDP report from the BEA is delayed in the wake of the partial government shutdown.



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 fell to 7.9% in November 2018**, the region's lowest-recorded rate since October 2008. The Eurozone's recent economic strength has led to this reduction in unemployment, although economic momentum has slowed there this year.
- Japan's unemployment rate ticked up to 2.5% in November. While higher than its earlier historic low of 2.2%, unemployment remained quite modest in Japan.



*Quarter over quarter data calculations began in 2011.

**Most recent data available.

Source this page: FactSet

Q4 2018 In Review: Global Equity Overview

Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	-13.52	-4.38	-4.38	9.26	8.49	13.12
MSCI Europe, Australasia and Far East (EAFE)*	-12.54	-13.79	-13.79	2.87	0.53	6.32
MSCI Emerging Markets (EM)*	-7.47	-14.58	-14.58	9.25	1.65	8.02

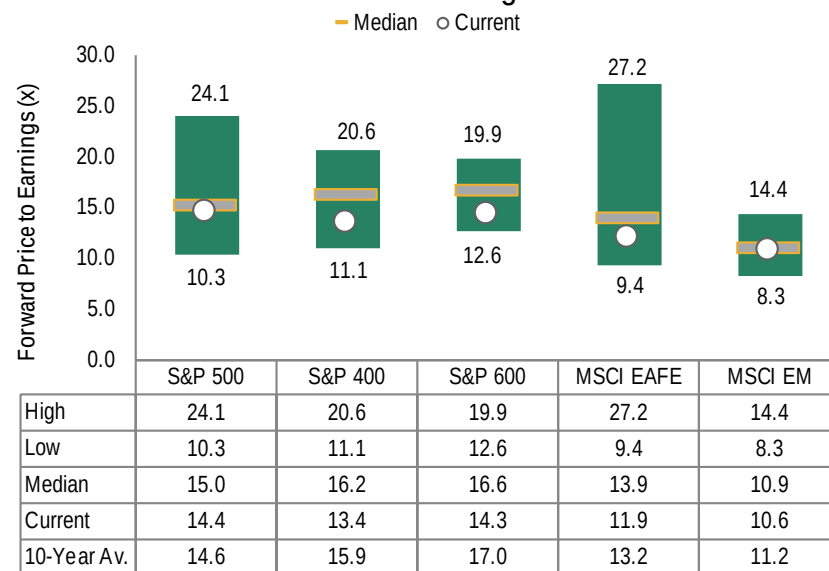
All data in the table are percentages.

* Net of dividends

Global Equity Performance and Valuations

- Equity markets declined across the globe in Q4, but the U.S. fared the worst. Concerns about a slowing economy, weaker earnings growth and rising interest rates weighed heavily on returns. The strength of the U.S. dollar (USD) continued to be a headwind to international and emerging market (EM) equities, although USD appreciation moderated throughout the quarter.
- On a positive note, U.S., non-U.S. developed, and EM equities are all in positive territory over the 3-, 5-, and 10-year periods.
- The P/E multiple for U.S. large cap fell below median in Q4, indicating relative cheapness. U.S. small and mid caps now look very attractive versus their medians.
- The MSCI EAFE P/E multiple is 2x lower than its median. As such, international equities appear to be undervalued according to this measure.
- The MSCI EM P/E multiple ended Q4 just south of its median. EM equities appear close to fairly valued by this measure.

Price to Earnings



Data range is from 12/31/99-12/31/18. P/E ratios are forward 12 months.

Q4 2018 In Review: U.S. Equity

U.S. Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	-13.52	-4.38	-4.38	9.26	8.49	13.12
Russell 1000	-13.82	-4.78	-4.78	9.09	8.21	13.28
Russell 1000 Growth	-15.89	-1.51	-1.51	11.15	10.40	15.29
Russell 1000 Value	-11.72	-8.27	-8.27	6.95	5.95	11.18
Russell 2000	-20.20	-11.01	-11.01	7.36	4.41	11.97
Russell 2000 Growth	-21.65	-9.31	-9.31	7.24	5.13	13.52
Russell 2000 Value	-18.67	-12.86	-12.86	7.37	3.61	10.40
Russell 3000	-14.30	-5.24	-5.24	8.97	7.91	13.18

All data in the tables are percentages.

Performance

- U.S. equities fell sharply in Q4. The decline was largely driven by slowing economic growth and uncertainty surrounding Fed interest rate policy.
- Small cap stocks were more sensitive to weakening market sentiment and underperformed large cap stocks during Q4.
- The more defensive sectors of the S&P 500 offered some protection in Q4. Utilities posted the only positive return of the quarter. Consumer Staples and Healthcare experienced losses that were less steep than the more cyclical sectors of the index. Of those cyclical sectors, Energy, IT and Industrials fared the worst.
- In a reversal of the trend seen in previous quarters, value stocks performed better than growth stocks, as higher-priced growth companies sold off amid fears of a global slowdown in economic growth.

S&P 500 Sector Returns	QTD	1-Year
Consumer Discretionary	-16.50	0.43
Consumer Staples	-5.44	-9.22
Energy	-23.97	-18.82
Financials	-13.26	-13.52
Healthcare	-8.83	5.93
Industrials	-17.42	-13.81
Information Technology	-17.44	-0.69
Materials	-12.46	-15.23
Communications Services	-13.30	-13.72
Utilities	1.10	3.00

Q4 2018 In Review: International Equity

MSCI International Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World ex. U.S.	-12.78	-14.09	-14.09	3.11	0.34	6.24
EAFE	-12.54	-13.79	-13.79	2.87	0.53	6.32
EAFE Local Currency	-12.20	-10.99	-10.99	2.62	3.81	7.50
Europe	-12.72	-14.86	-14.86	2.10	-0.61	6.15
Europe ex U.K.	-13.08	-15.14	-15.14	2.29	-0.13	5.79
U.K.	-11.78	-14.15	-14.15	1.60	-1.71	6.84
Pacific ex Japan	-7.94	-10.30	-10.30	6.79	2.10	9.89
Japan	-14.23	-12.88	-12.88	3.41	3.06	5.33

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

Performance

- Despite posting double-digit negative absolute returns in Q4, international equities fared better than the U.S. for the first time all year. The unresolved tariff dispute between the U.S. and China, the tightening Fed, Brexit concerns, Italian politics and the slowing global economy put pressure on developed markets.
- The ongoing uncertainty surrounding the Brexit negotiations weighed on UK market performance in addition to business and consumer confidence. Against this backdrop, the Bank of England maintained rates at 0.75%.
- Sector returns were all negative in Q4, with defensive stocks performing the best in a relative sense. Utilities, Telecom and Staples declined the least of all sectors as the market returned to a risk-off environment during the quarter. The best performers over the past 12-18 months (Tech and Energy) sold off despite solid earnings. Cyclical sectors such as Financials, Materials and Industrials struggled due to the impact of rising interest rates in the U.S. and tariffs.

MSCI EAFE Sector Returns	QTD	1-Year
Consumer Discretionary	-14.19	-16.11
Consumer Staples	-8.36	-10.83
Energy	-17.54	-7.18
Financials	-13.69	-20.10
Healthcare	-10.26	-4.32
Industrials	-14.63	-15.69
Information Technology	-16.72	-15.64
Materials	-15.22	-17.50
Telecommunications Services	-7.68	-12.08
Utilities	-0.08	1.10

Q4 2018 In Review: Emerging Market Equity

MSCI EM Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Emerging Markets	-7.47	-14.58	-14.58	9.25	1.65	8.02
EM Local Currency	-7.43	-10.08	-10.08	8.79	5.00	9.58
Asia	-9.29	-15.45	-15.45	8.63	3.94	9.81
EMEA	-4.14	-16.11	-16.11	7.81	-3.20	4.94
Latin America	0.36	-6.57	-6.57	14.85	-1.73	4.98

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

Performance

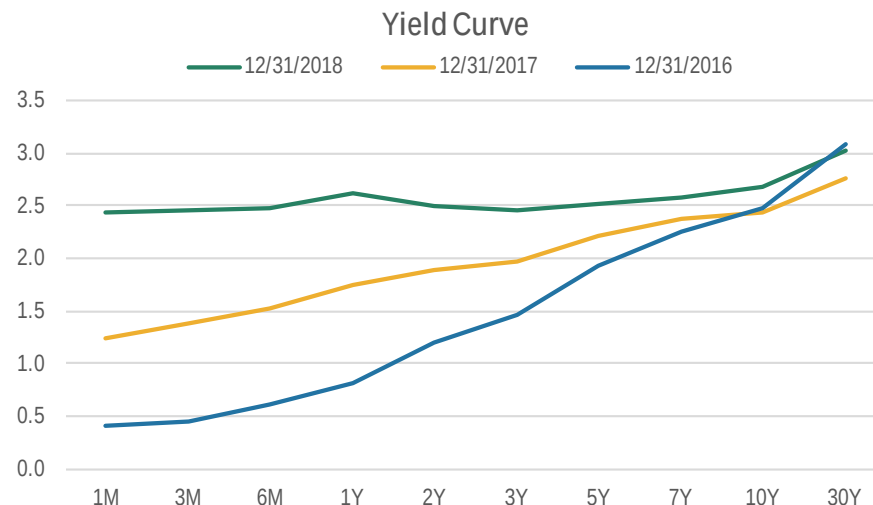
- Emerging markets, which suffered for much of 2018, dropped 7.5% in Q4. EM fell less than the U.S. and developed markets during the quarter.
- Fears of a slowdown in global growth and uncertainty around continuing trade tensions contributed to EM's Q4 decline.
- The standout performer in EM in Q4 was Brazil, which climbed nearly 14% on prospects for a more business-friendly government from newly elected president Jair Bolsonaro.
- Sector returns were primarily negative in Q4. Utilities posted the only gain while Healthcare, Consumer Discretionary, Tech, Energy and Materials fell sharply.

MSCI EM Sector Returns	QTD	1-Year
Consumer Discretionary	-13.52	-32.50
Consumer Staples	-4.59	-13.65
Energy	-10.60	4.67
Financials	-0.88	-8.68
Healthcare	-16.17	-20.89
Industrials	-3.78	-12.58
Information Technology	-12.71	-19.29
Materials	-10.75	-11.58
Telecommunications Services	-3.72	-14.93
Utilities	3.62	-3.79

Q4 2018 In Review: Fixed Income Overview

Yield Curve

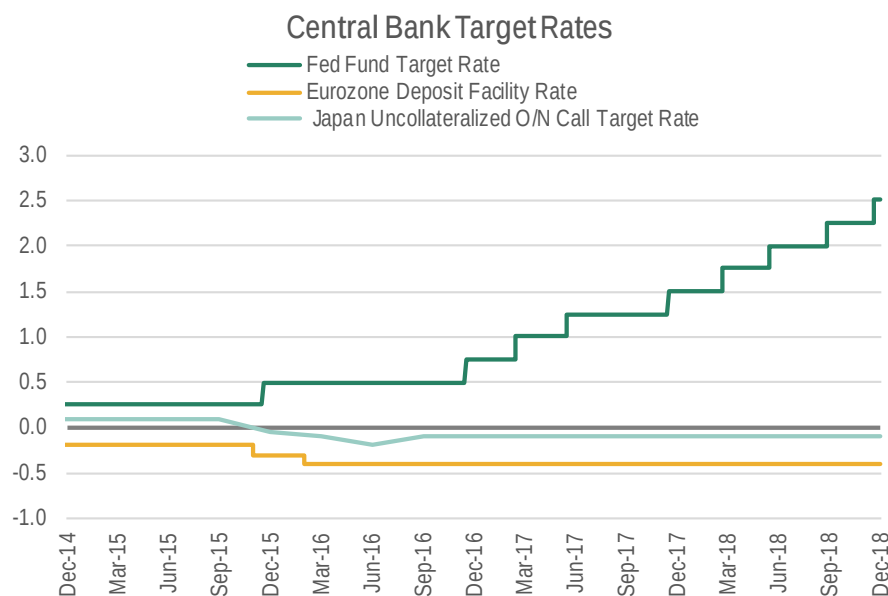
- Treasury yields rose across the short end of the curve in Q4 with the Fed continuing to tighten its monetary policy. Yields compressed across maturities greater than 1 year.
- Global demand accentuated the yield curve's flattening trajectory, as long-term Treasury yields fell and the very front end of the curve moved up modestly.
- The 30-year Treasury ended the quarter yielding 3.02%, which was 17 basis points (bps) lower than it was at the end of Q3. The 2-year Treasury ended the quarter at 2.48%, which was 42 bps lower than the prior quarter.



Monetary Policies/Global Interest Rates

- Central bank deposit rates remained negative in the Eurozone and Japan.
- The U.S. is the exception—the Federal Reserve (Fed) raised rates again in December, the fourth hike of 2018.
- The Fed indicated that its plans for future rate increases are less clear now than previously stated due to concerns about market volatility and economic growth.

Interest Rates	Fed Funds Rate	EZ Deposit Facility Rate
Average	5.69% (1971-2018)	1.28% (1999-2018)
Max	20.0% (Mar. 1980)	3.75% (Oct. 2000)
Min	0.25% (Dec. 2008)	-0.40% (Mar. 2016)



Q4 2018 In Review: U.S. Fixed Income

U.S. Fixed Income Indices*	QTD	YTD	1-Year	3-Year	5-Year	10-Year
U.S. Aggregate	1.64	0.01	0.01	2.06	2.52	3.48
Government/Credit	1.46	-0.42	-0.42	2.19	2.53	3.46
Government	2.54	0.88	0.88	1.41	1.99	2.12
Investment Grade Corporate	-0.18	-2.51	-2.51	3.26	3.28	5.92
Investment Grade CMBS	1.66	1.01	1.01	2.67	2.63	7.54
U.S. Corporate High Yield	-4.53	-2.08	-2.08	7.23	3.83	11.12
FTSE** 3-Month T-Bill	0.57	1.86	1.86	0.99	0.60	0.35
Hueler Stable Value	0.59	2.23	2.23	1.99	1.89	2.24

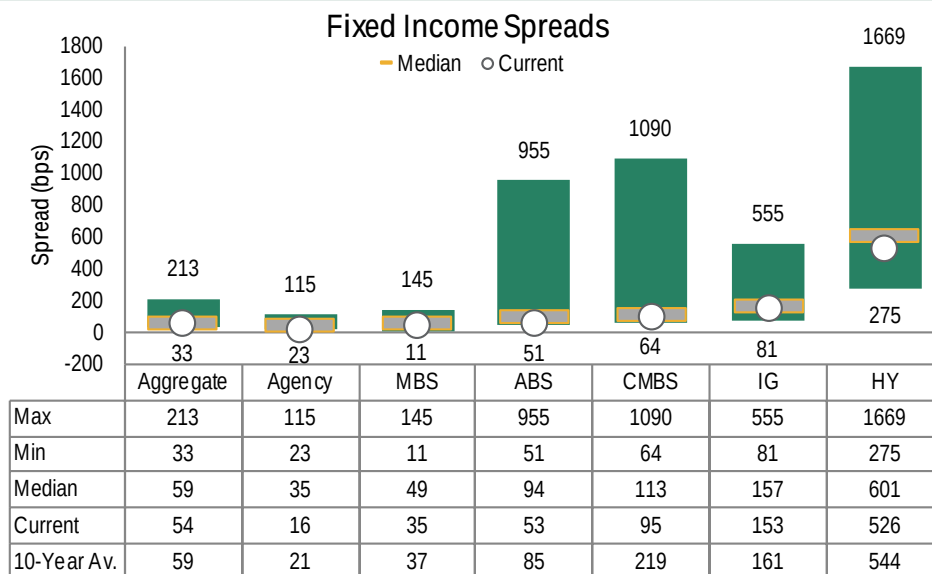
* Bloomberg Barclays Indices, unless otherwise noted.

** Formerly Citigroup. Citigroup's fixed income indices were purchased by London Stock Exchange Group (LSEG) and were 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.

All data in the table are percentages.

Performance and Spreads

- The U.S. Aggregate Index was positive in Q4. Performance was driven by Treasuries and Agency MBS, which both returned over 2.0%.
- High yield experienced a -4.50% return in Q4 as market stress impacted higher yielding credits.
- Several domestic fixed income spreads are back near historical medians due to the broad credit market selloff.



Q4 2018 In Review: International Fixed Income

Global Fixed Income Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Barclays Global Aggregate	1.20	-1.19	-1.19	2.70	1.08	2.49
Bloomberg Barclays Global Aggregate (Hgd)	1.74	1.77	1.77	2.91	3.45	3.78
FTSE Non-U.S. WGBI*	1.31	-1.82	-1.82	3.32	0.28	1.27
FTSE Non-U.S. WGBI (Hgd)	2.29	3.49	3.49	3.55	4.36	3.76
JPM EMBI Global Diversified**	-1.26	-4.26	-4.26	5.15	4.80	8.20
JPM GBI-EM Global Diversified***	2.11	-6.21	-6.21	5.91	-0.96	3.45

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.

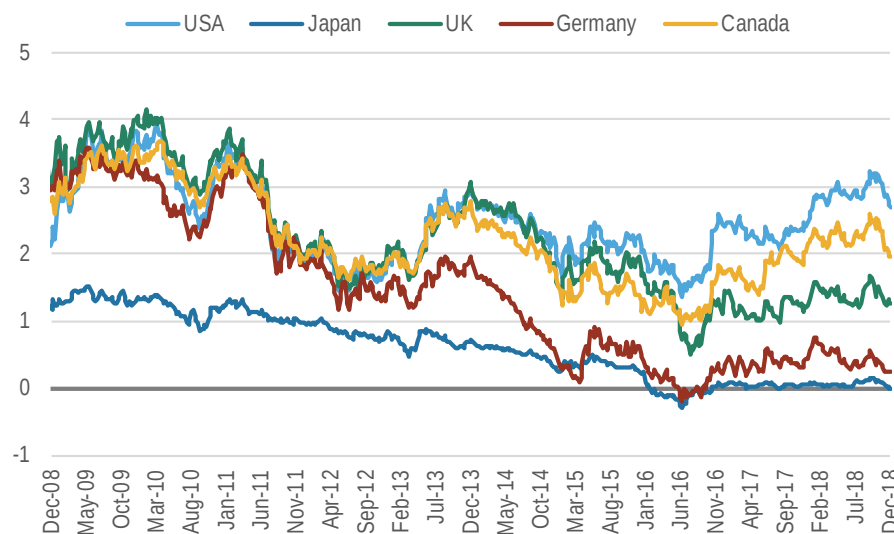
** The JP Morgan Emerging Market Bond Index (EMBI) Global Diversified index measures government bonds in hard currencies.

*** 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 fell in Q4 across developed markets.
- The euro and British pound depreciated relative to the U.S. dollar, while the Japanese yen appreciated. In emerging markets, currency depreciation was particularly pronounced in commodity exporting countries like Russia, as well as select Latin American countries such as Mexico and Colombia.
- In Q4, central banks continued to adjust policy away from accommodation. The ECB ended its bond purchase program in Q4 and the BoJ continued to reduce its bond buying as well. However, extreme market conditions caused the Fed to have a slightly more dovish tone at the end of the quarter.

Global 10-Year Treasury Yields



Q4 2018 In Review: Absolute Return Strategies

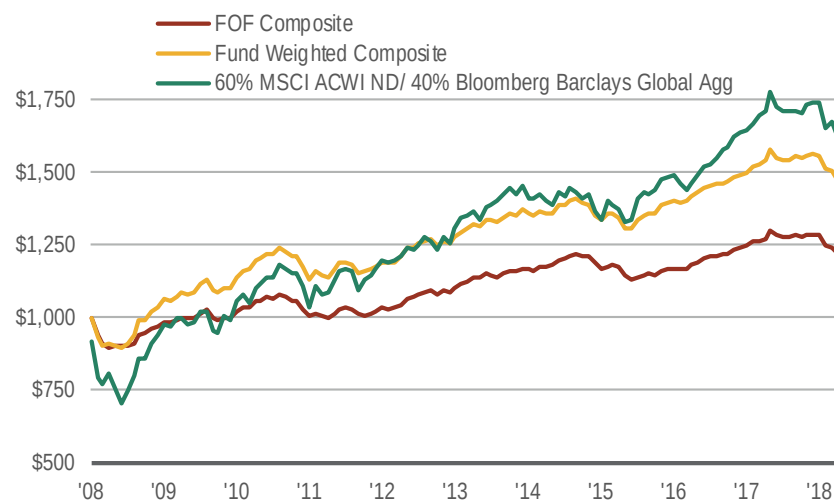
HFRI Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Fund of Funds Composite	-4.85	-3.92	-3.92	1.34	1.42	3.13
Fund Weighted Composite	-5.76	-4.49	-4.49	3.03	2.17	4.94
Event Driven	-5.03	-2.35	-2.35	5.12	2.52	6.50
Equity Hedge	-8.31	-6.94	-6.94	3.60	2.31	5.66
Macro	-1.86	-3.63	-3.63	-0.16	0.74	1.10
Emerging Markets	-4.28	-11.14	-11.14	4.32	1.36	5.29
Relative Value	-3.22	-0.24	-0.24	4.14	3.21	6.89

All data in the table are percentages.
Returns for periods greater than one year are annualized.

Hedge Fund Performance

- The HFRI Fund Weighted Composite declined 5.8% during Q4. All of the major hedge fund strategies fell during the quarter. Macro lost the least due to contributions from currency and discretionary thematic managers that were defensively positioned.
- Equity Hedge declined the most in Q4. Volatility spiked early in the quarter following sharp declines in crude oil. Managers with exposure to energy and basic materials were the most adversely affected, followed not too distantly by managers with significant positioning in the technology sector.
- The Fund Weighted Composite and Fund of Funds Composite indices also experienced losses in Q4, but they outperformed the 60/40 Balanced MSCI ACWI/Bloomberg Barclays Global Aggregate index, which decreased 7.2% during the quarter.

HFR Hedge Fund and Fund of Fund Weighted Composite Growth of \$1000

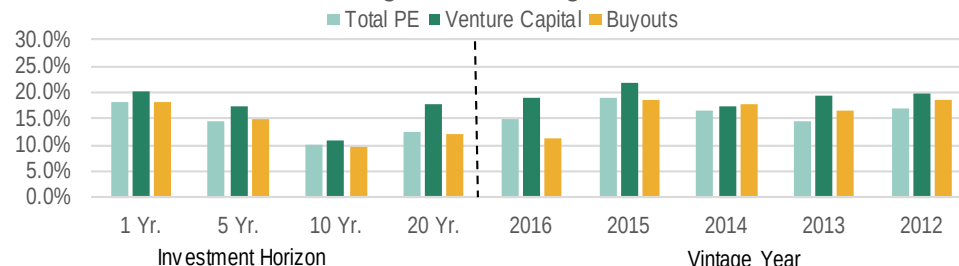


Q4 2018 In Review: Private Equity

Performance

- The total return for private equity funds, comprising performance across all regions and strategies, was 4.5% in Q2 2018* and 18.0% over the 1-year period ending Q2.
- The 5-, 10-, and 20-year returns for private equity funds were 14.4%, 10.1% and 12.7%, respectively, at the end of Q2.
- Fund performance has been strong across all recent vintage years.

Private Equity Performance by Investment Horizon and Vintage Year: All Regions

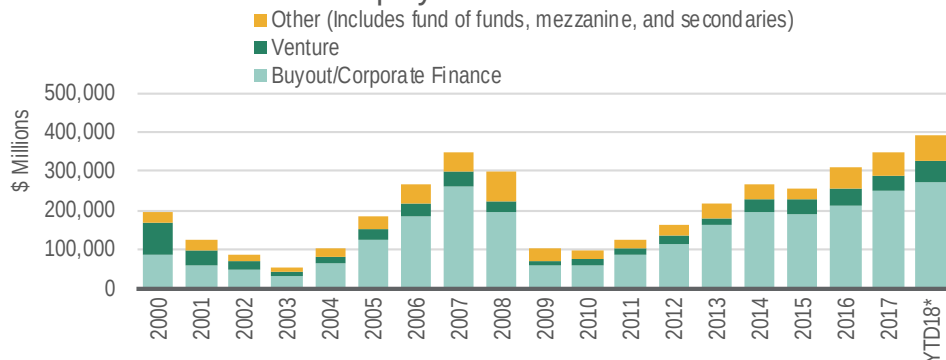


"Vintage year" refers to the first year that capital was committed in a particular fund. Vintage-year performance is calculated as the median percentile returns of all funds reporting as pooled IRRs.

Fundraising

- U.S. private equity funds raised approximately \$392.1 billion across 1,136 funds through December 17, 2018*, which is on par with 2017's annual fundraising data.
- On a global basis, private equity fundraising dropped \$140 billion from 2017 to 2018. The 10 largest funds accounted for nearly one-quarter of the total capital raised in 2018 as many investors consolidated their investments with managers with proven track records.

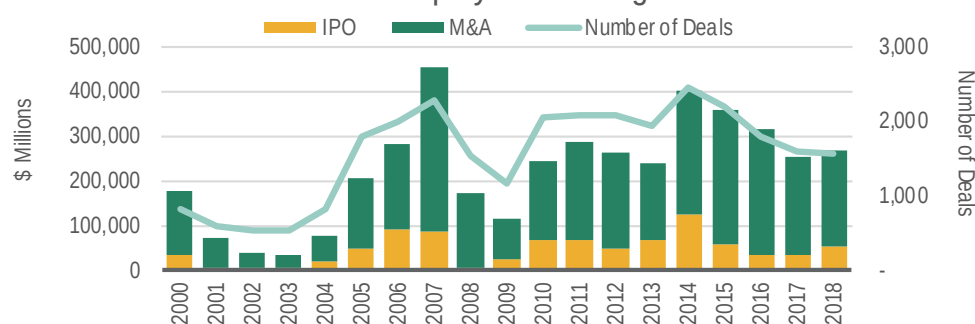
Private Equity Commitments: United States



Exit Activity

- There were 1,582 private equity-backed exit deals completed in 2018, roughly the same number as in 2017. Due to the active IPO windows in major markets globally, aggregate IPO deal value increased from \$33.8 billion in 2017 to \$52.9 billion in 2018.
- The largest private equity-backed exits in 2018 included Flipkart (\$16.0 billion), AveXis (\$8.7 billion), BMC Software (\$8.3 billion), Qualtrics (\$8.0 billion), Blue Buffalo (\$7.9 billion), and GitHub (\$7.5 billion).

Private Equity Exit: All Regions



*The most recent data available.

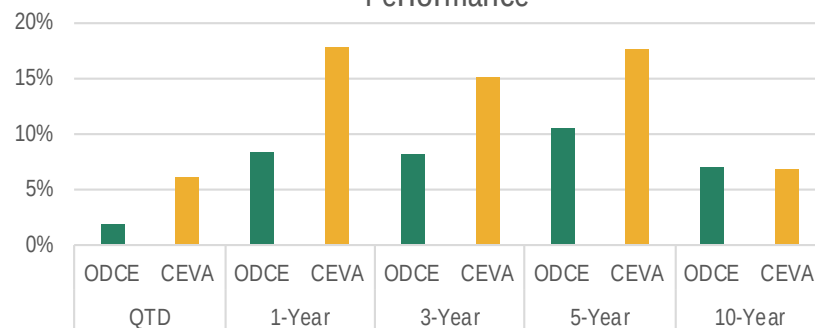
Sources this page: Thomson Reuters, Private Equity Analyst, Preqin

Q4 2018 In Review: Real Estate

Real Estate Performance

- Comparing the most recent performance of core real estate, as measured by the NFI-ODCE index (Q4 2018), and value add real estate, as measured by the CEVA index (Q3 2018), the CEVA outperformed the ODCE by 436 bps.
- With the exception of the 10-year rolling period, the CEVA has outperformed the ODCE by an average of 692 bps.
- Over the QTD, 1, 3, 5, and 10-year periods, the ODCE has had a gross rolling return standard deviation of 2.9% compared to the CEVA's at 5.1%.
- Public real estate, as measured by the FTSE EPRA/NAREIT Developed Real Estate Index*, returned -5.5% in Q4.

NCREIF Fund Index(NFI) Open-End Diversified Core (ODCE) and Closed End Value-Add (CEVA) Real Estate Performance



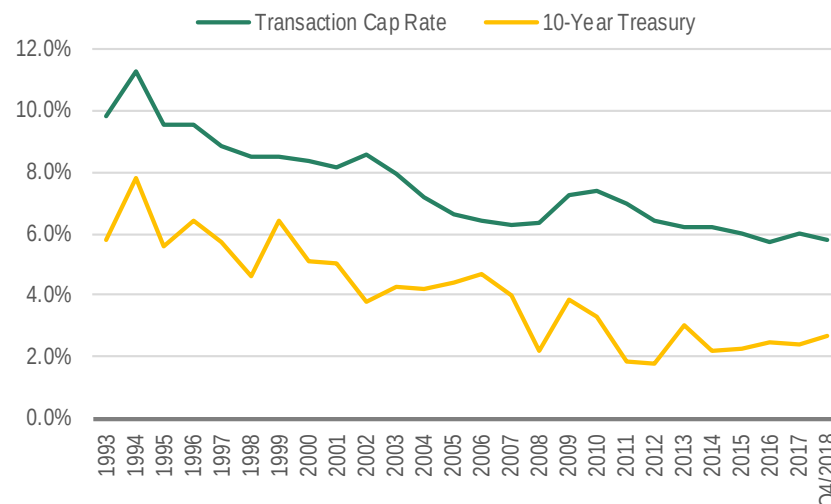
The NFI-ODCE (Open-end Diversified Core Equity) is defined by NCREIF as a fund-level cap-weighted, gross of fee, time-weighted return index with an inception date of December 31, 1977.

The NFI-CEVA Index, which is a quarter lagged in performance reporting, is defined by NCREIF as a capitalization-weighted, gross of fees, time-weighted return index. Funds included in the index must be closed-end with a value-add strategy operated for U.S. institutional investors and must comply with NCREIF's data collection and reporting standards.

Real Estate Capitalization Rates* vs. Treasuries

- Prime assets have seen strong capital flow, which has kept investment values generally stable. However, there are concerns that values may have peaked or are even poised to fall due to significant appreciation and higher interest rates. Lower quality assets are at the greatest risk of price declines.
- Prevailing cap rates have been buoyed by historically wide spreads versus financing costs and persistent demand for real estate.
- Further compounding the cap rate spread issue, there is a record level of capital available to invest in real estate.

Capitalization Rates & 10-Year U.S. Treasury



* The FTSE EPRA Nareit Developed Index is designed to track the performance of listed real estate companies and REITs worldwide.

** 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.

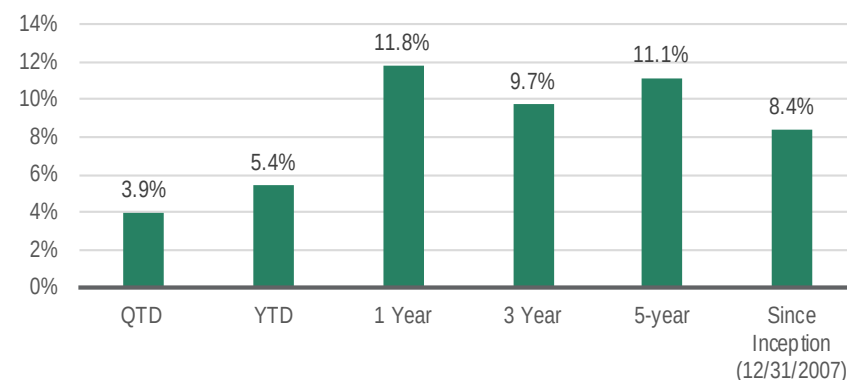
Sources this page: NCREIF, Bloomberg

Q4 2018 In Review: Infrastructure

Infrastructure Performance

- Private infrastructure gained 3.9% in Q2 2018* and 11.8% over the 1-year period ending June 30, 2018.
- The 1-, 3-, and 5-year results exceeded the since-inception return, indicating the asset class has recovered well from the global financial crisis. The strong Q2 2018 return is a good sign for investors after a weak Q1(1.4%).
- The average deal size in 2018 (\$412.7 million) was significantly higher relative to history (\$329.3 million), which could be a sign of elevated valuations.
- Public infrastructure registered a -2.4% return in Q4 2018, as per the FTSE Global Infrastructure 50/50 Index.

Preqin Infrastructure Annualized Return as of 6/30/2018*

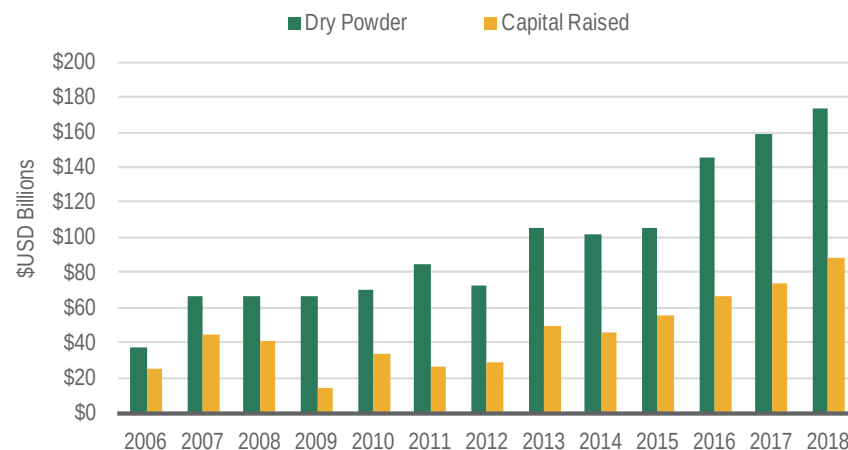


According to Preqin, the Preqin Infrastructure Index captures the average returns earned by investors in their infrastructure portfolios, based on the actual amount of money invested. The Preqin Infrastructure index is calculated on a quarterly basis using data from Preqin's Infrastructure Online services.

Dry Powder and Fundraising

- Infrastructure fundraising fell from a record high of \$43.9 billion in Q3 to \$13.2 billion in Q4. The average fund size on a quarterly basis was \$1.1 billion in Q4, which is greater than the historical average quarterly fund size of \$883.8 million.
- Dry powder** decreased slightly in Q4 as fundraising declined. Funds raised \$13.2 billion during the quarter and dry powder fell by \$3 billion.
- The average deal size increased from \$334.9 million in 2017 to \$412.7 million in 2018, which helped managers deploy more capital and offload dry powder. Despite this fact, dry powder stood at \$173 billion at the end of 2018.

Dry Powder and Fundraising



*The most recent data available.

**Dry powder is capital raised that hasn't yet been invested.

Sources this page: Preqin

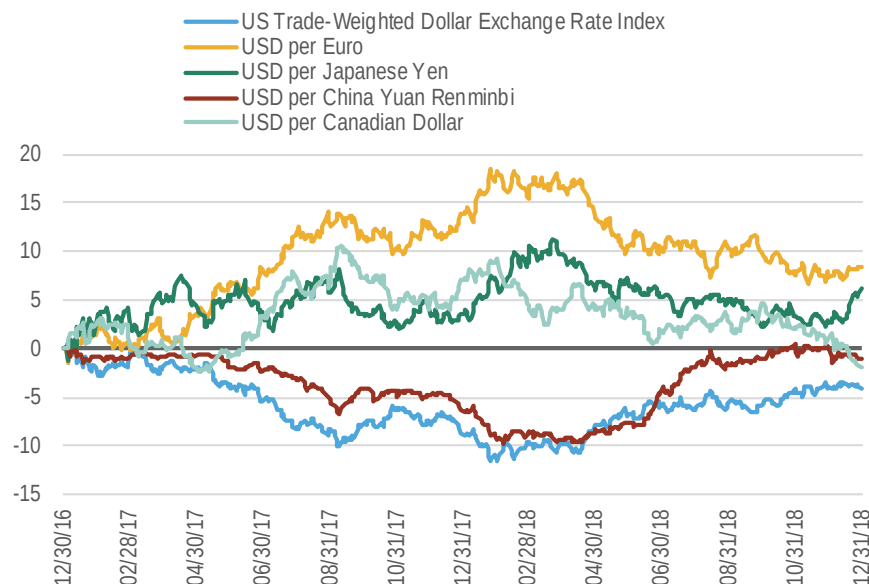
Q4 2018 In Review: Commodities and Currencies

BCOM Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Commodity Index (BCOM)	-9.41	-11.25	-11.25	0.30	-8.80	-3.78
Energy	-25.78	-12.70	-12.70	-0.97	-18.47	-13.14
Agriculture	0.15	-10.79	-10.79	-6.78	-9.10	-2.88
Industrial Metals	-8.69	-19.48	-19.48	7.69	-3.19	1.60
Precious Metals	6.82	-4.57	-4.57	5.05	-0.86	3.10
Livestock	0.69	-1.71	-1.71	-0.45	-2.23	-2.79

Commodity and Currency Highlights

- The Bloomberg Commodity Index fell during Q4. Performance across the underlying sectors varied significantly.
- Energy fell 25.8% in Q4, erasing a 17.6% YTD gain through Q3. West Texas Intermediate crude oil, gasoline, and Brent crude oil prices all declined more than 30% during the quarter. Concerns about oversupply entered the market with stronger-than-expected oil exports from Saudi Arabia and OPEC, coupled with decreased demand expectations amid a weakening global economy.
- Precious metals gained in Q4. Gold and silver rose amid worries of continuing global trade tensions and slowing growth in China, a major consumer of gold.
- The USD continued to rise against most major currencies in Q4, though its strength moderated.
- The euro decreased slightly versus the USD, while the yen appreciated.
- The yen's appreciation may hurt exports, which could continue to drag on Japan's GDP growth.

Major World Currencies Indexed to Zero



Total Fund

As of December 31, 2018

	Allocation		Performance (%)										Inception Date
	Market Value (\$000)	%	1 Quarter	1 Quarter Ending Sep-2018	1 Quarter Ending Jun-2018	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	
Total Fund	644,566	100.00	-6.16	2.58	-1.13	-3.98	-3.98	6.51	4.98	8.35	9.15	7.10	01/01/2000
Total Plan Index			-7.01	2.59	0.40	-4.59	-4.59	5.52	4.70	7.59	8.48	4.48	
Total Plan Allocation Index			-6.70	2.41	-0.13	-4.73	-4.73	N/A	N/A	N/A	N/A	N/A	
Total Domestic Equity	128,614	19.95	-17.32	5.39	1.53	-11.11	-11.11	6.20	5.99	11.66	12.71	4.64	01/01/2000
S&P 500 Index			-13.52	7.71	3.43	-4.38	-4.38	9.26	8.49	12.70	13.12	4.86	
Russell 3000 Index			-14.30	7.12	3.89	-5.24	-5.24	8.97	7.91	12.46	13.18	5.23	
ClearBridge Large Cap Growth	23,975	3.72	-13.29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-10.99	09/01/2018
Russell 1000 Growth Index			-15.89	9.17	5.76	-1.51	-1.51	11.15	10.40	14.14	15.29	-15.42	
Columbia	23,440	3.64	-19.67	7.45	4.86	-4.30	-4.30	6.01	7.41	N/A	N/A	10.14	09/01/2013
Russell 1000 Growth Index			-15.89	9.17	5.76	-1.51	-1.51	11.15	10.40	14.14	15.29	12.70	
LSV	29,425	4.57	-13.86	5.12	-0.64	-11.72	-11.72	6.99	6.30	12.76	12.57	8.16	09/01/2004
Russell 1000 Value Index			-11.72	5.70	1.18	-8.27	-8.27	6.95	5.95	11.02	11.18	7.09	
Lyrical	26,974	4.18	-17.41	3.28	-4.26	-20.80	-20.80	2.91	3.58	N/A	N/A	7.52	09/01/2013
Russell 1000 Value Index			-11.72	5.70	1.18	-8.27	-8.27	6.95	5.95	11.02	11.18	7.97	
Frontier Capital Appreciation	12,663	1.96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-11.14	12/01/2018
Russell 2000 Growth Index			-21.65	5.52	7.23	-9.31	-9.31	7.24	5.13	11.25	13.52	-11.68	
Earnest Partners	12,114	1.88	-18.35	1.98	5.32	-13.38	-13.38	8.95	6.10	11.06	12.54	10.81	04/01/2003
Russell 2000 Value Index			-18.67	1.60	8.30	-12.86	-12.86	7.37	3.61	9.57	10.40	9.53	

As of December 31, 2018

	Allocation		Performance (%)										Inception Date
	Market Value (\$000)	%	1 Quarter	1 Quarter Ending Sep-2018	1 Quarter Ending Jun-2018	1 Quarter Ending Mar-2018	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	
Total International Equity	155,201	24.08	-8.78	1.00	-5.22	-0.07	-12.74	6.51	2.27	7.83	10.14	9.35	01/01/2000
MSCI EAFE (net)			-12.54	1.35	-1.24	-1.53	-13.79	2.87	0.53	5.75	6.32	2.42	
MSCI AC World ex USA			-11.41	0.80	-2.39	-1.08	-13.78	4.98	1.14	5.33	7.06	3.41	
Arrowstreet Capital	26,715	4.14	-12.77	2.93	-3.22	1.29	-11.98	6.18	2.70	7.69	9.47	6.87	07/01/2001
MSCI AC World ex USA			-11.41	0.80	-2.39	-1.08	-13.78	4.98	1.14	5.33	7.06	5.54	
Freedom Capital Intl	30,458	4.73	-14.11	1.52	1.33	-1.42	-12.90	5.96	3.21	10.81	12.34	8.74	06/01/1998
MSCI EAFE (net)			-12.54	1.35	-1.24	-1.53	-13.79	2.87	0.53	5.75	6.32	3.63	
Fiera International Equity	27,269	4.23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2.46	12/01/2018
MSCI EAFE (Net)			-12.54	1.35	-1.24	-1.53	-13.79	2.87	0.53	5.75	6.32	-4.85	
Lazard Emerging Markets	39,436	6.12	-5.30	-1.60	-13.32	1.46	-18.05	8.12	-0.71	2.23	7.33	1.81	05/01/2007
MSCI Emerging Markets Index			-7.40	-0.95	-7.86	1.47	-14.25	9.65	2.03	3.61	8.39	2.72	
Aberdeen Emerging Markets	31,323	4.86	-3.21	-0.28	-10.13	-0.46	-13.65	N/A	N/A	N/A	N/A	2.74	03/01/2017
MSCI Emerging Markets Index			-7.40	-0.95	-7.86	1.47	-14.25	9.65	2.03	3.61	8.39	4.63	
Global REITs													
Brookfield Global Real Estate	12,734	1.98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-5.85	12/01/2018
FTSE EPRA/NAREIT Developed Index			-5.46	-0.15	5.45	-4.30	-4.74	3.67	5.26	8.19	10.53	-5.42	

As of December 31, 2018

	Allocation		Performance (%)										Inception Date
	Market Value (\$000)	%	1 Quarter	1 Quarter Ending Sep-2018	1 Quarter Ending Jun-2018	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	
Total Domestic Fixed	53,961	8.37	1.10	0.04	0.01	-0.12	-0.12	2.50	2.85	3.07	4.79	5.49	01/01/2000
Barclays Cap Aggregate			1.64	0.02	-0.16	0.01	0.01	2.06	2.52	2.10	3.48	4.84	
Income Research & Management	42,106	6.53	1.43	0.13	-0.19	-0.19	-0.19	2.74	3.11	3.09	5.15	5.55	12/01/1996
Blmbg. Barc. U.S. Gov't/Credit			1.46	0.06	-0.33	-0.42	-0.42	2.19	2.53	2.14	3.46	4.92	
IR+M TIPS	11,499	1.78	-0.03	-0.42	0.56	-0.26	-0.26	1.92	1.22	0.75	3.05	3.39	02/01/2007
Barclays Cap US Treas: US TIPS			-0.42	-0.82	0.77	-1.26	-1.26	2.11	1.69	0.88	3.64	3.79	
Total Global Fixed	120,868	18.75	-0.58	0.87	-3.63	-2.43	-2.43	5.22	3.32	3.67	6.25	6.33	01/01/2000
Barclays Cap Global Aggregate			1.20	-0.92	-2.78	-1.19	-1.19	2.70	1.08	1.00	2.49	4.34	
Colchester Global Bond	23,077	3.58	1.32	-0.95	-4.14	-0.47	-0.47	4.12	1.34	N/A	N/A	0.60	12/01/2012
Citigroup World Govt Bond			1.75	-1.62	-3.35	-0.84	-0.84	2.69	0.77	0.20	1.52	-0.19	
PIMCO Diversified Income	64,127	9.95	-1.26	1.69	-0.73	-0.96	-0.96	6.02	4.44	5.09	8.32	6.24	08/01/2006
PIMCO Diversified Income Index**			-1.27	0.99	-2.53	-3.03	-3.03	4.81	2.85	3.86	7.15	5.69	
Stone Harbor EMD	18,270	2.83	-0.99	-0.47	-9.52	-8.65	-8.65	N/A	N/A	N/A	N/A	0.19	11/01/2016
50%/50% Blend **			0.43	0.25	-7.02	-5.15	-5.15	5.61	1.95	2.63	5.88	1.19	
Ashmore Emerging Markets Total Return	15,393	2.39	-0.16	1.31	-7.53	-5.33	-5.33	N/A	N/A	N/A	N/A	3.73	01/01/2017
50%/50% Blend **			0.43	0.25	-7.02	-5.15	-5.15	5.61	1.95	2.63	5.88	3.41	

As of December 31, 2018

	Allocation		Performance (%)										Inception Date
	Market Value (\$000)	%	1 Quarter	1 Quarter Ending Sep-2018	1 Quarter Ending Jun-2018	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	
PRIT Absolute Return	33,115	5.14	-3.53	0.86	1.06	-1.56	-1.56	3.31	2.69	4.86	4.93	3.78	10/01/2008
HFRI Fund of Funds Composite Index			-5.01	0.24	0.46	-4.09	-4.09	1.28	1.38	2.92	3.11	1.97	
HFRI FOF: Diversified Index			-4.67	0.59	0.70	-3.36	-3.36	1.23	1.38	2.93	3.18	2.07	
Total Real Estate	60,542	9.39	1.23	2.58	4.30	10.26	10.26	9.15	10.10	9.25	4.01	7.09	01/01/1995
NCREIF Property Index			1.37	1.67	1.81	6.72	6.72	7.21	9.33	9.74	7.49	9.47	
RREEF America REIT II	13,195	2.05	0.91	2.49	2.16	8.17	8.17	8.25	10.84	11.65	7.72	7.55	04/01/2005
NCREIF Property Index			1.37	1.67	1.81	6.72	6.72	7.21	9.33	9.74	7.49	8.36	
Intercontinental	29,302	4.55	2.14	2.52	2.89	10.74	10.74	N/A	N/A	N/A	N/A	9.63	01/01/2017
NCREIF Property Index			1.37	1.67	1.81	6.72	6.72	7.21	9.33	9.74	7.49	6.84	
Total Infrastructure	32,356	5.02	2.59	6.02	-1.06	15.89	15.89	N/A	N/A	N/A	N/A	13.28	03/01/2016
IFM	25,807	4.00	1.48	6.79	-1.03	16.98	16.98	N/A	N/A	N/A	N/A	16.78	04/01/2017
Bristol County Cash	4,861	0.75	1.01	0.46	2.14	3.84	3.84	1.64	1.39	1.04	0.93	2.78	01/01/1997
90 Day U.S. Treasury Bill			0.56	0.49	0.45	1.87	1.87	0.99	0.61	0.45	0.35	2.17	

**Stone Harbor & Ashmore 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.

	Market Value (\$)	%	1 Quarter	1 Quarter Ending Sep-2018	1 Quarter Ending Jun-2018	1 Quarter Ending Mar-2018	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date
Other Fixed Income												
Invesco Mortgage Recovery Fund	355,598	0.06	0.00	3.83	5.73	3.20	13.87	-0.26	18.20	16.46	13.95	03/31/2010
Real Assets												
Active Funds:												
Brookfield Timberlands Fund V	1,224,028	0.19	0.00	7.65	1.67	2.24	11.96	12.24	10.76	N/A	10.70	12/23/2013
Eastern Timberland Opportunities II	2,898,480	0.45	-0.94	2.00	0.80	-0.59	1.24	6.43	N/A	N/A	8.79	07/03/2014
GCM Customized Infrastructures Strategies II, LP	6,548,674	1.02	5.23	3.33	-1.15	2.72	10.39	N/A	N/A	N/A	10.01	03/10/2016
Invesco Mortgage Recovery II	7,149,554	1.11	0.00	1.75	14.46	-3.88	12.75	N/A	N/A	N/A	11.32	05/20/2016
TerraCap Partners IV	10,831,342	1.68	0.00	3.45	N/A	N/A	N/A	N/A	N/A	N/A	3.46	07/31/2018
Funds in Liquidation												
Hunt RIVA (FKA SSgA Tuckerman)	63,885	0.01	-1.51	0.12	-0.82	-2.32	-4.34	-5.81	0.33	7.66	0.00	10/01/2004

	Market Value (\$)	%	1 Quarter	1 Quarter Ending Sep-2018	1 Quarter Ending Jun-2018	1 Quarter Ending Mar-2018	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date
Total Private Equity	38,123,879	5.92	1.24	5.72	3.64	7.97	19.46	12.79	8.96	9.52	177.68	01/05/1995

Active Funds:

BlackRock Vesey Street Fund III	421,013	0.07	0.00	0.30	-4.98	-4.09	-9.35	-8.12	7.19	8.72	4.23	07/17/2006
DuPont Capital Management II	718,797	0.11	0.00	-0.70	0.40	-1.47	-1.96	-2.51	-1.61	3.47	0.73	08/14/2006
DN Partners II	1,072,419	0.17	0.00	0.00	-0.57	-0.56	-1.12	6.42	-15.86	-13.30	-11.92	01/11/2007
BlackRock Vesey Street Fund IV	4,930,276	0.77	0.00	5.46	-1.29	3.90	8.36	8.43	7.47	10.58	8.23	02/24/2009
Mesirow PE Fund V	3,967,727	0.62	0.00	2.69	5.36	3.84	12.76	13.22	14.65	15.48	14.08	04/09/2009
PRIT Vintage 2014	7,945,491	1.23	5.63	7.92	7.67	15.06	41.39	25.06	20.14	N/A	20.14	05/01/2014
PRIT Vintage 2015	10,707,865	1.66	8.99	5.60	6.09	11.29	35.72	27.58	N/A	N/A	22.58	03/01/2015
PRIT Vintage 2016	4,727,624	0.73	0.99	7.79	7.58	-3.43	14.63	N/A	N/A	N/A	5.17	03/01/2016
PRIT Vintage 2017	2,449,684	0.38	-28.95	13.26	-16.25	52.79	-26.67	N/A	N/A	N/A	-33.82	04/30/2017
PRIT Vintage 2018	1,042,374	0.16	-27.77	-5.34	N/A	N/A	N/A	N/A	N/A	N/A	-42.39	05/30/2018

Funds in Liquidation:

Charles River XI	140,609	0.02	0.00	-0.02	-0.02	-0.02	-0.06	6.76	12.57	13.66	8.86	11/22/2000
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As of December 31, 2018

Policy Index	Weight (%)
Jan-1976	
Blmbg. Barc. U.S. Aggregate	35.00
MSCI EAFE (Net)	15.00
S&P 500	50.00
Jul-2007	
Blmbg. Barc. U.S. Aggregate	33.00
MSCI EAFE (Net)	22.00
S&P 500	45.00
Jul-2010	
Blmbg. Barc. U.S. Aggregate	33.00
MSCI EAFE (Net)	25.50
S&P 500	41.50
Jan-2017	
Blmbg. Barc. U.S. Aggregate	18.00
Russell 3000 Index	34.00
Blmbg. Barc. Global Aggregate	16.50
MSCI AC World ex USA	24.00
NCREIF Property Index	7.50

As of December 31, 2018

Policy Index	Weight (%)
Jan-2017	
Russell 3000 Index	30.00
NCREIF Timberland Index	3.00
FTSE EPRA/NAREIT Developed Index	2.00
MSCI EAFE Index	12.50
MSCI Emerging Markets Index	10.50
Blmbg. Barc. U.S. Aggregate	11.00
Blmbg. Barc. U.S. TIPS	2.00
Blmbg. Barc. Global Aggregate	6.50
50% JPM EMBI Global Div./ 50% JPM GBI-EM Global Div.	7.00
FTSE High Yield Market Capped Index	3.00
HFRI FOF: Diversified Index	5.00
NCREIF Property Index	7.50

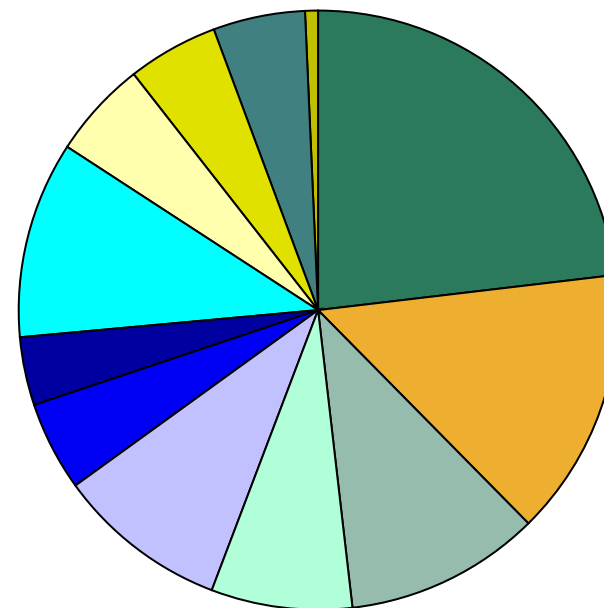
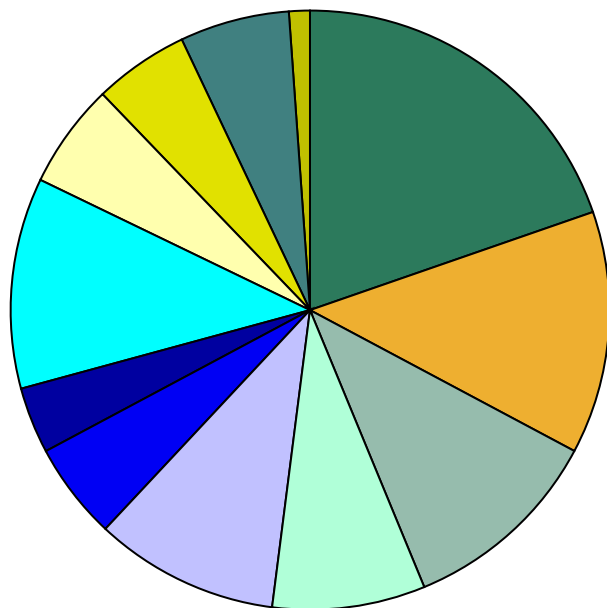
Bristol County Retirement System

Total Fund

As of December 31, 2018

Dec-2018 : \$644,566,294

Sep-2018 : \$701,324,186



Segments	Market Value (\$)	Allocation (%)
Domestic Equity	126,910,714	19.69
International Equity	84,441,322	13.10
Emerging Equity	70,759,571	10.98
Domestic Fixed Income	53,232,363	8.26
International Fixed Income	64,127,470	9.95
Emerging Fixed Income	33,663,164	5.22
Global Fixed Income	23,077,160	3.58
Real Estate	73,344,945	11.38
Alternative Investment	36,478,056	5.66
Hedge Fund	33,114,696	5.14
Private Equity	38,123,879	5.91
Cash Equivalent	7,292,955	1.13

Segments	Market Value (\$)	Allocation (%)
Domestic Equity	162,159,515	23.12
International Equity	101,565,381	14.48
Emerging Equity	74,082,708	10.56
Domestic Fixed Income	53,407,235	7.62
International Fixed Income	64,943,579	9.26
Emerging Fixed Income	33,895,241	4.83
Global Fixed Income	25,831,839	3.68
Real Estate	74,484,653	10.62
Alternative Investment	36,879,297	5.26
Hedge Fund	34,324,739	4.89
Private Equity	34,848,405	4.97
Cash Equivalent	4,901,594	0.70

Bristol County Retirement System

Financial Reconciliation

1 Quarter Ending December 31, 2018

	Market Value As of 10/01/2018	Contributions	Distributions	Fees	Expenses	Return On Investment	Market Value As of 12/31/2018
Domestic Equity							
ClearBridge Large Cap Growth	27,650,022	-	-	-	-	-3,675,424	23,974,597
Columbia	36,356,133	-	-6,000,000	-	-	-6,916,424	23,439,708
LSV	34,212,270	-	-	-49,418	-	-4,737,719	29,425,133
Lyrical	32,729,196	-	-	-61,483	-	-5,693,347	26,974,366
Earnest Partners	14,873,406	-	-	-34,135	-	-2,725,646	12,113,624
Frontier Capital Appreciation	-	14,250,000	-	-	-	-1,586,819	12,663,181
Rice Hall James	16,338,490	-	-14,140,000	-44,770	-	-2,130,313	23,406
International Equity							
Arrowstreet Capital	30,693,865	-	-	-62,017	-	-3,917,333	26,714,516
Freedom Capital Intl	38,843,730	-	-3,000,000	-89,601	-	-5,296,360	30,457,769
Fiera International Equity	-	27,500,000	-	-23,019	-	-207,944	27,269,037
MFS International Equity	32,027,786	-	-29,377,556	-	-	-2,650,231	-
Lazard Emerging Markets	41,644,942	-	-	-	-	-2,208,444	39,436,498
Aberdeen Emerging Markets	32,437,766	-	-	-74,271	-	-1,040,423	31,323,072
Global REITs							
Brookfield Global Real Estate	-	13,450,000	-	-	-	-716,480	12,733,520
CBRE Clarion Global REITs	13,884,825	-	-13,418,117	-	-	-396,913	69,794
Domestic Fixed Income							
Income Research & Management	41,545,842	-	-	-32,264	-	592,801	42,106,379
IRM-TIPS	11,505,795	-	-	-2,885	-	-3,646	11,499,265
Invesco Mortgage Recovery Fund	355,598	-	-	-	-	-	355,598
International Fixed Income							
Colchester Global Bond	25,831,839	-	-3,000,000	-37,978	-	283,299	23,077,160
PIMCO Diversified Income	64,943,579	-	-	-	-	-816,109	64,127,470
Stone Harbor EMD	18,477,612	-	-	-24,707	-	-182,810	18,270,096
Ashmore Emerging Markets Total Return	15,417,629	-	-	-	-	-24,561	15,393,068

Bristol County Retirement System

Financial Reconciliation

1 Quarter Ending December 31, 2018

	Market Value As of 10/01/2018	Contributions	Distributions	Fees	Expenses	Return On Investment	Market Value As of 12/31/2018
Short Term Investments							
Bristol County Cash	4,901,594	71,711,978	-71,801,470	-	-	48,673	4,860,774
Total Private Equity							
DN Partners II	1,072,419	-	-	-	-	-	1,072,419
Charles River XI	140,609	-	-	-	-	-	140,609
DuPont Capital Management II	718,797	-	-	-	-	-	718,797
BlackRock Vesey Street Fund III	478,912	4,601	-62,500	-	-4,601	4,601	421,013
BlackRock Vesey Street Fund IV	5,130,274	100,002	-300,000	-	-	-	4,930,276
Mesirow PE Fund V	4,267,377	100,350	-400,000	-9,112	-350	9,462	3,967,727
PRIT Vintage 2014	7,723,372	438,800	-646,410	-805	-30,585	461,120	7,945,491
PRIT Vintage 2015	9,211,365	523,108	111,642	-2,269	-52,583	916,602	10,707,865
PRIT Vintage 2016	3,687,005	999,713	-830	-2,135	-35,508	79,380	4,727,624
PRIT Vintage 2017	1,796,632	1,305,535	-2,573	-2,570	-53,409	-593,931	2,449,684
Real Assets							
Hunt RIVA (FKA SSgA Tuckerman)	64,863	-	-	-	-	-978	63,885
RREEF America REIT II	13,075,311	-	-	-	-	119,609	13,194,920
Intercontinental	28,898,285	-	-	-215,136	-	618,781	29,301,930
Brookfield Timberlands Fund V	1,316,521	2,913	-95,406	-2,739	-174	2,913	1,224,028
Eastern Timberland Opportunities II	2,925,979	-	-	-	-	-27,499	2,898,480
GCM Customized Infrastructures Strategies II, LP	7,143,214	91,419	-1,058,183	-57,979	-33,440	463,643	6,548,674
IFM	25,493,583	-	-	-61,575	-	374,867	25,806,874
TerraCap Partners IV	10,931,303	-	-99,961	-	-	-	10,831,342
Hedge Fund of Funds							
PRIT Absolute Return	34,324,739	-	-	-97,399	-	-1,112,645	33,114,696
Total Fund	701,324,186	131,135,297	-143,771,878	-990,323	-221,902	-42,909,086	644,566,294

Bristol County Retirement System

Financial Reconciliation

1 Year Ending December 31, 2018

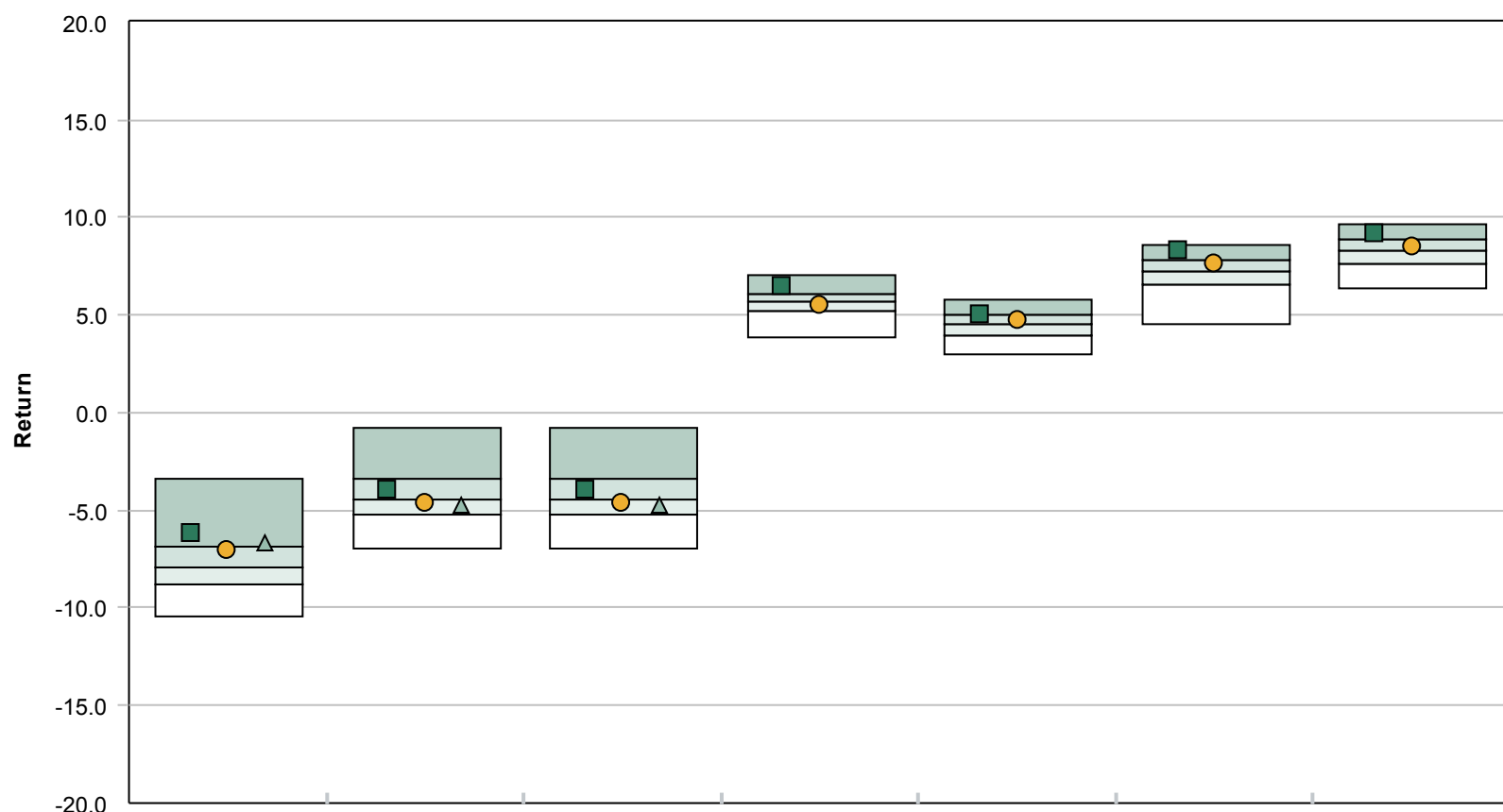
	Market Value As of 01/01/2018	Contributions	Distributions	Fees	Expenses	Return On Investment	Market Value As of 12/31/2018
Domestic Equity							
ClearBridge Large Cap Growth	-	27,000,000	-	-	-	-3,025,403	23,974,597
Intech Large Cap Growth	27,808,271	-	-30,119,588	-105,922	-	2,417,239	-
Columbia	32,853,410	-	-8,500,000	-	-	-913,702	23,439,708
LSV	36,069,728	-	-2,500,000	-197,444	-	-3,947,151	29,425,133
Lyrical	36,902,302	-	-2,500,000	-256,903	-	-7,171,032	26,974,366
Earnest Partners	16,609,947	-	-2,500,000	-143,160	-	-1,853,164	12,113,624
Frontier Capital Appreciation	-	14,250,000	-	-	-	-1,586,819	12,663,181
Rice Hall James	16,555,977	-	-16,640,000	-129,890	-	237,319	23,406
International Equity							
Arrowstreet Capital	33,087,517	-	-2,500,000	-198,434	-	-3,674,567	26,714,516
Freedom Capital Intl	44,004,373	-	-8,500,000	-379,618	-	-4,666,986	30,457,769
Fiera International Equity	-	27,500,000	-	-23,019	-	-207,944	27,269,037
MFS International Equity	31,827,769	-	-29,377,556	-	-	-2,450,213	-
Lazard Emerging Markets	44,783,554	5,000,000	-2,500,000	-	-	-7,847,056	39,436,498
Aberdeen Emerging Markets	33,489,339	5,000,000	-2,500,000	-297,108	-	-4,369,159	31,323,072
Global REITs							
Brookfield Global Real Estate	-	13,450,000	-	-	-	-716,480	12,733,520
CBRE Clarion Global REITs	14,226,051	-	-13,418,117	-67,382	-	-670,757	69,794
Domestic Fixed Income							
Income Research & Management	42,352,717	-	-	-161,880	-	-84,458	42,106,379
IRM-TIPS	11,544,189	-	-	-14,380	-	-30,544	11,499,265
Invesco Mortgage Recovery Fund	383,358	840	-76,638	-635	-	48,673	355,598
International Fixed Income							
Colchester Global Bond	26,412,611	-	-3,000,000	-154,519	-	-180,932	23,077,160
PIMCO Diversified Income	59,733,734	5,000,000	-	-	-	-606,263	64,127,470
Stone Harbor EMD	17,271,763	2,500,000	-	-87,076	-	-1,414,591	18,270,096
Ashmore Emerging Markets Total Return	13,539,413	2,500,000	-	-	-	-646,345	15,393,068

Bristol County Retirement System

Financial Reconciliation

1 Year Ending December 31, 2018

	Market Value As of 01/01/2018	Contributions	Distributions	Fees	Expenses	Return On Investment	Market Value As of 12/31/2018
Short Term Investments							
Bristol County Cash	7,704,316	166,393,416	-169,356,195	-	-	119,238	4,860,774
Total Private Equity							
DN Partners II	1,072,451	12,139	-	-12,139	-	-32	1,072,419
Charles River XI	140,691	-	-	-	-	-82	140,609
DuPont Capital Management II	1,041,682	5,081	-310,400	-3,065	-	-14,501	718,797
BlackRock Vesey Street Fund III	756,256	4,601	-285,000	-	-4,601	-50,243	421,013
BlackRock Vesey Street Fund IV	5,812,079	200,004	-1,500,000	-	-	418,193	4,930,276
Mesirow PE Fund V	4,260,191	150,350	-950,000	-18,224	-350	525,760	3,967,727
PRIT Vintage 2014	6,068,355	1,081,444	-1,689,219	-2,921	-142,475	2,630,307	7,945,491
PRIT Vintage 2015	6,424,204	2,398,745	-654,271	-27,964	-190,049	2,757,200	10,707,865
PRIT Vintage 2016	1,760,611	2,594,324	-47,336	-4,987	-144,013	569,026	4,727,624
PRIT Vintage 2017	462,696	2,414,299	-88,103	-4,221	-160,262	-174,724	2,449,684
Real Assets							
New Boston	-	-	-	-	-	-	-
Hunt RIVA (FKA SSgA Tuckerman)	124,404	-	-55,805	-133	-	-4,581	63,885
RREEF America REIT II	12,284,113	-	-	-90,044	-	1,000,852	13,194,920
Intercontinental	26,837,380	-	-	-409,504	-	2,874,054	29,301,930
Brookfield Timberlands Fund V	1,205,923	6,423	-129,976	-8,247	-915	150,819	1,224,028
Eastern Timberland Opportunities II	3,109,145	-	-247,514	-	-	36,849	2,898,480
GCM Customized Infrastructures Strategies II, LP	5,850,856	1,061,500	-1,058,183	-77,479	-33,440	805,420	6,548,674
IFM	22,275,006	-	-	-236,790	-	3,768,658	25,806,874
TerraCap Partners IV	-	10,566,939	-99,961	-	-	364,365	10,831,342
Hedge Fund of Funds							
PRIT Absolute Return	33,638,138	-	-	-380,017	-	-143,425	33,114,696
Total Fund	686,465,505	291,005,288	-301,584,424	-3,518,933	-693,581	-27,107,561	644,566,294



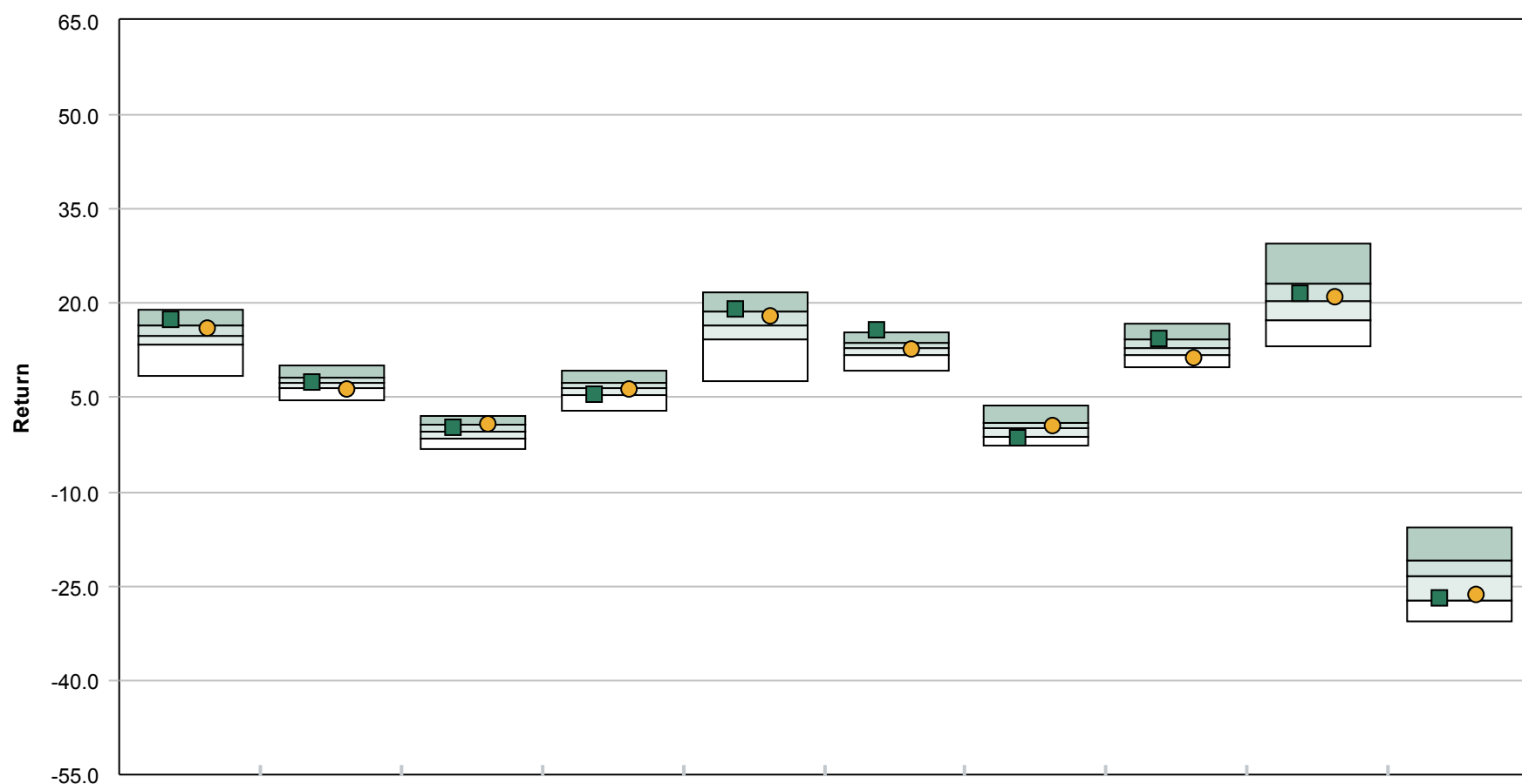
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Fund	-6.16 (15)	-3.98 (39)	-3.98 (39)	6.51 (13)	4.98 (29)	8.35 (10)	9.15 (16)
● Total Plan Index	-7.01 (30)	-4.59 (54)	-4.59 (54)	5.52 (61)	4.70 (45)	7.59 (39)	8.48 (44)
▲ Total Plan Allocation Index	-6.70 (23)	-4.73 (59)	-4.73 (59)	N/A	N/A	N/A	N/A
5th Percentile	-3.36	-0.75	-0.75	7.02	5.76	8.61	9.69
1st Quartile	-6.88	-3.42	-3.42	6.12	5.02	7.86	8.88
Median	-7.90	-4.46	-4.46	5.74	4.53	7.22	8.29
3rd Quartile	-8.77	-5.25	-5.25	5.22	3.99	6.56	7.67
95th Percentile	-10.42	-6.99	-6.99	3.86	3.01	4.58	6.34
Population	374	367	367	345	329	316	274

Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.

Bristol County Retirement System

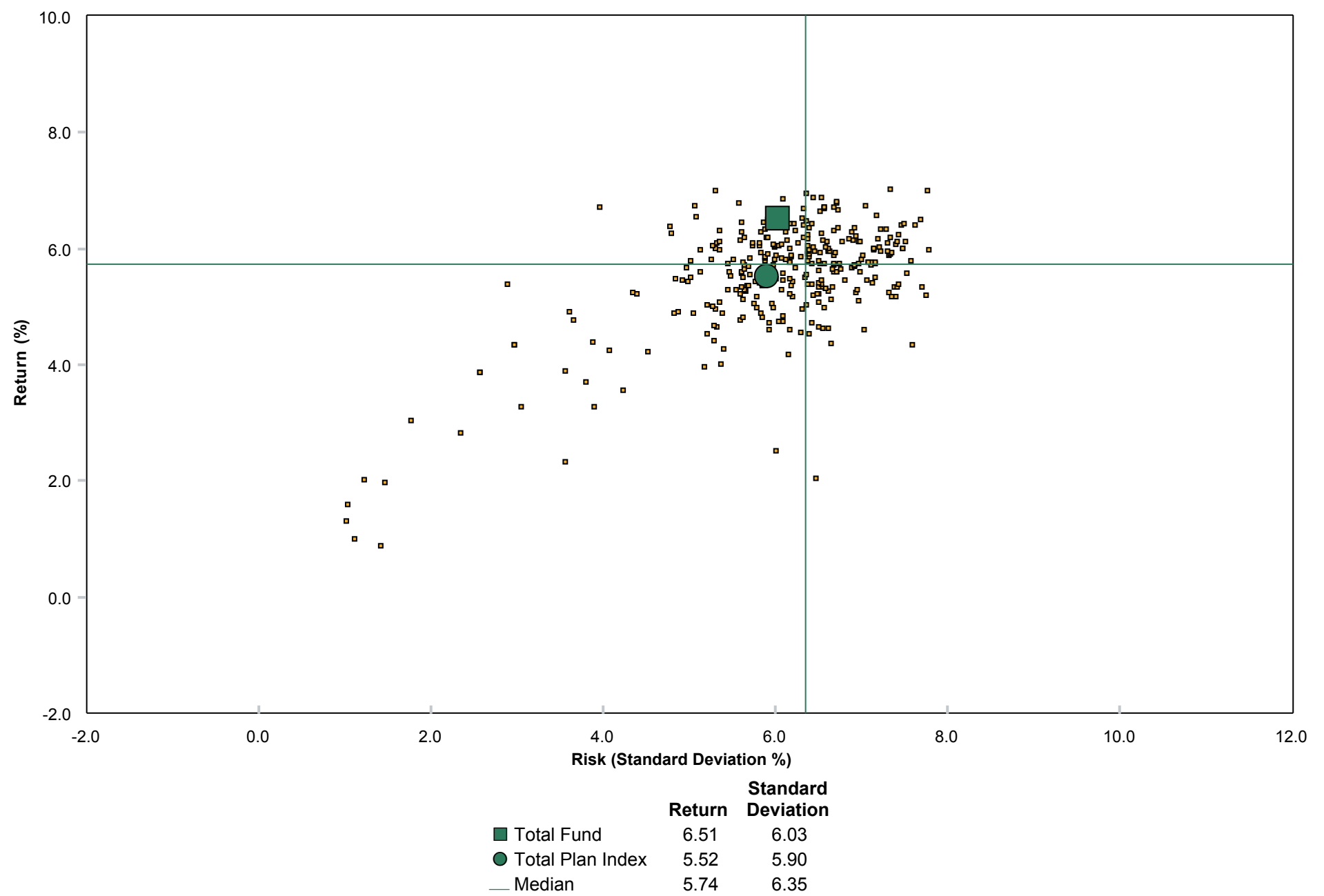
All Public Plans < \$1B-Total Fund

As of December 31, 2018

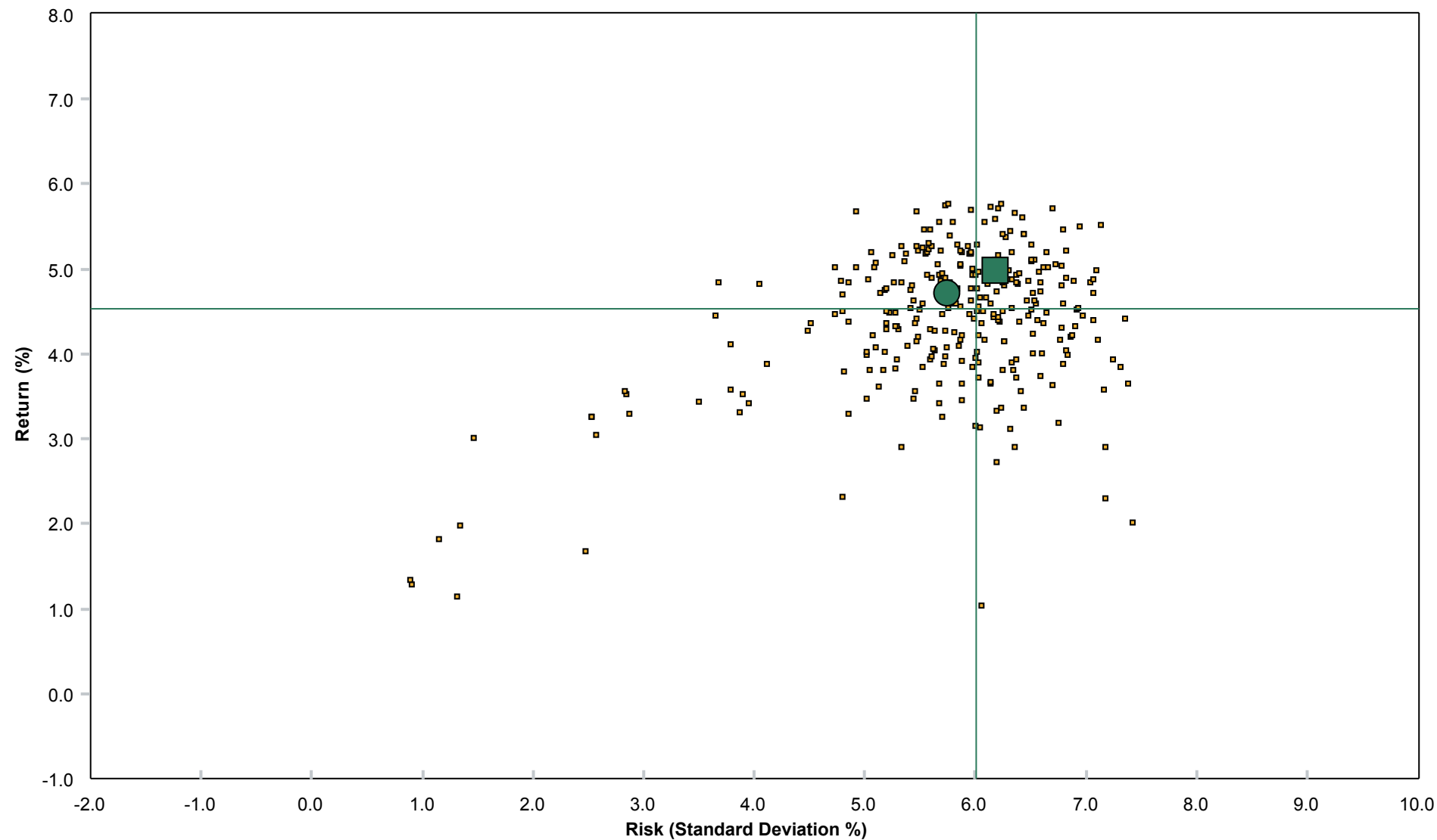


	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
■ Total Fund	17.25 (14)	7.32 (54)	0.21 (38)	5.30 (75)	18.86 (21)	15.68 (4)	-1.44 (80)	14.26 (28)	21.58 (43)	-27.00 (73)
● Total Plan Index	15.96 (30)	6.19 (82)	0.79 (24)	6.25 (58)	17.81 (33)	12.59 (55)	0.45 (41)	11.21 (84)	21.02 (47)	-26.45 (72)
5th Percentile	19.08	10.03	1.99	9.34	21.78	15.26	3.63	16.73	29.50	-15.73
1st Quartile	16.44	8.30	0.76	7.40	18.69	13.82	1.08	14.35	23.28	-20.82
Median	14.91	7.42	-0.33	6.57	16.39	12.82	0.15	12.99	20.36	-23.46
3rd Quartile	13.43	6.47	-1.37	5.29	14.27	11.78	-1.14	11.72	17.39	-27.18
95th Percentile	8.40	4.56	-3.13	2.79	7.51	9.30	-2.72	9.87	13.29	-30.68
Population	199	194	182	172	173	180	172	167	157	144

Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.



Calculation based on quarterly periodicity.

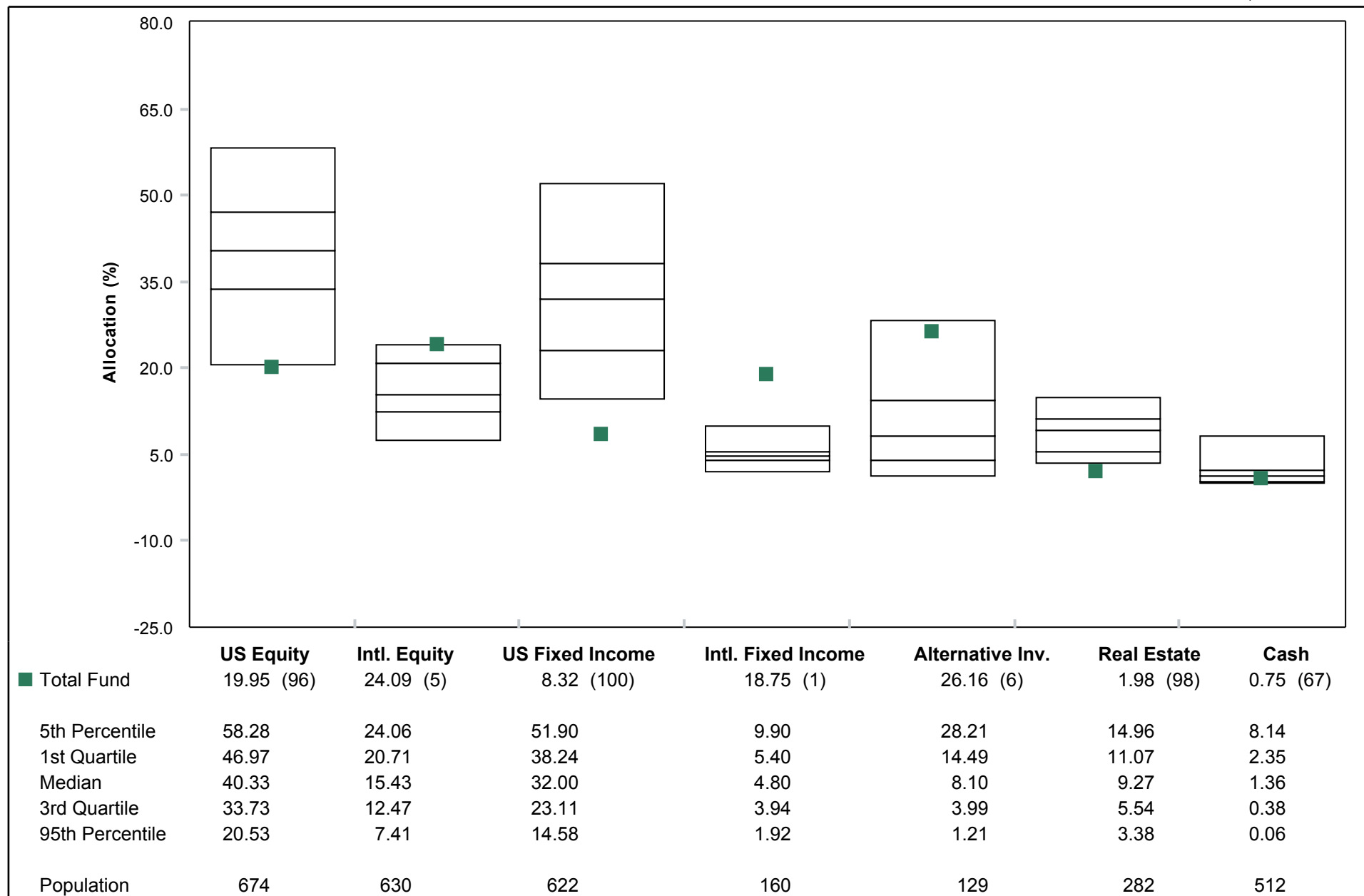


	Return	Standard Deviation
■ Total Fund	4.98	6.18
● Total Plan Index	4.70	5.76
— Median	4.53	6.00

Calculation based on quarterly periodicity.

As of December 31, 2018

All Public Plans < \$1B-Total Fund



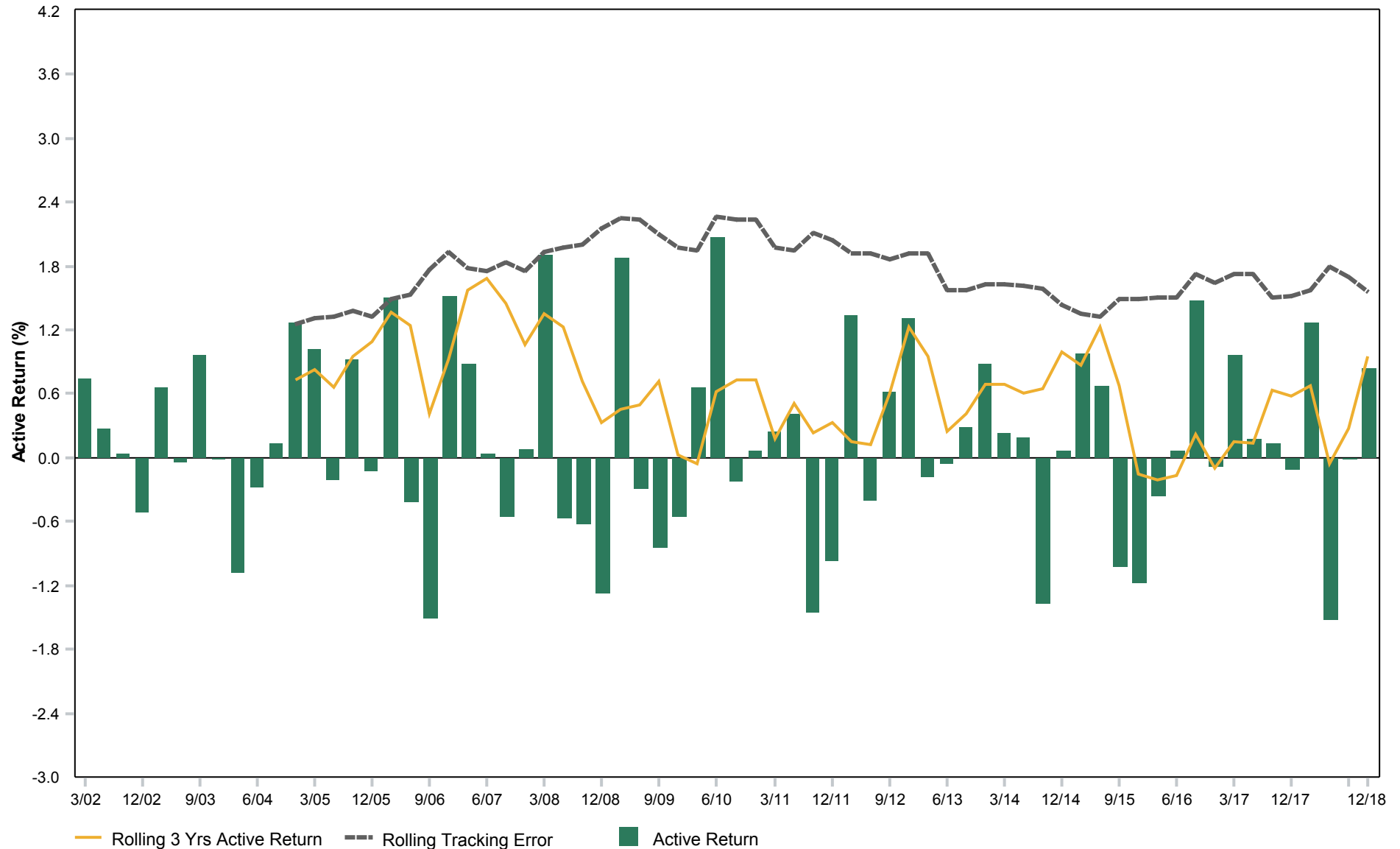
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

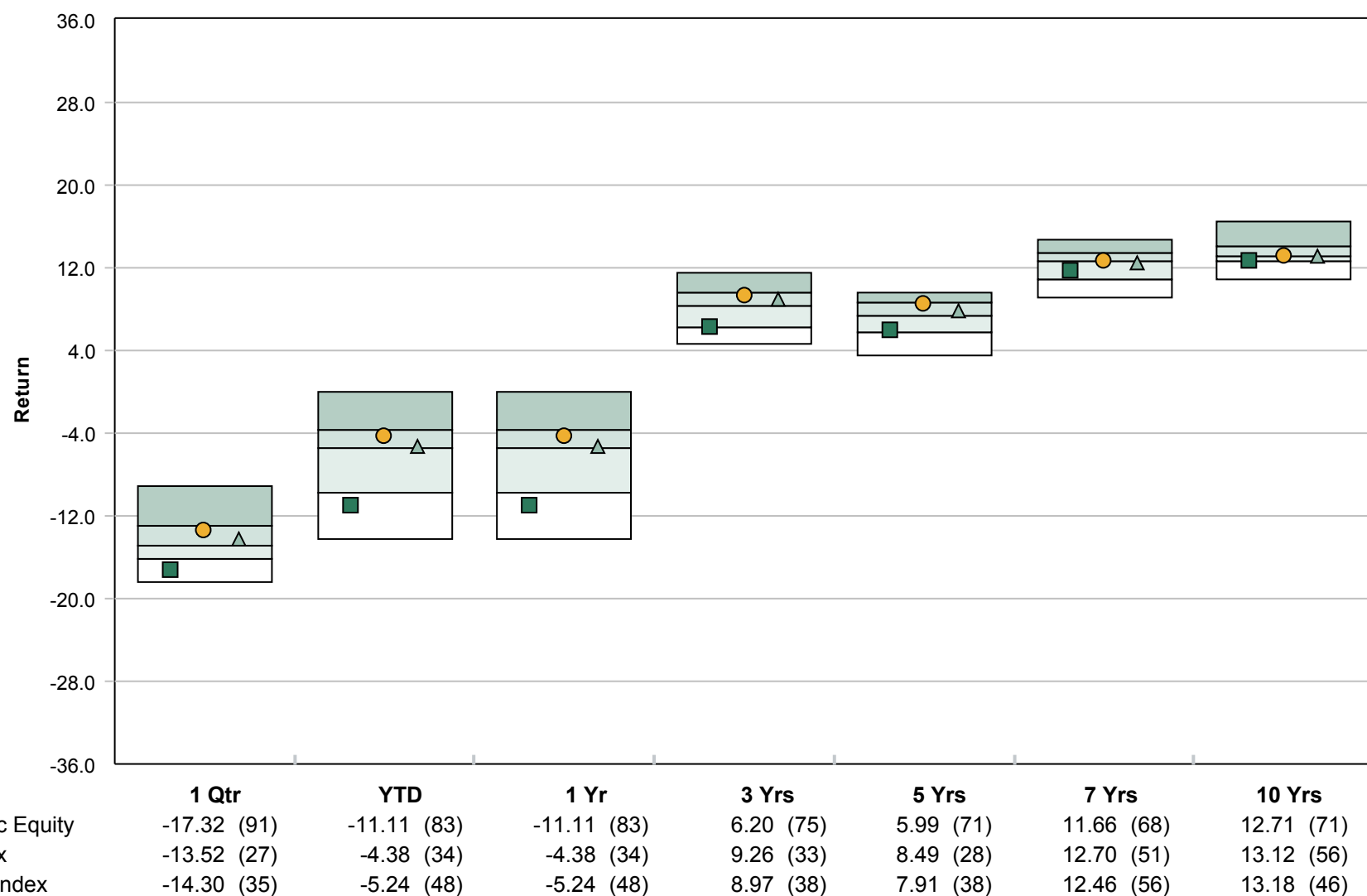
As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Total Fund	-6.16	-3.98	-3.98	6.51	4.98	8.35	9.15	17.25	7.32	0.21	5.30
Total Plan Index	-7.01	-4.59	-4.59	5.52	4.70	7.59	8.48	15.96	6.19	0.79	6.25
Difference	0.85	0.61	0.61	0.99	0.28	0.76	0.67	1.29	1.13	-0.58	-0.95



Domestic Equity

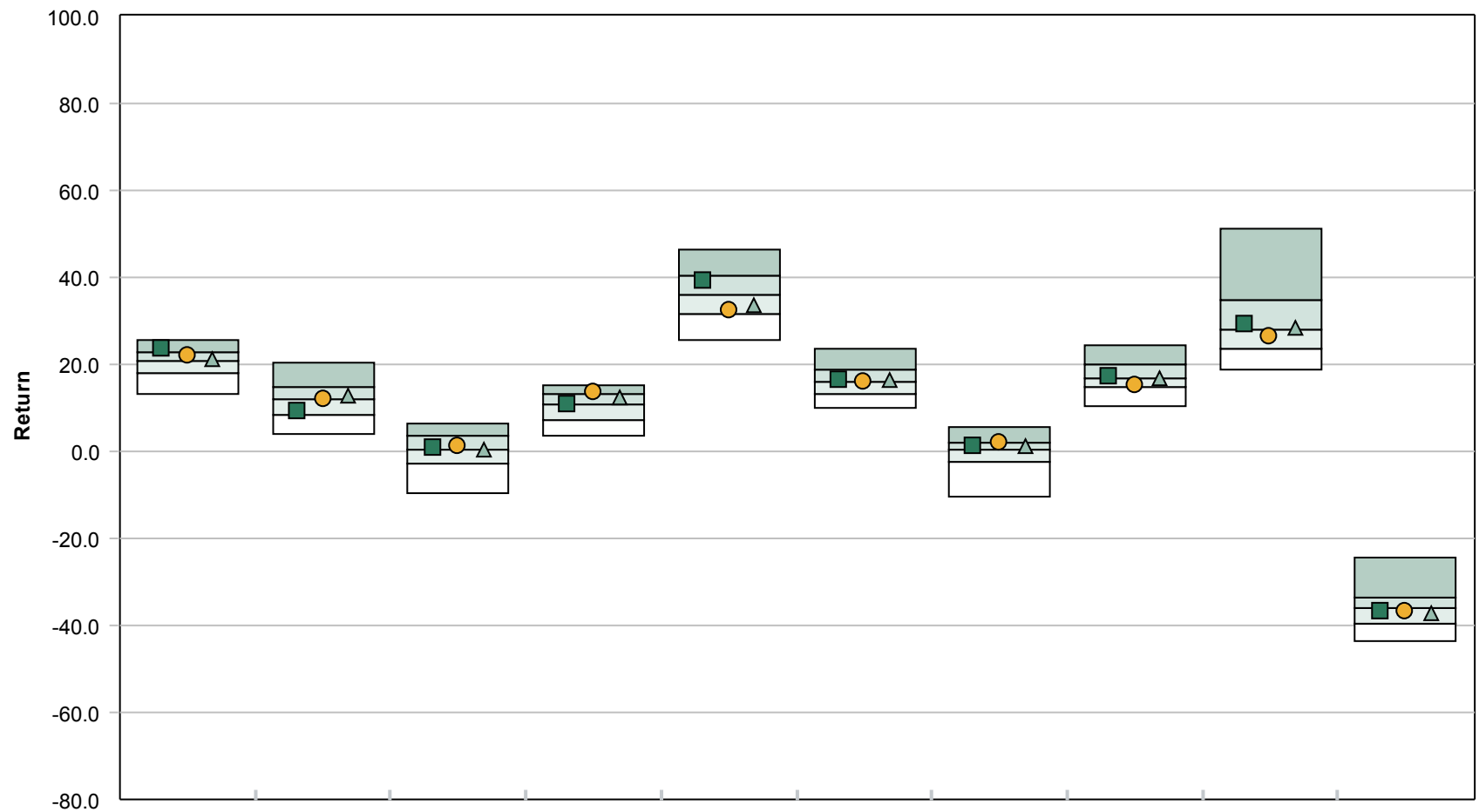
As of December 31, 2018



5th Percentile	-9.15	0.06	0.06	11.60	9.60	14.70	16.53
1st Quartile	-12.97	-3.65	-3.65	9.52	8.63	13.44	14.01
Median	-14.85	-5.43	-5.43	8.24	7.29	12.71	13.16
3rd Quartile	-16.09	-9.77	-9.77	6.20	5.80	10.93	12.60
95th Percentile	-18.38	-14.21	-14.21	4.63	3.49	9.13	10.80

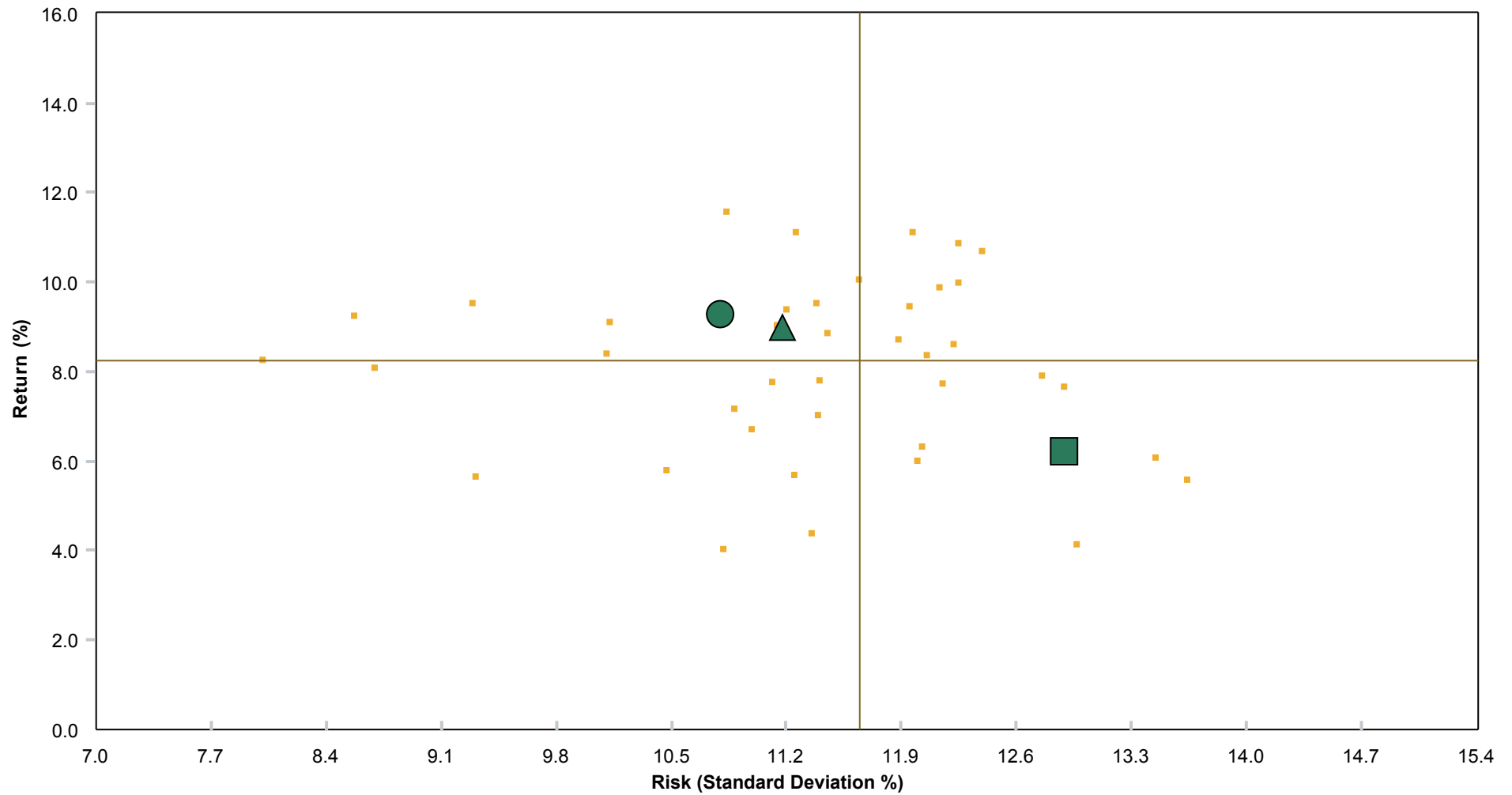
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

As of December 31, 2018



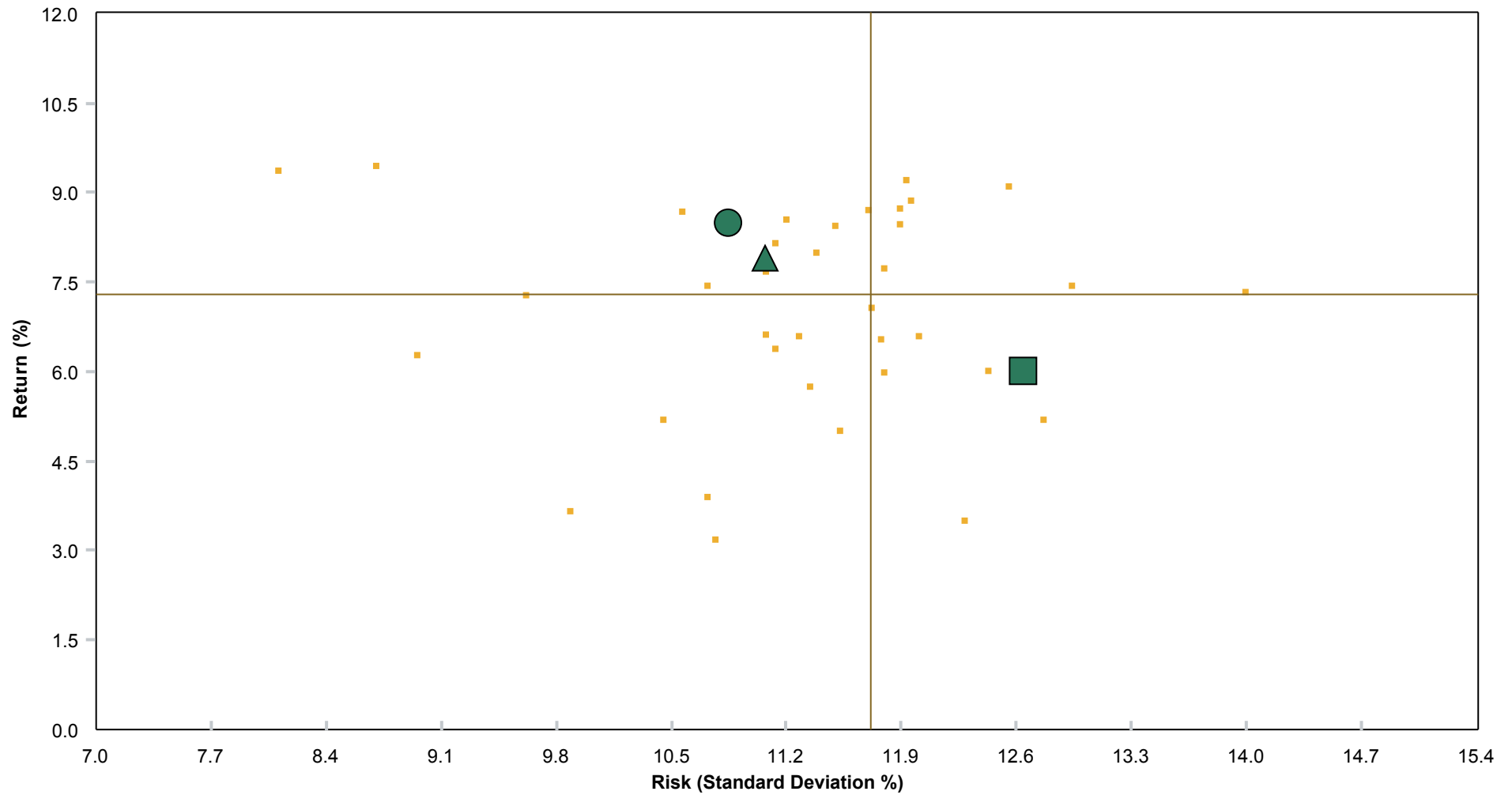
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
■ Total Domestic Equity	23.61 (19)	9.01 (69)	0.66 (47)	10.97 (48)	39.12 (28)	16.25 (48)	1.11 (43)	17.08 (47)	29.17 (44)	-36.74 (59)
● S&P 500 Index	21.83 (33)	11.96 (52)	1.38 (40)	13.69 (18)	32.39 (73)	16.00 (50)	2.11 (25)	15.06 (71)	26.46 (56)	-37.00 (60)
▲ Russell 3000 Index	21.13 (47)	12.74 (48)	0.48 (50)	12.56 (32)	33.55 (66)	16.42 (44)	1.03 (43)	16.93 (53)	28.34 (46)	-37.31 (62)
5th Percentile	25.63	20.45	6.38	15.15	46.48	23.62	5.78	24.54	51.35	-24.32
1st Quartile	22.68	14.94	3.65	13.30	40.43	18.95	2.01	20.06	34.84	-33.74
Median	20.89	12.17	0.45	10.80	35.95	15.97	0.32	16.99	27.82	-35.92
3rd Quartile	17.90	8.41	-2.75	7.24	31.68	13.08	-2.23	14.77	23.68	-39.68
95th Percentile	13.29	4.18	-9.67	3.78	25.65	10.00	-10.48	10.29	18.88	-43.65

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	Return	Standard Deviation
■ Total Domestic Equity	6.20	12.89
● S&P 500 Index	9.26	10.80
▲ Russell 3000 Index	8.97	11.18
— Median	8.24	11.64

Calculation based on monthly periodicity.



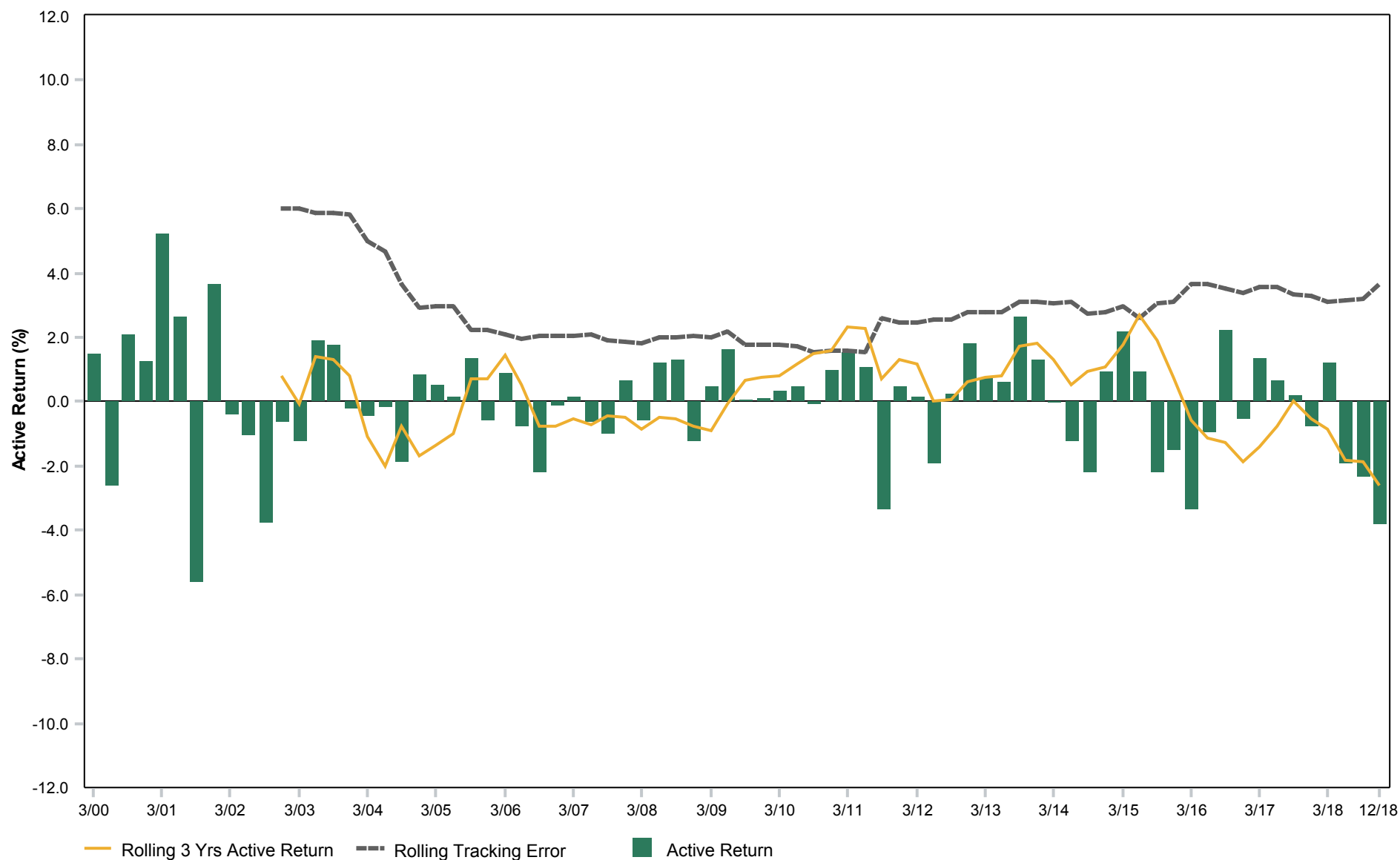
	Return	Standard Deviation
■ Total Domestic Equity	5.99	12.64
● S&P 500 Index	8.49	10.85
▲ Russell 3000 Index	7.91	11.07
— Median	7.29	11.72

Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Total Domestic Equity	-17.32	-11.11	-11.11	6.20	5.99	11.66	12.71	23.61	9.01	0.66	10.97
S&P 500 Index	-13.52	-4.38	-4.38	9.26	8.49	12.70	13.12	21.83	11.96	1.38	13.69
Difference	-3.80	-6.73	-6.73	-3.06	-2.50	-1.04	-0.41	1.78	-2.95	-0.72	-2.72



Bristol County Retirement System

Total Domestic Equity

1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio -16.72
 Portfolio Trading -0.60
 Actual Return -17.32
 Benchmark Return -13.52
 Actual Active Return -3.80

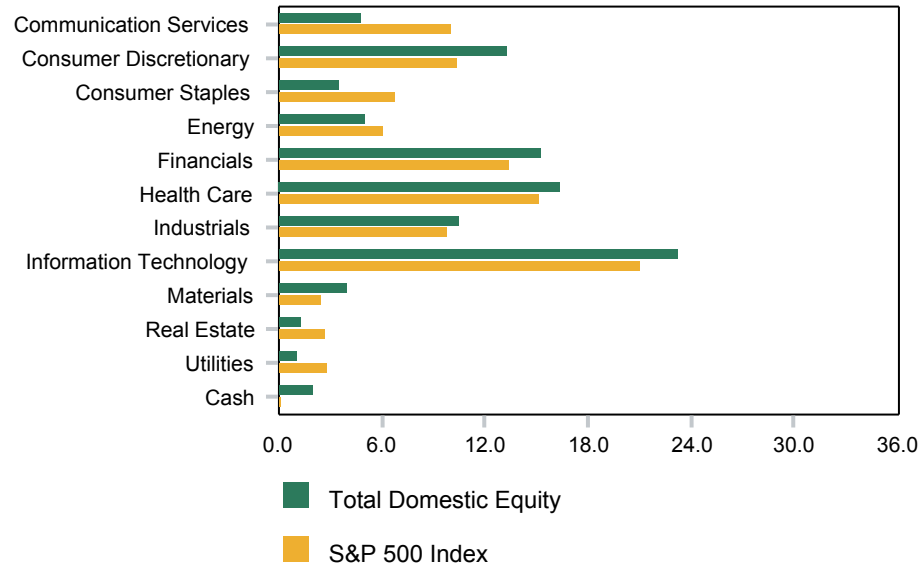
Stock Selection -3.09
 Sector Selection -0.43
 Interaction 0.27
 Total Selection -3.25

Portfolio Trading -0.60
 Benchmark Trading -0.06
 Active Trading Impact -0.55

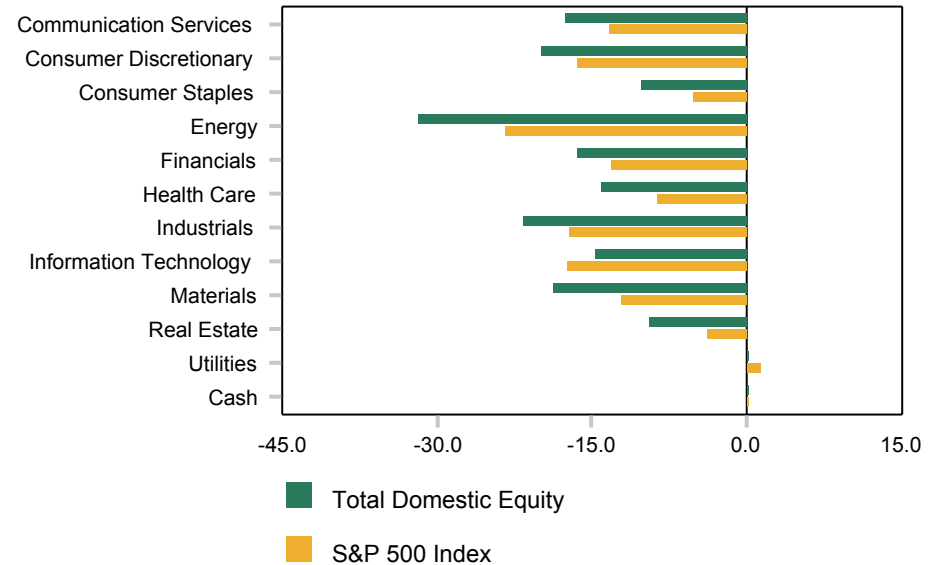
Buy & Hold Active Return -3.80

	Allocation — 10/01/2018		Performance — 1 Quarter Ending December 31, 2018		Stock	Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark		Sector	Interaction	Total
Communication Services	4.77	10.03	-17.59	-13.18	-0.44	-0.02	0.23	-0.23
Consumer Discretionary	13.24	10.30	-19.79	-16.40	-0.35	-0.09	-0.10	-0.54
Consumer Staples	3.48	6.71	-10.12	-5.17	-0.33	-0.27	0.16	-0.44
Energy	5.02	6.00	-31.84	-23.29	-0.51	0.10	0.08	-0.33
Financials	15.23	13.31	-16.38	-13.13	-0.43	0.01	-0.06	-0.49
Health Care	16.33	15.05	-14.05	-8.64	-0.81	0.06	-0.07	-0.82
Industrials	10.49	9.70	-21.64	-17.20	-0.43	-0.03	-0.03	-0.49
Information Technology	23.24	20.99	-14.62	-17.31	0.56	-0.09	0.06	0.54
Materials	3.91	2.43	-18.60	-12.14	-0.16	0.02	-0.10	-0.23
Real Estate	1.31	2.65	-9.46	-3.83	-0.15	-0.13	0.08	-0.20
Utilities	0.99	2.83	0.02	1.36	-0.04	-0.27	0.02	-0.29
Cash	2.00	0.00	0.00	0.00	0.00	0.27	0.00	0.27
Total	100.00	100.00	-16.72	-13.46	-3.09	-0.43	0.27	-3.25

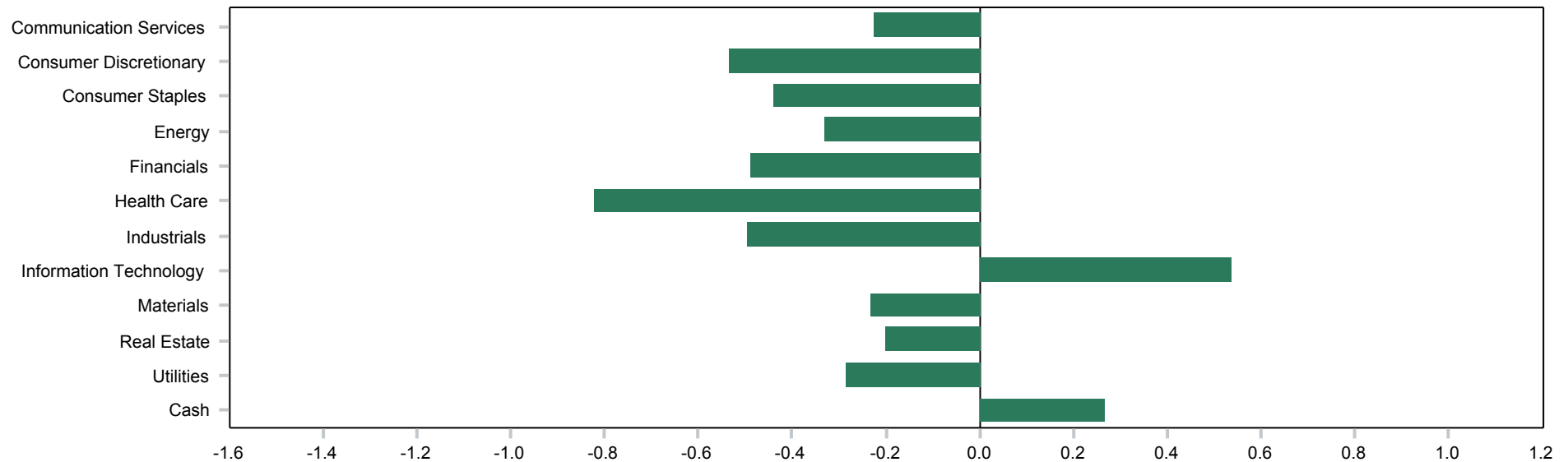
Allocation



Performance



Total Attribution



1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio	-16.72
Portfolio Trading	-0.60
Actual Return	-17.32
Benchmark Return	-13.52
Actual Active Return	-3.80

Stock Selection	-2.25
Style Selection	-0.97
Interaction	-0.04
Total Selection	-3.25

Portfolio Trading	-0.60
Benchmark Trading	-0.06
Active Trading Impact	-0.55

Buy & Hold Active Return -3.80

**Performance-1 Quarter Ending
December 31, 2018**

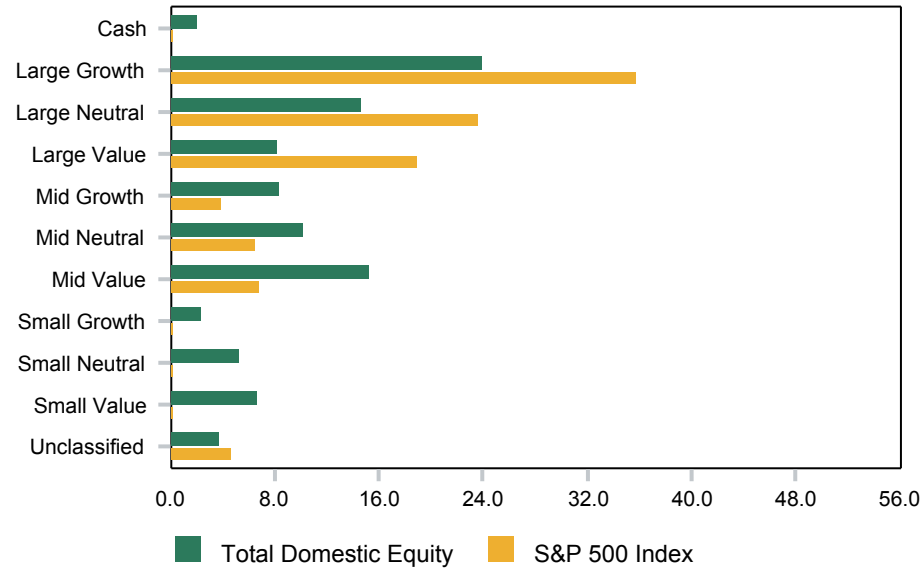
	Allocation-10/01/2018		Performance-1 Quarter Ending December 31, 2018		Attribution			
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	Total
Cash	2.00	0.00	0.00	0.00	0.00	0.27	0.00	0.27
Large Growth	23.97	35.80	-17.38	-16.25	-0.40	0.33	0.13	0.06
Large Neutral	14.56	23.63	-11.68	-9.12	-0.61	-0.39	0.23	-0.77
Large Value	8.06	18.85	-15.94	-14.16	-0.34	0.07	0.19	-0.07
Mid Growth	8.29	3.86	-15.30	-12.68	-0.10	0.03	-0.12	-0.18
Mid Neutral	10.09	6.48	-19.17	-14.53	-0.30	-0.04	-0.17	-0.51
Mid Value	15.24	6.80	-18.80	-14.59	-0.29	-0.09	-0.36	-0.74
Small Growth	2.36	0.00	-23.63	0.00	0.00	-0.24	0.00	-0.24
Small Neutral	5.17	0.00	-19.33	0.00	0.00	-0.30	0.00	-0.30
Small Value	6.60	0.00	-22.00	0.00	0.00	-0.56	0.00	-0.56
Unclassified	3.66	4.58	-13.35	-8.72	-0.21	-0.04	0.04	-0.21
Total	100.00	100.00	-16.72	-13.46	-2.25	-0.97	-0.04	-3.25

Bristol County Retirement System

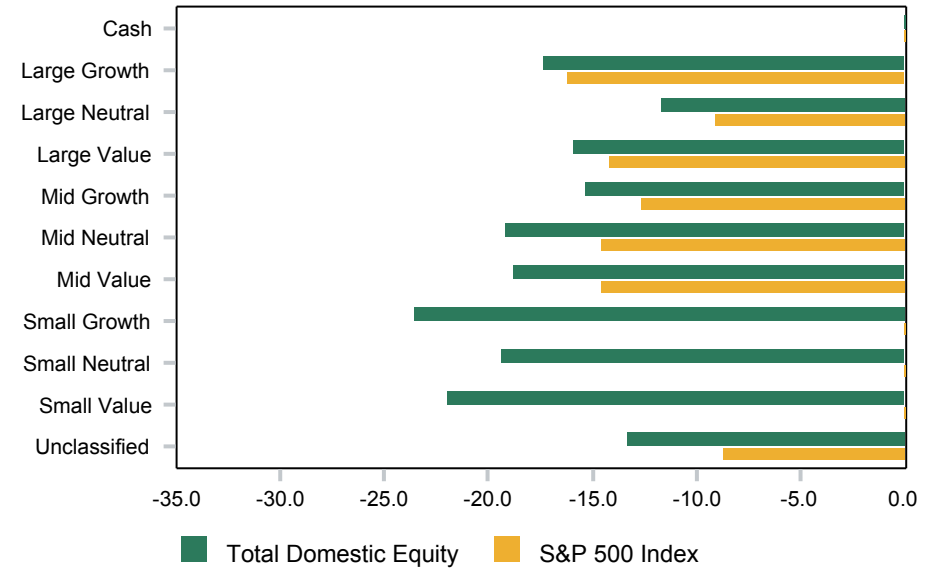
Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2018

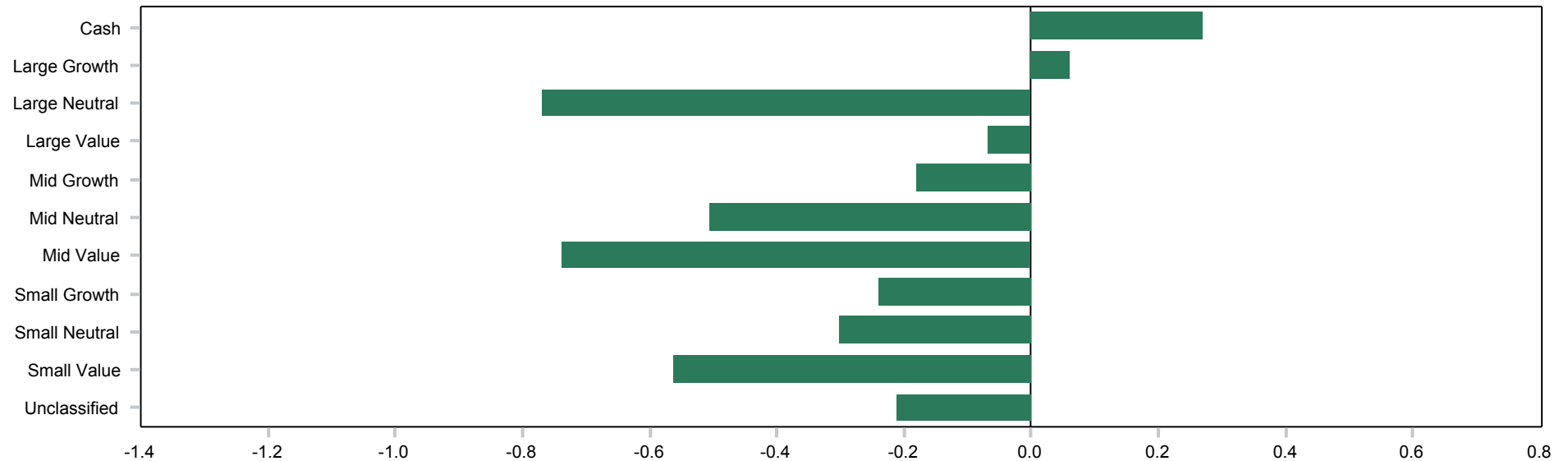
Allocation



Performance



Total Attribution



Bristol County Retirement System

Total Domestic Equity

As of December 31, 2018

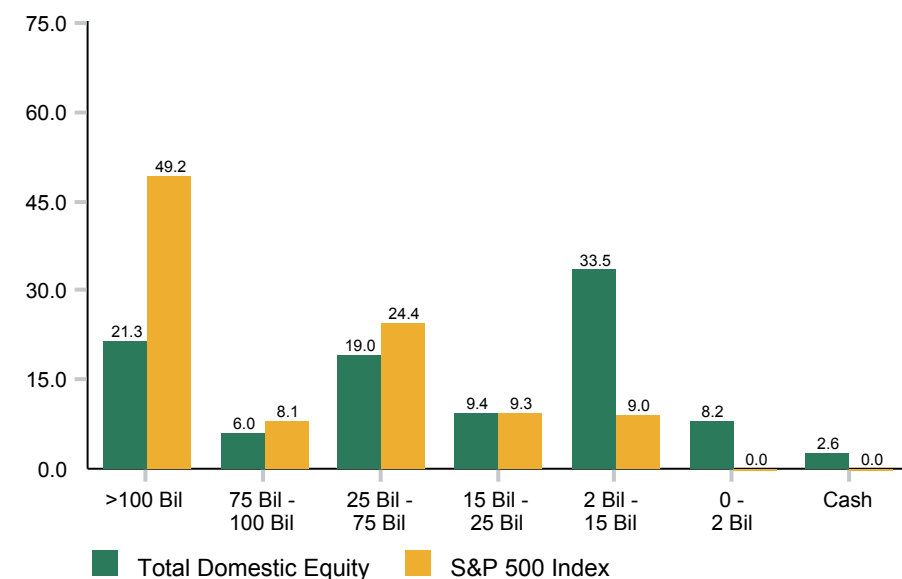
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Amazon.com Inc	1.91	2.93	-1.02	-25.01
HCA Healthcare Inc	1.63	0.16	1.47	-10.33
Anthem Inc	1.61	0.32	1.29	-3.92
Broadcom Inc	1.38	0.50	0.88	4.15
Visa Inc	1.34	1.10	0.24	-11.94
Facebook Inc	1.30	1.50	-0.20	-20.29
Celanese Corp	1.13	0.06	1.07	-20.64
Unitedhealth Group Inc	1.13	1.14	-0.01	-6.06
PayPal Holdings Inc	1.13	0.47	0.66	-4.27
Adobe Inc	1.12	0.53	0.59	-16.19
% of Portfolio	13.68	8.71	4.97	

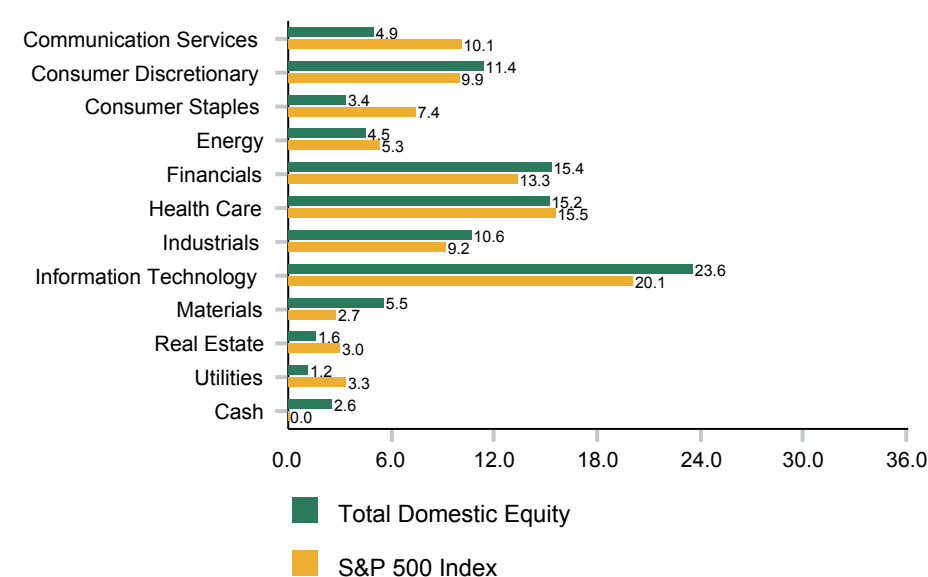
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	84,765,893,337	198,164,868,752
Median Mkt. Cap (\$)	5,599,820,460	18,449,053,220
Price/Earnings ratio	14.60	17.38
Price/Book ratio	2.75	3.16
5 Yr. EPS Growth Rate (%)	18.43	16.00
Current Yield (%)	1.75	2.23
Beta (5 Years, Monthly)	1.12	1.00
Number of Stocks	410	505

Distribution of Market Capitalization (%)



Sector Weights (%)



As of December 31, 2018

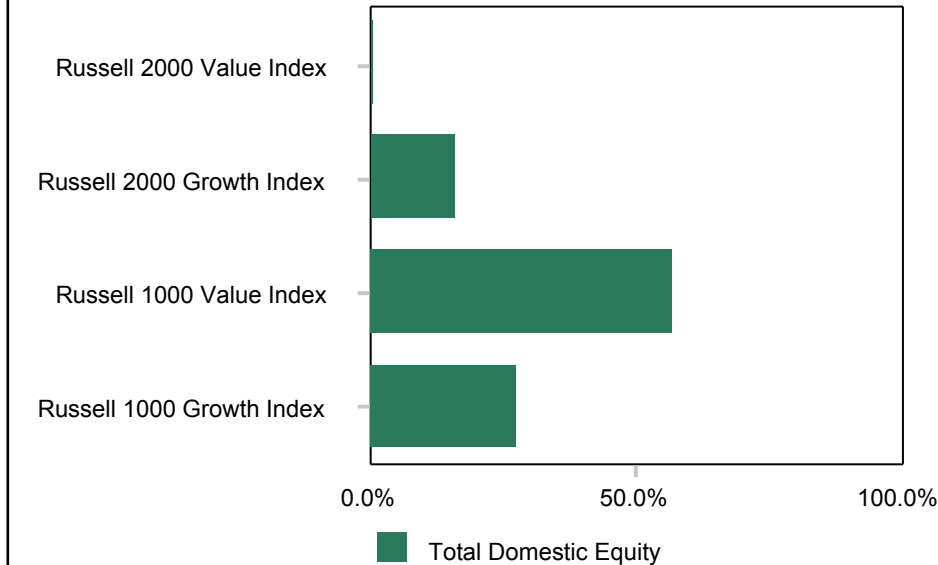
Ten Best Performers

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
TESARO Inc	0.11	0.00	0.11	90.34
Azul SA	0.12	0.00	0.12	55.65
Pacific Biosciences of California Inc	0.03	0.00	0.03	36.78
Tahoe Resources Inc	0.19	0.00	0.19	30.82
Red Hat Inc	0.35	0.15	0.20	28.88
Agnico Eagle Mines Ltd	0.07	0.00	0.07	18.50
Tech Data Corp	0.71	0.00	0.71	14.31
Benefitfocus Inc	0.11	0.00	0.11	13.03
Cree Inc.	0.07	0.00	0.07	12.95
State Auto Financial Corp	0.13	0.00	0.13	11.78
% of Portfolio	1.89	0.15	1.74	

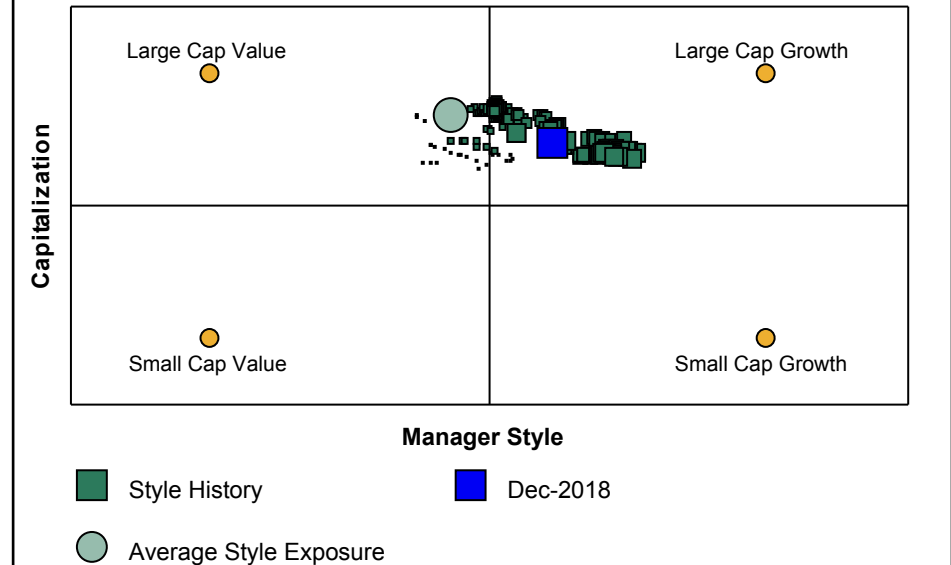
Ten Worst Performers

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Ferroglobe PLC	0.02	0.00	0.02	-80.54
United Natural Foods Inc	0.10	0.00	0.10	-64.64
McDermott International Inc.	0.01	0.00	0.01	-64.51
Noble Corp plc	0.02	0.00	0.02	-62.73
Adient Plc	0.17	0.00	0.17	-61.36
ENSCO Plc	0.03	0.00	0.03	-57.75
Whiting Petroleum Corp	0.12	0.00	0.12	-57.22
Oil States International Inc.	0.08	0.00	0.08	-56.99
Cardlytics Inc	0.03	0.00	0.03	-56.75
Carrizo Oil & Gas Inc	0.02	0.00	0.02	-55.20
% of Portfolio	0.60	0.00	0.60	

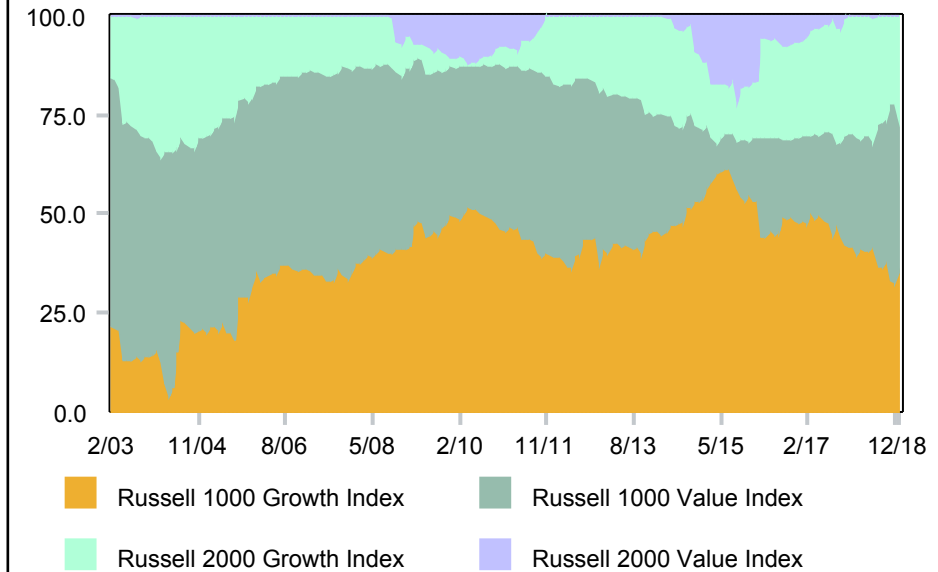
Investment Style Exposure



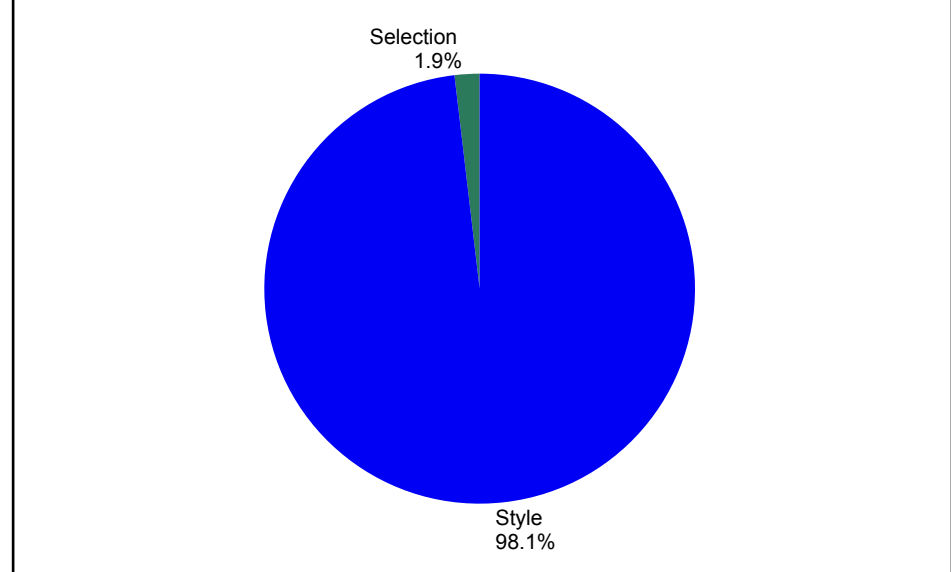
Style Map(ppp)



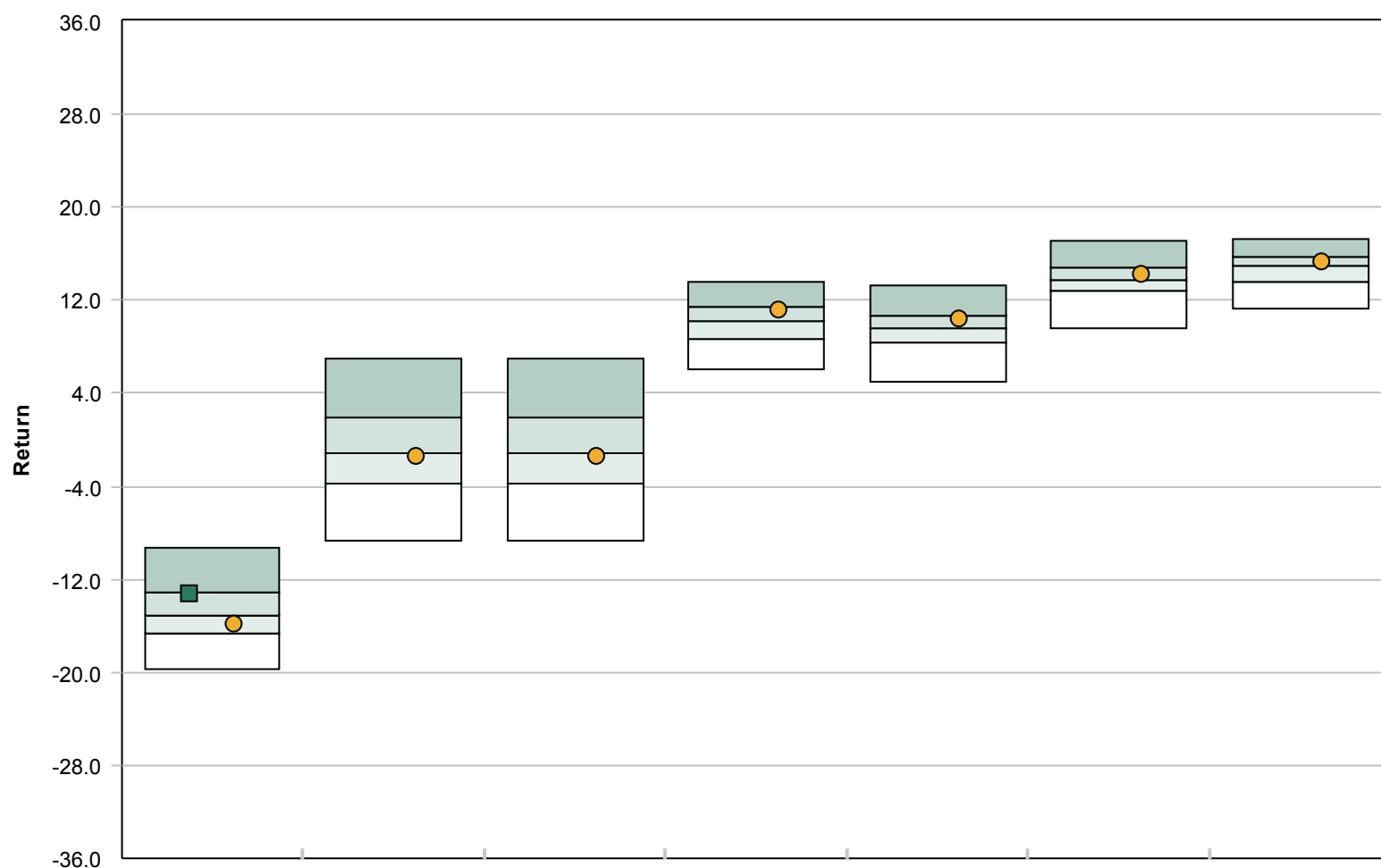
Style History(ppp)



Return Variance



As of December 31, 2018



■ ClearBridge Large Cap Growth

● Russell 1000 Growth Index

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
	-13.29 (27)	N/A	N/A	N/A	N/A	N/A	N/A
	-15.89 (62)	-1.51 (54)	-1.51 (54)	11.15 (29)	10.40 (31)	14.14 (43)	15.29 (36)
5th Percentile	-9.23	6.95	6.95	13.54	13.34	17.11	17.30
1st Quartile	-13.12	1.85	1.85	11.47	10.66	14.82	15.74
Median	-15.14	-1.17	-1.17	10.19	9.66	13.77	14.90
3rd Quartile	-16.66	-3.79	-3.79	8.65	8.36	12.79	13.60
95th Percentile	-19.68	-8.65	-8.65	6.01	5.01	9.58	11.24

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio -13.28
 Portfolio Trading -0.01
 Actual Return -13.29
 Benchmark Return -15.89
 Actual Active Return 2.59

Stock Selection 2.25
 Sector Selection 0.41
 Interaction -0.06
 Total Selection 2.59

Portfolio Trading -0.01
 Benchmark Trading -0.01
 Active Trading Impact 0.01

Buy & Hold Active Return 2.59

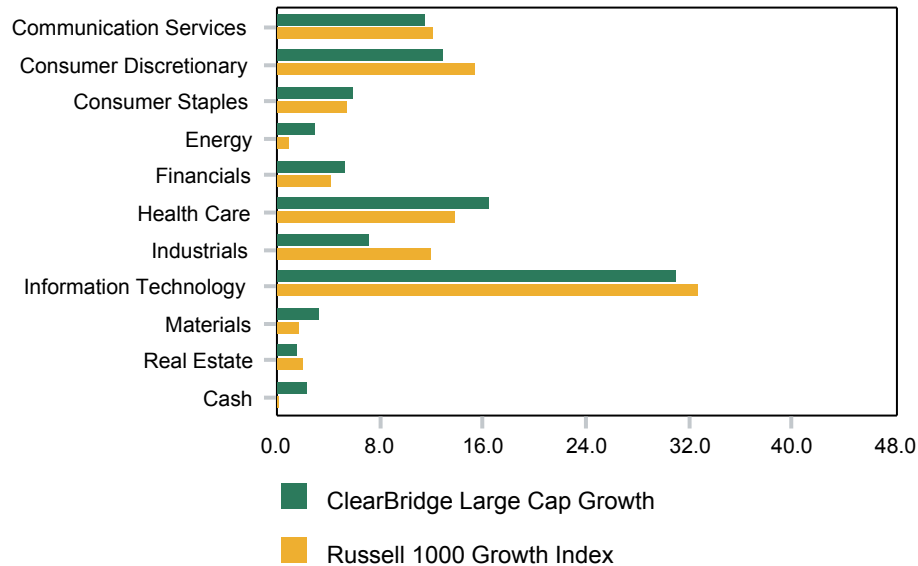
	Allocation — 10/01/2018		Performance — 1 Quarter Ending December 31, 2018		Stock	Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark		Sector	Interaction	Total
Communication Services	11.53	12.04	-12.22	-17.30	0.61	0.01	-0.03	0.59
Consumer Discretionary	12.83	15.38	-18.50	-17.13	-0.21	0.03	0.03	-0.14
Consumer Staples	5.81	5.45	-8.90	-6.81	-0.11	0.03	-0.01	-0.09
Energy	2.95	0.90	-34.00	-28.84	-0.05	-0.27	-0.11	-0.42
Financials	5.26	4.18	-13.98	-11.96	-0.08	0.04	-0.02	-0.06
Health Care	16.45	13.79	-13.23	-12.06	-0.16	0.10	-0.03	-0.09
Industrials	7.08	12.00	-17.49	-16.56	-0.11	0.03	0.05	-0.03
Information Technology	30.98	32.63	-10.99	-18.83	2.56	0.05	-0.13	2.48
Materials	3.19	1.65	-4.31	-11.84	0.12	0.06	0.12	0.30
Real Estate	1.61	1.99	-18.07	-1.84	-0.32	-0.05	0.06	-0.31
Cash	2.31	0.00	0.00	0.00	0.00	0.37	0.00	0.37
Total	100.00	100.00	-13.28	-15.87	2.25	0.41	-0.06	2.59

Bristol County Retirement System

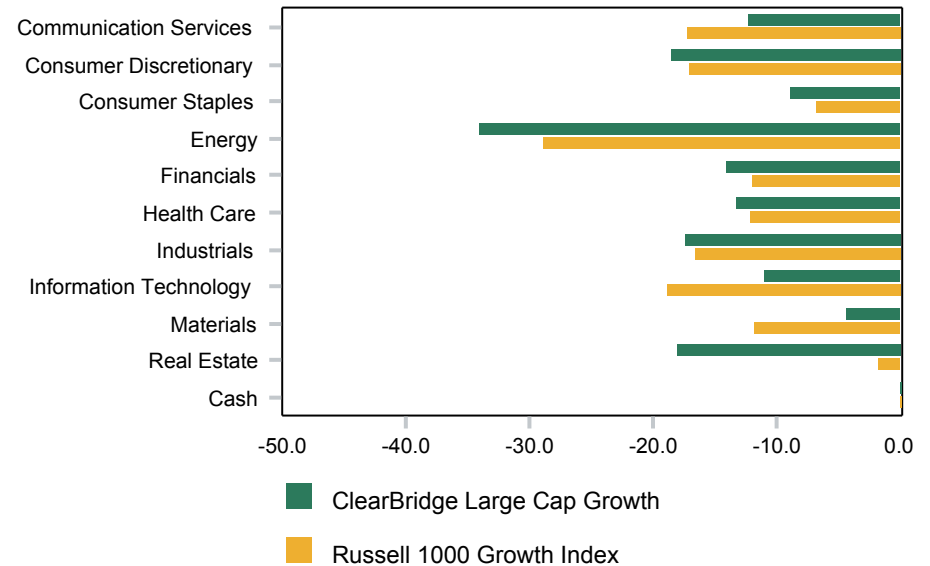
Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2018

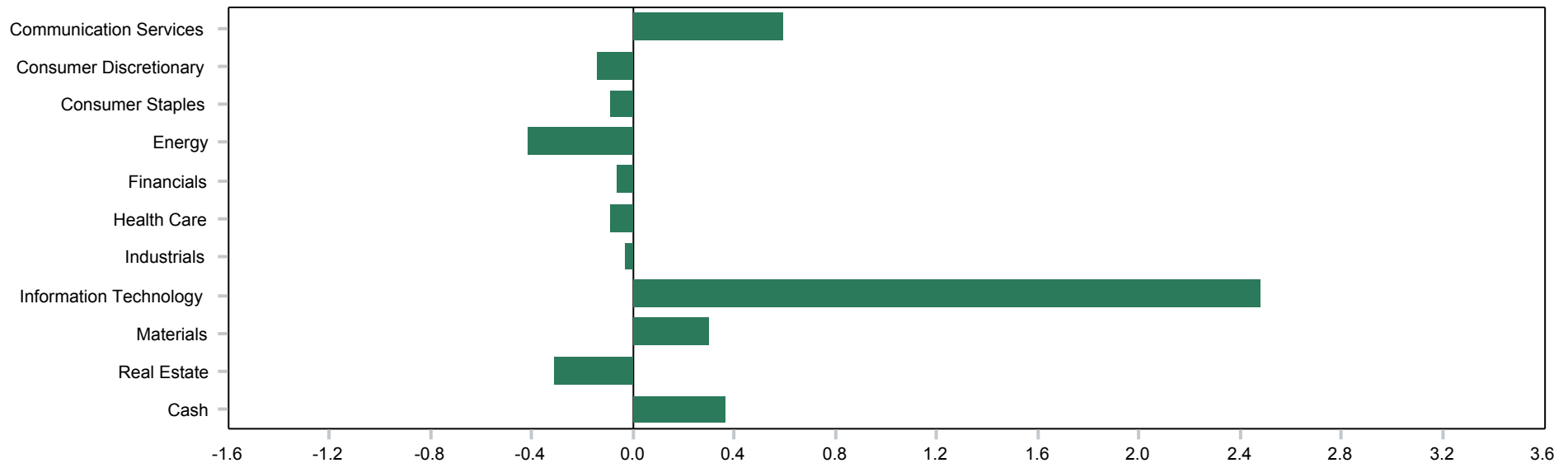
Allocation



Performance



Total Attribution



Bristol County Retirement System

Buy and Hold Style Attribution

1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio -13.28
 Portfolio Trading -0.01
 Actual Return -13.29
 Benchmark Return -15.89
 Actual Active Return 2.59

Stock Selection 2.67
 Style Selection 0.49
 Interaction -0.57
 Total Selection 2.59

Portfolio Trading -0.01
 Benchmark Trading -0.01
 Active Trading Impact 0.01

Buy & Hold Active Return 2.59

Performance-1 Quarter Ending December 31, 2018

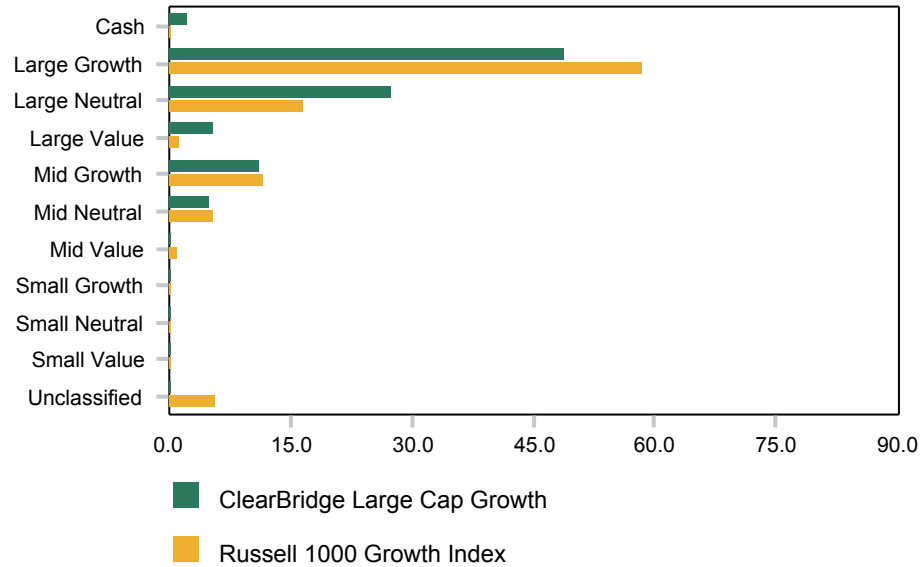
	Allocation-10/01/2018		Performance-1 Quarter Ending December 31, 2018		Attribution			
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	Total
Cash	2.31	0.00	0.00	0.00	0.00	0.37	0.00	0.37
Large Growth	48.94	58.33	-15.61	-17.41	1.05	0.14	-0.17	1.03
Large Neutral	27.34	16.57	-13.96	-13.04	-0.15	0.31	-0.10	0.05
Large Value	5.41	1.14	-19.62	-15.56	-0.05	0.01	-0.17	-0.21
Mid Growth	11.02	11.70	-3.86	-14.08	1.20	-0.01	-0.07	1.11
Mid Neutral	4.97	5.47	-6.90	-18.28	0.62	0.01	-0.06	0.58
Mid Value	0.00	0.86	0.00	-17.37	0.00	0.01	0.00	0.01
Small Growth	0.00	0.14	0.00	-22.78	0.00	0.01	0.00	0.01
Small Neutral	0.00	0.05	0.00	-18.75	0.00	0.00	0.00	0.00
Small Value	0.00	0.01	0.00	17.30	0.00	0.00	0.00	0.00
Unclassified	0.00	5.73	0.00	-9.53	0.00	-0.36	0.00	-0.36
Total	100.00	100.00	-13.28	-15.87	2.67	0.49	-0.57	2.59

Bristol County Retirement System

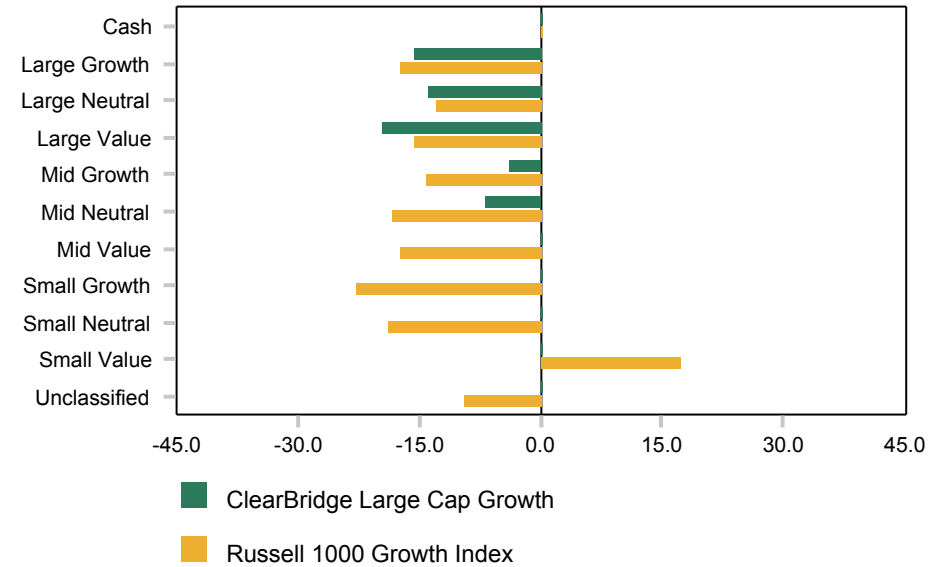
Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2018

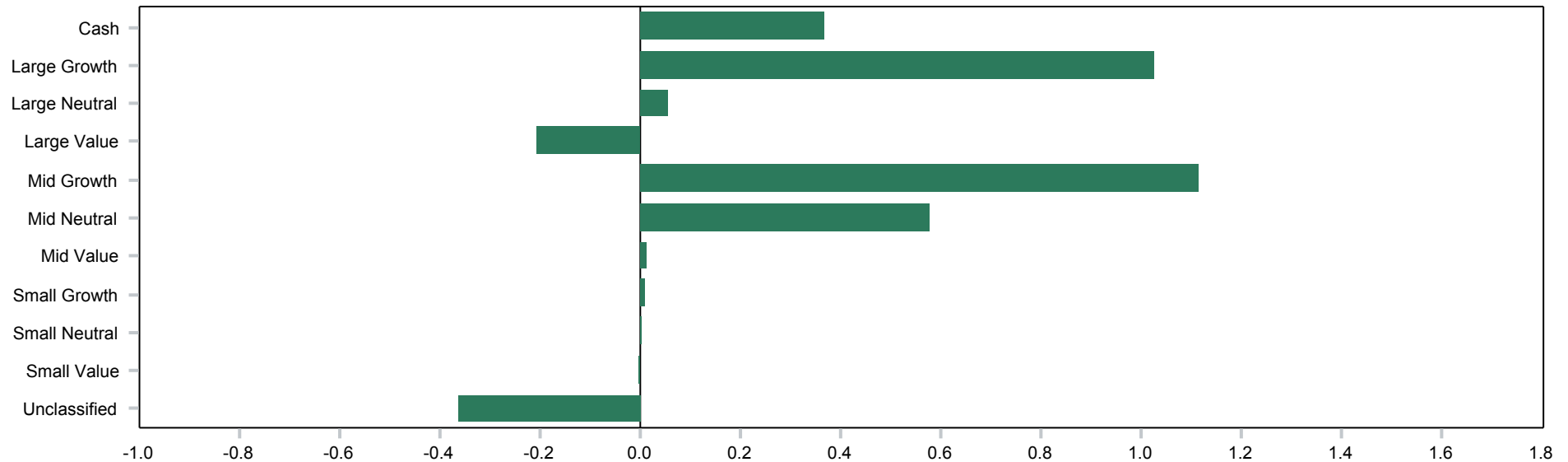
Allocation



Performance



Total Attribution



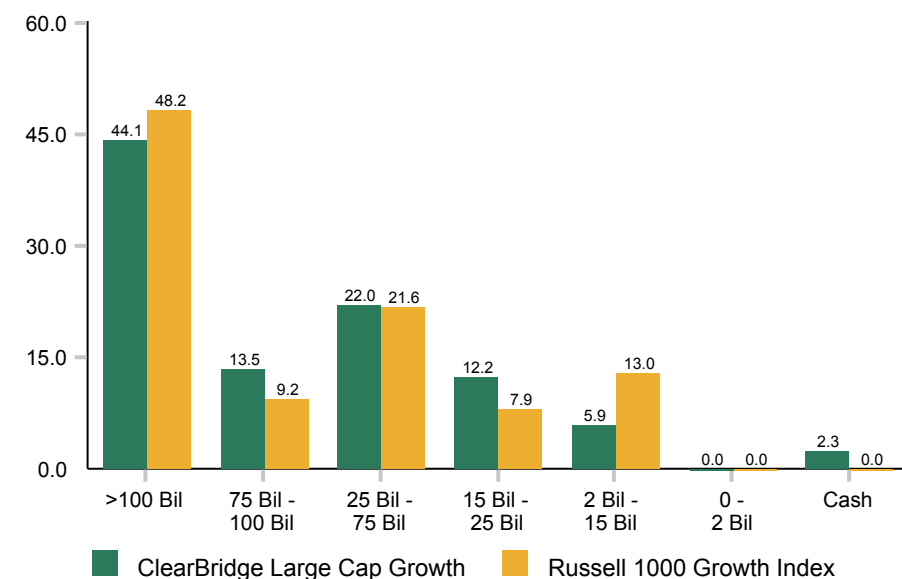
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Amazon.com Inc	6.04	5.28	0.76	-25.01
Microsoft Corp	4.46	6.31	-1.85	-10.80
Visa Inc	3.51	2.01	1.50	-11.94
Facebook Inc	3.46	2.70	0.76	-20.29
Alphabet Inc	3.19	2.73	0.46	-13.23
Unitedhealth Group Inc	3.18	2.06	1.12	-6.06
Adobe Inc	2.72	0.96	1.76	-16.19
Apple Inc	2.28	6.48	-4.20	-29.88
Zoetis Inc	2.28	0.36	1.92	-6.44
Walt Disney Co (The)	2.21	1.01	1.20	-5.50
% of Portfolio	33.33	29.90	3.43	

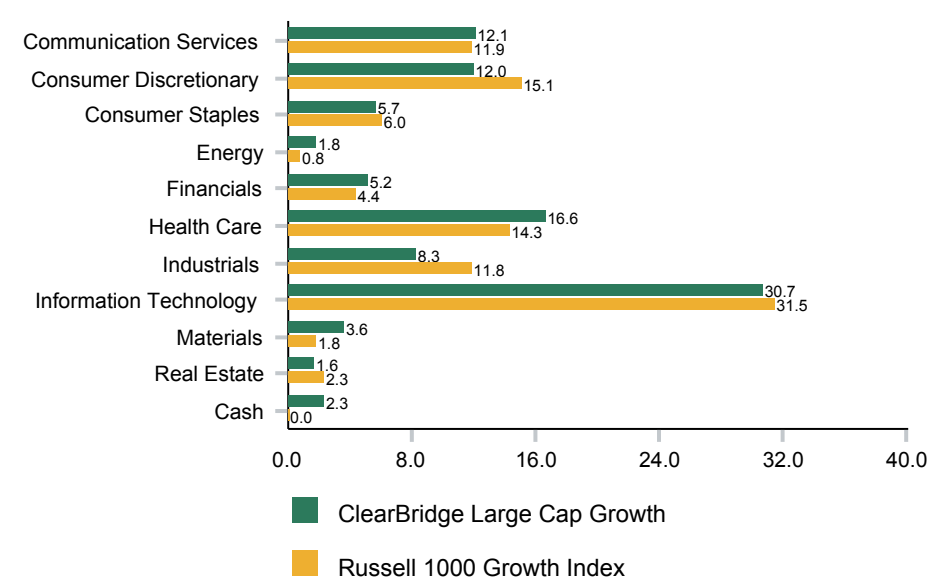
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	211,756,428,405	241,404,618,083
Median Mkt. Cap (\$)	74,984,896,490	10,324,998,700
Price/Earnings ratio	25.87	22.71
Price/Book ratio	5.27	6.12
5 Yr. EPS Growth Rate (%)	22.29	23.58
Current Yield (%)	1.22	1.45
Beta	N/A	1.00
Number of Stocks	52	546

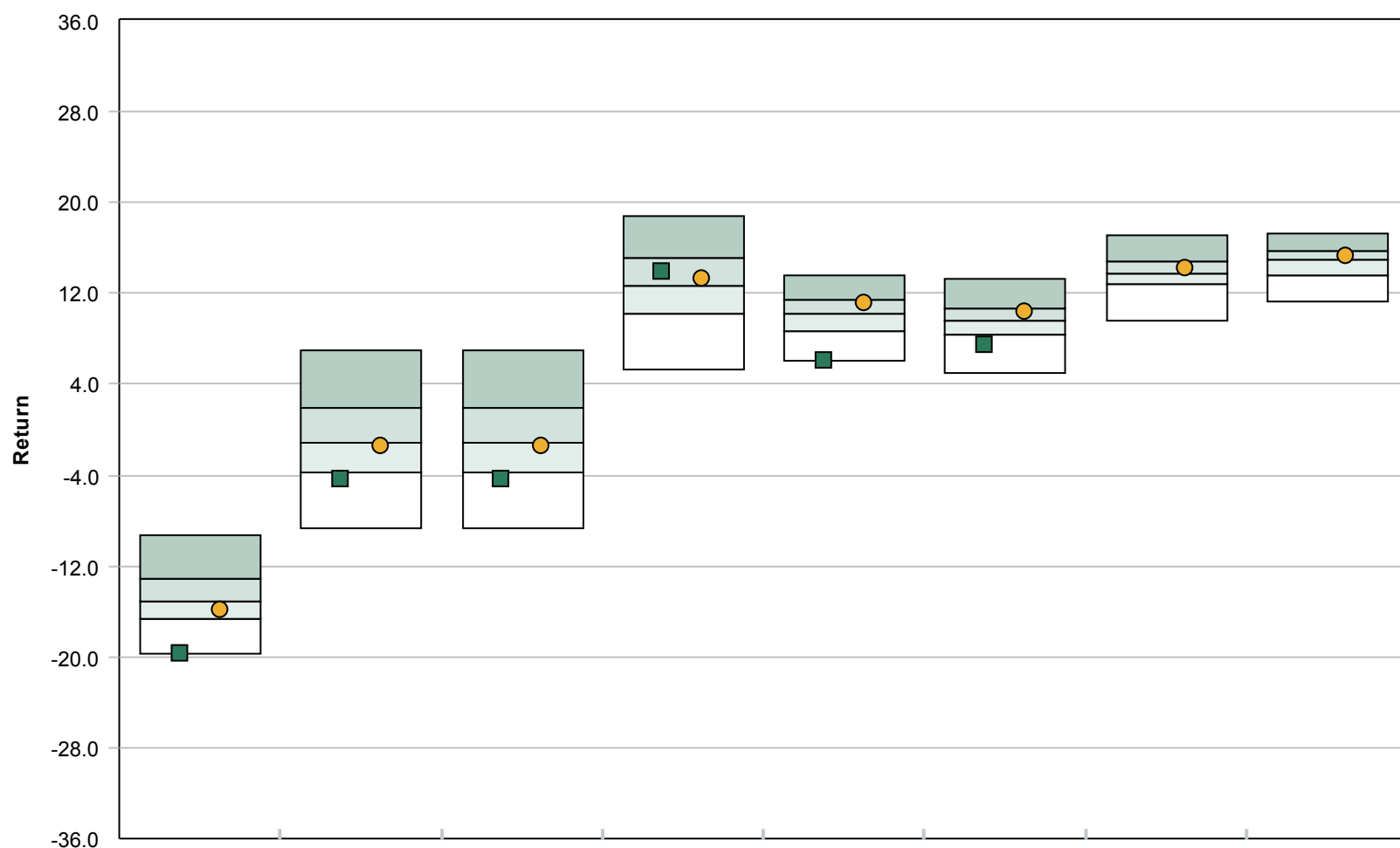
Distribution of Market Capitalization (%)



Sector Weights (%)



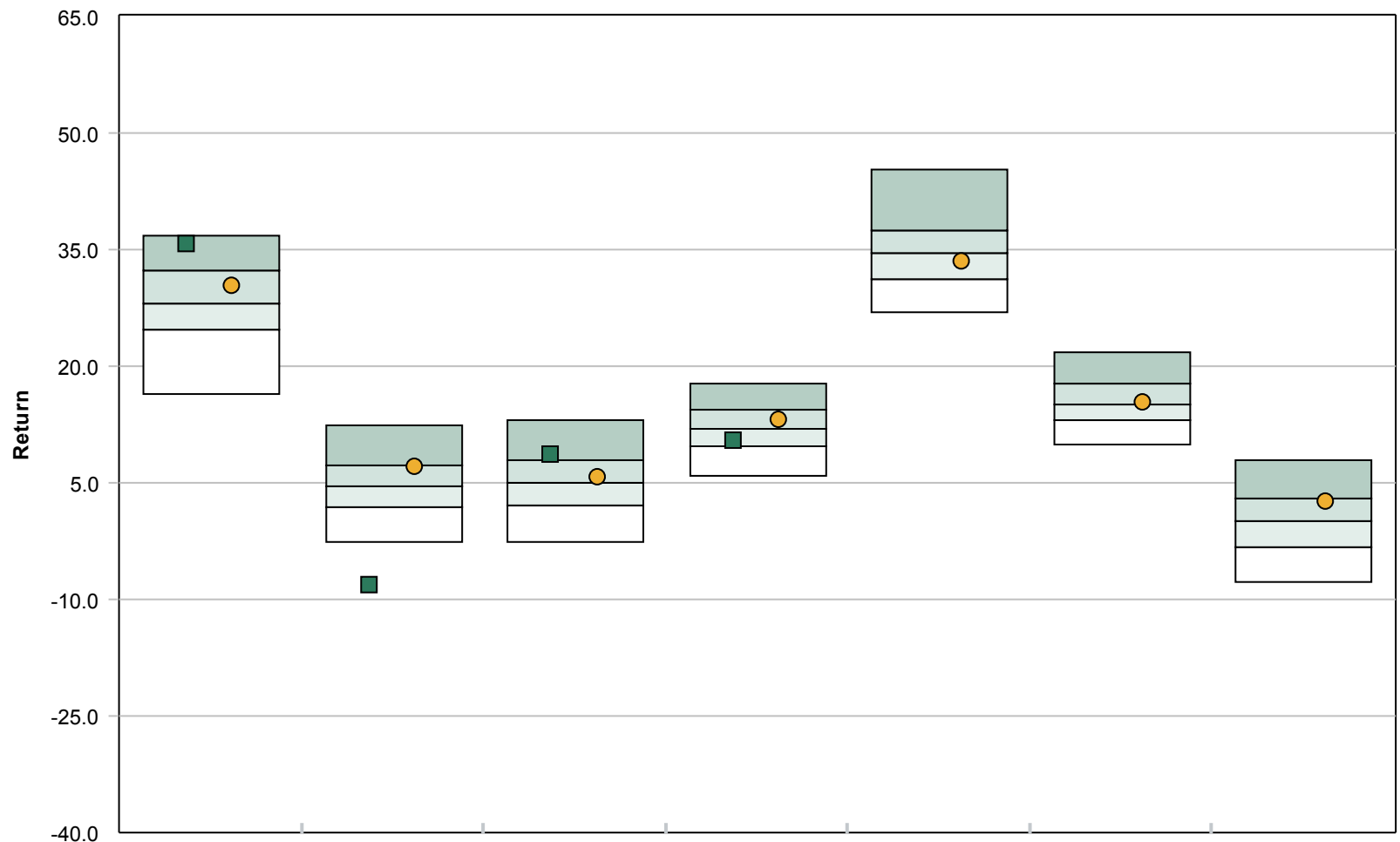
As of December 31, 2018



	1 Qtr	YTD	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Columbia	-19.67 (95)	-4.30 (80)	-4.30 (80)	13.90 (35)	6.01 (96)	7.41 (88)	N/A	N/A
● Russell 1000 Growth Index	-15.89 (62)	-1.51 (54)	-1.51 (54)	13.24 (41)	11.15 (29)	10.40 (31)	14.14 (43)	15.29 (36)
5th Percentile	-9.23	6.95	6.95	18.79	13.54	13.34	17.11	17.30
1st Quartile	-13.12	1.85	1.85	15.14	11.47	10.66	14.82	15.74
Median	-15.14	-1.17	-1.17	12.74	10.19	9.66	13.77	14.90
3rd Quartile	-16.66	-3.79	-3.79	10.23	8.65	8.36	12.79	13.60
95th Percentile	-19.68	-8.65	-8.65	5.26	6.01	5.01	9.58	11.24

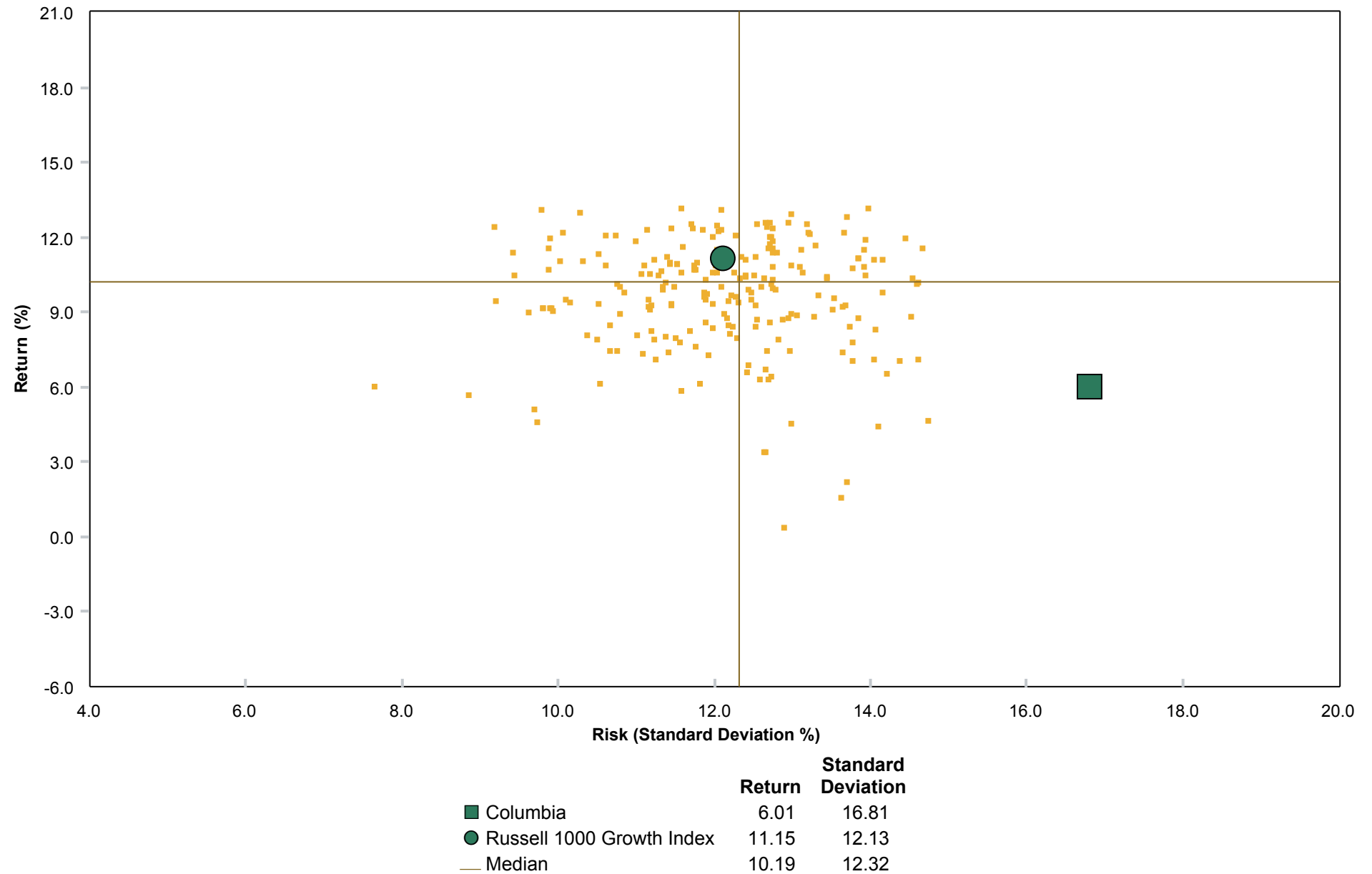
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

As of December 31, 2018

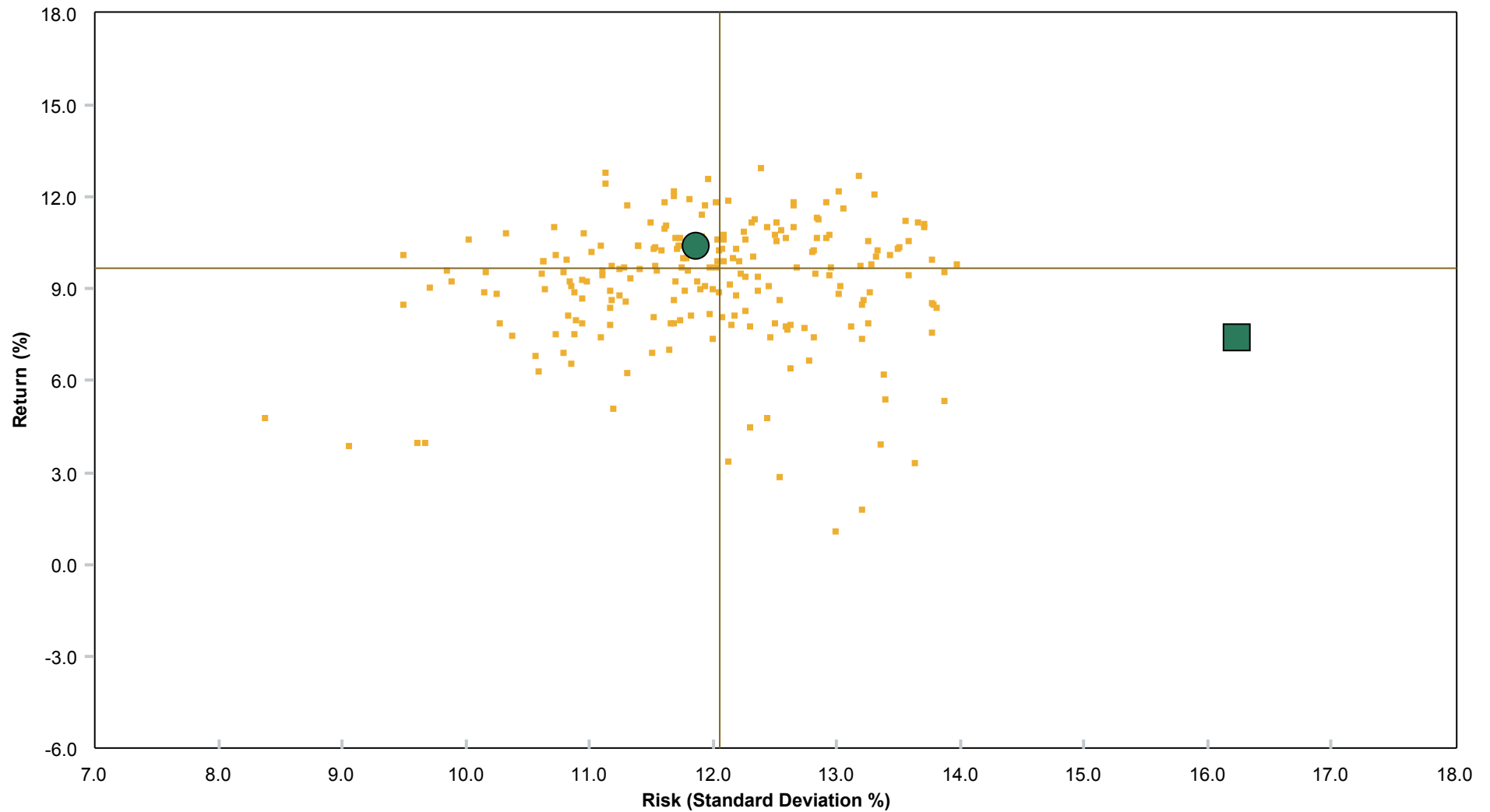


■ Columbia	2017	35.56 (9)	2016	-8.17 (100)	2015	8.65 (20)	2014	10.45 (66)	2013	N/A	2012	N/A	2011	N/A
● Russell 1000 Growth Index		30.21 (38)		7.08 (26)		5.67 (46)		13.05 (39)		33.48 (59)		15.26 (50)		2.64 (27)
5th Percentile		36.76		12.44		13.06		17.67		45.22		21.81		7.95
1st Quartile		32.31		7.23		8.02		14.38		37.46		17.67		2.93
Median		28.11		4.65		5.07		11.99		34.52		15.18		0.18
3rd Quartile		24.65		1.78		2.01		9.64		31.28		13.13		-3.21
95th Percentile		16.48		-2.63		-2.62		5.89		26.93		9.82		-7.84

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



Calculation based on monthly periodicity.



	Return	Standard Deviation
■ Columbia	7.41	16.24
● Russell 1000 Growth Index	10.40	11.86
— Median	9.66	12.05

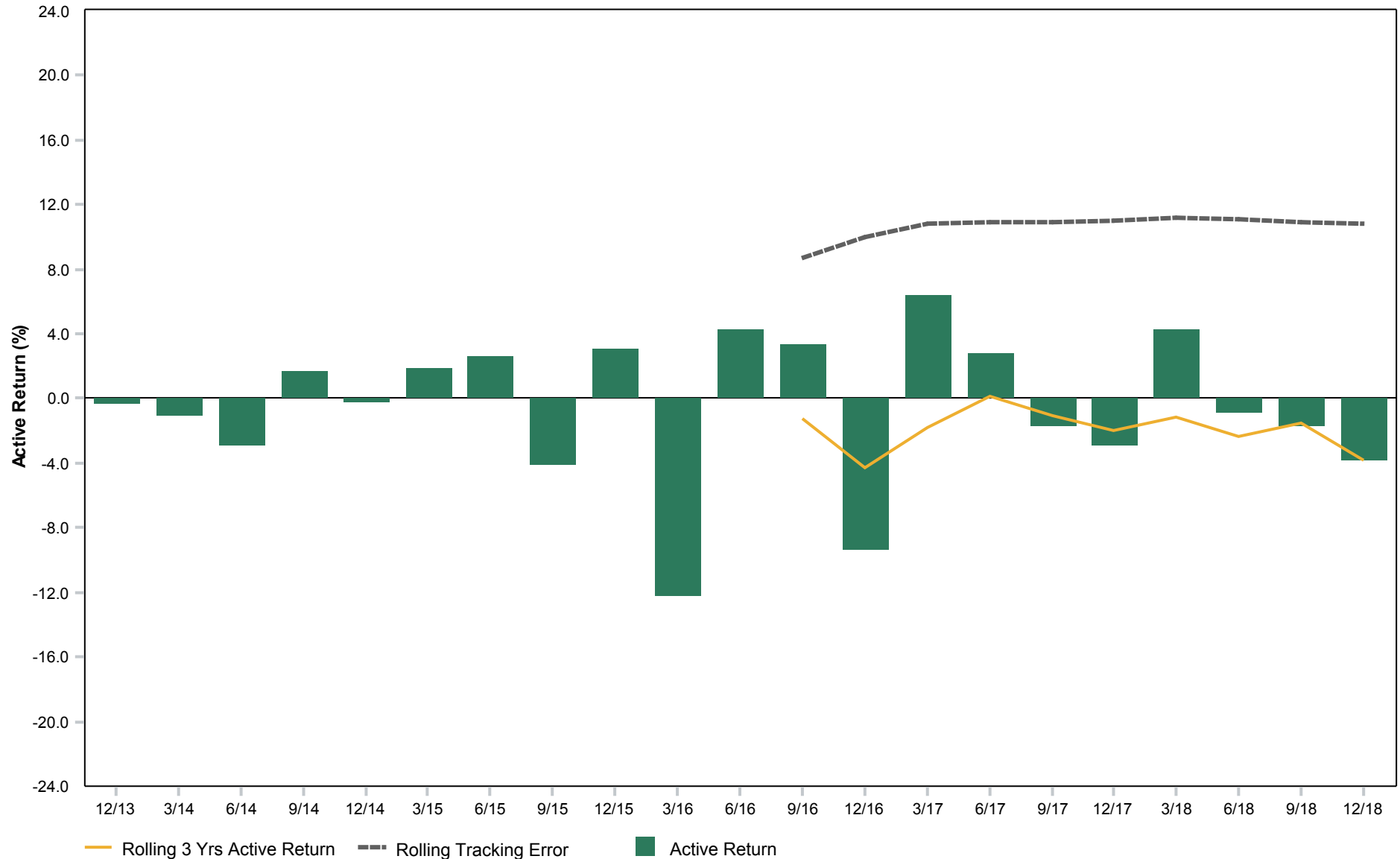
Calculation based on monthly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Columbia	-19.67	-4.30	-4.30	6.01	7.41	N/A	N/A	35.56	-8.17	8.65	10.45
Russell 1000 Growth Index	-15.89	-1.51	-1.51	11.15	10.40	14.14	15.29	30.21	7.08	5.67	13.05
Difference	-3.78	-2.79	-2.79	-5.14	-2.99	N/A	N/A	5.35	-15.25	2.98	-2.60



1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio -19.05
 Portfolio Trading -0.62
 Actual Return -19.67
 Benchmark Return -15.89
 Actual Active Return -3.78

Stock Selection -3.88
 Sector Selection 0.12
 Interaction 0.58
 Total Selection -3.18

Portfolio Trading -0.62
 Benchmark Trading -0.01
 Active Trading Impact -0.60

Buy & Hold Active Return -3.78

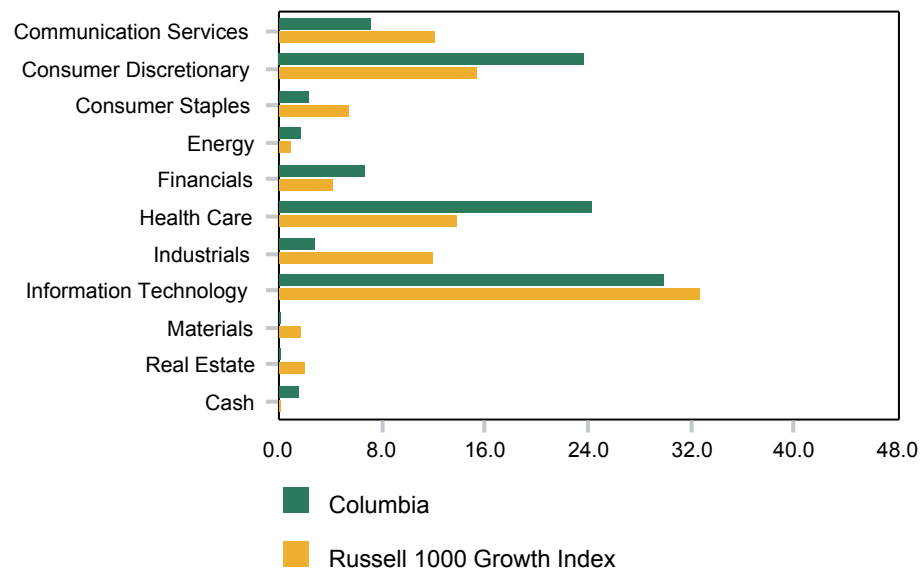
	Allocation — 10/01/2018		Performance — 1 Quarter Ending December 31, 2018		Stock	Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark		Sector	Interaction	Total
Communication Services	7.12	12.04	-31.66	-17.30	-1.73	0.07	0.71	-0.95
Consumer Discretionary	23.62	15.38	-18.72	-17.13	-0.24	-0.10	-0.13	-0.48
Consumer Staples	2.33	5.45	-13.06	-6.81	-0.34	-0.28	0.20	-0.43
Energy	1.75	0.90	-24.50	-28.84	0.04	-0.11	0.04	-0.03
Financials	6.71	4.18	-13.84	-11.96	-0.08	0.10	-0.05	-0.03
Health Care	24.23	13.79	-18.90	-12.06	-0.94	0.40	-0.71	-1.26
Industrials	2.74	12.00	-22.48	-16.56	-0.71	0.06	0.55	-0.10
Information Technology	29.94	32.63	-18.44	-18.83	0.13	0.08	-0.01	0.20
Materials	0.00	1.65	0.00	-11.84	0.00	-0.07	0.00	-0.07
Real Estate	0.00	1.99	0.00	-1.84	0.00	-0.28	0.00	-0.28
Cash	1.56	0.00	0.00	0.00	0.00	0.25	0.00	0.25
Total	100.00	100.00	-19.05	-15.87	-3.88	0.12	0.58	-3.18

Bristol County Retirement System

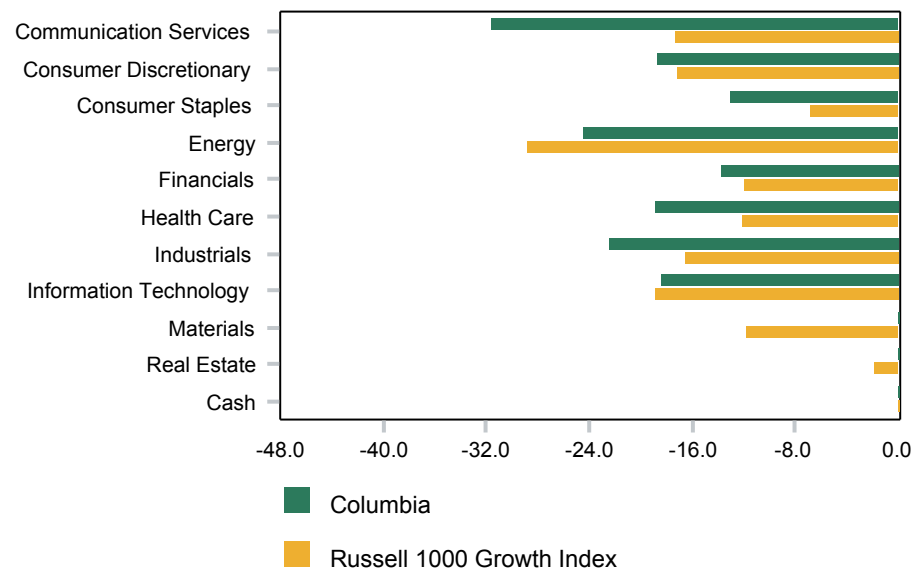
Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2018

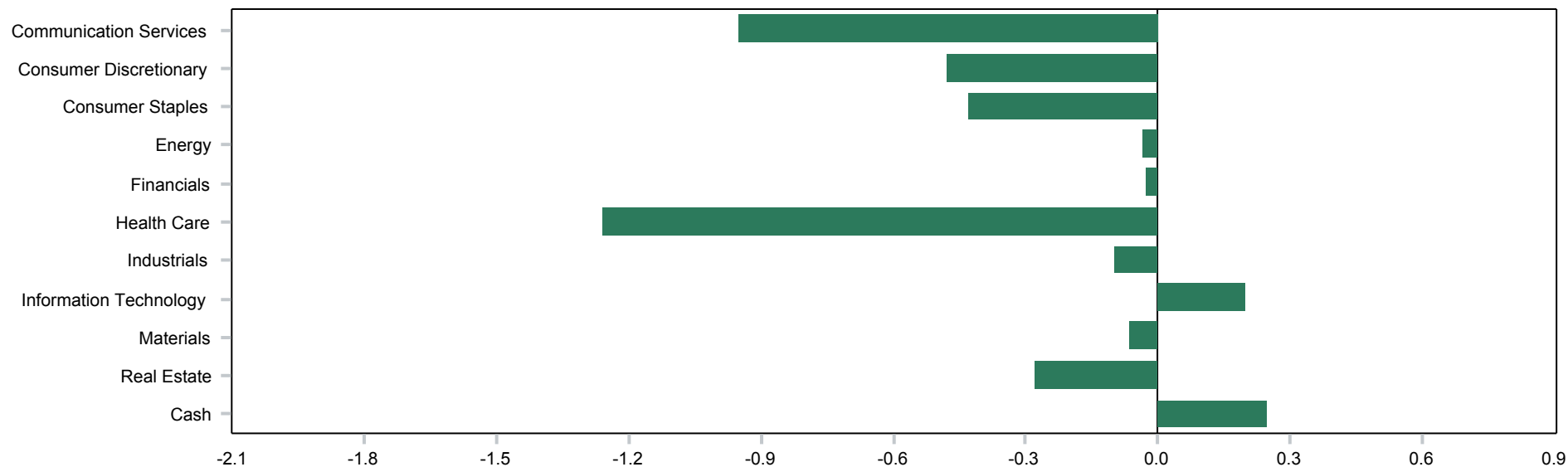
Allocation



Performance



Total Attribution



Bristol County Retirement System

Buy and Hold Style Attribution

1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio -19.05
 Portfolio Trading -0.62
 Actual Return -19.67
 Benchmark Return -15.89
 Actual Active Return -3.78

Stock Selection -3.55
 Style Selection -0.01
 Interaction 0.38
 Total Selection -3.18

Portfolio Trading -0.62
 Benchmark Trading -0.01
 Active Trading Impact -0.60

Buy & Hold Active Return -3.78

Performance-1 Quarter Ending December 31, 2018

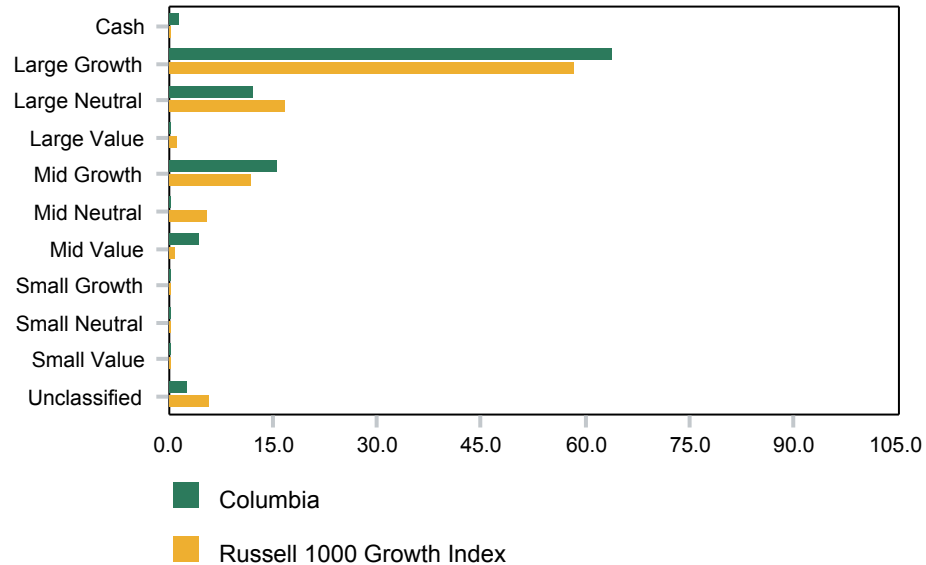
	Allocation-10/01/2018		Performance-1 Quarter Ending December 31, 2018		Attribution			
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	Total
Cash	1.56	0.00	0.00	0.00	0.00	0.25	0.00	0.25
Large Growth	63.97	58.33	-19.44	-17.41	-1.19	-0.09	-0.11	-1.39
Large Neutral	12.00	16.57	-18.14	-13.04	-0.85	-0.13	0.23	-0.74
Large Value	0.00	1.14	0.00	-15.56	0.00	0.00	0.00	0.00
Mid Growth	15.63	11.70	-19.17	-14.08	-0.60	0.07	-0.20	-0.73
Mid Neutral	0.00	5.47	0.00	-18.28	0.00	0.13	0.00	0.13
Mid Value	4.25	0.86	-18.49	-17.37	-0.01	-0.05	-0.04	-0.10
Small Growth	0.00	0.14	0.00	-22.78	0.00	0.01	0.00	0.01
Small Neutral	0.00	0.05	0.00	-18.75	0.00	0.00	0.00	0.00
Small Value	0.00	0.01	0.00	17.30	0.00	0.00	0.00	0.00
Unclassified	2.59	5.73	-25.49	-9.53	-0.91	-0.20	0.50	-0.61
Total	100.00	100.00	-19.05	-15.87	-3.55	-0.01	0.38	-3.18

Bristol County Retirement System

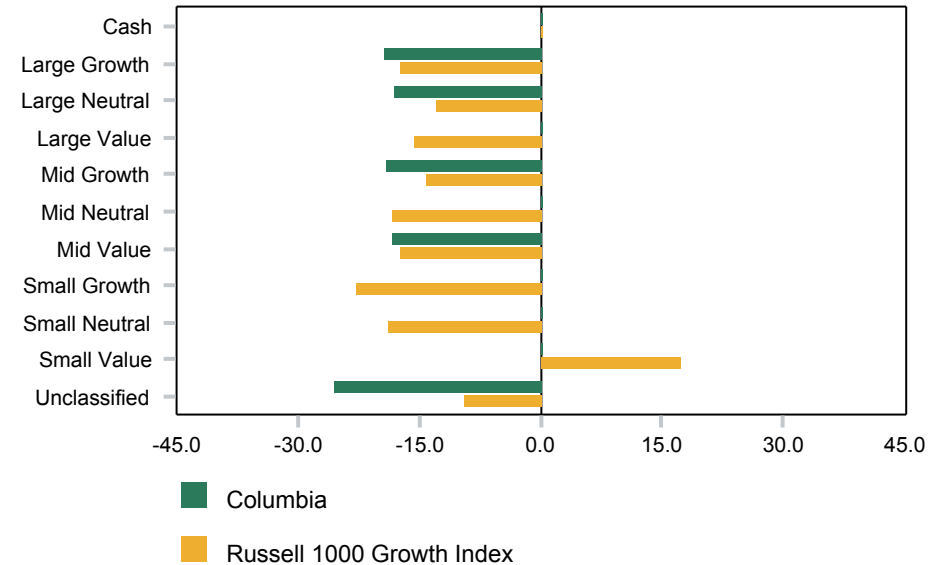
Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2018

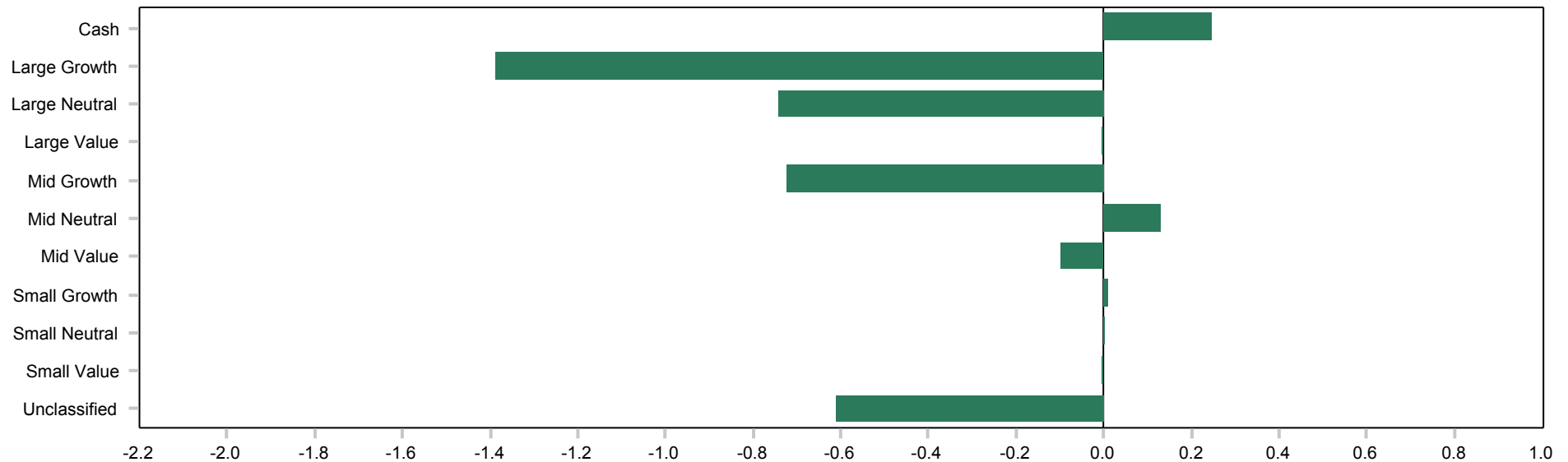
Allocation



Performance



Total Attribution



As of December 31, 2018

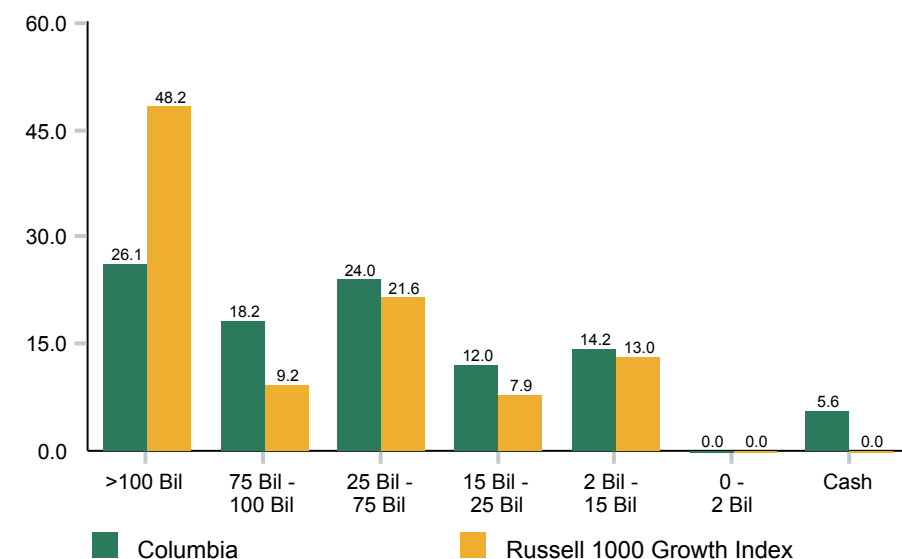
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Amazon.com Inc	4.29	5.28	-0.99	-25.01
salesforce.com Inc	4.15	0.85	3.30	-13.87
PayPal Holdings Inc	4.11	0.86	3.25	-4.27
Alibaba Group Holding Ltd	4.03	0.00	4.03	-16.81
ServiceNow Inc	3.95	0.27	3.68	-8.99
Visa Inc	3.75	2.01	1.74	-11.94
Illumina Inc	3.70	0.38	3.32	-18.29
Facebook Inc	3.61	2.70	0.91	-20.29
Vertex Pharmaceuticals Inc	3.56	0.37	3.19	-14.02
Splunk Inc	3.43	0.13	3.30	-13.28
% of Portfolio	38.58	12.85	25.73	

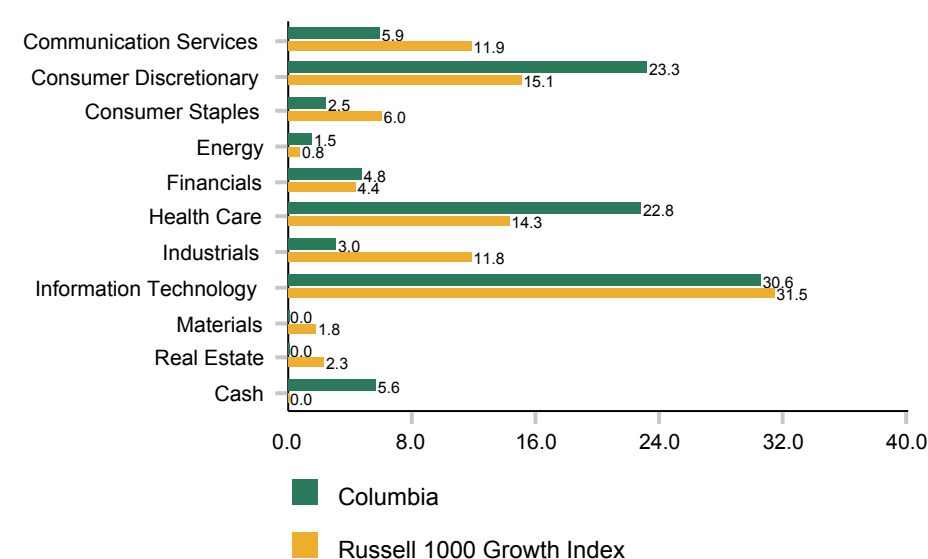
Portfolio Characteristics

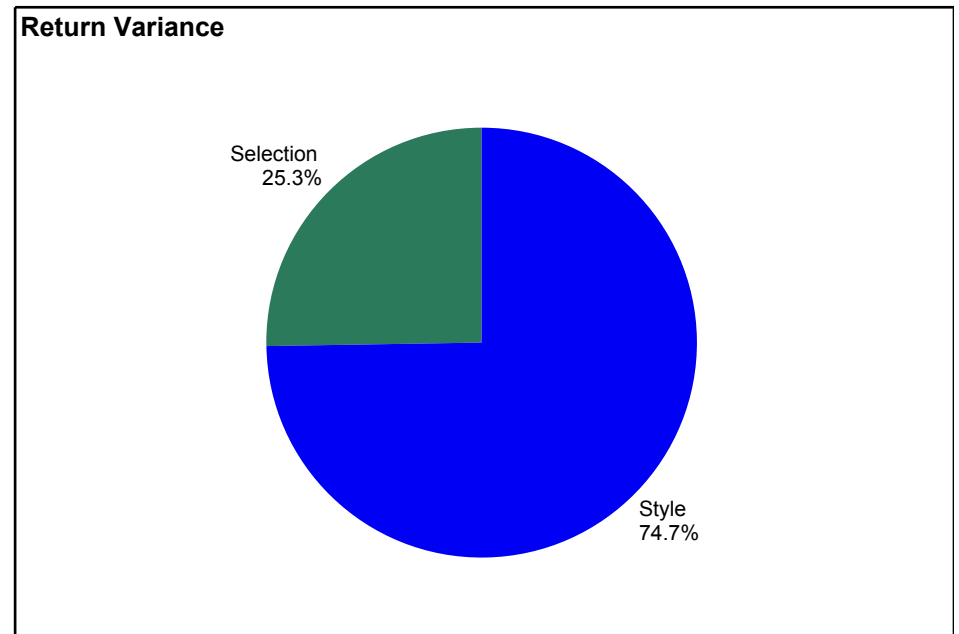
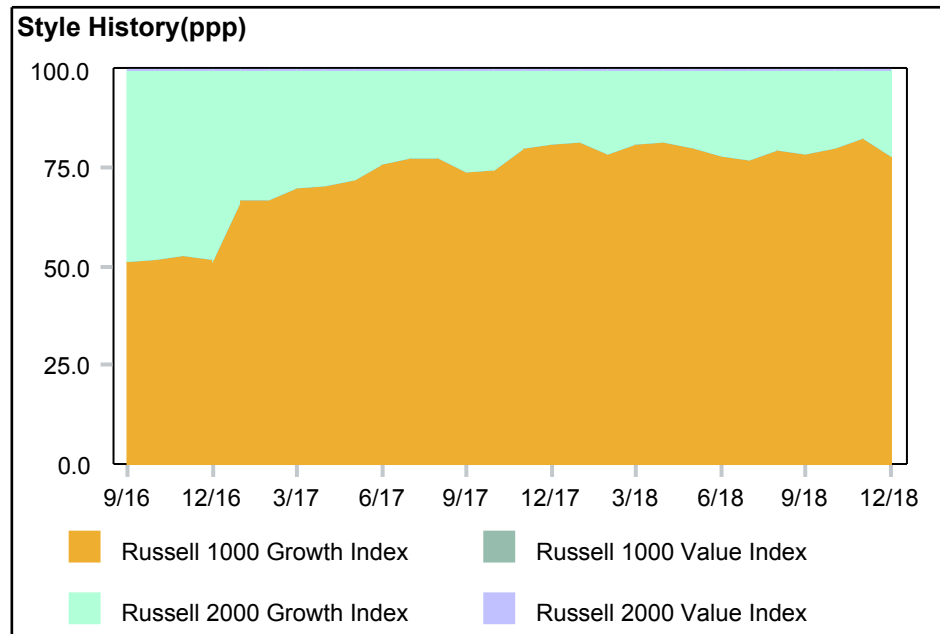
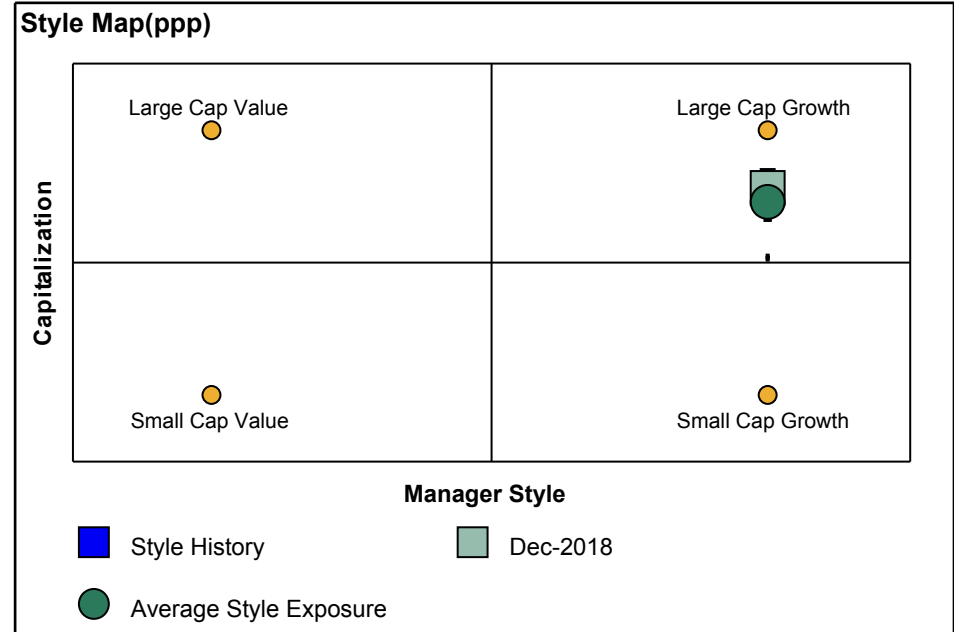
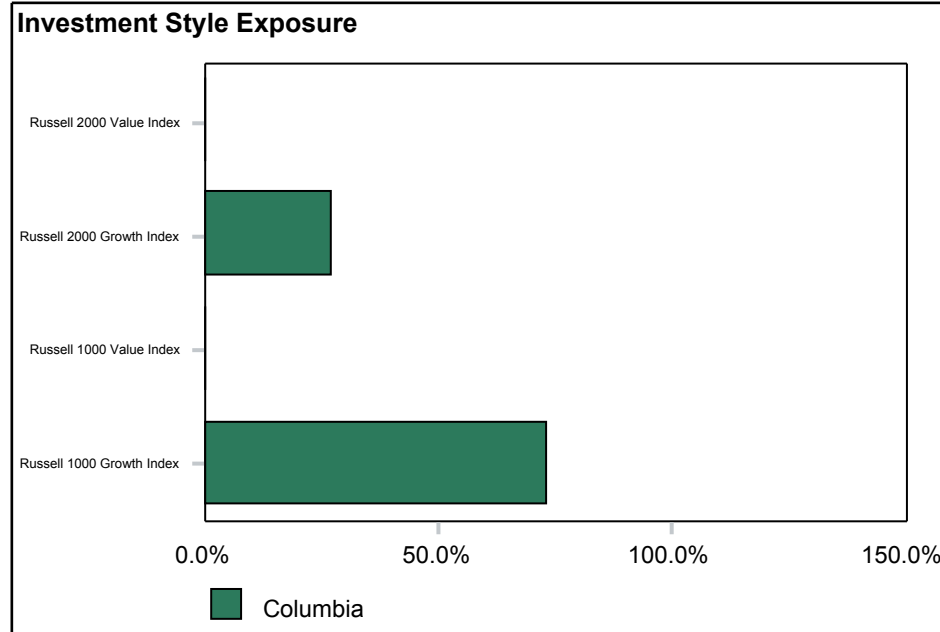
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	110,434,014,937	241,404,618,083
Median Mkt. Cap (\$)	38,941,900,625	10,324,998,700
Price/Earnings ratio	33.03	22.71
Price/Book ratio	6.18	6.12
5 Yr. EPS Growth Rate (%)	29.59	23.58
Current Yield (%)	0.48	1.45
Beta (5 Years, Monthly)	1.22	1.00
Number of Stocks	35	546

Distribution of Market Capitalization (%)

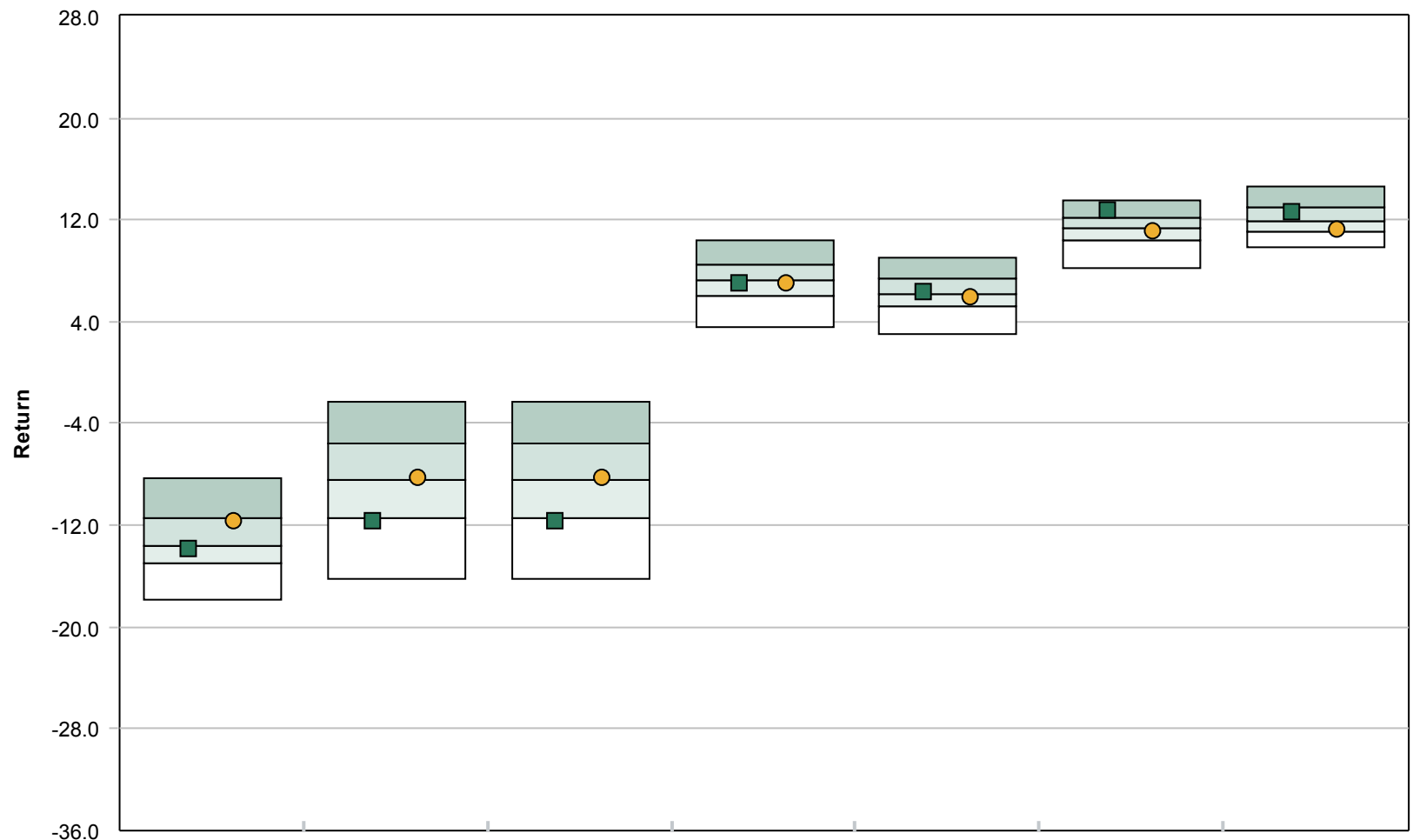


Sector Weights (%)





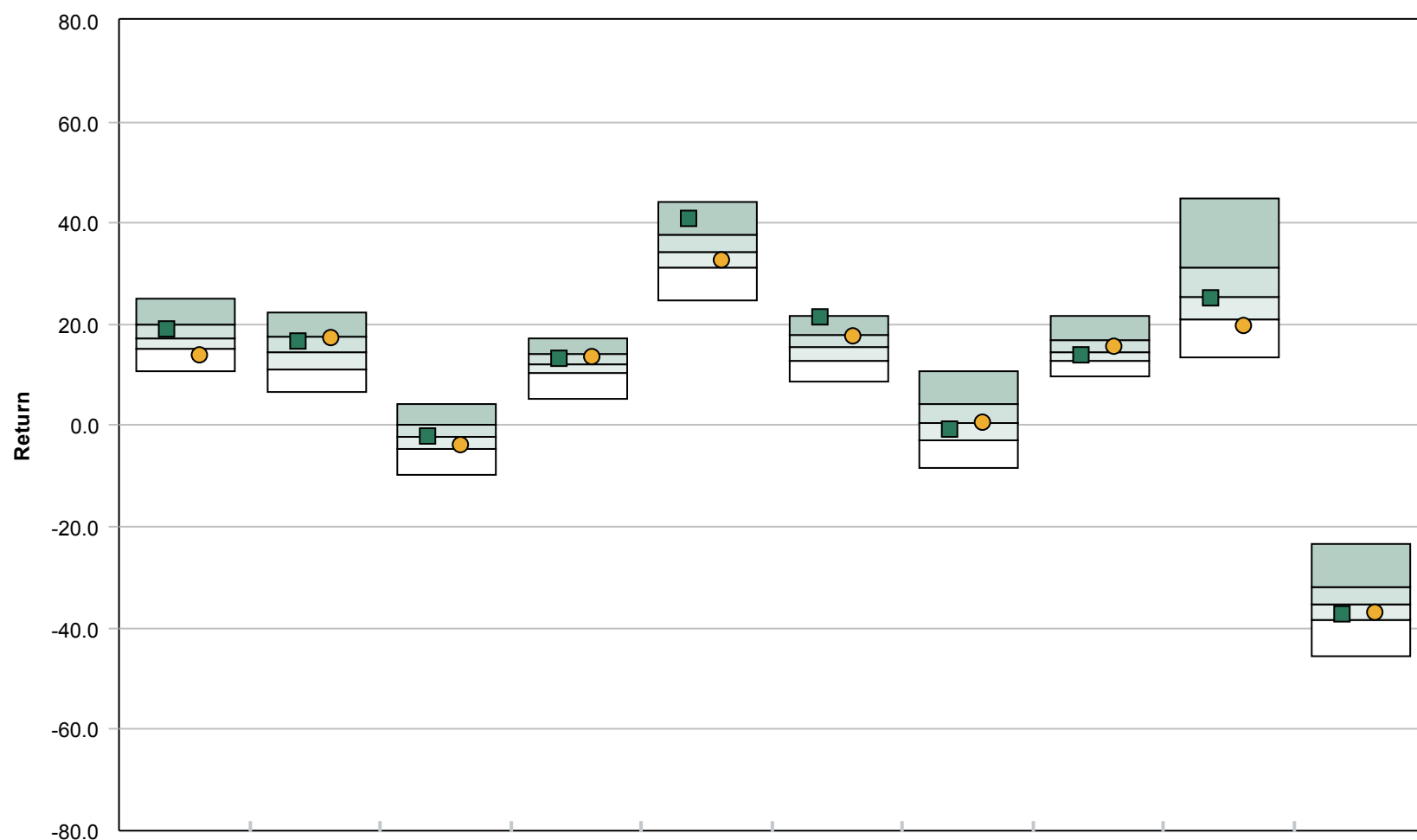
As of December 31, 2018



■ LSV	-13.86 (56)	-11.72 (77)	-11.72 (77)	6.99 (56)	6.30 (48)	12.76 (12)	12.57 (34)
● Russell 1000 Value Index	-11.72 (29)	-8.27 (49)	-8.27 (49)	6.95 (56)	5.95 (61)	11.02 (61)	11.18 (75)
5th Percentile	-8.31	-2.24	-2.24	10.43	9.04	13.48	14.63
1st Quartile	-11.47	-5.61	-5.61	8.54	7.41	12.22	12.97
Median	-13.57	-8.39	-8.39	7.27	6.23	11.40	11.94
3rd Quartile	-14.95	-11.48	-11.48	6.07	5.27	10.38	11.11
95th Percentile	-17.80	-16.22	-16.22	3.62	3.05	8.22	9.82

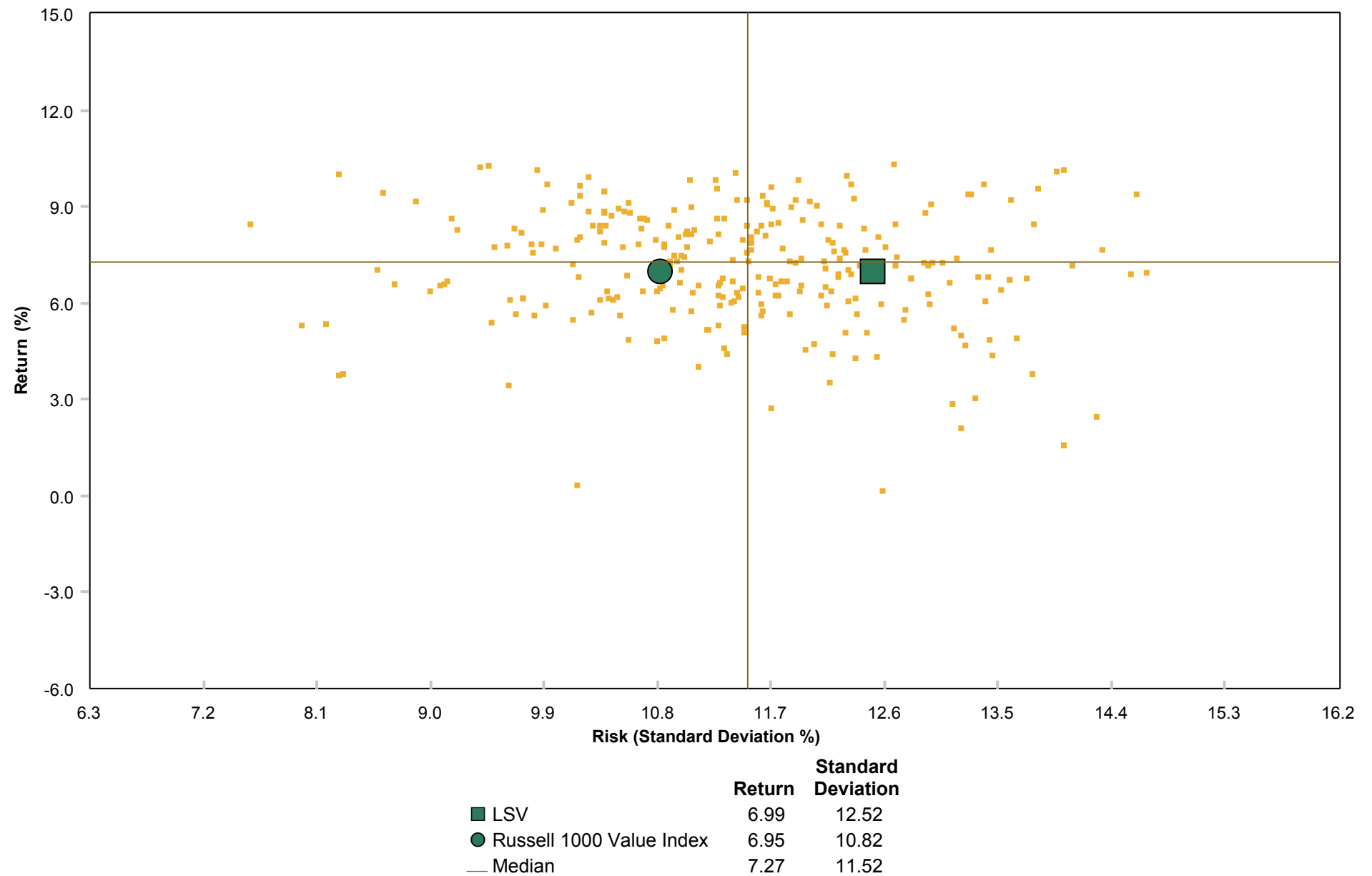
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

As of December 31, 2018

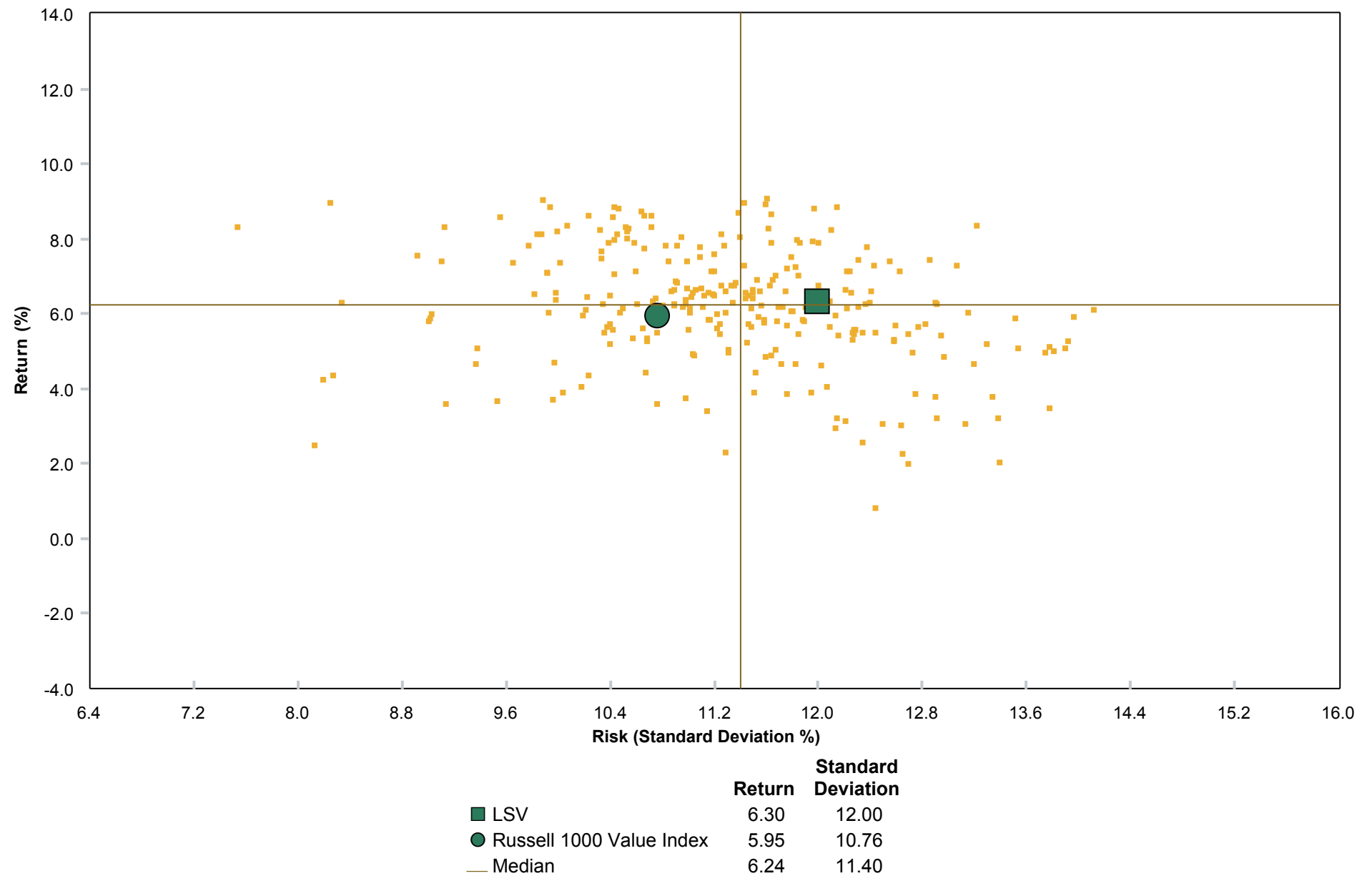


■ LSV	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
● Russell 1000 Value Index	18.89 (34)	16.66 (29)	-2.14 (49)	13.25 (38)	40.94 (12)	21.22 (7)	-0.94 (63)	13.94 (59)	24.91 (53)	-37.37 (69)
	13.66 (89)	17.34 (26)	-3.83 (69)	13.45 (35)	32.53 (62)	17.51 (29)	0.39 (52)	15.51 (41)	19.69 (80)	-36.85 (64)
5th Percentile	24.95	22.51	4.28	17.08	44.04	21.67	10.90	21.58	44.98	-23.42
1st Quartile	19.97	17.42	0.09	14.07	37.77	18.00	4.15	16.90	31.08	-31.97
Median	17.22	14.47	-2.27	12.22	34.27	15.63	0.61	14.64	25.26	-35.35
3rd Quartile	15.15	11.18	-4.76	10.32	31.13	12.92	-2.99	12.83	20.99	-38.41
95th Percentile	10.82	6.59	-9.89	5.18	24.83	8.83	-8.26	9.58	13.33	-45.51

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



Calculation based on monthly periodicity.



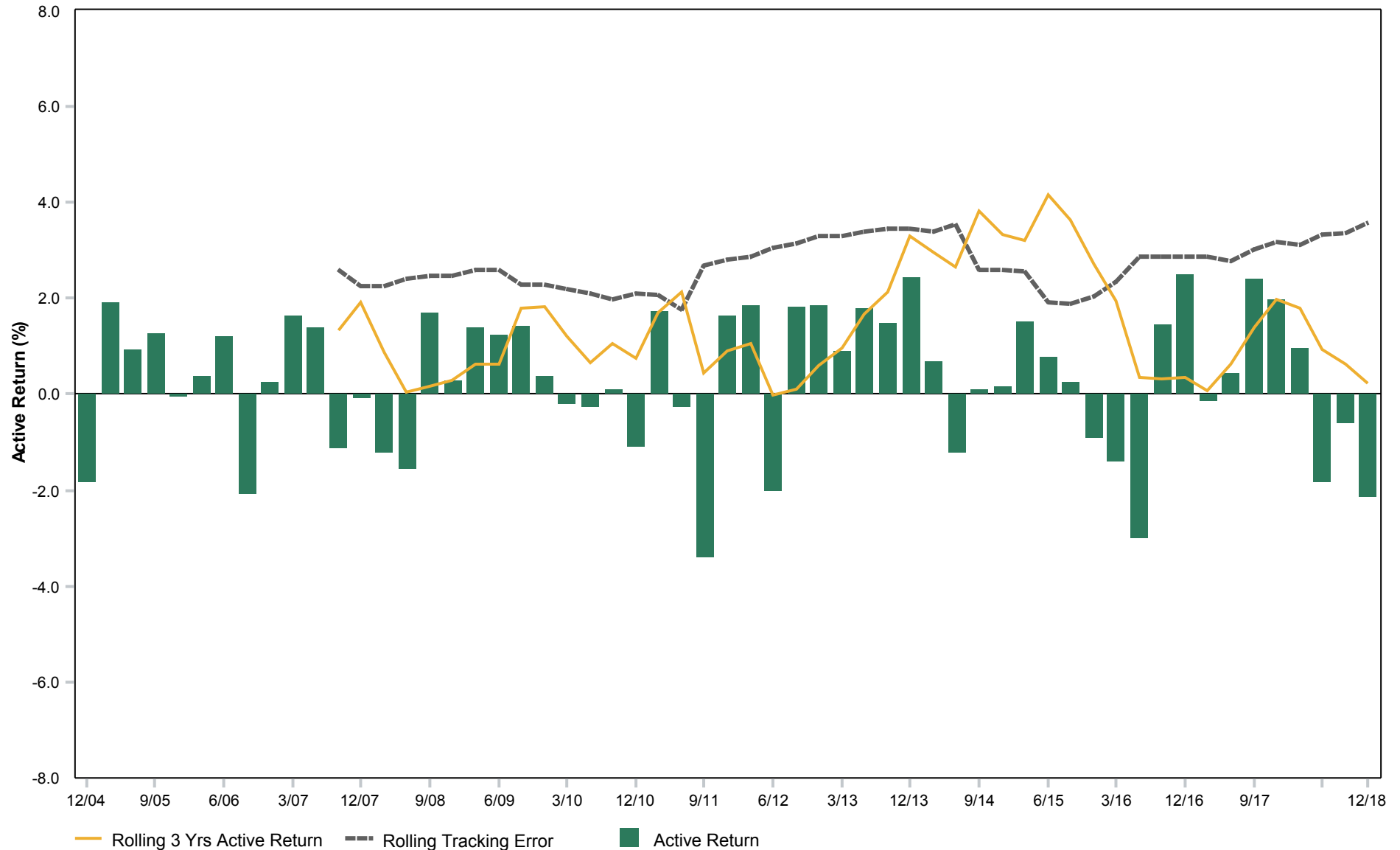
Calculation based on monthly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
LSV	-13.86	-11.72	-11.72	6.99	6.30	12.76	12.57	18.89	16.66	-2.14	13.25
Russell 1000 Value Index	-11.72	-8.27	-8.27	6.95	5.95	11.02	11.18	13.66	17.34	-3.83	13.45
Difference	-2.14	-3.45	-3.45	0.04	0.35	1.74	1.39	5.23	-0.68	1.69	-0.20



1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio -13.66
 Portfolio Trading -0.20
 Actual Return -13.86
 Benchmark Return -11.72
 Actual Active Return -2.14

Stock Selection -1.38
 Sector Selection -0.23
 Interaction -0.44
 Total Selection -2.04

Portfolio Trading -0.20
 Benchmark Trading -0.11
 Active Trading Impact -0.09

Buy & Hold Active Return -2.14

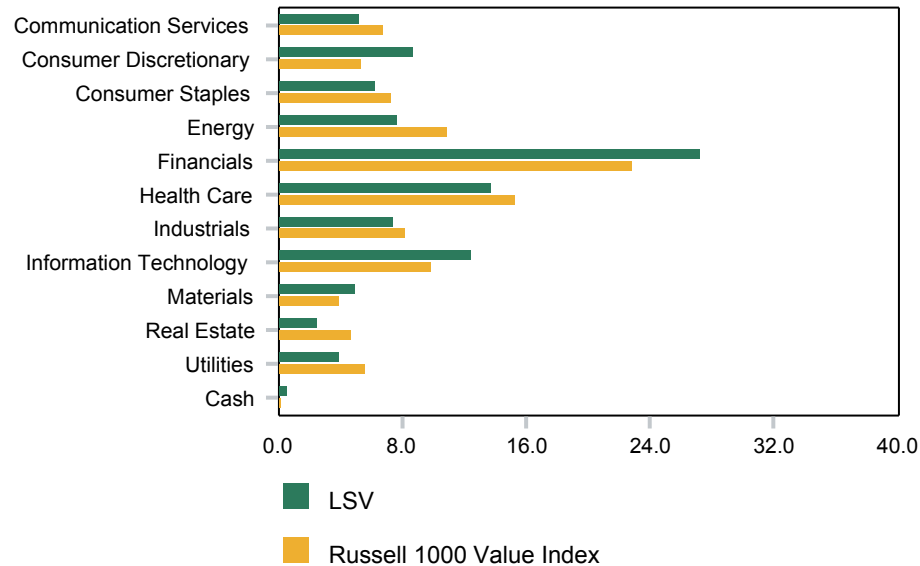
	Allocation — 10/01/2018		Performance — 1 Quarter Ending December 31, 2018		Stock	Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark		Sector	Interaction	Total
Communication Services	5.16	6.75	-5.72	-5.66	0.00	-0.09	0.00	-0.10
Consumer Discretionary	8.66	5.25	-14.48	-12.80	-0.09	-0.04	-0.06	-0.19
Consumer Staples	6.20	7.19	-6.87	-4.00	-0.21	-0.08	0.03	-0.25
Energy	7.66	10.78	-22.31	-23.96	0.18	0.39	-0.05	0.51
Financials	27.16	22.85	-18.32	-13.46	-1.11	-0.08	-0.21	-1.40
Health Care	13.67	15.22	-4.33	-6.96	0.40	-0.07	-0.04	0.29
Industrials	7.35	8.08	-20.59	-19.19	-0.11	0.06	0.01	-0.05
Information Technology	12.34	9.77	-13.02	-12.37	-0.06	-0.02	-0.02	-0.10
Materials	4.90	3.89	-24.88	-14.16	-0.42	-0.03	-0.11	-0.55
Real Estate	2.47	4.64	-9.37	-6.53	-0.13	-0.11	0.06	-0.18
Utilities	3.87	5.57	4.29	1.08	0.18	-0.21	-0.05	-0.09
Cash	0.55	0.00	0.00	0.00	0.00	0.06	0.00	0.06
Total	100.00	100.00	-13.66	-11.61	-1.38	-0.23	-0.44	-2.04

Bristol County Retirement System

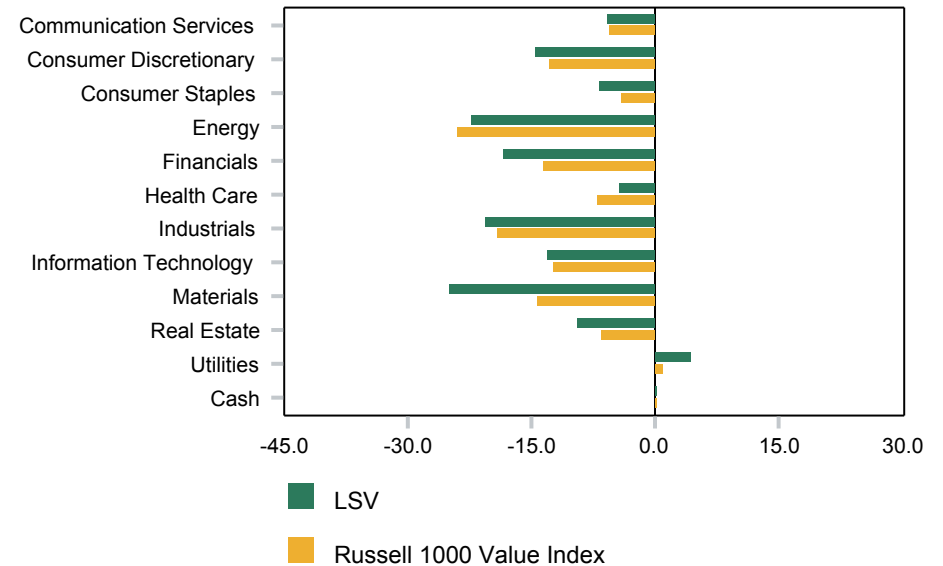
Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2018

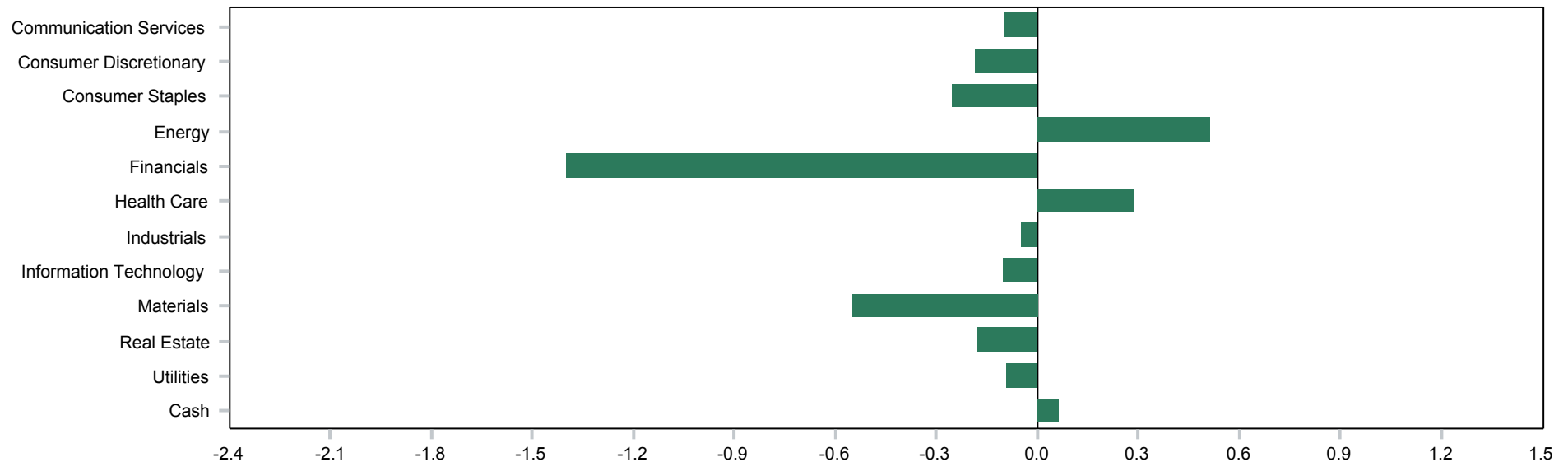
Allocation



Performance



Total Attribution



Bristol County Retirement System

Buy and Hold Style Attribution

1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio -13.66
 Portfolio Trading -0.20
 Actual Return -13.86
 Benchmark Return -11.72
 Actual Active Return -2.14

Stock Selection -1.39
 Style Selection -0.60
 Interaction -0.05
 Total Selection -2.04

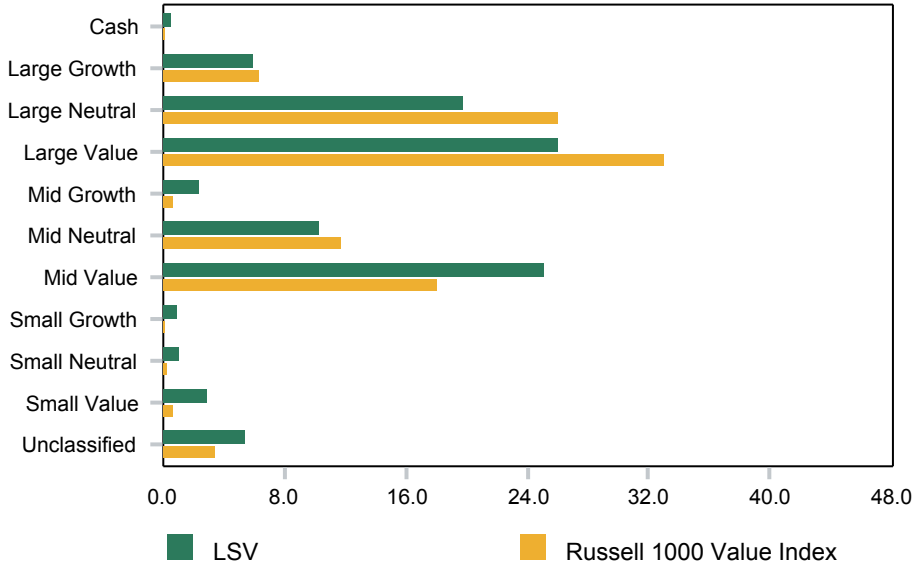
Portfolio Trading -0.20
 Benchmark Trading -0.11
 Active Trading Impact -0.09

Buy & Hold Active Return -2.14

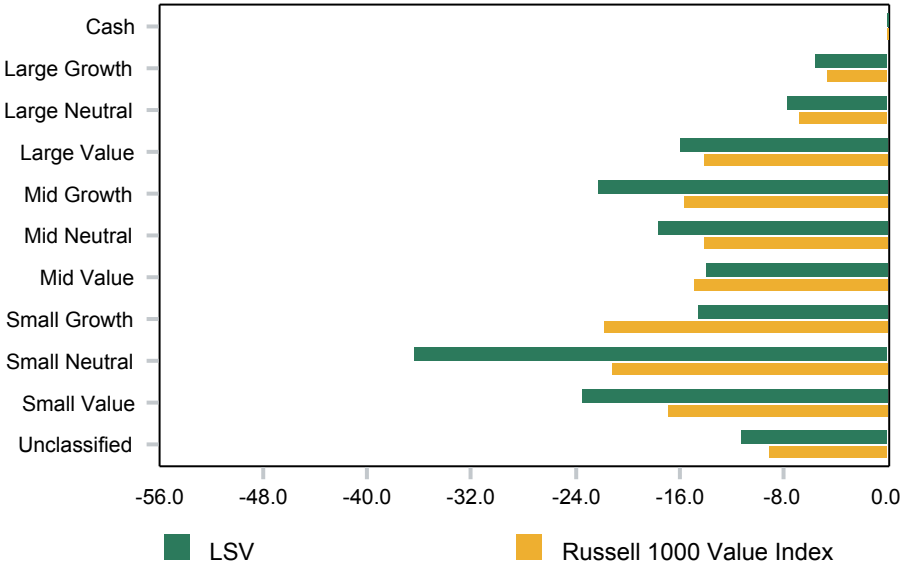
Performance-1 Quarter Ending December 31, 2018

	Allocation-10/01/2018		Performance-1 Quarter Ending December 31, 2018		Attribution			
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	Total
Cash	0.55	0.00	0.00	0.00	0.00	0.06	0.00	0.06
Large Growth	5.90	6.28	-5.50	-4.60	-0.06	-0.03	0.00	-0.08
Large Neutral	19.67	26.00	-7.74	-6.69	-0.27	-0.31	0.07	-0.52
Large Value	26.04	32.97	-16.01	-14.13	-0.62	0.17	0.13	-0.32
Mid Growth	2.31	0.70	-22.18	-15.71	-0.05	-0.07	-0.10	-0.22
Mid Neutral	10.29	11.69	-17.72	-14.17	-0.41	0.04	0.05	-0.33
Mid Value	25.06	18.06	-14.03	-14.93	0.16	-0.23	0.06	-0.01
Small Growth	0.90	0.02	-14.62	-21.76	0.00	-0.09	0.06	-0.03
Small Neutral	1.04	0.21	-36.30	-21.14	-0.03	-0.08	-0.13	-0.24
Small Value	2.90	0.61	-23.53	-16.87	-0.04	-0.12	-0.15	-0.31
Unclassified	5.34	3.48	-11.22	-9.07	-0.07	0.05	-0.04	-0.07
Total	100.00	100.00	-13.66	-11.61	-1.39	-0.60	-0.05	-2.04

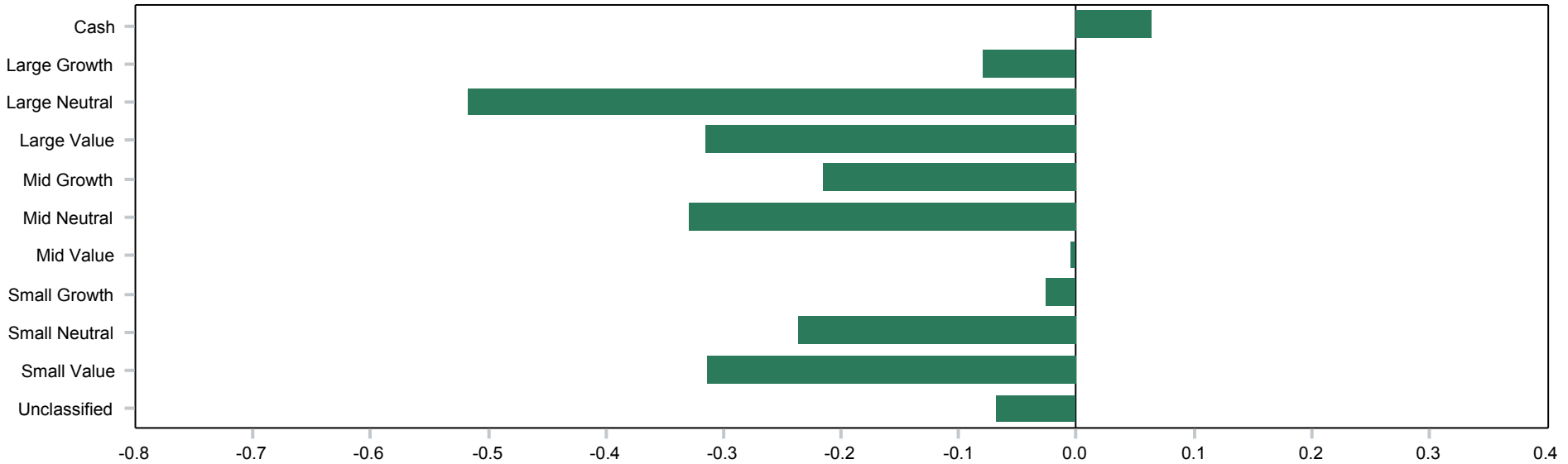
Allocation



Performance



Total Attribution



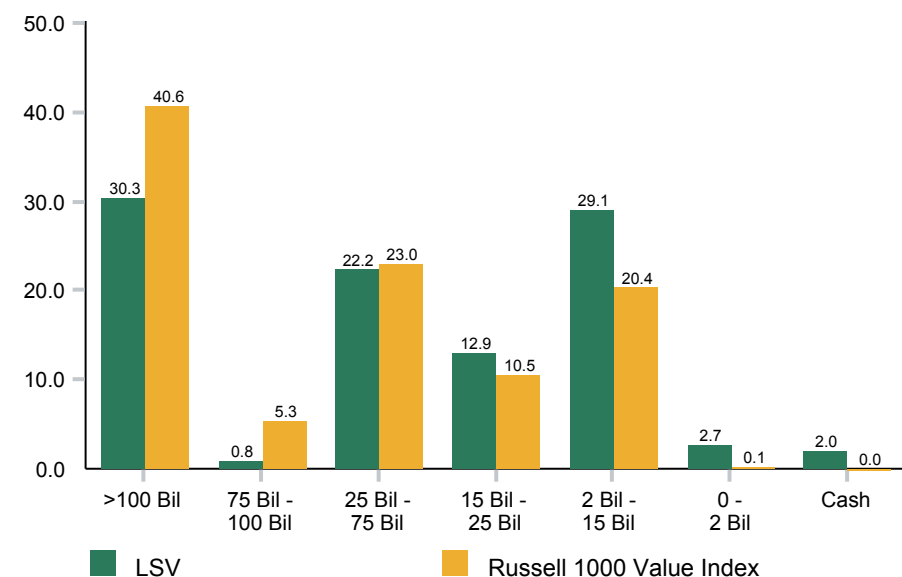
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
JPMorgan Chase & Co	3.02	2.74	0.28	-12.89
Pfizer Inc	2.97	2.15	0.82	-0.19
Intel Corp	2.57	1.82	0.75	-0.13
Cisco Systems Inc	2.54	1.67	0.87	-10.33
Verizon Communications Inc	2.43	1.97	0.46	6.46
Johnson & Johnson	2.42	2.41	0.01	-6.01
Bank of America Corp	2.00	1.91	0.09	-15.88
Amgen Inc	1.92	0.06	1.86	-5.44
Citigroup Inc	1.90	1.08	0.82	-26.94
Walgreens Boots Alliance Inc	1.63	0.47	1.16	-5.77
% of Portfolio	23.40	16.28	7.12	

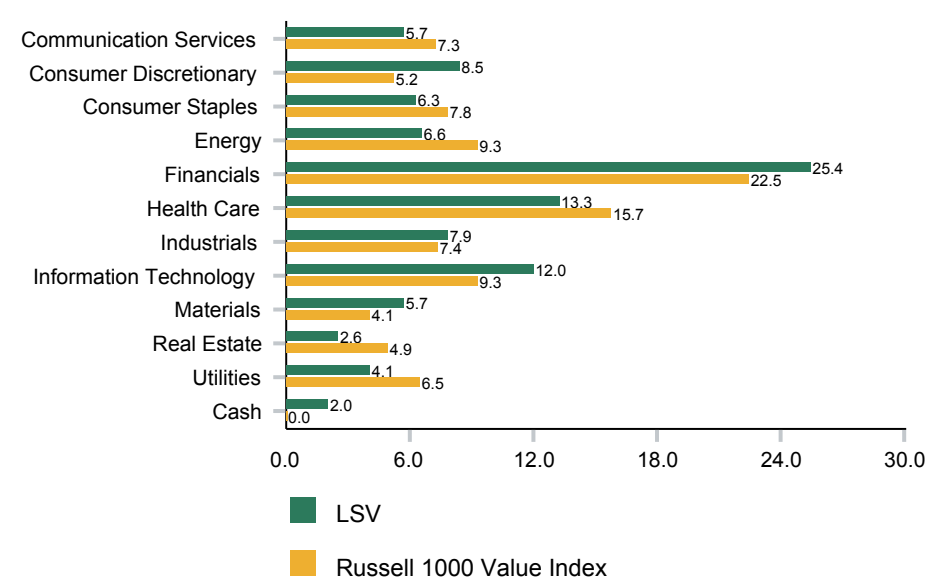
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	84,110,809,922	119,165,529,278
Median Mkt. Cap (\$)	13,911,023,760	8,313,076,200
Price/Earnings ratio	10.65	13.70
Price/Book ratio	1.98	2.06
5 Yr. EPS Growth Rate (%)	11.65	8.60
Current Yield (%)	3.37	2.89
Beta (5 Years, Monthly)	1.09	1.00
Number of Stocks	142	725

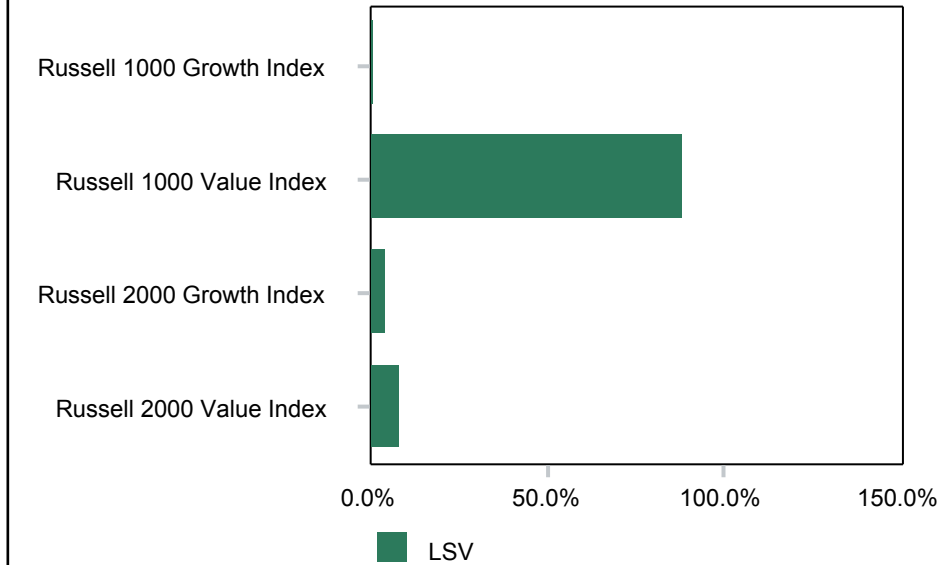
Distribution of Market Capitalization (%)



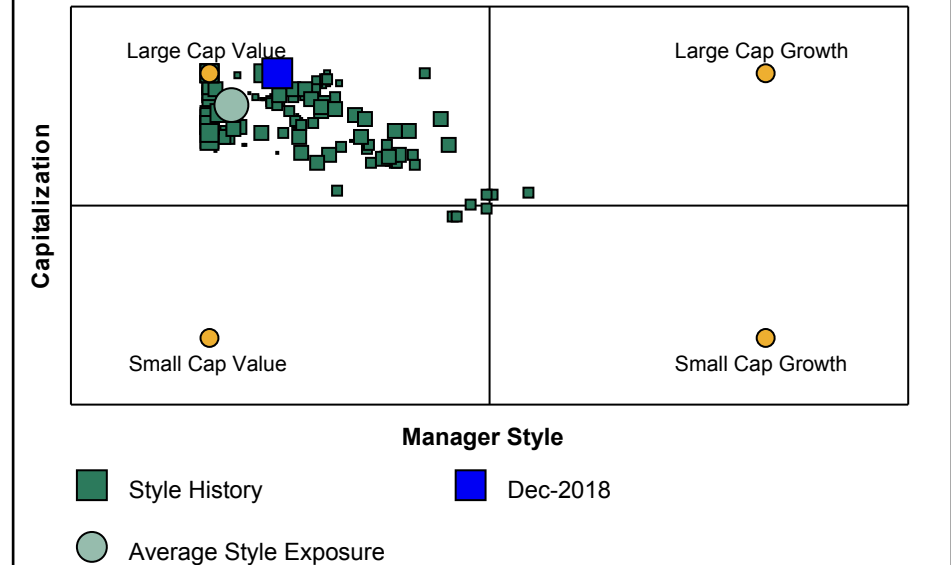
Sector Weights (%)



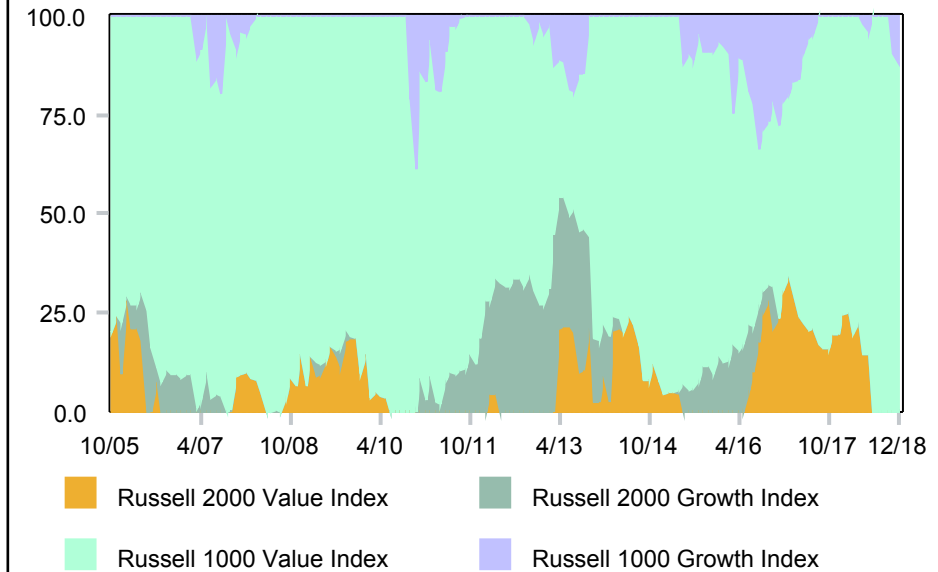
Investment Style Exposure



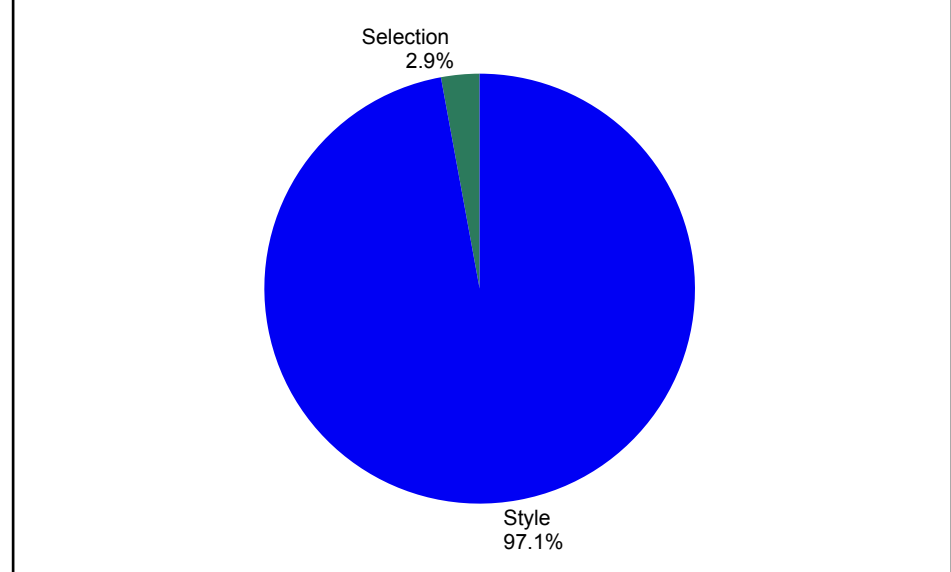
Style Map(ppp)



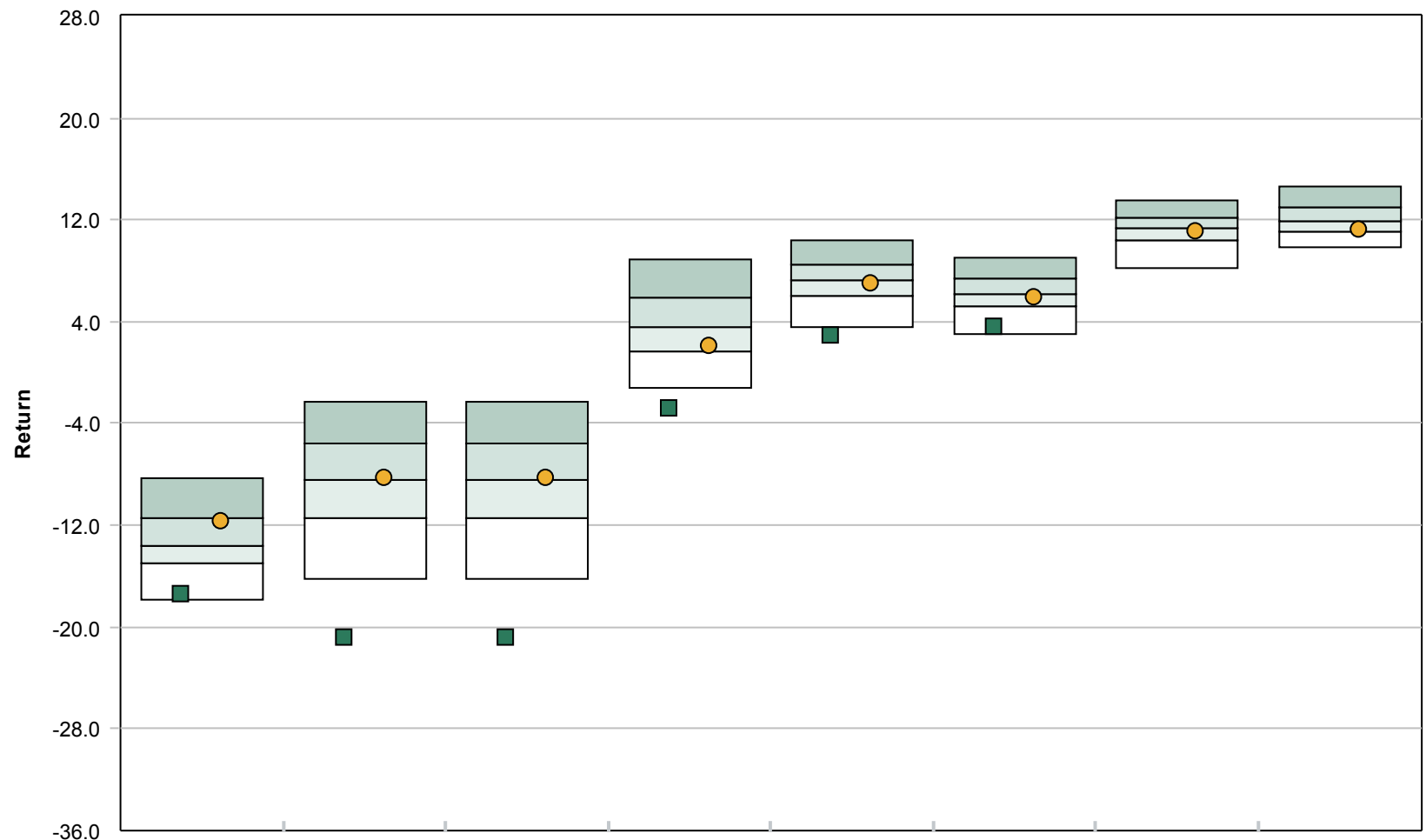
Style History(ppp)



Return Variance



As of December 31, 2018



■ Lyrical

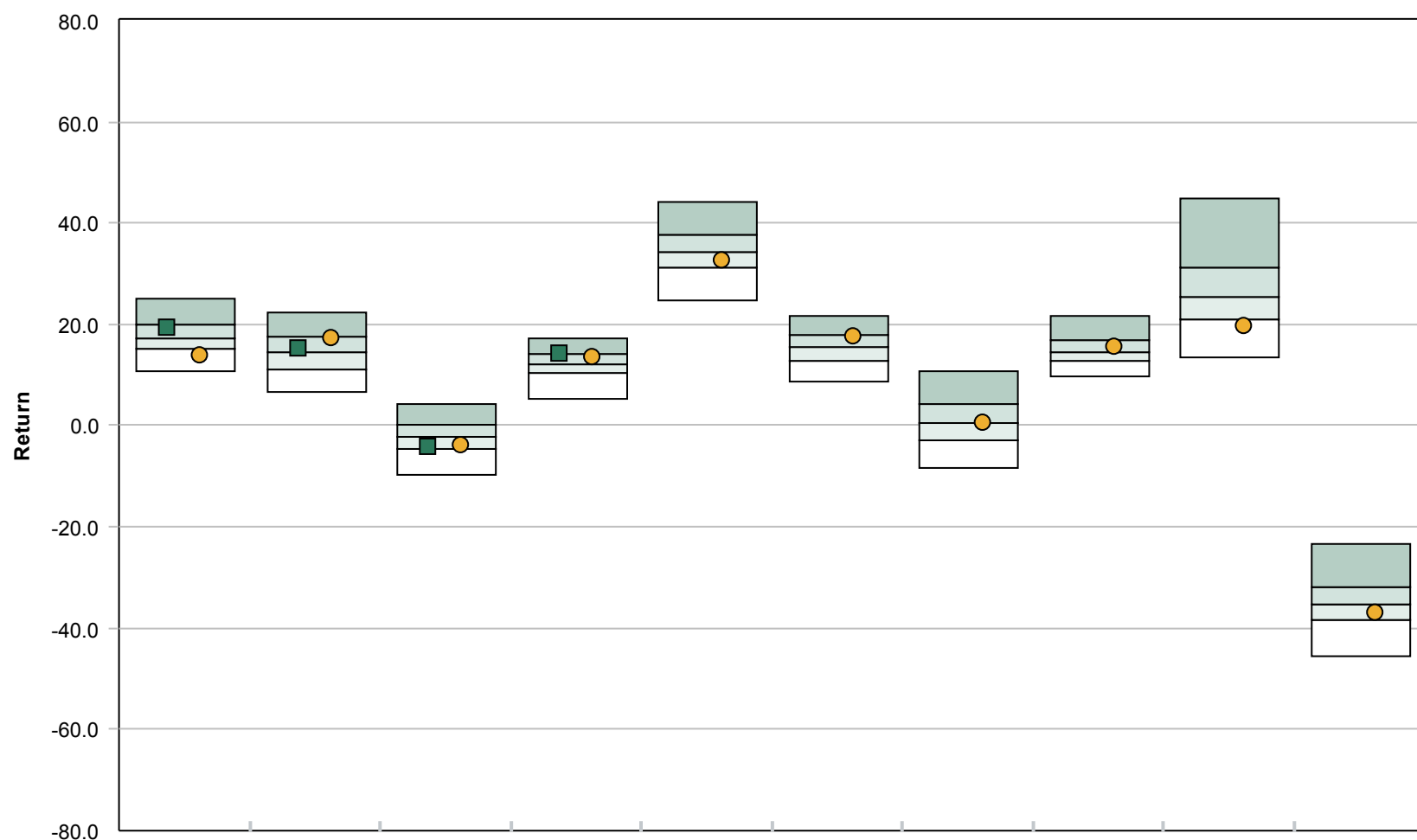
● Russell 1000 Value Index

	1 Qtr	YTD	1 Yr	2 Yrs	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Lyrical	-17.41 (94)	-20.80 (100)	-20.80 (100)	-2.79 (98)	2.91 (97)	3.58 (92)	N/A	N/A
Russell 1000 Value Index	-11.72 (29)	-8.27 (49)	-8.27 (49)	2.11 (70)	6.95 (56)	5.95 (61)	11.02 (61)	11.18 (75)

5th Percentile	-8.31	-2.24	-2.24	8.93	10.43	9.04	13.48	14.63
1st Quartile	-11.47	-5.61	-5.61	5.87	8.54	7.41	12.22	12.97
Median	-13.57	-8.39	-8.39	3.60	7.27	6.23	11.40	11.94
3rd Quartile	-14.95	-11.48	-11.48	1.64	6.07	5.27	10.38	11.11
95th Percentile	-17.80	-16.22	-16.22	-1.18	3.62	3.05	8.22	9.82

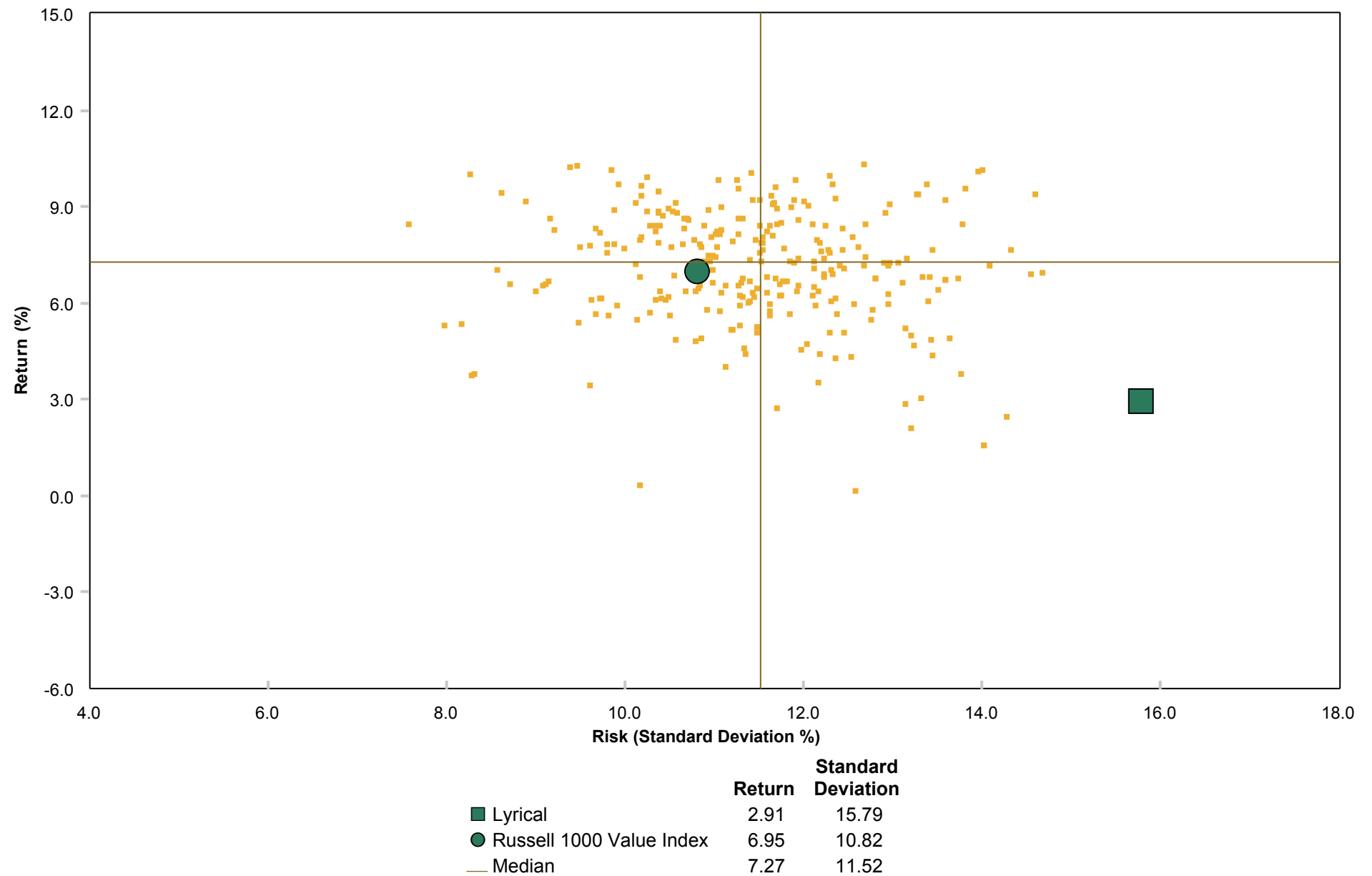
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

As of December 31, 2018

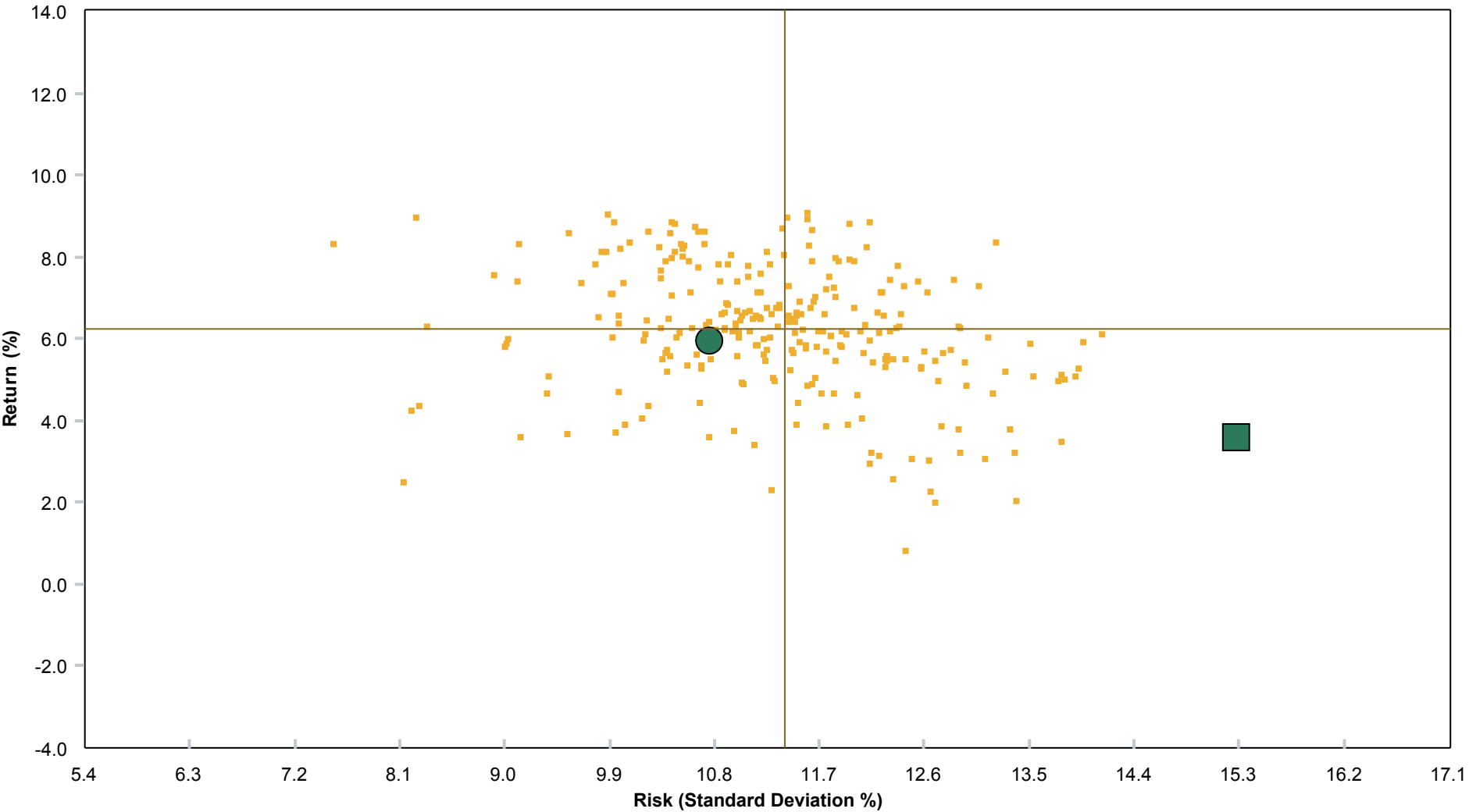


	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
■ Lyrical	19.32 (31)	15.33 (42)	-4.25 (72)	14.28 (23)	N/A	N/A	N/A	N/A	N/A	N/A
● Russell 1000 Value Index	13.66 (89)	17.34 (26)	-3.83 (69)	13.45 (35)	32.53 (62)	17.51 (29)	0.39 (52)	15.51 (41)	19.69 (80)	-36.85 (64)
5th Percentile	24.95	22.51	4.28	17.08	44.04	21.67	10.90	21.58	44.98	-23.42
1st Quartile	19.97	17.42	0.09	14.07	37.77	18.00	4.15	16.90	31.08	-31.97
Median	17.22	14.47	-2.27	12.22	34.27	15.63	0.61	14.64	25.26	-35.35
3rd Quartile	15.15	11.18	-4.76	10.32	31.13	12.92	-2.99	12.83	20.99	-38.41
95th Percentile	10.82	6.59	-9.89	5.18	24.83	8.83	-8.26	9.58	13.33	-45.51

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



Calculation based on monthly periodicity.



	Return	Standard Deviation
■ Lyrical	3.58	15.28
● Russell 1000 Value Index	5.95	10.76
— Median	6.24	11.40

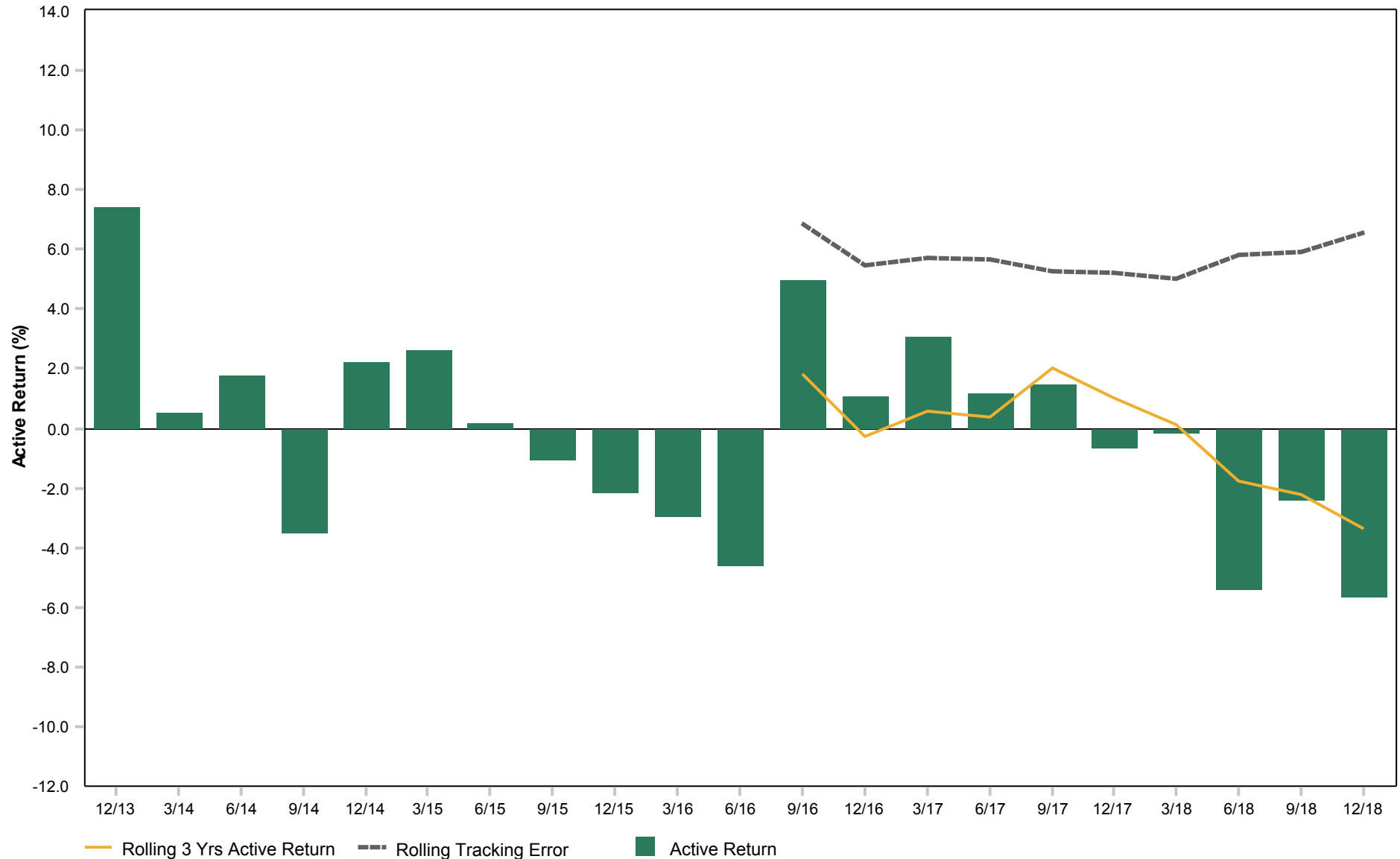
Calculation based on monthly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Lyrical	-17.41	-20.80	-20.80	2.91	3.58	N/A	N/A	19.32	15.33	-4.25	14.28
Russell 1000 Value Index	-11.72	-8.27	-8.27	6.95	5.95	11.02	11.18	13.66	17.34	-3.83	13.45
Difference	-5.69	-12.53	-12.53	-4.04	-2.37	N/A	N/A	5.66	-2.01	-0.42	0.83



1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio -16.92
 Portfolio Trading -0.49
 Actual Return -17.41
 Benchmark Return -11.72
 Actual Active Return -5.69

Stock Selection -2.54
 Sector Selection -2.13
 Interaction -0.64
 Total Selection -5.31

Portfolio Trading -0.49
 Benchmark Trading -0.11
 Active Trading Impact -0.38

Buy & Hold Active Return -5.69

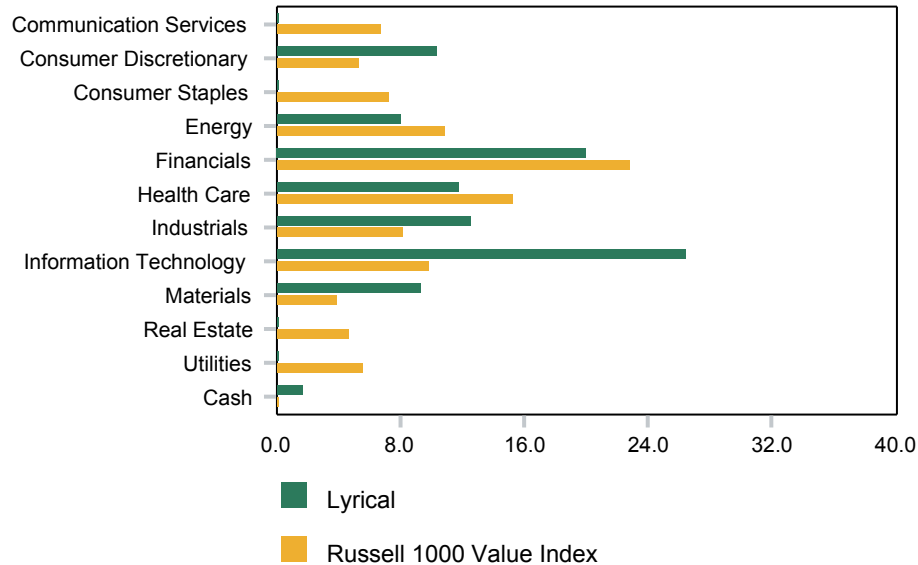
	Allocation — 10/01/2018		Performance — 1 Quarter Ending December 31, 2018		Stock	Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark		Sector	Interaction	Total
Communication Services	0.00	6.75	0.00	-5.66	0.00	-0.40	0.00	-0.40
Consumer Discretionary	10.33	5.25	-24.35	-12.80	-0.61	-0.06	-0.59	-1.25
Consumer Staples	0.00	7.19	0.00	-4.00	0.00	-0.55	0.00	-0.55
Energy	8.02	10.78	-31.99	-23.96	-0.87	0.34	0.22	-0.30
Financials	19.99	22.85	-15.82	-13.46	-0.54	0.05	0.07	-0.42
Health Care	11.76	15.22	-6.88	-6.96	0.01	-0.16	0.00	-0.15
Industrials	12.52	8.08	-25.15	-19.19	-0.48	-0.34	-0.26	-1.08
Information Technology	26.51	9.77	-12.17	-12.37	0.02	-0.13	0.03	-0.07
Materials	9.25	3.89	-16.18	-14.16	-0.08	-0.14	-0.11	-0.32
Real Estate	0.00	4.64	0.00	-6.53	0.00	-0.24	0.00	-0.24
Utilities	0.00	5.57	0.00	1.08	0.00	-0.71	0.00	-0.71
Cash	1.62	0.00	0.00	0.00	0.00	0.19	0.00	0.19
Total	100.00	100.00	-16.92	-11.61	-2.54	-2.13	-0.64	-5.31

Bristol County Retirement System

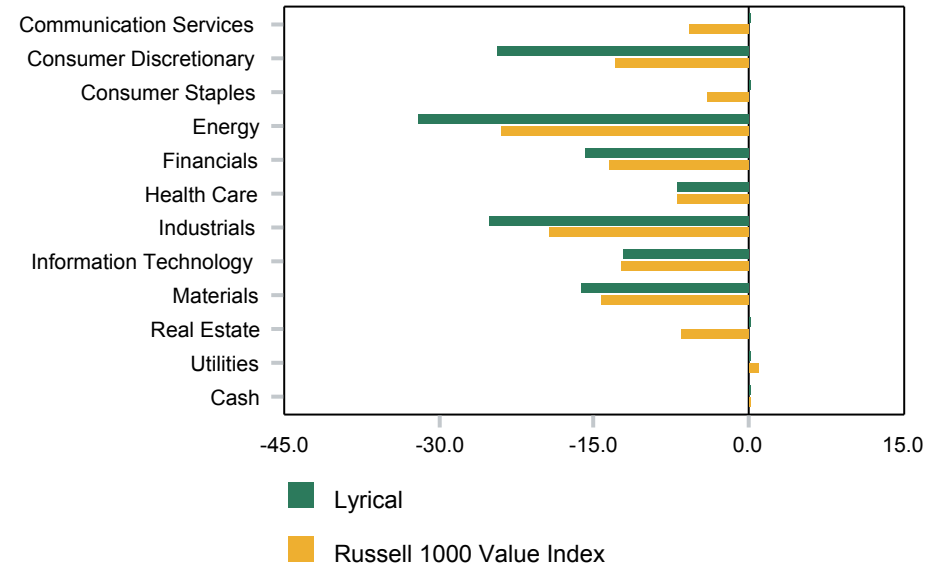
Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2018

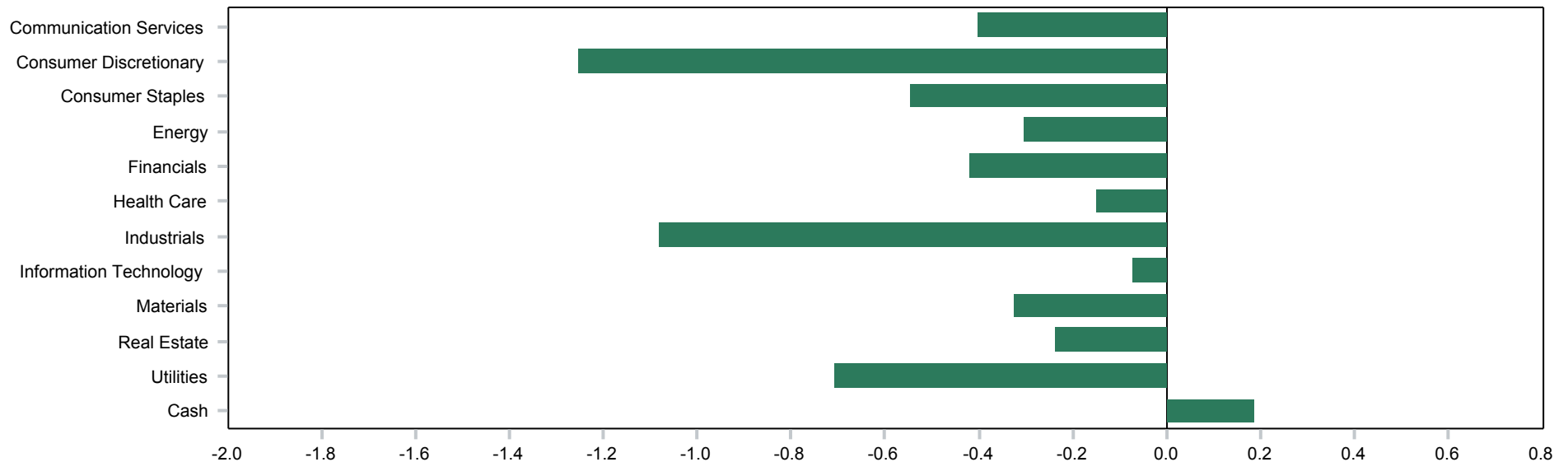
Allocation



Performance



Total Attribution



Bristol County Retirement System

Buy and Hold Style Attribution

1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio -16.92
Portfolio Trading -0.49
Actual Return -17.41
Benchmark Return -11.72
Actual Active Return -5.69

Stock Selection -2.23
Style Selection -1.82
Interaction -1.26
Total Selection -5.31

Portfolio Trading -0.49
Benchmark Trading -0.11
Active Trading Impact -0.38

Buy & Hold Active Return -5.69

Performance-1 Quarter Ending December 31, 2018

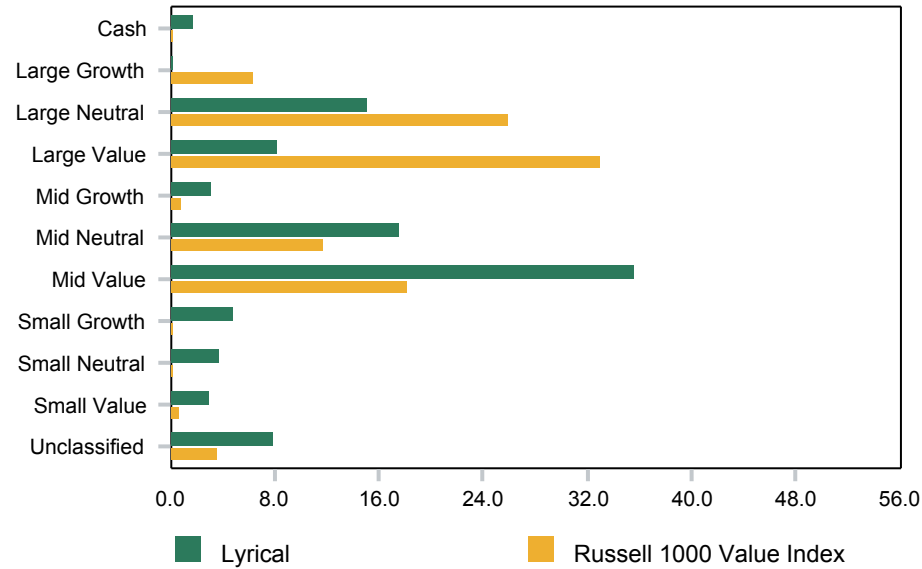
	Allocation-10/01/2018		Performance-1 Quarter Ending December 31, 2018		Attribution			
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	Total
Cash	1.62	0.00	0.00	0.00	0.00	0.19	0.00	0.19
Large Growth	0.00	6.28	0.00	-4.60	0.00	-0.44	0.00	-0.44
Large Neutral	15.01	26.00	-7.86	-6.69	-0.30	-0.54	0.13	-0.72
Large Value	8.07	32.97	-13.64	-14.13	0.16	0.63	-0.12	0.66
Mid Growth	3.07	0.70	-13.40	-15.71	0.02	-0.10	0.06	-0.03
Mid Neutral	17.44	11.69	-23.17	-14.17	-1.05	-0.15	-0.52	-1.72
Mid Value	35.59	18.06	-21.39	-14.93	-1.17	-0.58	-1.13	-2.88
Small Growth	4.77	0.02	-24.40	-21.76	0.00	-0.48	-0.13	-0.61
Small Neutral	3.64	0.21	-23.50	-21.14	0.00	-0.33	-0.08	-0.41
Small Value	2.97	0.61	7.78	-16.87	0.15	-0.12	0.58	0.61
Unclassified	7.80	3.48	-10.09	-9.07	-0.04	0.11	-0.04	0.03
Total	100.00	100.00	-16.92	-11.61	-2.23	-1.82	-1.26	-5.31

Bristol County Retirement System

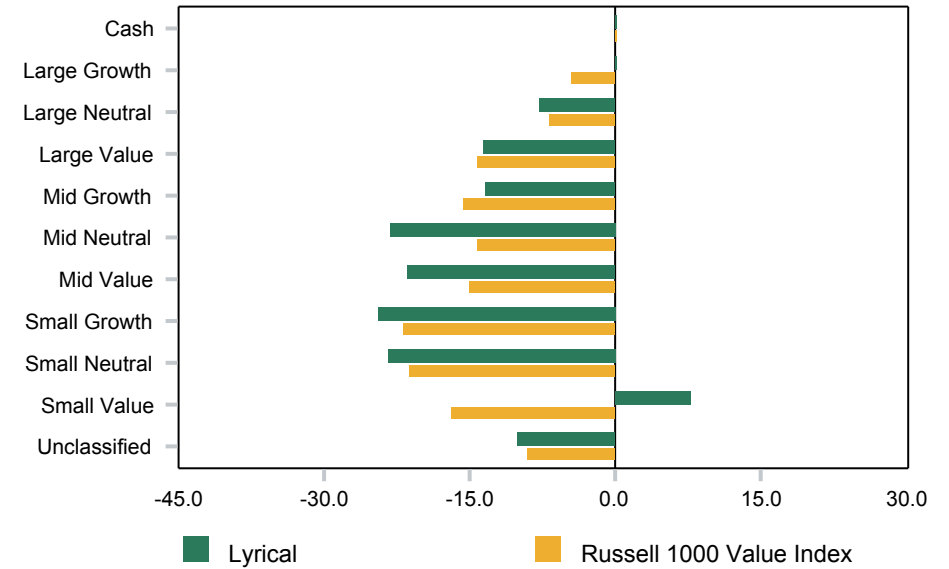
Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2018

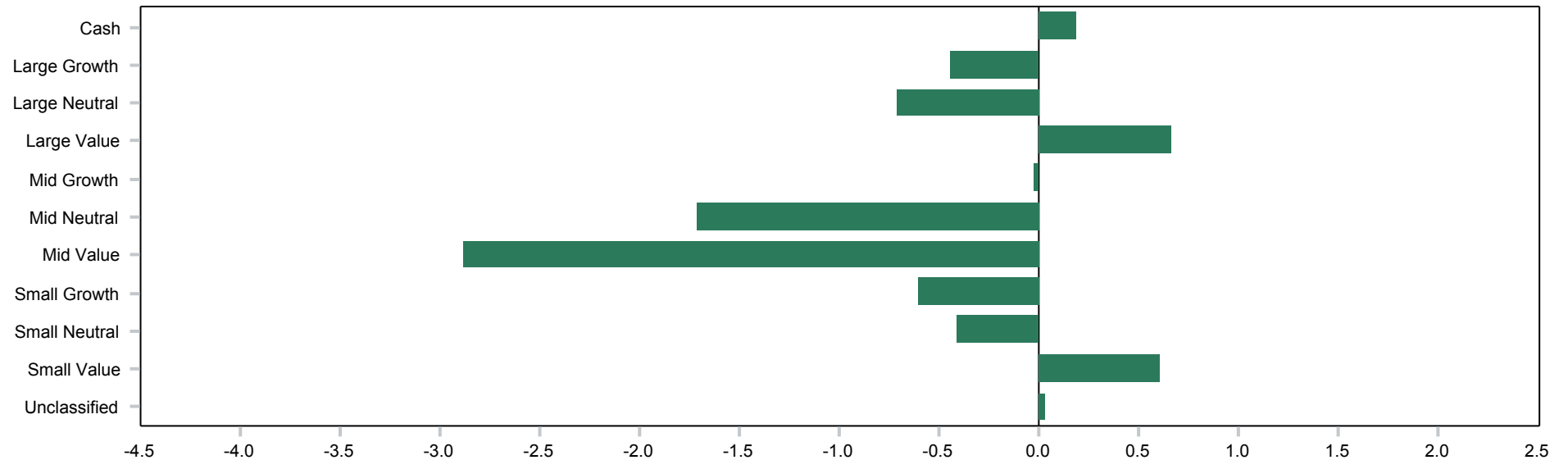
Allocation



Performance



Total Attribution



As of December 31, 2018

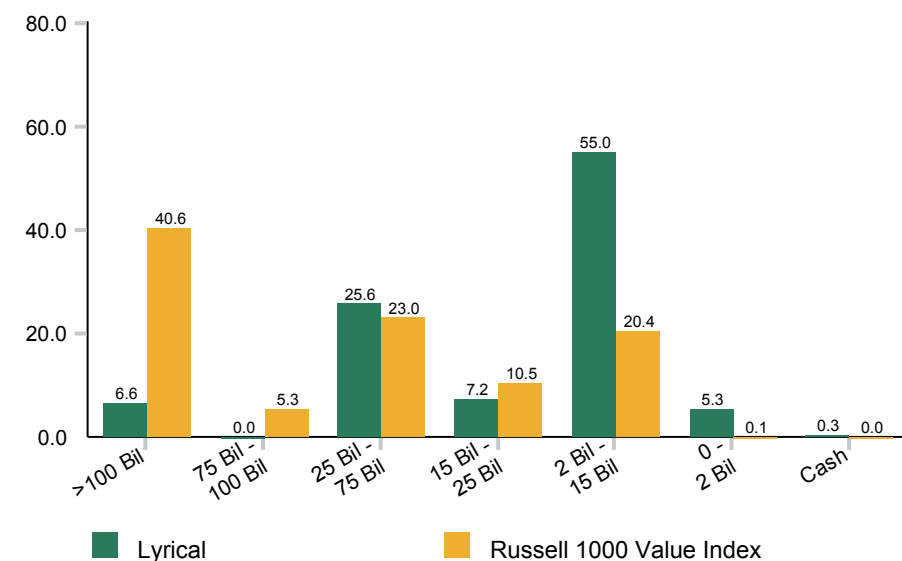
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Anthem Inc	7.66	0.58	7.08	-3.92
Broadcom Inc	6.57	0.36	6.21	4.15
HCA Healthcare Inc	6.12	0.08	6.04	-10.33
Celanese Corp	4.62	0.04	4.58	-20.64
AerCap Holdings NV	4.40	0.00	4.40	-31.15
Assurant Inc.	4.26	0.04	4.22	-16.64
AFLAC Inc	4.15	0.30	3.85	-2.64
Willis Towers Watson plc	3.72	0.17	3.55	8.18
Lincoln National Corp	3.68	0.09	3.59	-23.81
Microchip Technology Inc	3.51	0.00	3.51	-8.40
% of Portfolio	48.69	1.66	47.03	

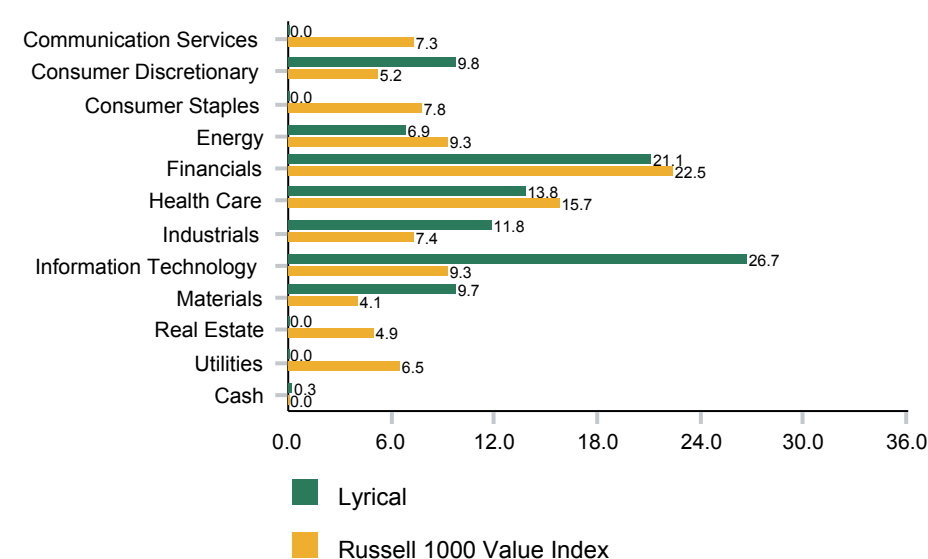
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	24,561,113,124	119,165,529,278
Median Mkt. Cap (\$)	6,819,160,960	8,313,076,200
Price/Earnings ratio	10.23	13.70
Price/Book ratio	1.93	2.06
5 Yr. EPS Growth Rate (%)	16.58	8.60
Current Yield (%)	1.85	2.89
Beta (5 Years, Monthly)	1.30	1.00
Number of Stocks	34	725

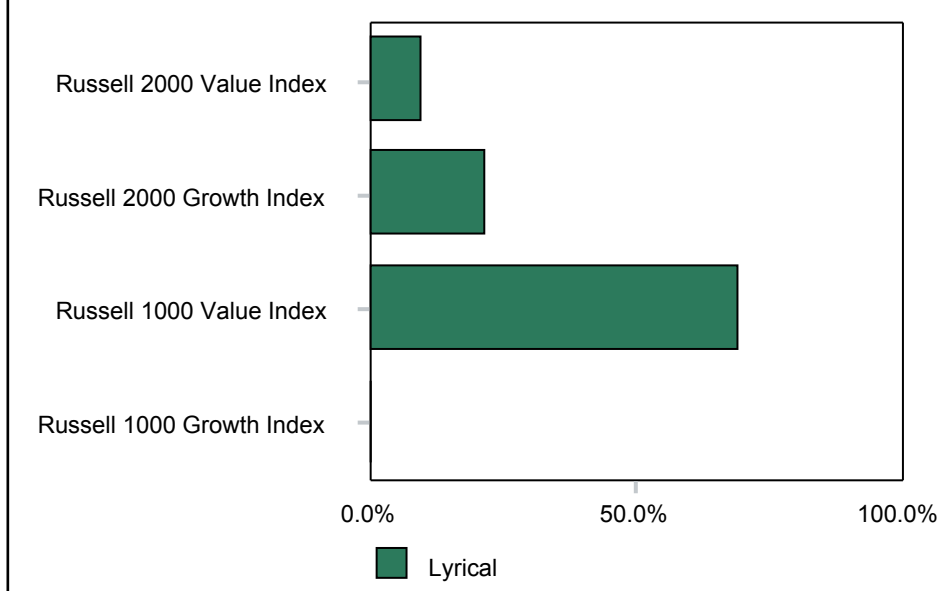
Distribution of Market Capitalization (%)



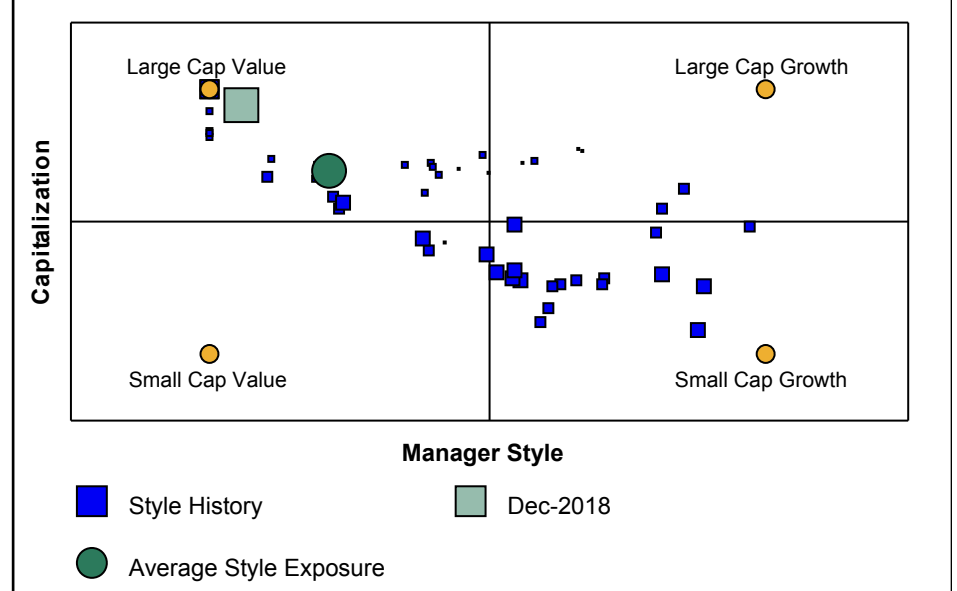
Sector Weights (%)



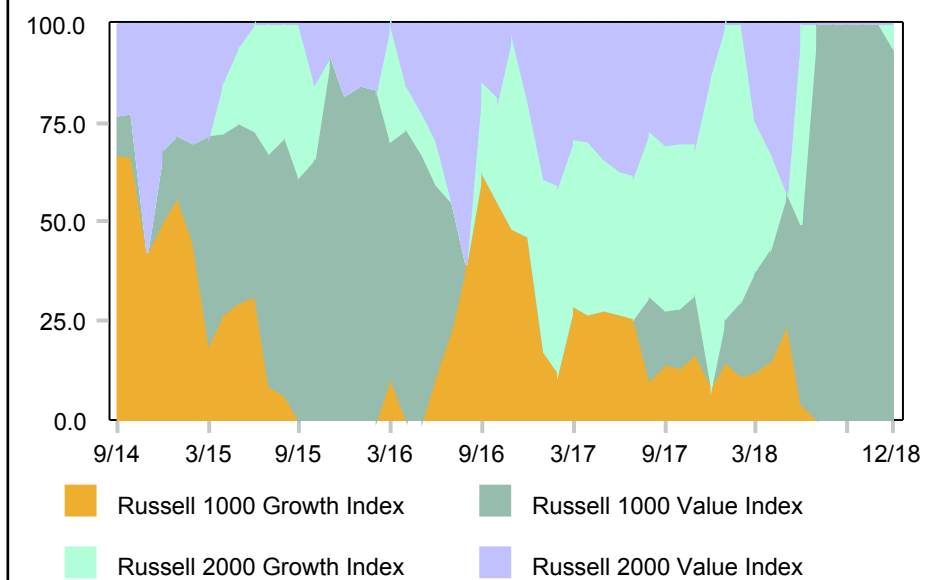
Investment Style Exposure



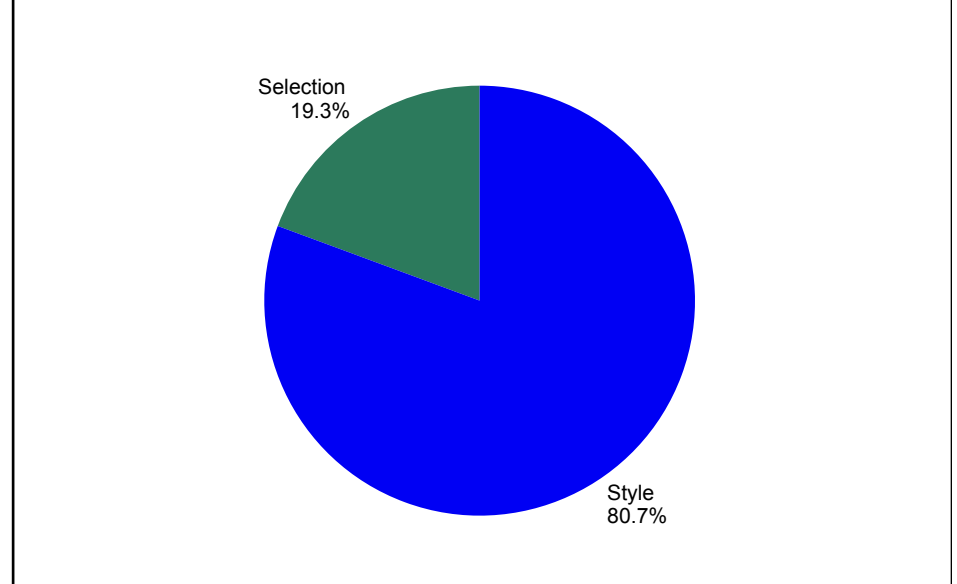
Style Map(ppp)



Style History(ppp)



Return Variance



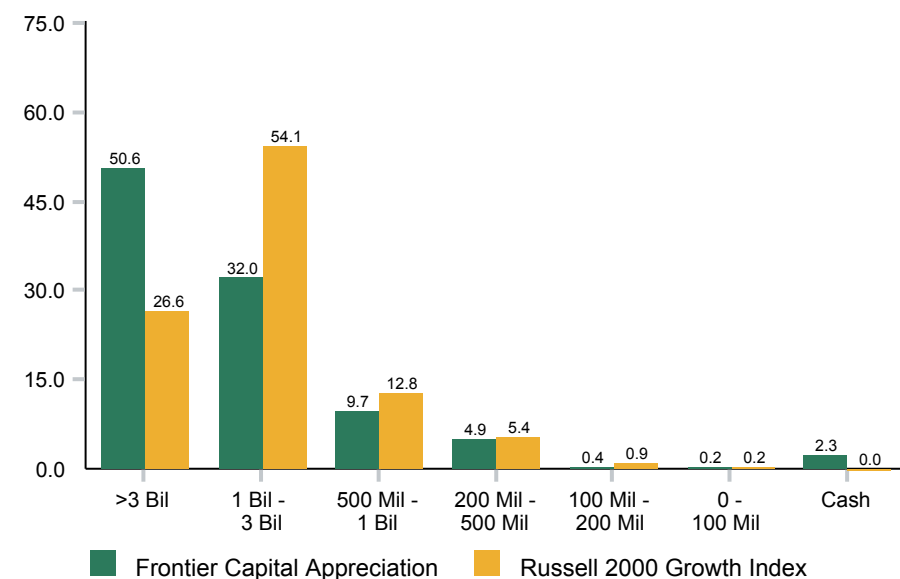
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
United Continental Holdings Inc	3.56	0.00	3.56	-5.99
Tutor Perini Corp	2.25	0.00	2.25	-15.05
Insulet Corp	2.25	0.00	2.25	-25.13
Allegheny Technologies Inc	2.09	0.00	2.09	-26.33
Cooper Companies Inc. (The)	2.02	0.00	2.02	-8.17
Tahoe Resources Inc	1.97	0.06	1.91	30.82
Tandem Diabetes Care Inc	1.85	0.21	1.64	-11.37
Monolithic Power Systems Inc	1.63	0.00	1.63	-7.15
Qorvo Inc	1.58	0.00	1.58	-21.02
American Airlines Group Inc	1.57	0.00	1.57	-22.09
% of Portfolio	20.77	0.27	20.50	

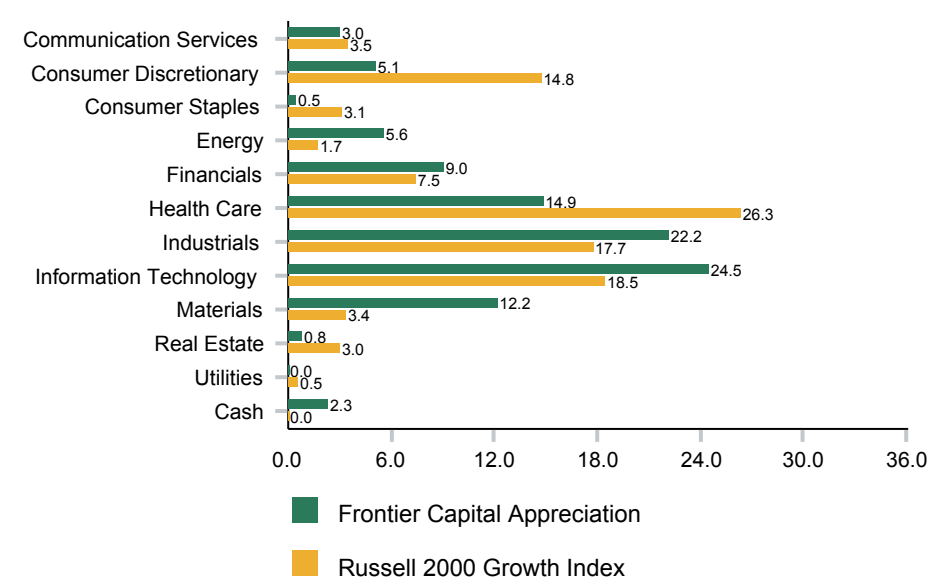
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	5,007,304,536	2,178,504,407
Median Mkt. Cap (\$)	2,183,680,480	787,045,400
Price/Earnings ratio	15.23	19.19
Price/Book ratio	2.37	3.50
5 Yr. EPS Growth Rate (%)	19.52	16.24
Current Yield (%)	1.08	0.80
Beta	N/A	1.00
Number of Stocks	141	1,257

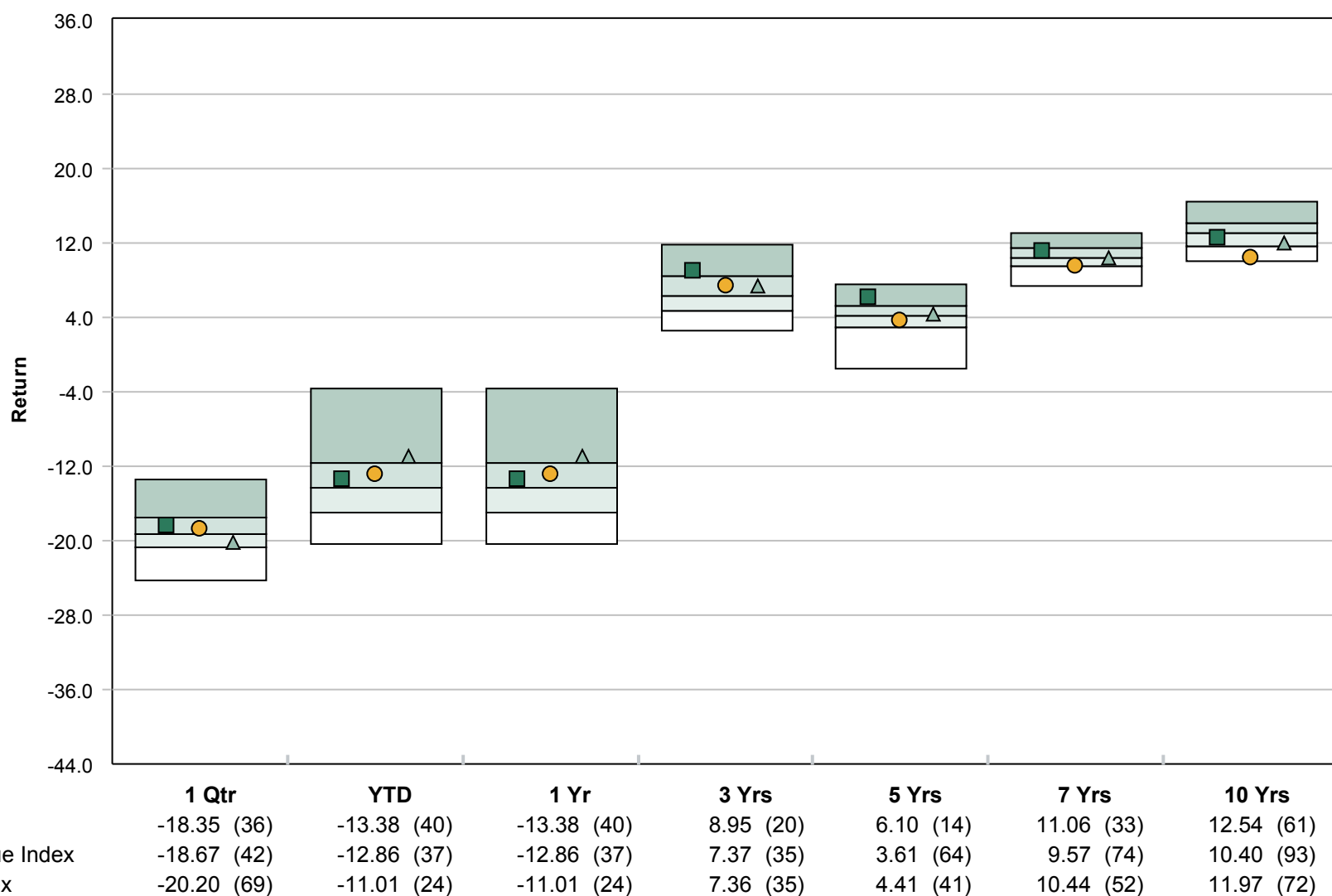
Distribution of Market Capitalization (%)



Sector Weights (%)



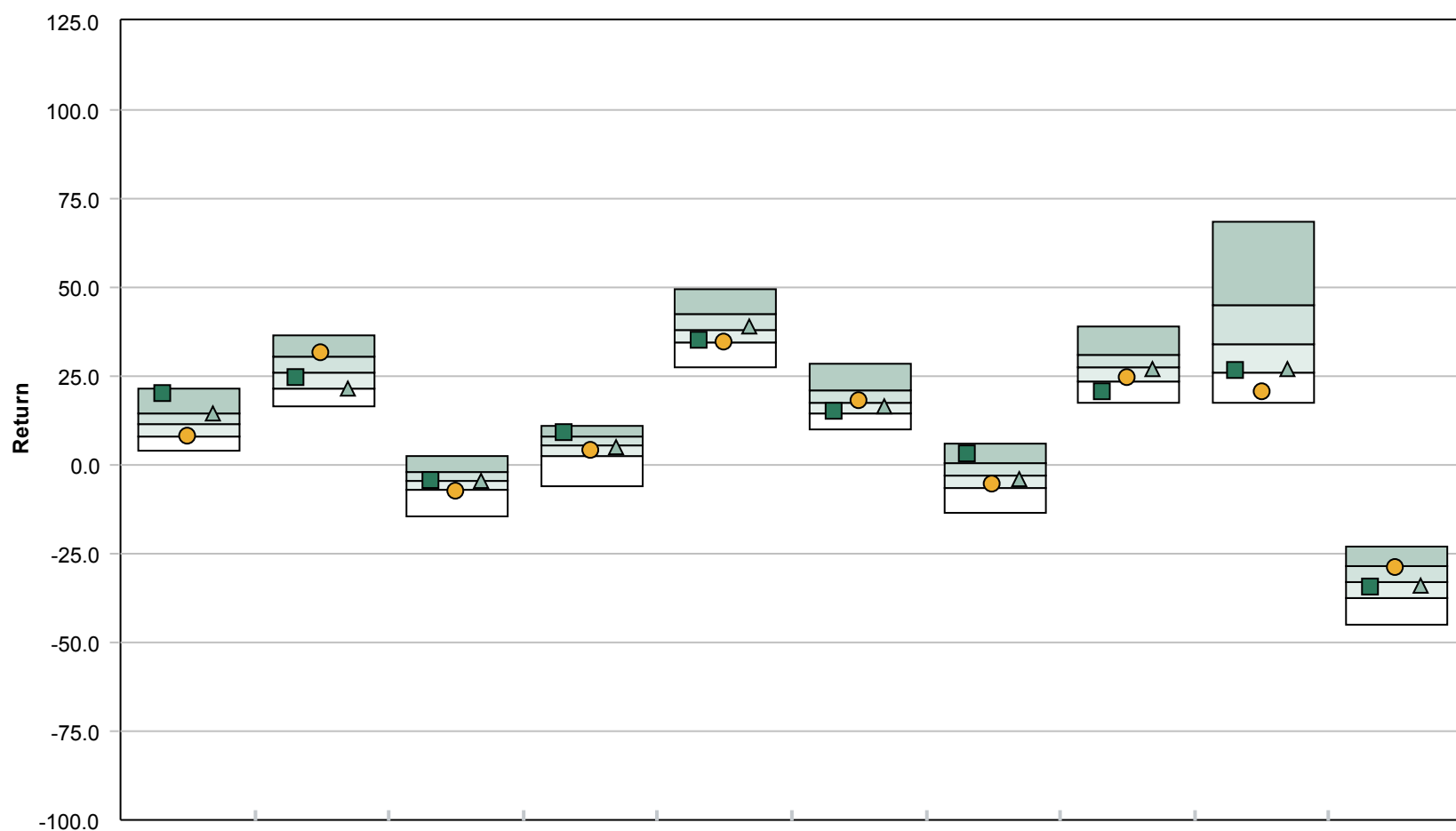
As of December 31, 2018



5th Percentile	-13.47	-3.67	-3.67	11.86	7.58	13.13	16.50
1st Quartile	-17.52	-11.67	-11.67	8.49	5.25	11.53	14.20
Median	-19.21	-14.36	-14.36	6.34	4.10	10.47	13.10
3rd Quartile	-20.68	-16.97	-16.97	4.68	2.86	9.49	11.72
95th Percentile	-24.26	-20.37	-20.37	2.54	-1.49	7.37	9.99

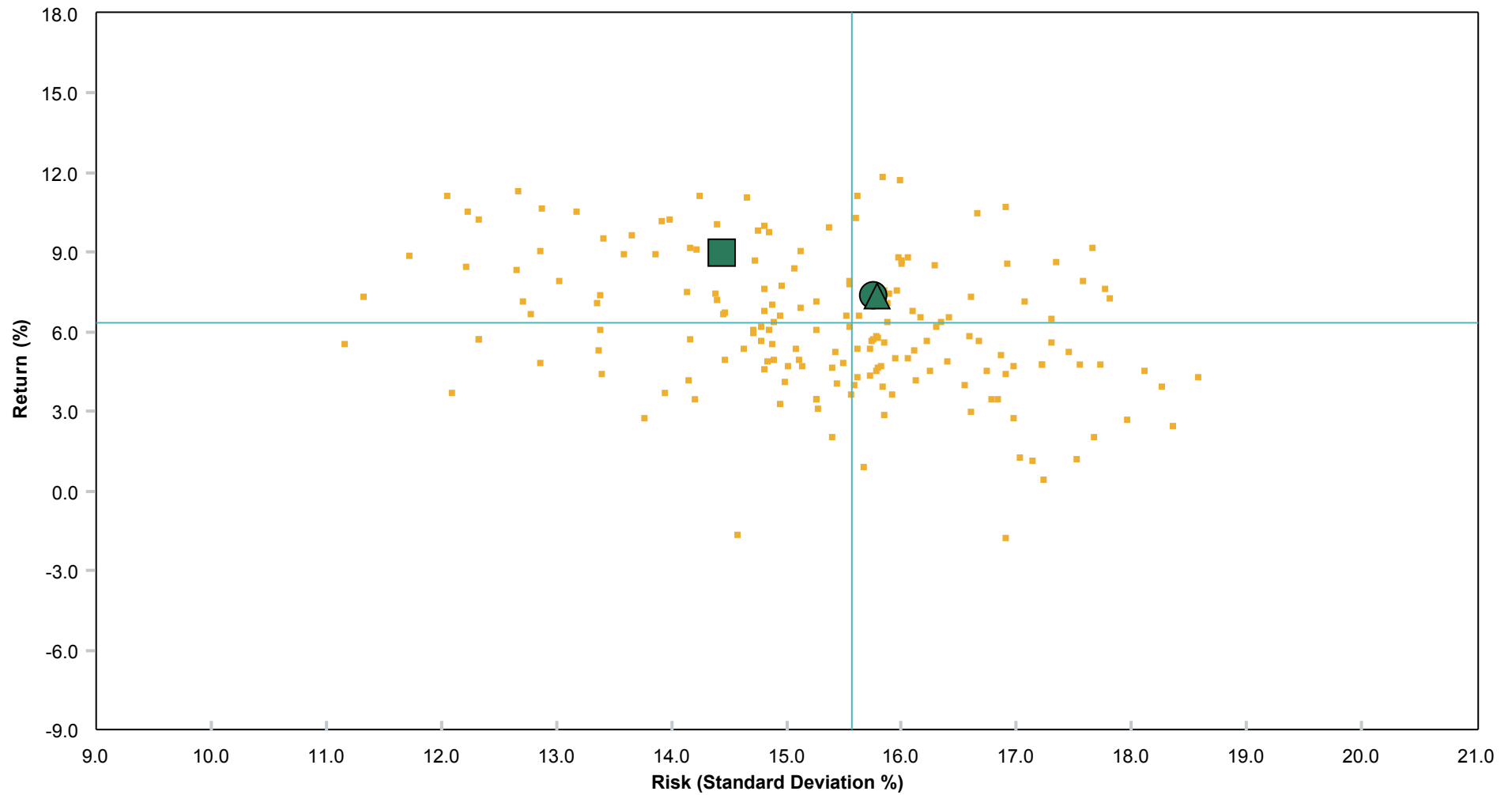
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

As of December 31, 2018



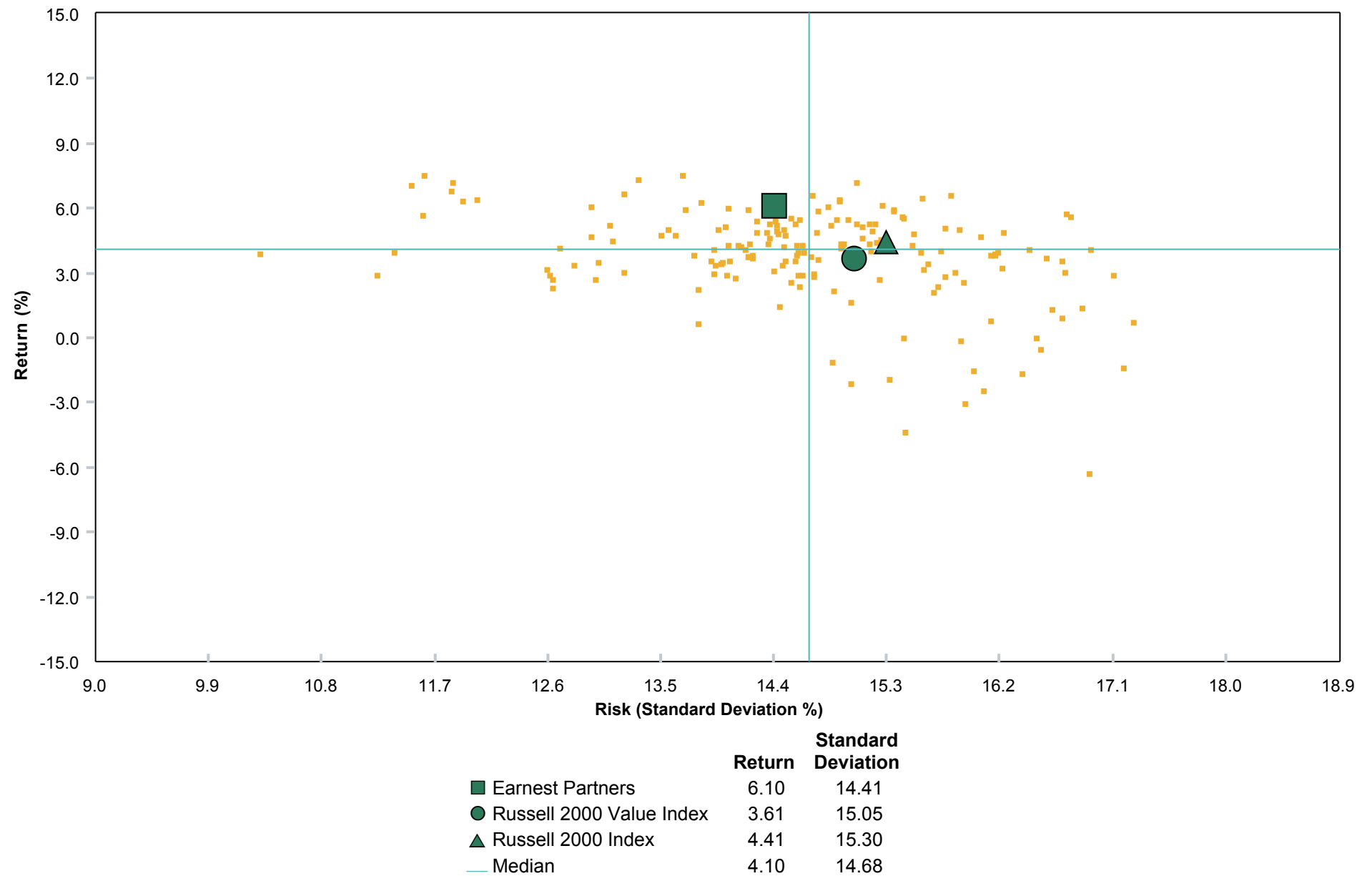
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
■ Earnest Partners	20.01 (7)	24.39 (62)	-4.51 (54)	8.89 (14)	34.88 (74)	14.90 (74)	2.76 (12)	20.45 (90)	26.39 (74)	-34.48 (60)
● Russell 2000 Value Index	7.84 (76)	31.74 (16)	-7.47 (78)	4.22 (65)	34.52 (75)	18.05 (47)	-5.50 (68)	24.50 (71)	20.58 (87)	-28.92 (27)
▲ Russell 2000 Index	14.65 (25)	21.31 (78)	-4.41 (52)	4.89 (58)	38.82 (46)	16.35 (60)	-4.18 (60)	26.85 (55)	27.17 (71)	-33.79 (57)
5th Percentile	21.37	36.53	2.26	11.24	49.29	28.61	6.05	38.99	68.71	-23.01
1st Quartile	14.64	30.29	-1.76	7.92	42.26	21.19	0.73	31.00	45.10	-28.48
Median	11.61	26.17	-4.28	5.66	38.07	17.52	-3.17	27.52	34.11	-32.75
3rd Quartile	7.86	21.59	-6.95	2.30	34.41	14.72	-6.48	23.72	25.92	-37.50
95th Percentile	3.93	16.72	-14.55	-6.18	27.39	10.01	-13.25	17.69	17.54	-45.10

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	Return	Standard Deviation
■ Earnest Partners	8.95	14.44
● Russell 2000 Value Index	7.37	15.76
▲ Russell 2000 Index	7.36	15.79
— Median	6.34	15.57

Calculation based on monthly periodicity.



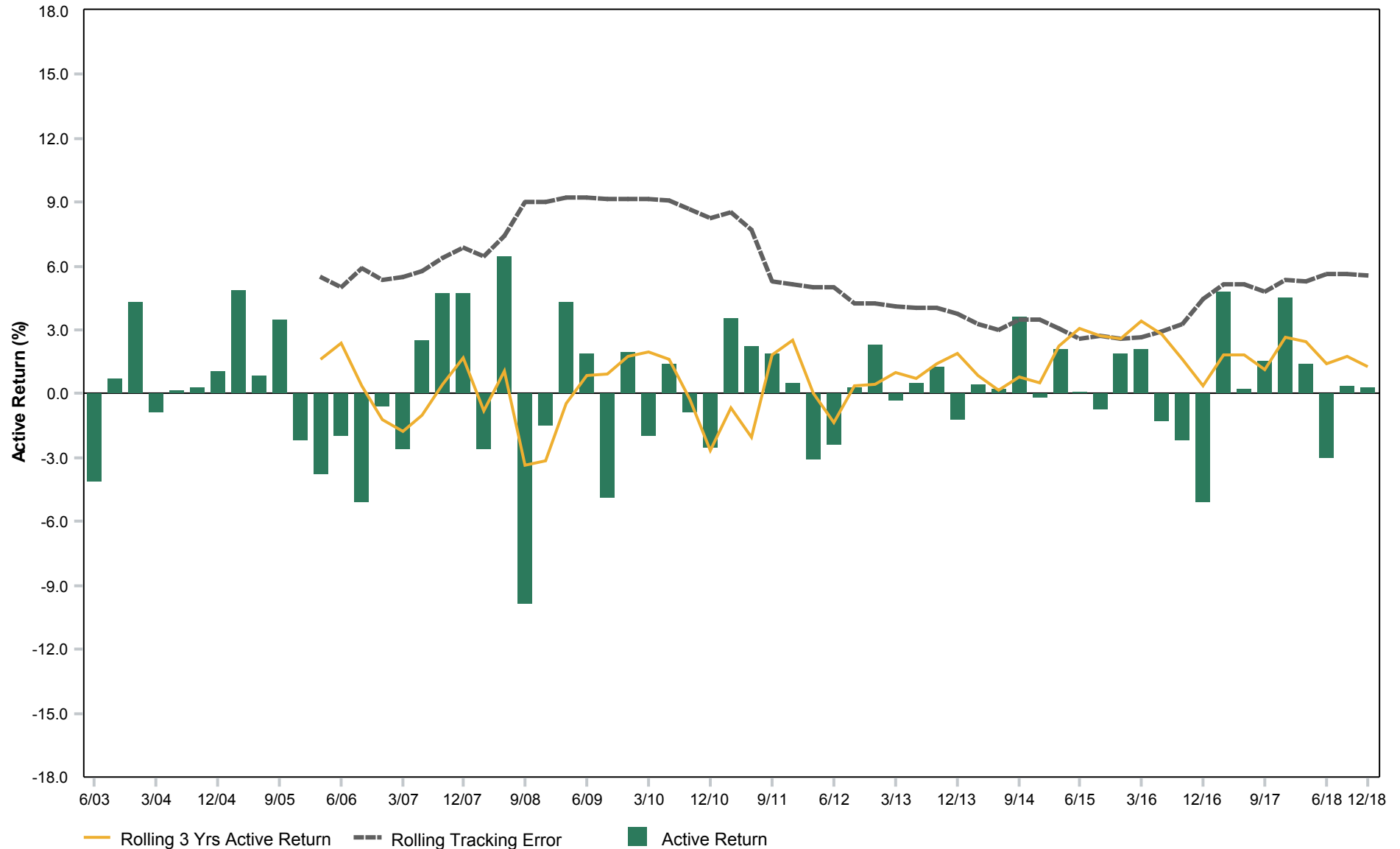
Calculation based on monthly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Earnest Partners	-18.35	-13.38	-13.38	8.95	6.10	11.06	12.54	20.01	24.39	-4.51	8.89
Russell 2000 Value Index	-18.67	-12.86	-12.86	7.37	3.61	9.57	10.40	7.84	31.74	-7.47	4.22
Difference	0.32	-0.52	-0.52	1.58	2.49	1.49	2.14	12.17	-7.35	2.96	4.67



1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio	-17.92
Portfolio Trading	-0.42
Actual Return	-18.35
Benchmark Return	-18.67
Actual Active Return	0.32

Stock Selection	0.20
Sector Selection	0.06
Interaction	0.17
Total Selection	0.42

Portfolio Trading	-0.42
Benchmark Trading	-0.32
Active Trading Impact	-0.10

Buy & Hold Active Return	0.32
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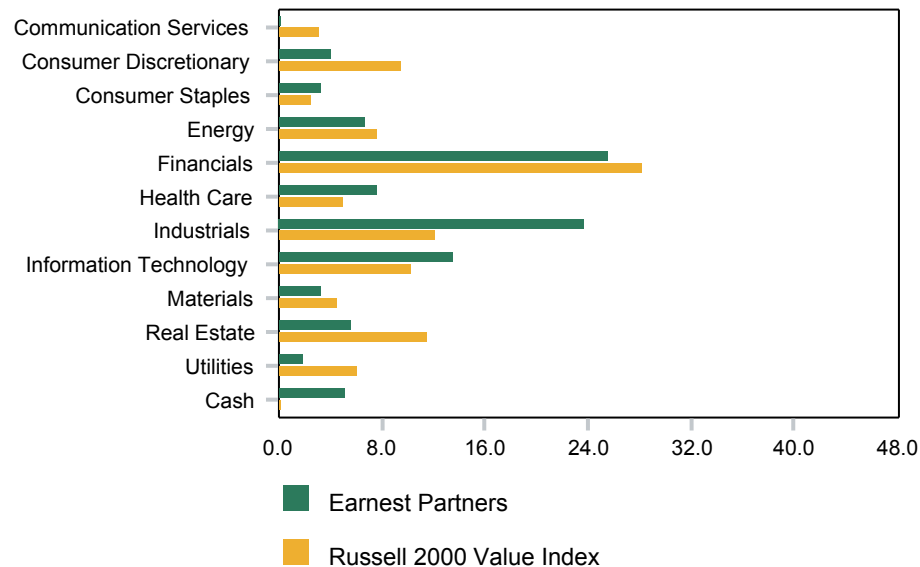
	Allocation — 10/01/2018		Performance — 1 Quarter Ending December 31, 2018		Stock	Attribution		
	Portfolio	Benchmark	Portfolio	Benchmark		Sector	Interaction	Total
Communication Services	0.00	3.03	0.00	-18.75	0.00	0.01	0.00	0.01
Consumer Discretionary	4.00	9.51	-13.57	-18.88	0.51	0.03	-0.29	0.24
Consumer Staples	3.26	2.53	-21.06	-13.68	-0.19	0.03	-0.05	-0.21
Energy	6.66	7.52	-50.22	-40.80	-0.71	0.19	0.08	-0.43
Financials	25.57	28.20	-15.48	-15.63	0.04	-0.07	0.00	-0.03
Health Care	7.61	5.03	-26.35	-28.87	0.13	-0.27	0.07	-0.08
Industrials	23.68	12.05	-19.26	-19.25	0.00	-0.11	0.00	-0.11
Information Technology	13.51	10.26	-9.78	-14.43	0.48	0.13	0.15	0.76
Materials	3.19	4.43	-26.66	-27.13	0.02	0.11	-0.01	0.12
Real Estate	5.57	11.48	-4.92	-13.68	1.01	-0.28	-0.52	0.21
Utilities	1.85	5.97	-20.45	-2.29	-1.08	-0.66	0.75	-1.00
Cash	5.10	0.00	0.00	0.00	0.00	0.94	0.00	0.94
Total	100.00	100.00	-17.92	-18.34	0.20	0.06	0.17	0.42

Bristol County Retirement System

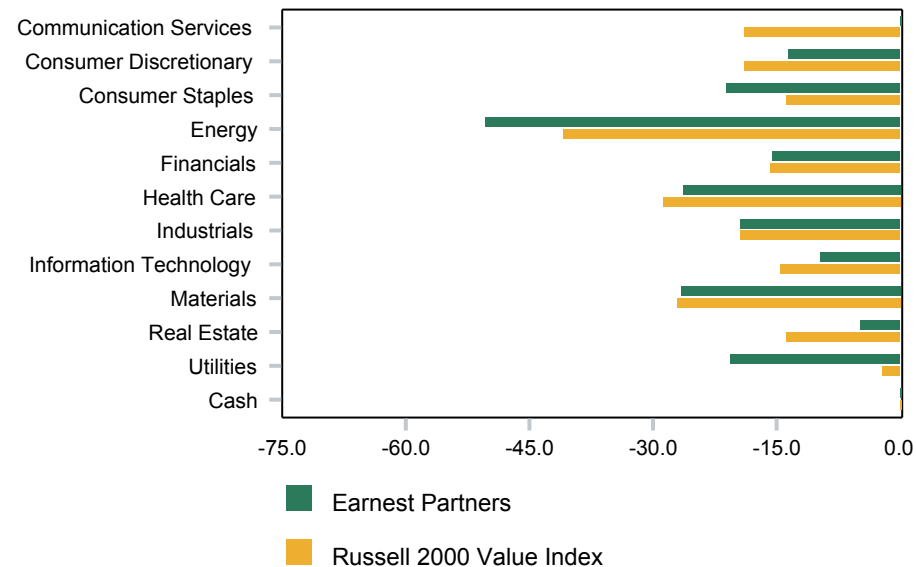
Buy and Hold Sector Attribution Graph

1 Quarter Ending December 31, 2018

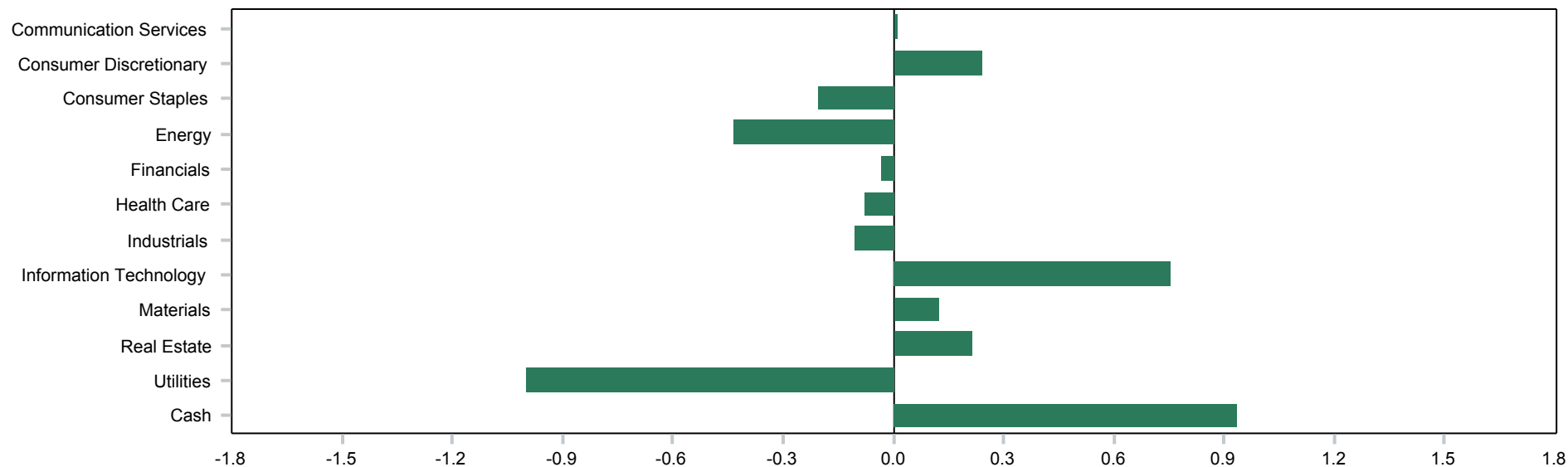
Allocation



Performance



Total Attribution



Bristol County Retirement System

Buy and Hold Style Attribution

1 Quarter Ending December 31, 2018

Buy-and-Hold Portfolio -17.92
 Portfolio Trading -0.42
 Actual Return -18.35
 Benchmark Return -18.67
 Actual Active Return 0.32

Stock Selection -0.37
 Style Selection 3.91
 Interaction -3.12
 Total Selection 0.42

Portfolio Trading -0.42
 Benchmark Trading -0.32
 Active Trading Impact -0.10

Buy & Hold Active Return 0.32

Performance-1 Quarter Ending December 31, 2018

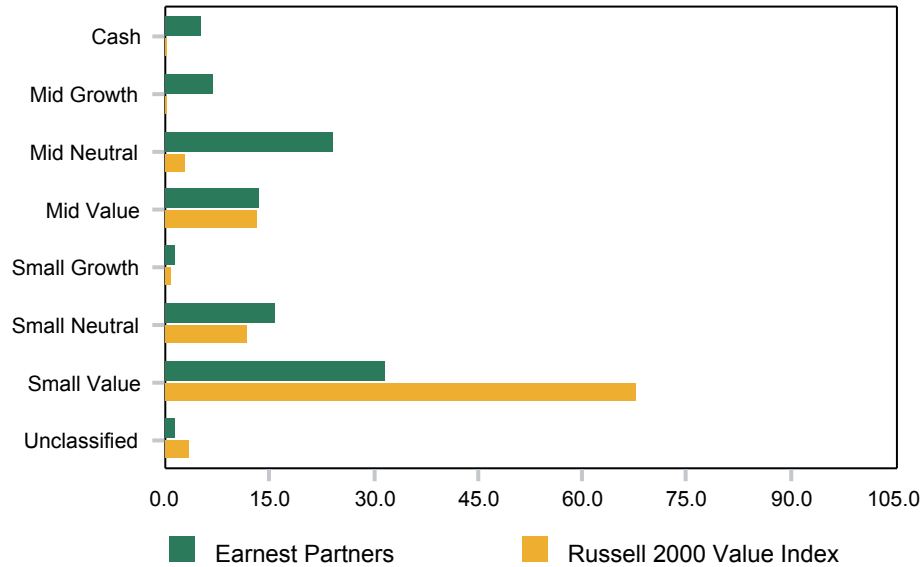
	Allocation-10/01/2018		Performance-1 Quarter Ending December 31, 2018		Attribution			
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Style	Interaction	Total
Cash	5.10	0.00	0.00	0.00	0.00	0.94	0.00	0.94
Mid Growth	6.82	0.11	-23.27	2.47	-0.03	1.40	-1.73	-0.36
Mid Neutral	24.24	2.78	-17.93	-11.87	-0.17	1.39	-1.30	-0.08
Mid Value	13.43	13.33	-18.58	-14.86	-0.50	0.00	0.00	-0.50
Small Growth	1.54	0.91	-46.79	-32.14	-0.13	-0.09	-0.09	-0.31
Small Neutral	15.86	11.64	-15.98	-18.63	0.31	-0.01	0.11	0.41
Small Value	31.56	67.73	-19.40	-18.56	-0.57	0.08	0.30	-0.19
Unclassified	1.46	3.50	-8.27	-28.70	0.71	0.21	-0.42	0.51
Total	100.00	100.00	-17.92	-18.34	-0.37	3.91	-3.12	0.42

Bristol County Retirement System

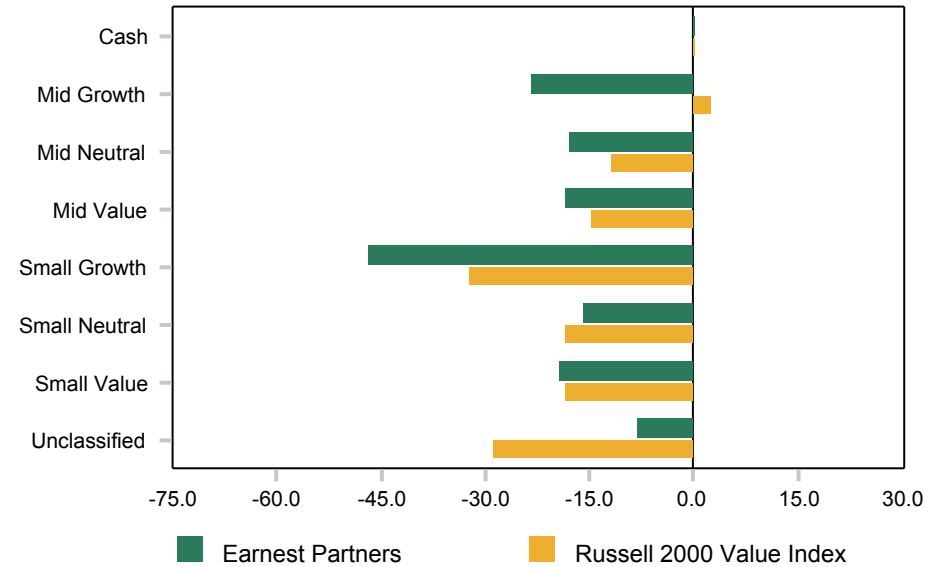
Buy and Hold Style Attribution Graph

1 Quarter Ending December 31, 2018

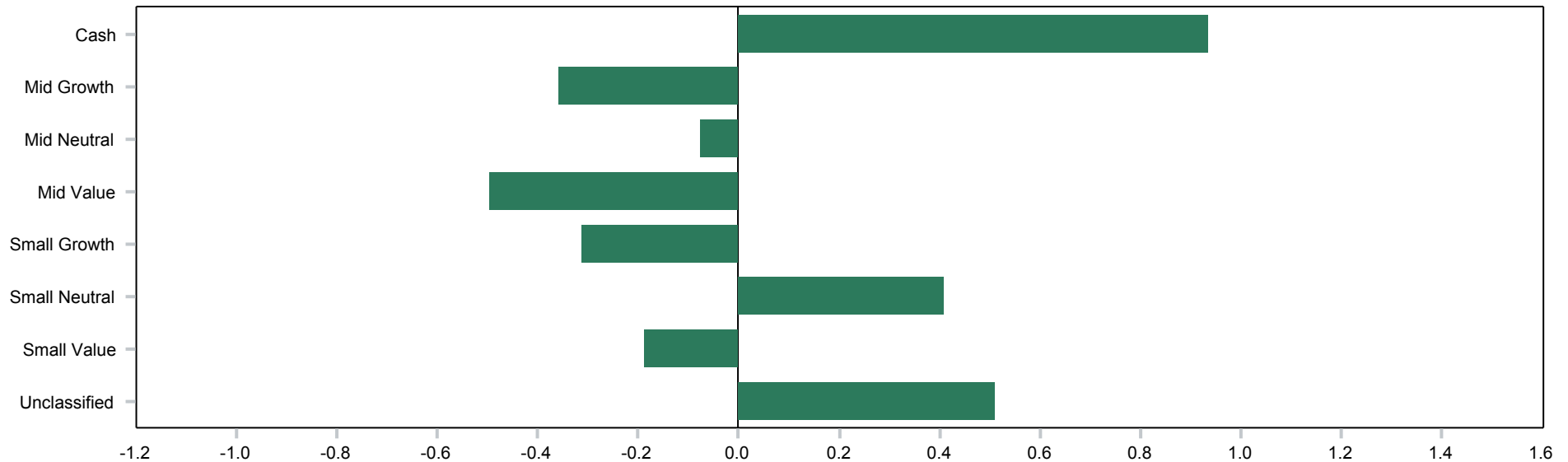
Allocation



Performance



Total Attribution



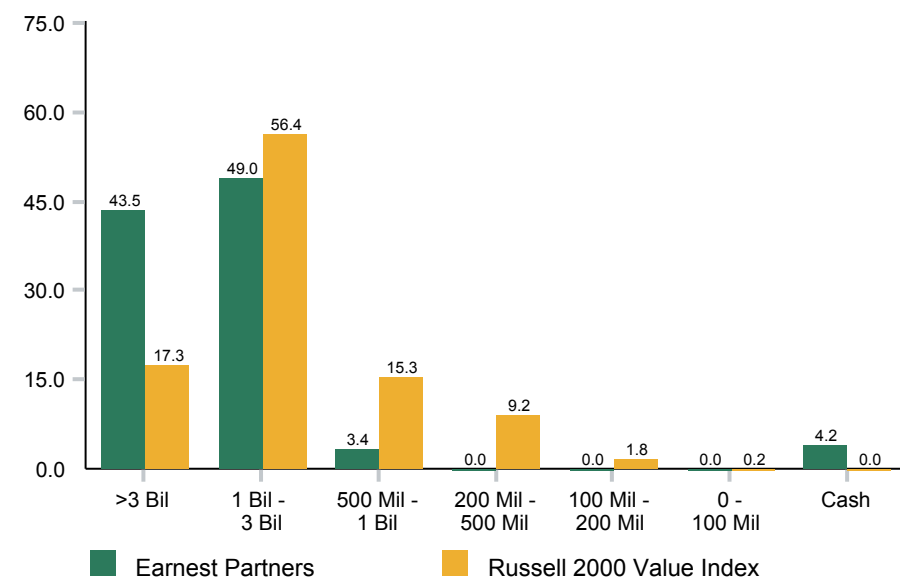
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Hexcel Corp	3.31	0.00	3.31	-14.26
Franklin Electric Co Inc	3.15	0.01	3.14	-8.99
EnerSys	3.11	0.13	2.98	-10.73
United Fire Group Inc	2.73	0.12	2.61	9.86
EastGroup Properties Inc.	2.72	0.00	2.72	-3.31
Darling Ingredients Inc	2.71	0.36	2.35	-0.41
Wolverine World Wide Inc.	2.65	0.00	2.65	-18.13
Molina Healthcare Inc.	2.57	0.00	2.57	-21.84
Reinsurance Group of America Inc.	2.54	0.00	2.54	-2.59
Albany International Corp.	2.53	0.00	2.53	-21.23
% of Portfolio	28.02	0.62	27.40	

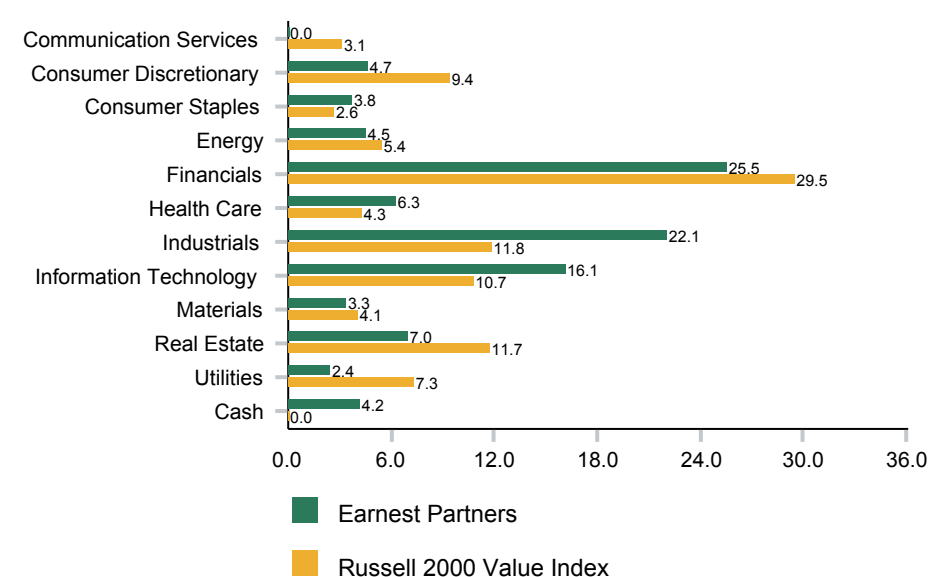
Portfolio Characteristics

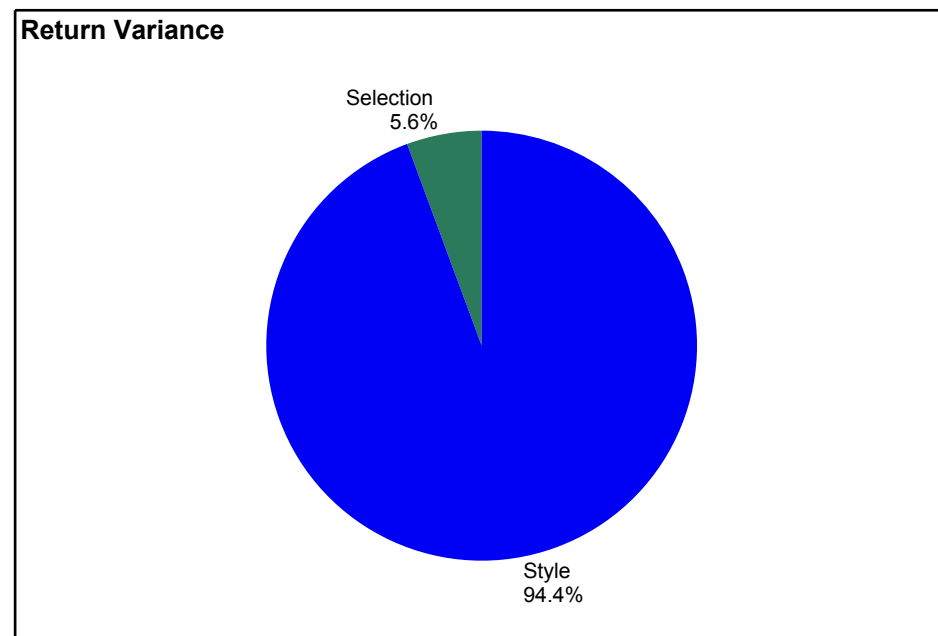
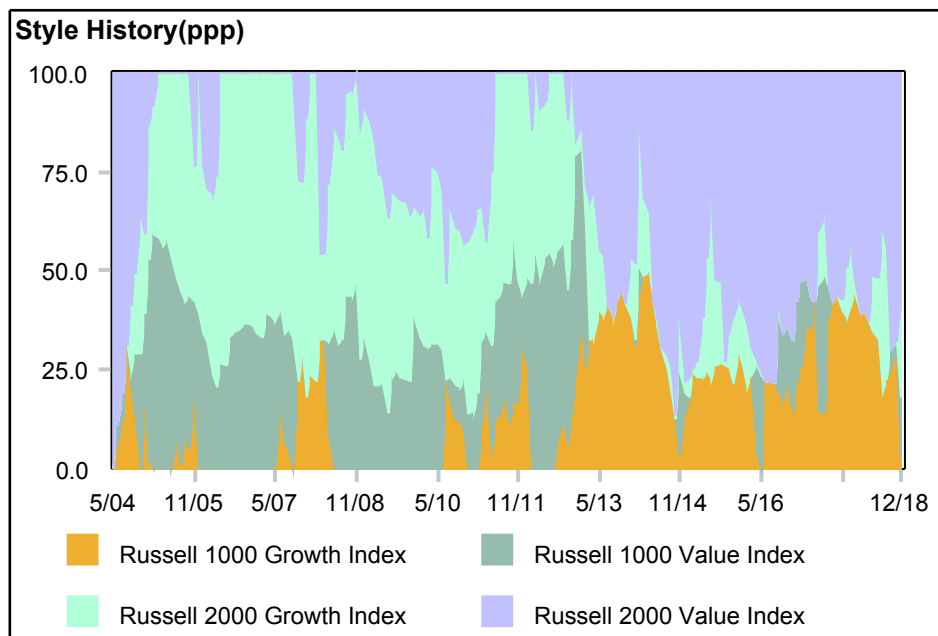
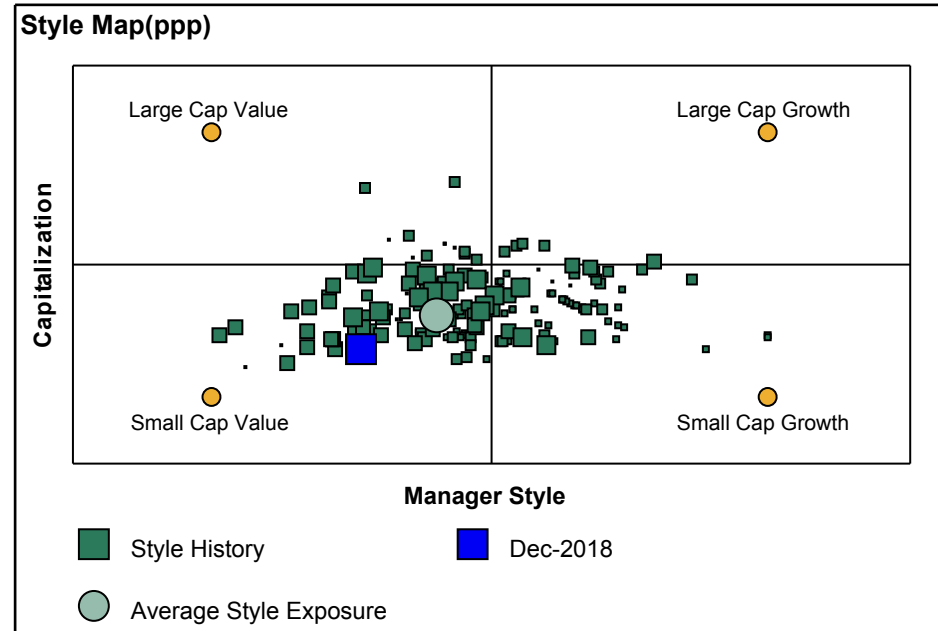
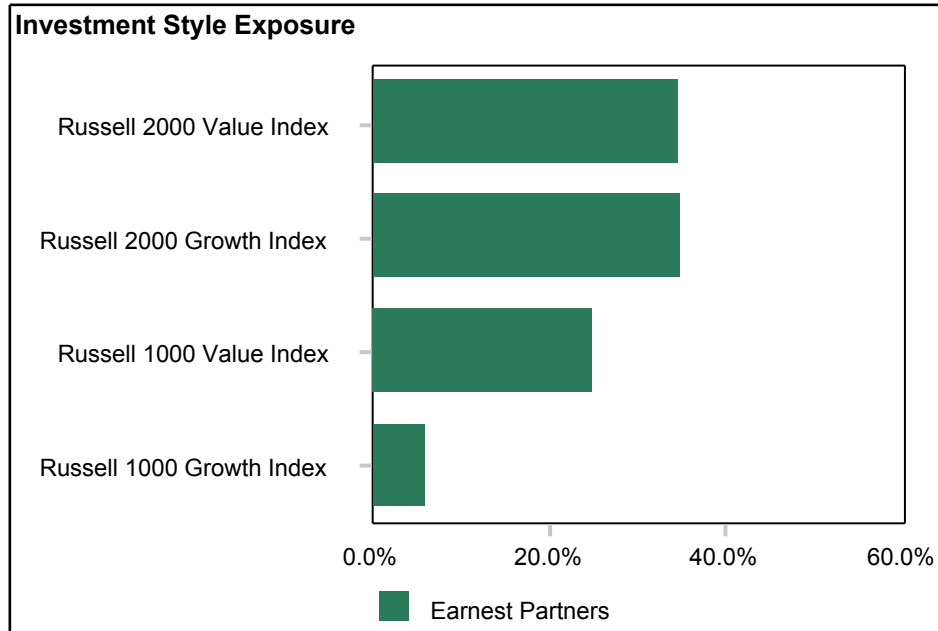
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	3,111,183,520	1,837,496,085
Median Mkt. Cap (\$)	2,594,681,030	632,324,550
Price/Earnings ratio	14.60	12.68
Price/Book ratio	1.98	1.54
5 Yr. EPS Growth Rate (%)	14.12	8.28
Current Yield (%)	1.72	2.51
Beta (5 Years, Monthly)	0.91	1.00
Number of Stocks	51	1,387

Distribution of Market Capitalization (%)



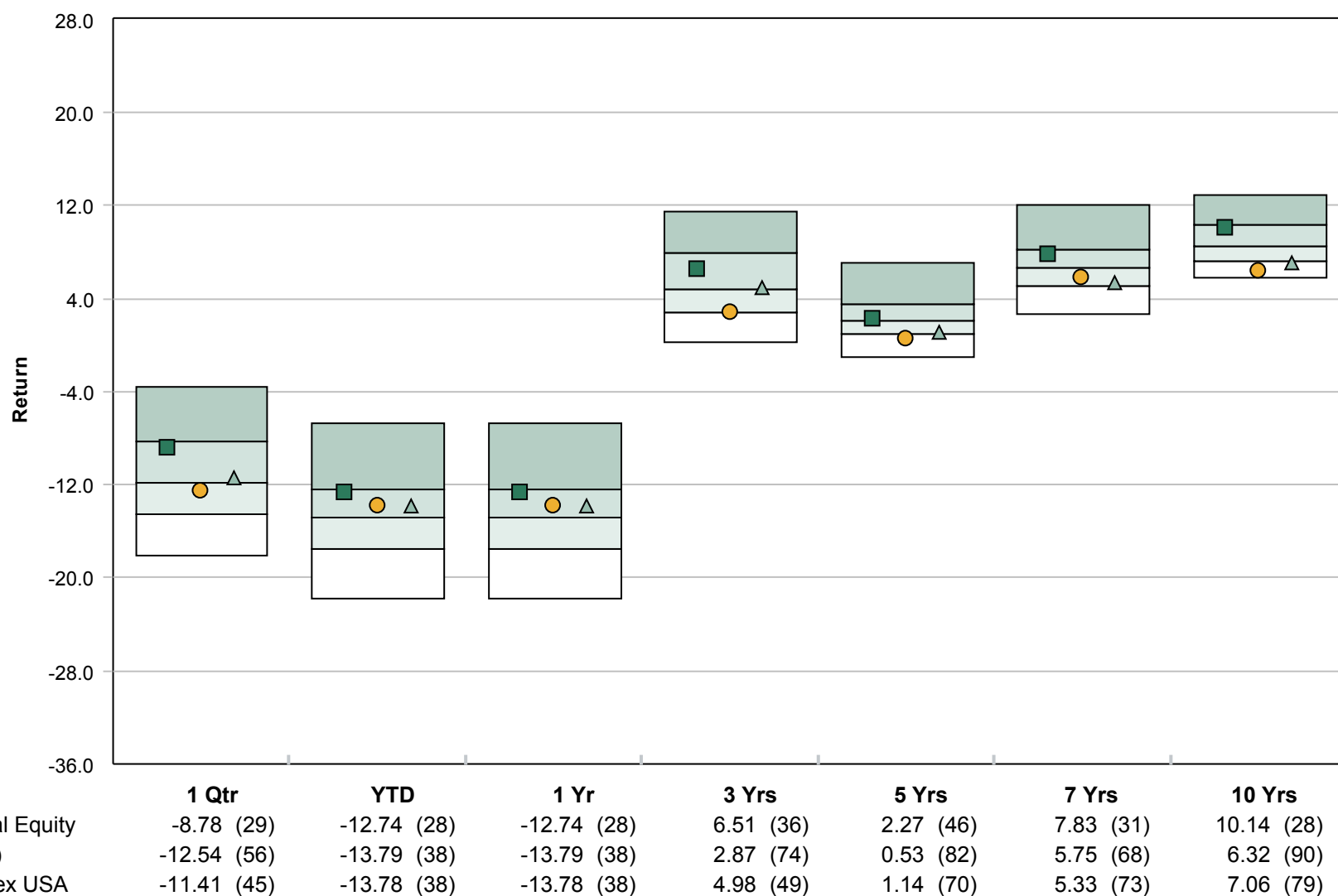
Sector Weights (%)





International Equity

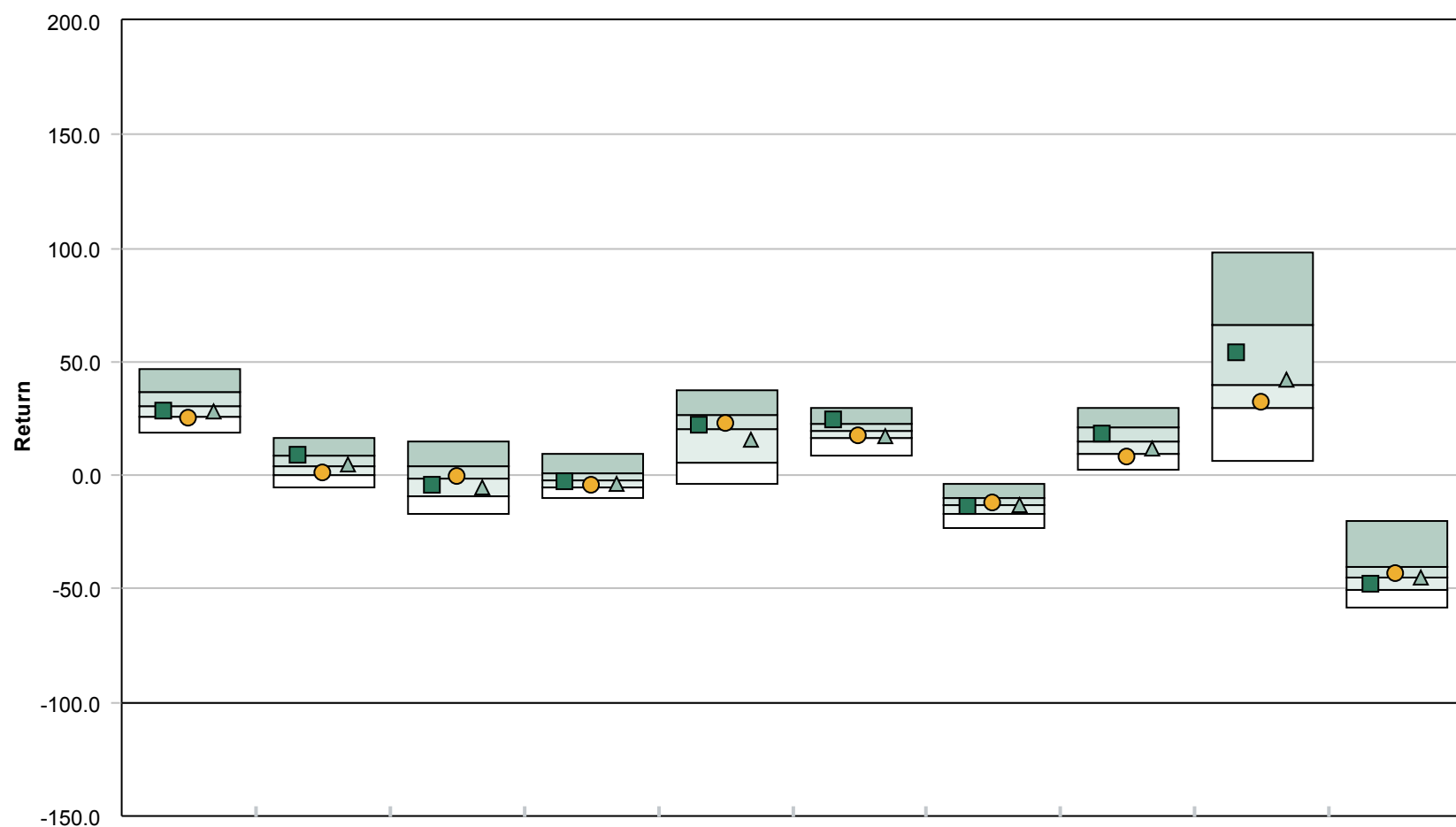
As of December 31, 2018



5th Percentile	-3.56	-6.77	-6.77	11.48	7.07	12.00	12.98
1st Quartile	-8.32	-12.37	-12.37	7.91	3.53	8.24	10.36
Median	-11.87	-14.86	-14.86	4.84	2.07	6.66	8.57
3rd Quartile	-14.53	-17.49	-17.49	2.77	0.91	5.15	7.30
95th Percentile	-18.11	-21.81	-21.81	0.32	-0.98	2.62	5.80

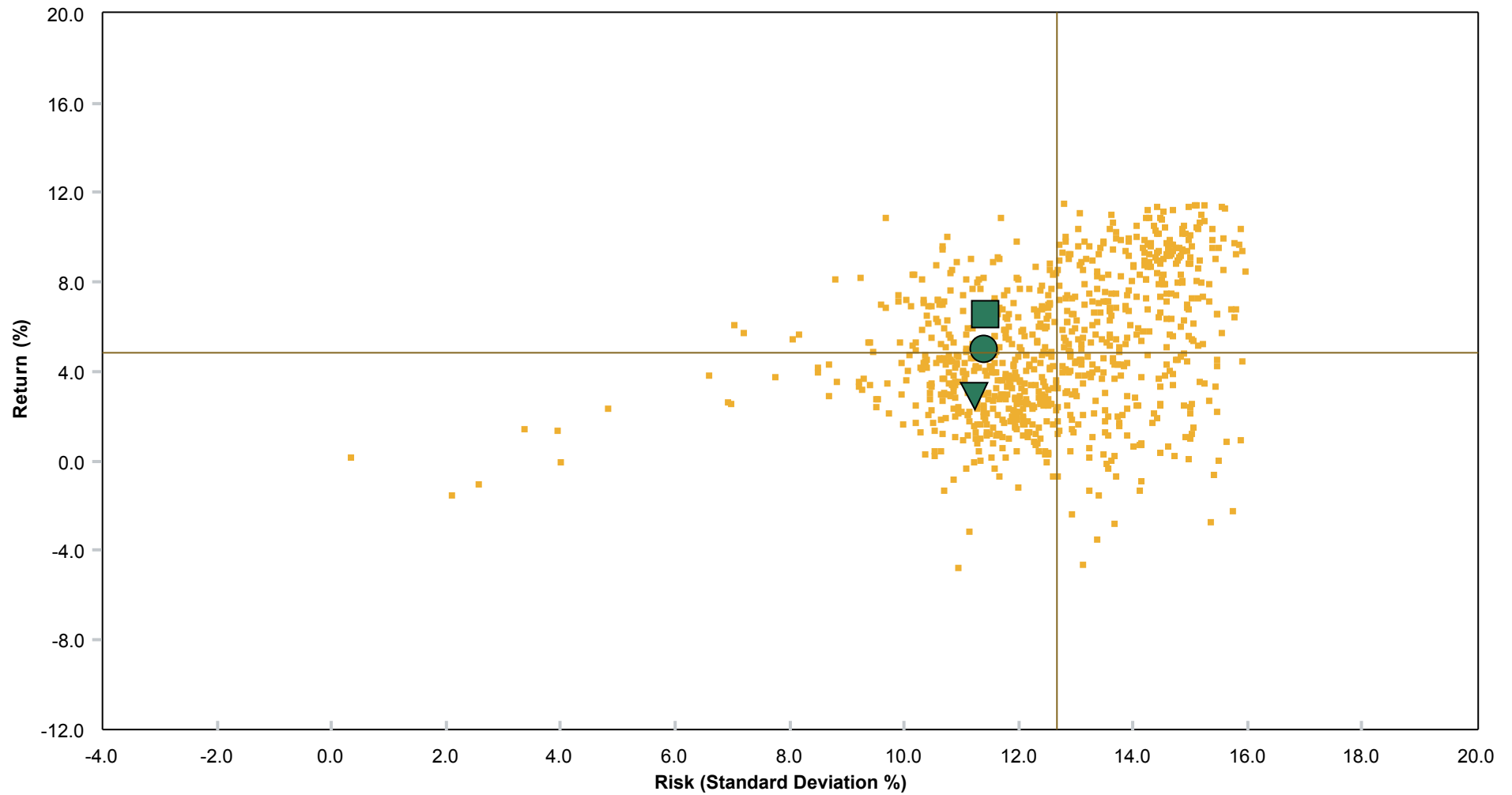
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

As of December 31, 2018



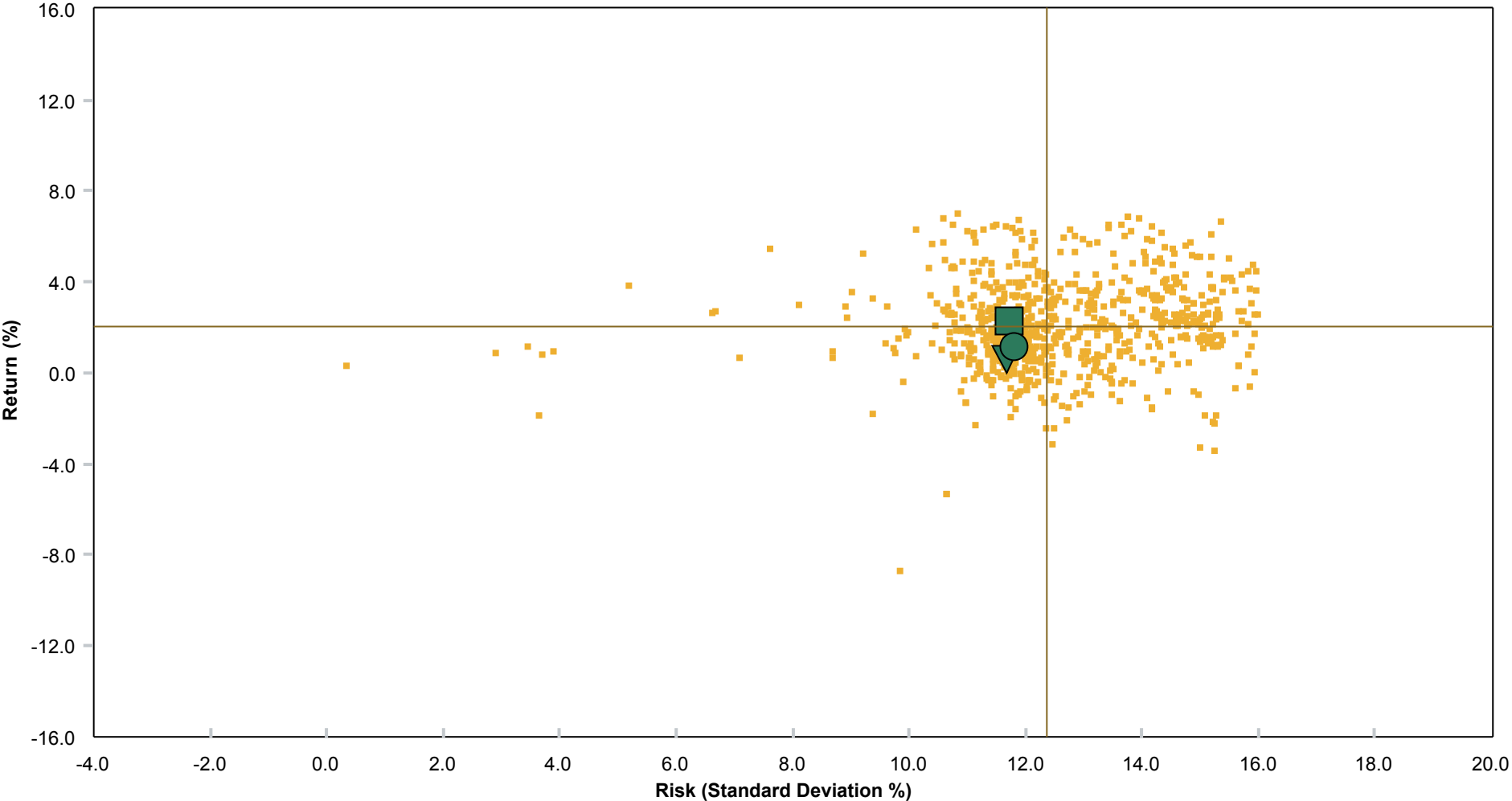
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
■ Total International Equity	27.74 (65)	8.40 (27)	-4.29 (62)	-3.24 (57)	21.81 (44)	24.35 (18)	-14.17 (59)	17.77 (39)	53.39 (32)	-47.73 (66)
● MSCI EAFE (net)	25.03 (80)	1.00 (69)	-0.81 (48)	-4.90 (74)	22.78 (41)	17.32 (70)	-12.14 (43)	7.75 (84)	31.78 (71)	-43.38 (43)
▲ MSCI AC World ex USA	27.77 (65)	5.01 (44)	-5.25 (65)	-3.44 (60)	15.78 (62)	17.39 (70)	-13.33 (52)	11.60 (67)	42.14 (45)	-45.24 (53)
5th Percentile	46.88	16.58	15.19	9.44	37.35	29.99	-3.67	29.68	97.79	-20.37
1st Quartile	36.96	8.85	3.78	1.06	26.67	22.94	-10.04	21.27	65.85	-40.11
Median	30.51	3.74	-1.58	-2.51	19.95	19.83	-13.11	15.18	39.77	-44.67
3rd Quartile	25.64	0.20	-9.25	-5.03	5.63	16.71	-16.75	9.79	29.96	-50.32
95th Percentile	18.53	-5.18	-16.85	-9.80	-3.91	8.35	-23.13	2.44	6.10	-57.84

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	Return	Standard Deviation
■ Total International Equity	6.51	11.44
▼ MSCI EAFE (net)	2.87	11.24
● MSCI AC World ex USA	4.98	11.40
— Median	4.84	12.66

Calculation based on monthly periodicity.



	Return	Standard Deviation
■ Total International Equity	2.27	11.73
▼ MSCI EAFE (net)	0.53	11.68
● MSCI AC World ex USA	1.14	11.83
— Median	2.07	12.38

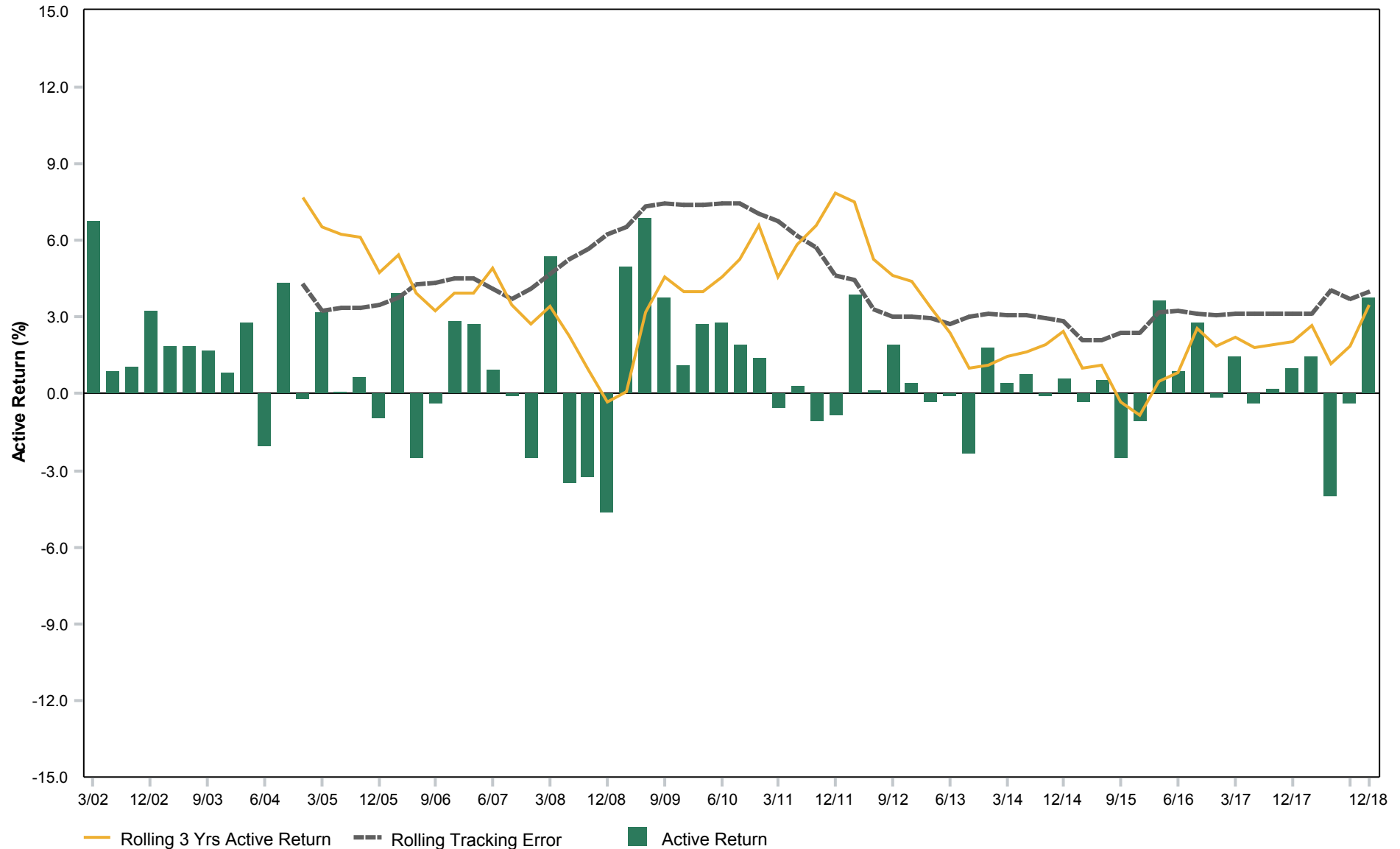
Calculation based on monthly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Total International Equity	-8.78	-12.74	-12.74	6.51	2.27	7.83	10.14	27.74	8.40	-4.29	-3.24
MSCI EAFE (net)	-12.54	-13.79	-13.79	2.87	0.53	5.75	6.32	25.03	1.00	-0.81	-4.90
Difference	3.76	1.05	1.05	3.64	1.74	2.08	3.82	2.71	7.40	-3.48	1.66



Bristol County Retirement System

Total International Equity

As of December 31, 2018

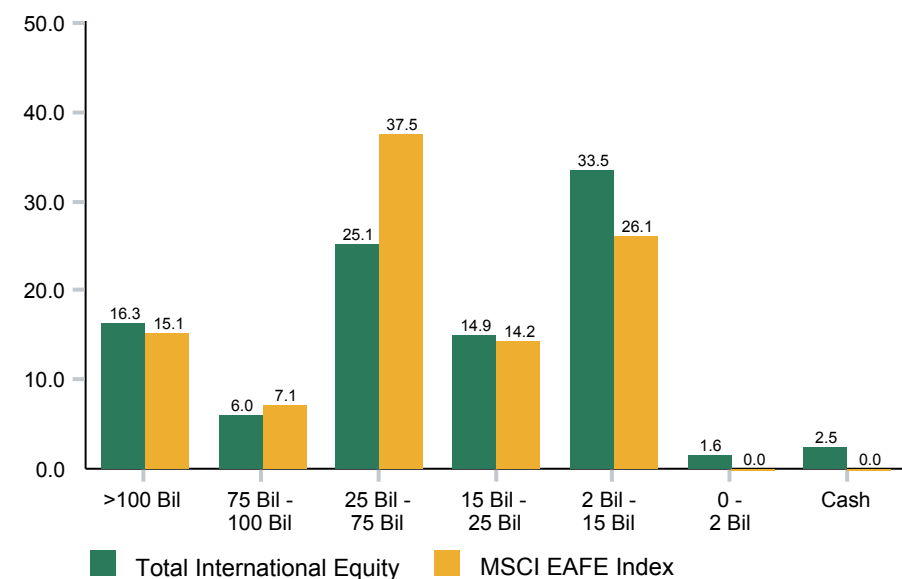
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Taiwan Semiconductor Manuf	1.91	0.00	1.91	-14.43
Tencent Holdings LTD	1.35	0.00	1.35	-2.93
China Construction Bank Corp	1.30	0.00	1.30	-5.64
Roche Holding AG	1.19	1.39	-0.20	1.55
Samsung Electronics Co Ltd	1.17	0.00	1.17	-15.42
Keyence Corp	1.12	0.39	0.73	-12.71
Banco Do Brasil SA Bb Brasil	1.02	0.00	1.02	65.19
China Mobile Ltd	1.02	0.00	1.02	-1.90
Unilever NV	0.99	0.67	0.32	-1.79
Tata Consultancy Services Ltd	0.96	0.00	0.96	-9.45
% of Portfolio	12.03	2.45	9.58	

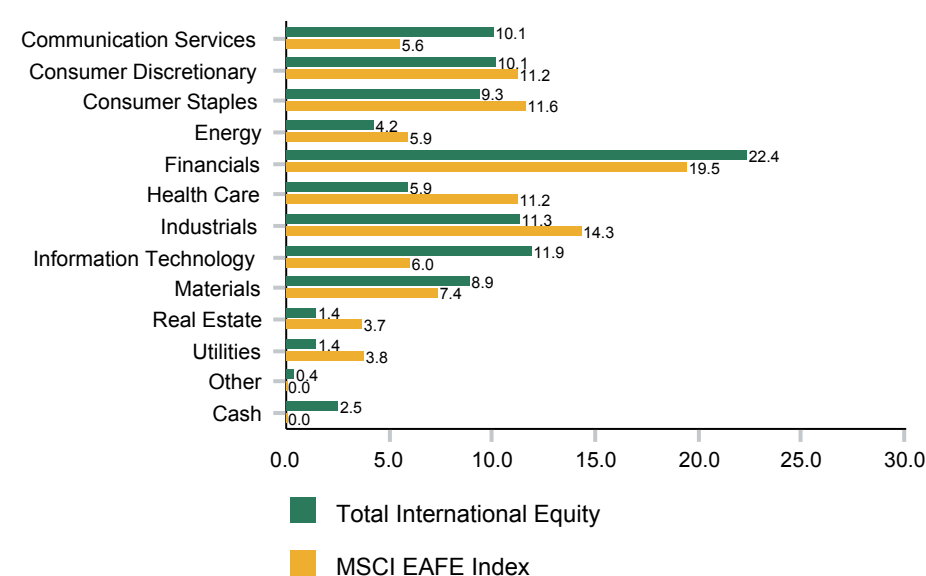
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	50,392,363,036	55,193,733,249
Median Mkt. Cap (\$)	8,516,102,638	9,371,617,180
Price/Earnings ratio	12.23	12.27
Price/Book ratio	2.41	2.12
5 Yr. EPS Growth Rate (%)	9.15	9.78
Current Yield (%)	3.26	3.73
Beta (5 Years, Monthly)	0.95	1.00
Number of Stocks	885	920

Distribution of Market Capitalization (%)



Sector Weights (%)



As of December 31, 2018

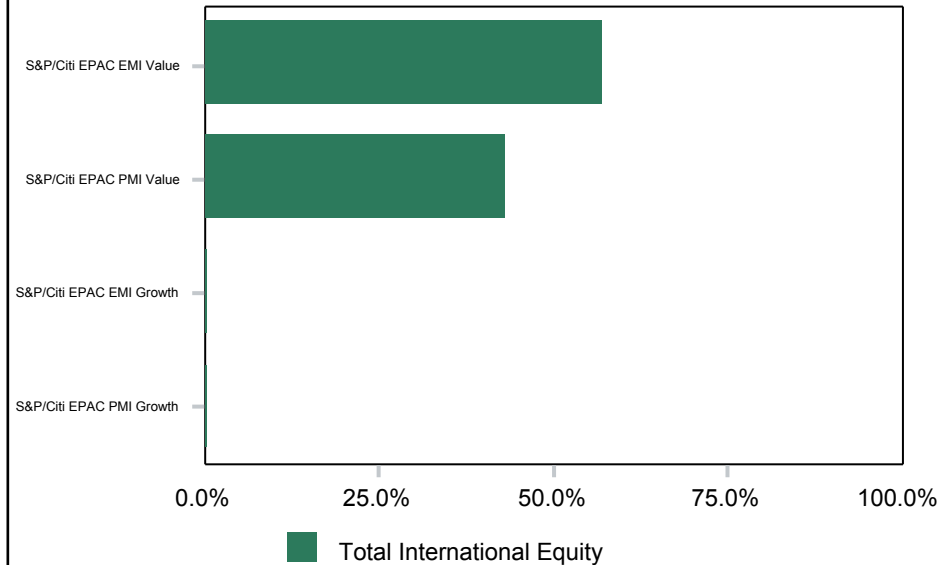
Ten Best Performers

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Banco Do Brasil SA Bb Brasil	1.02	0.00	1.02	65.19
Banco Estado Do Rio Grande Do Sul SA Banrisul Brsr	0.00	0.00	0.00	62.46
Centrais Eletricas Brasileiras Sa-Eletronbras	0.00	0.00	0.00	61.48
Centrais Eletricas Brasileiras Sa-Eletronbras	0.01	0.00	0.01	56.38
Ultrapar Participacoes SA	0.22	0.00	0.22	47.31
Banco Bradesco Sa Brad	0.69	0.00	0.69	42.73
Banco Bradesco Sa Brad	0.02	0.00	0.02	42.36
CCR SA	0.26	0.00	0.26	42.16
Lojas Renner SA	0.29	0.00	0.29	41.68
Petrobras Distribuidora SA	0.04	0.00	0.04	39.11
% of Portfolio	2.55	0.00	2.55	

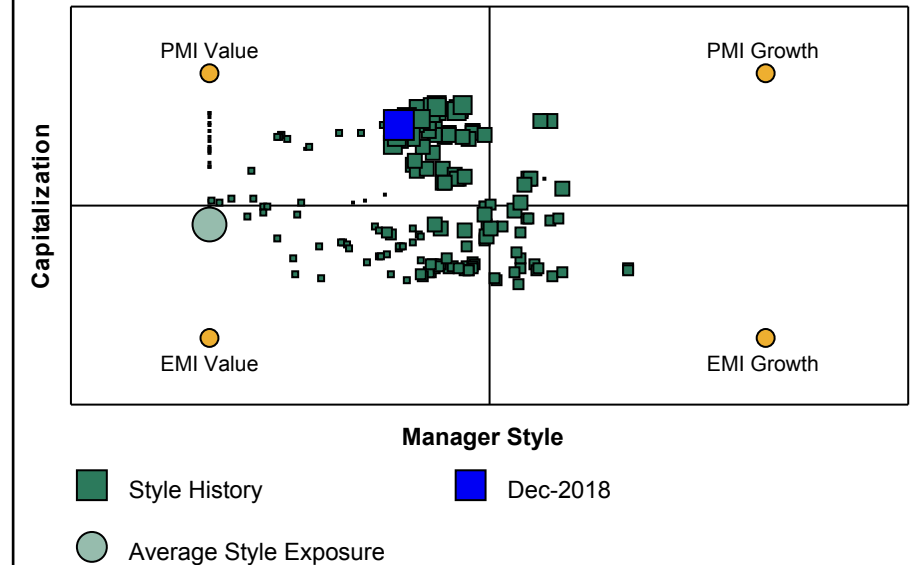
Ten Worst Performers

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Imperial Logistics Ltd	0.09	0.00	0.09	-61.84
Tamarack Valley Energy Ltd	0.00	0.00	0.00	-55.55
Crescent Point Energy Corp	0.00	0.00	0.00	-51.50
Momo Inc	0.01	0.00	0.01	-45.78
iQIYI Inc	0.00	0.00	0.00	-45.07
BRP Inc	0.01	0.00	0.01	-44.60
Spectrum ASA	0.00	0.00	0.00	-44.37
Sysmex Corp	0.01	0.06	-0.05	-44.20
AAC Technologies Holdings Inc	0.19	0.00	0.19	-44.14
Sopra Steria Group SA	0.00	0.00	0.00	-42.46
% of Portfolio	0.31	0.06	0.25	

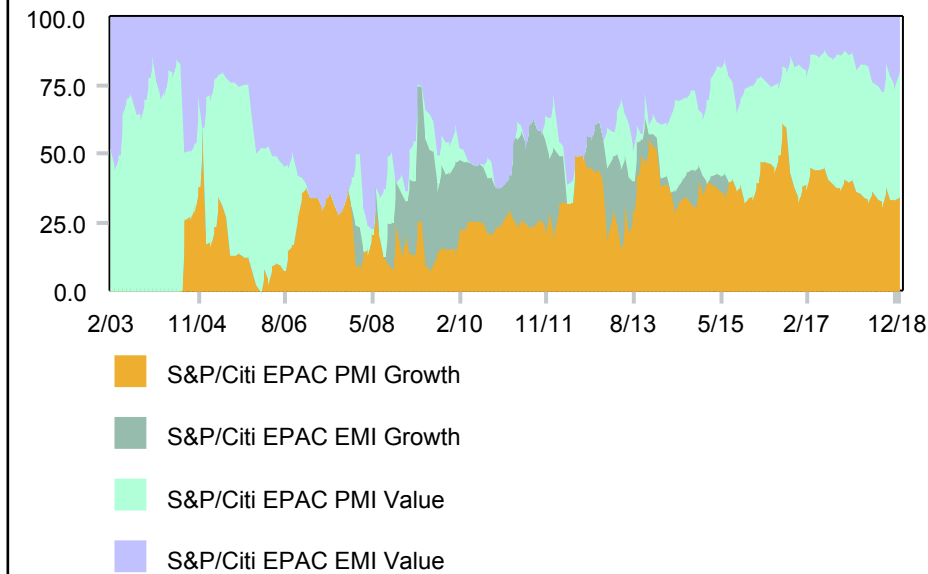
Investment Style Exposure



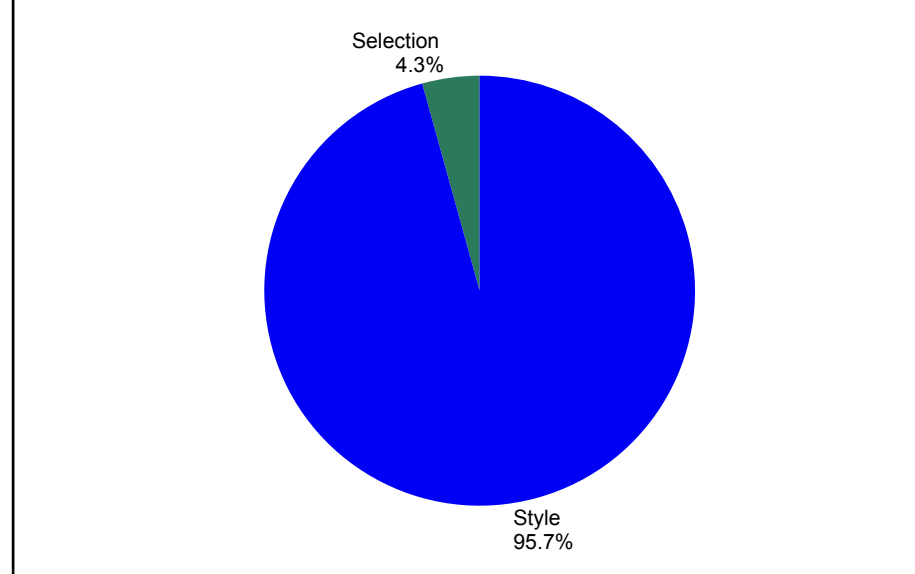
Style Map(ppp)



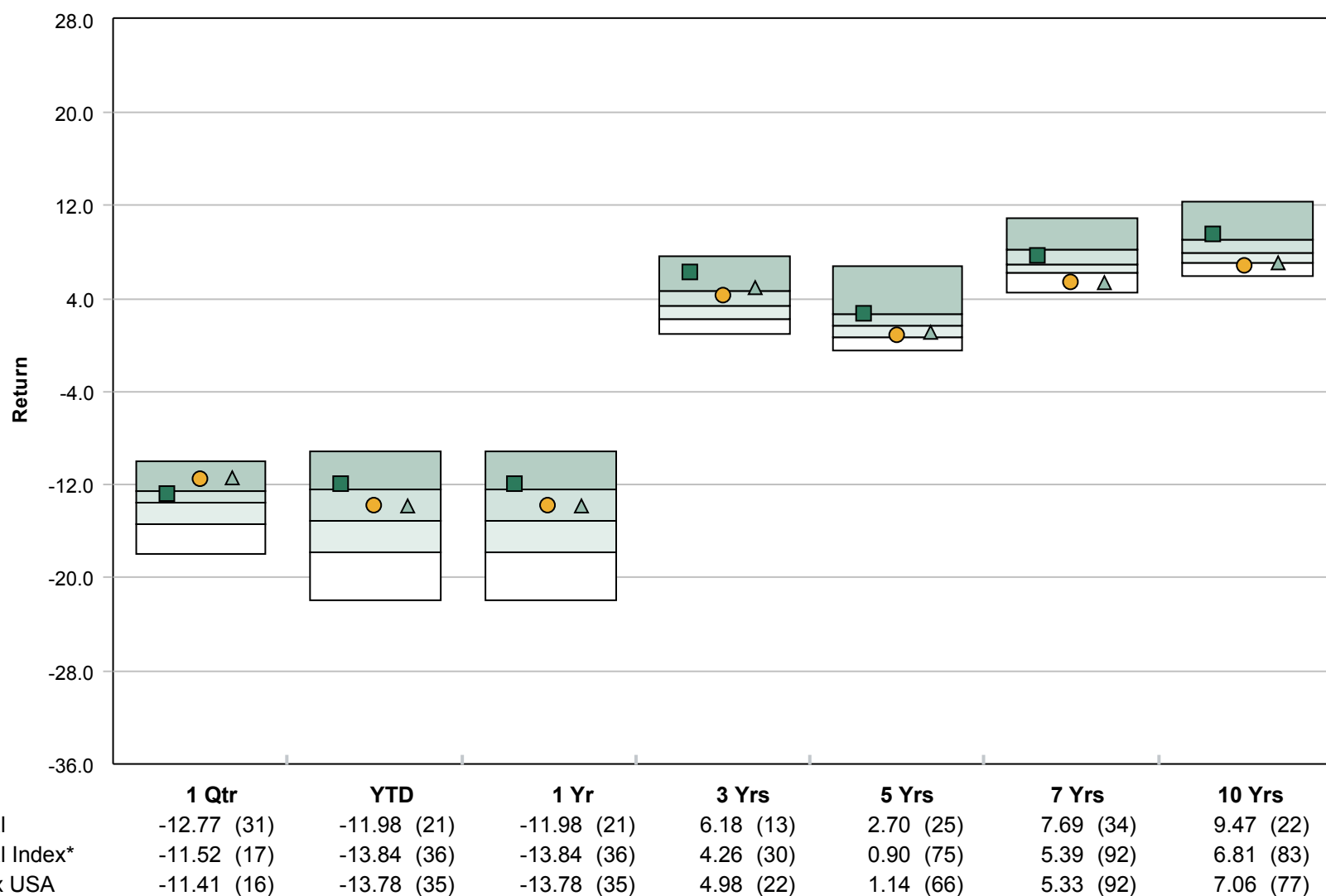
Style History(ppp)



Return Variance



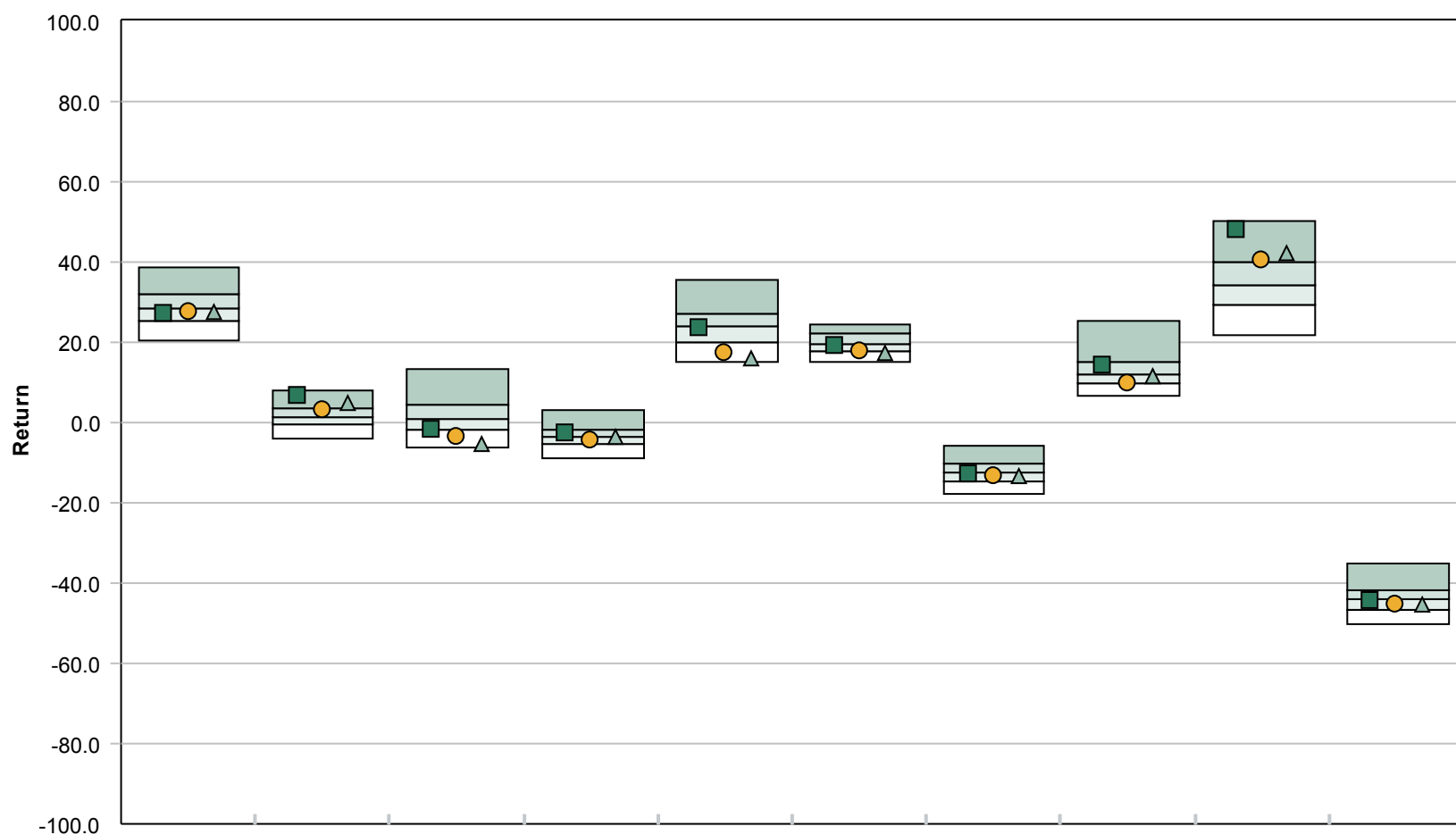
As of December 31, 2018



5th Percentile	-10.00	-9.05	-9.05	7.67	6.77	10.92	12.39
1st Quartile	-12.50	-12.39	-12.39	4.62	2.70	8.19	9.07
Median	-13.54	-15.12	-15.12	3.35	1.70	6.88	7.89
3rd Quartile	-15.36	-17.76	-17.76	2.32	0.76	6.18	7.12
95th Percentile	-17.98	-21.86	-21.86	0.95	-0.41	4.48	5.90

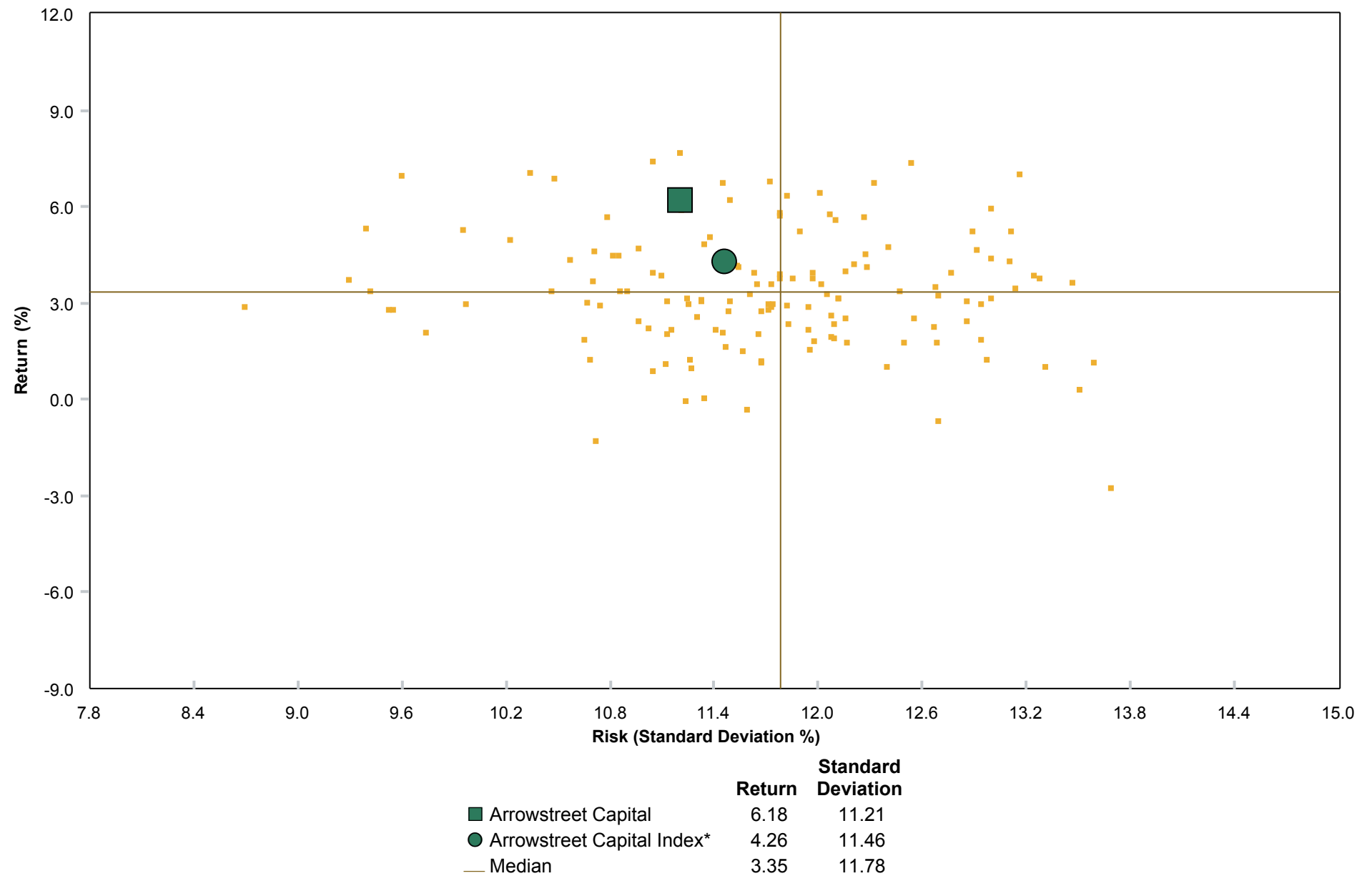
*80% MSCI EAFE/20% MSCI EME

As of December 31, 2018

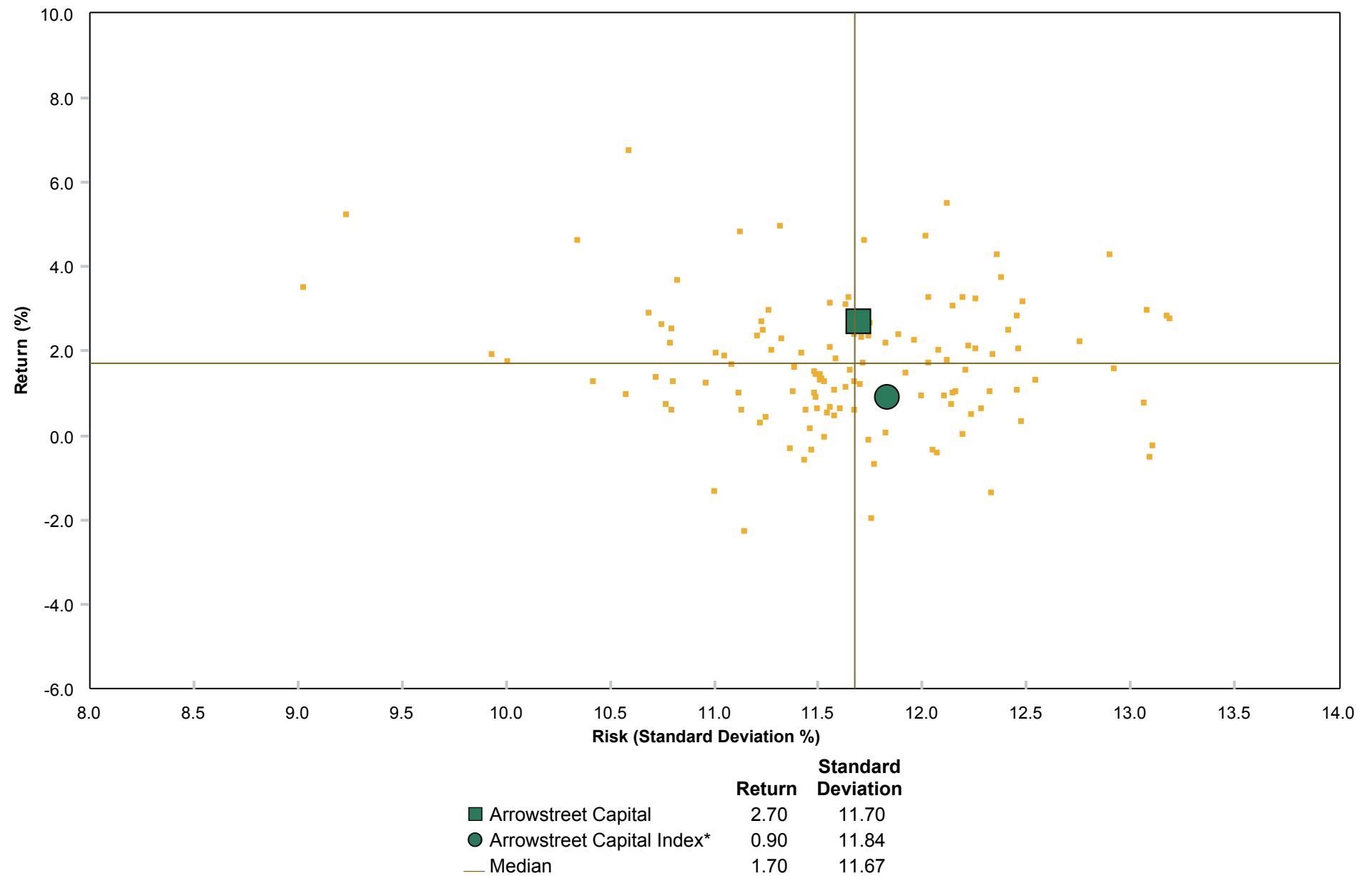


	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
■ Arrowstreet Capital	27.26 (57)	6.87 (10)	-1.88 (76)	-2.74 (38)	23.44 (56)	19.10 (62)	-12.96 (57)	14.39 (31)	47.80 (9)	-44.23 (53)
● Arrowstreet Capital Index*	27.52 (57)	3.15 (32)	-3.64 (88)	-4.23 (59)	17.38 (85)	17.65 (76)	-13.27 (60)	9.98 (70)	40.33 (25)	-45.40 (66)
▲ MSCI AC World ex USA	27.77 (55)	5.01 (19)	-5.25 (94)	-3.44 (50)	15.78 (94)	17.39 (78)	-13.33 (61)	11.60 (55)	42.14 (19)	-45.24 (65)
5th Percentile	38.76	8.11	13.29	2.94	35.67	24.57	-5.64	25.44	50.06	-35.04
1st Quartile	32.14	3.59	4.52	-1.95	27.25	22.00	-10.42	15.27	40.03	-41.82
Median	28.54	1.54	1.09	-3.44	24.05	19.74	-12.43	12.05	34.41	-44.15
3rd Quartile	25.37	-0.30	-1.86	-5.23	20.00	17.70	-14.82	9.72	29.24	-46.52
95th Percentile	20.65	-3.91	-6.15	-8.99	15.24	14.94	-17.87	6.73	21.64	-50.33

*80% MSCI EAFE/20% MSCI EME



*80% MSCI EAFE/20% MSCI EME.



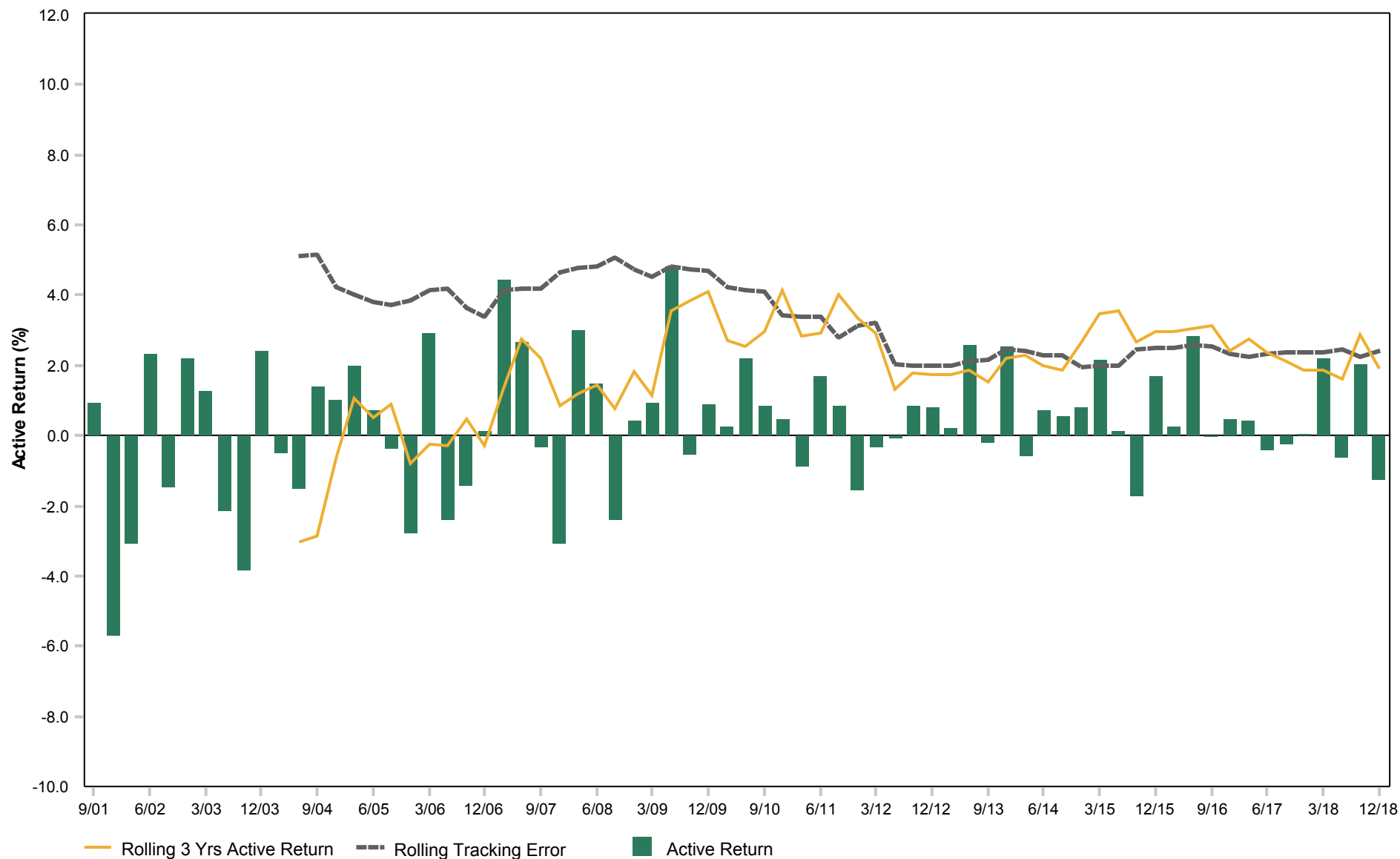
*80% MSCI EAFE/20% MSCI EME.

Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Arrowstreet Capital	-12.77	-11.98	-11.98	6.18	2.70	7.69	9.47	27.26	6.87	-1.88	-2.74
Arrowstreet Capital Index*	-11.52	-13.84	-13.84	4.26	0.90	5.39	6.81	27.52	3.15	-3.64	-4.23
Difference	-1.25	1.86	1.86	1.92	1.80	2.30	2.66	-0.26	3.72	1.76	1.49



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

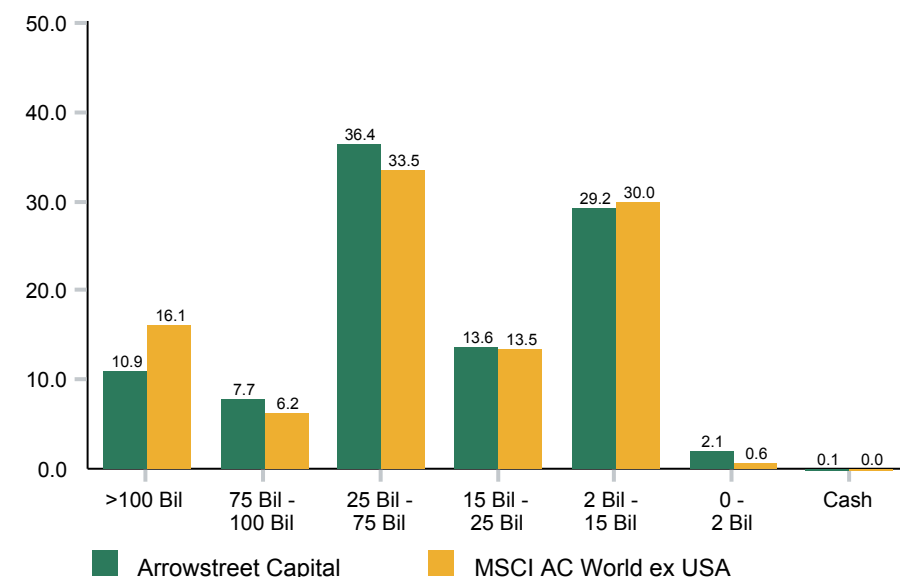
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Roche Holding AG	2.70	0.94	1.76	1.55
Siemens AG	1.89	0.46	1.43	-13.04
Shire PLC	1.75	0.00	1.75	-3.44
Novartis AG	1.69	1.00	0.69	-1.23
Samsung Electronics Co Ltd	1.52	0.90	0.62	-16.16
Enel Ente Nazionale Per L'Energia Elettrica SPA, Roma	1.24	0.25	0.99	12.65
Taiwan Semiconductor	1.19	0.98	0.21	-16.42
iShares MSCI South Korea Capped ETF	1.17	0.00	1.17	-12.62
Bank of China Ltd	1.06	0.19	0.87	-2.96
Telefonica SA	1.02	0.21	0.81	8.90
% of Portfolio	15.23	4.93	10.30	

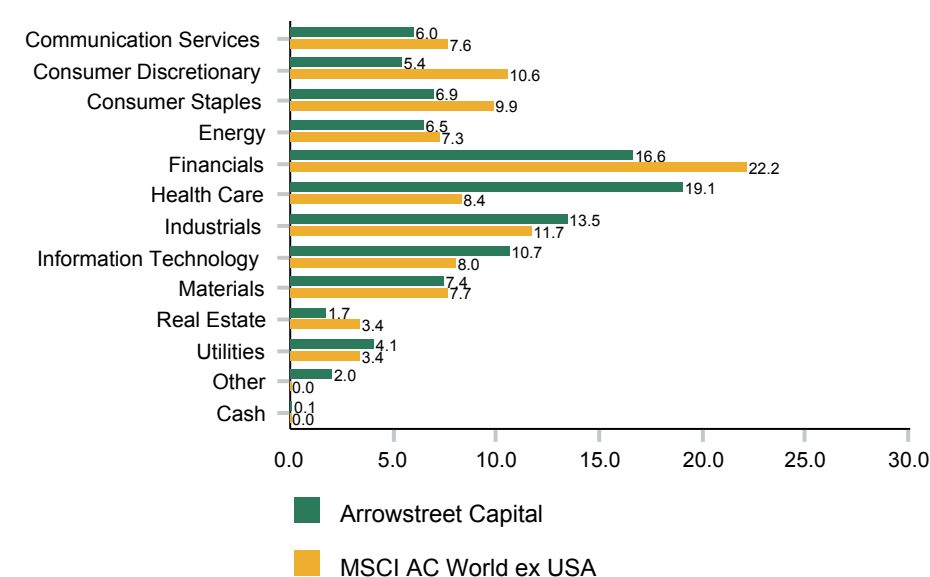
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	47,408,303,521	58,116,104,697
Median Mkt. Cap (\$)	8,179,209,872	7,297,808,301
Price/Earnings ratio	10.82	12.03
Price/Book ratio	2.24	2.15
5 Yr. EPS Growth Rate (%)	12.84	10.64
Current Yield (%)	3.47	3.54
Beta (5 Years, Monthly)	0.95	1.00
Number of Stocks	718	2,136

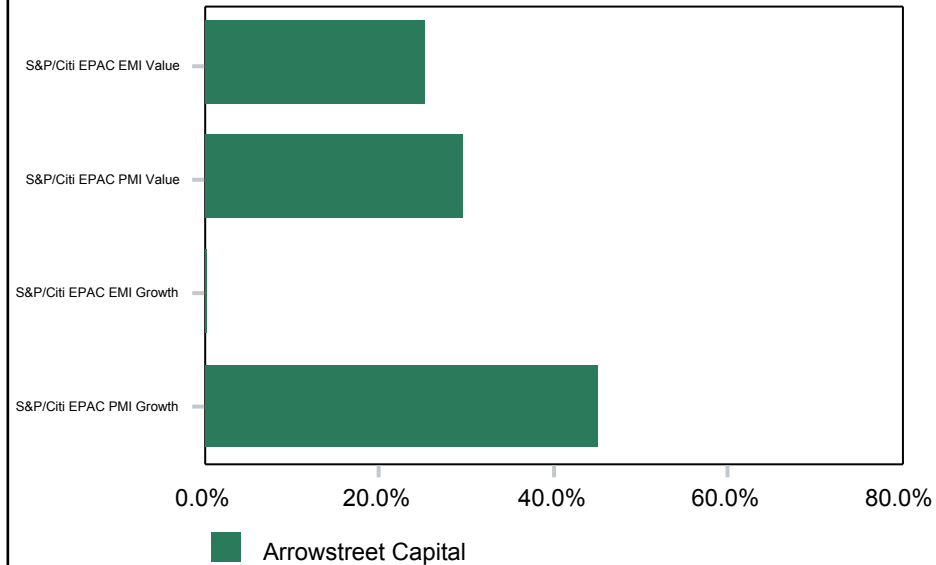
Distribution of Market Capitalization (%)



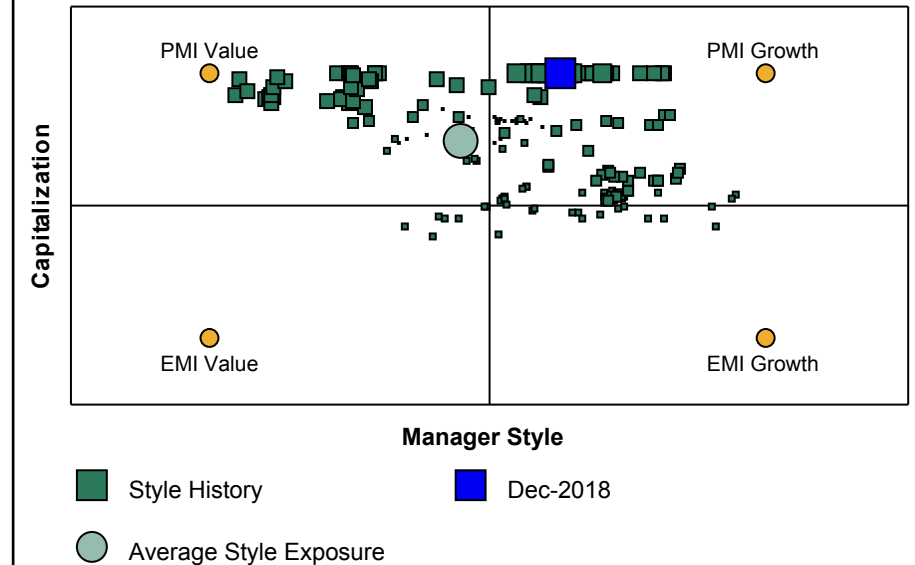
Sector Weights (%)



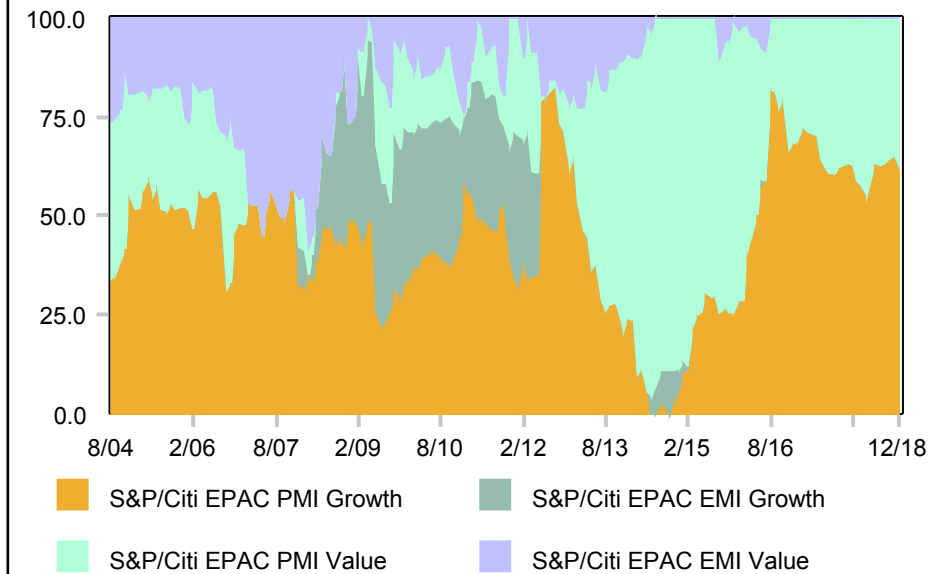
Investment Style Exposure



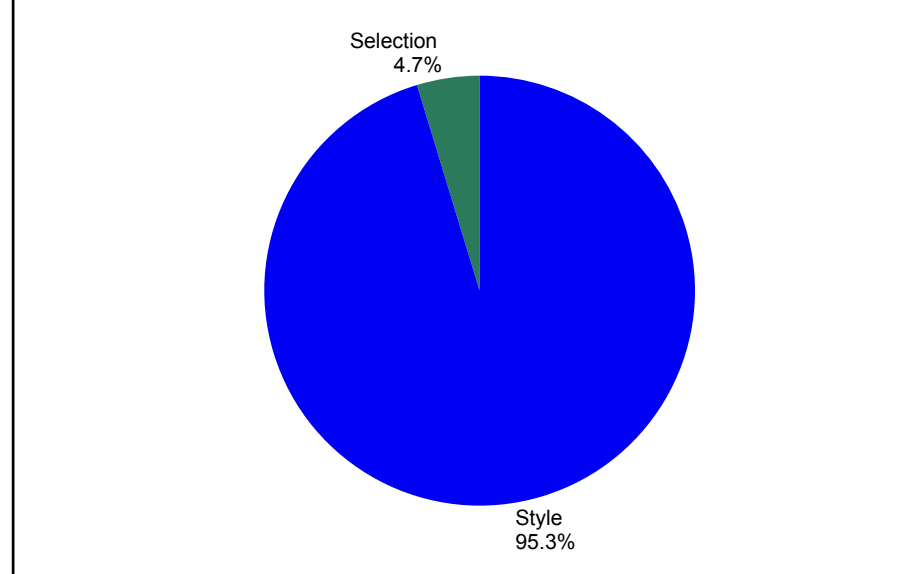
Style Map(ppp)



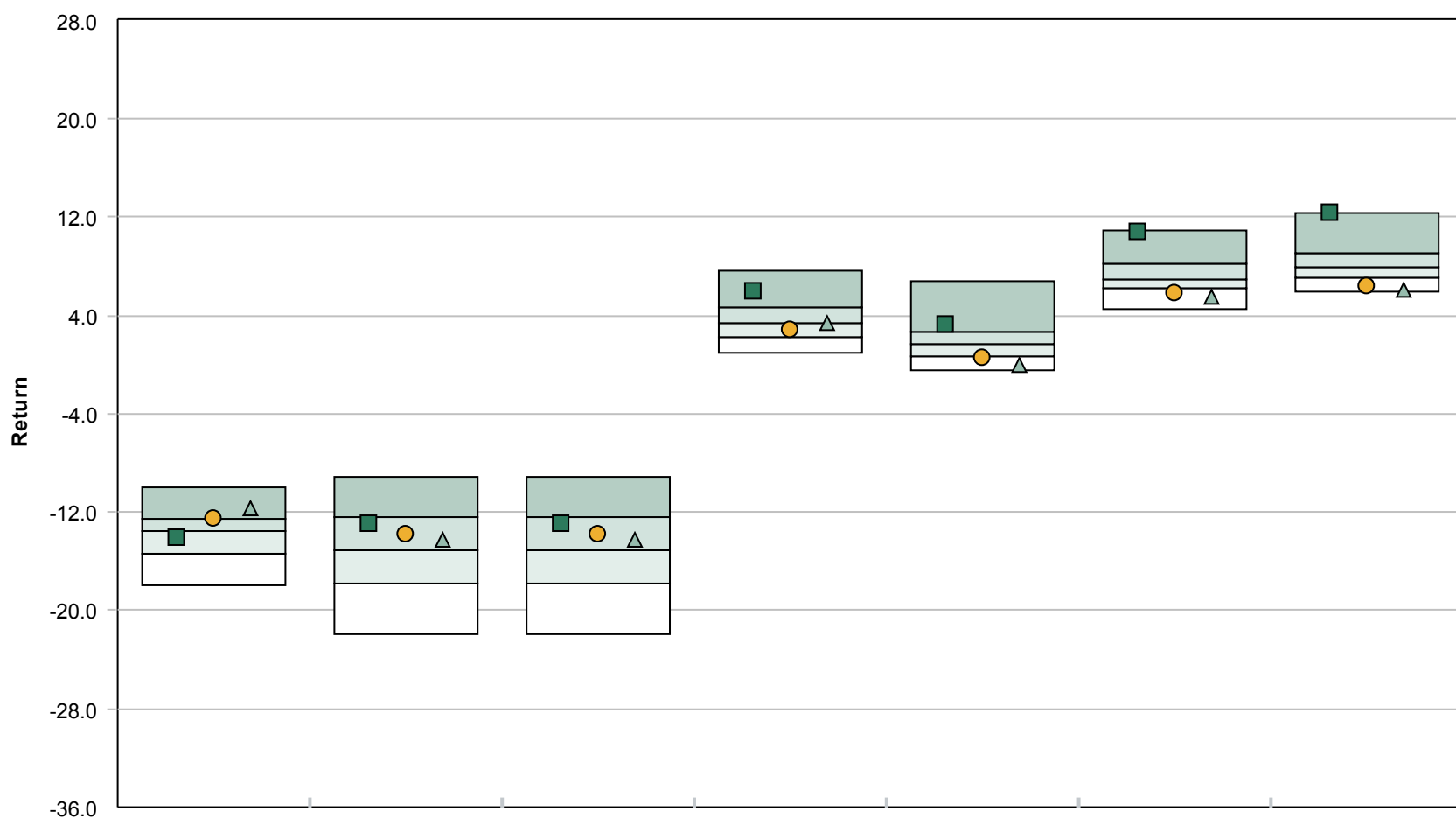
Style History(ppp)



Return Variance



As of December 31, 2018

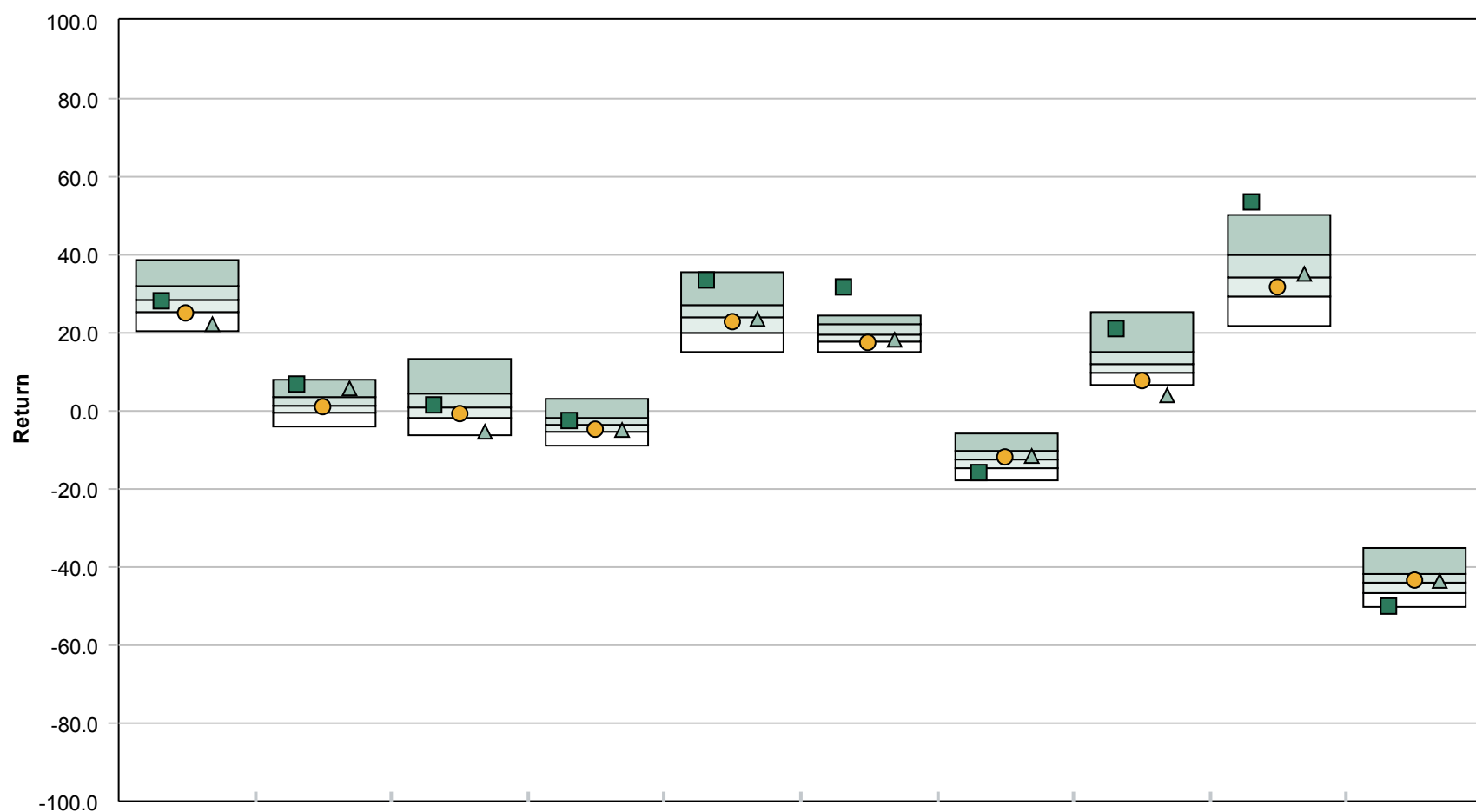


■ Freedom Capital Intl
 ● MSCI EAFE (net)
 ▲ MSCI EAFE Value

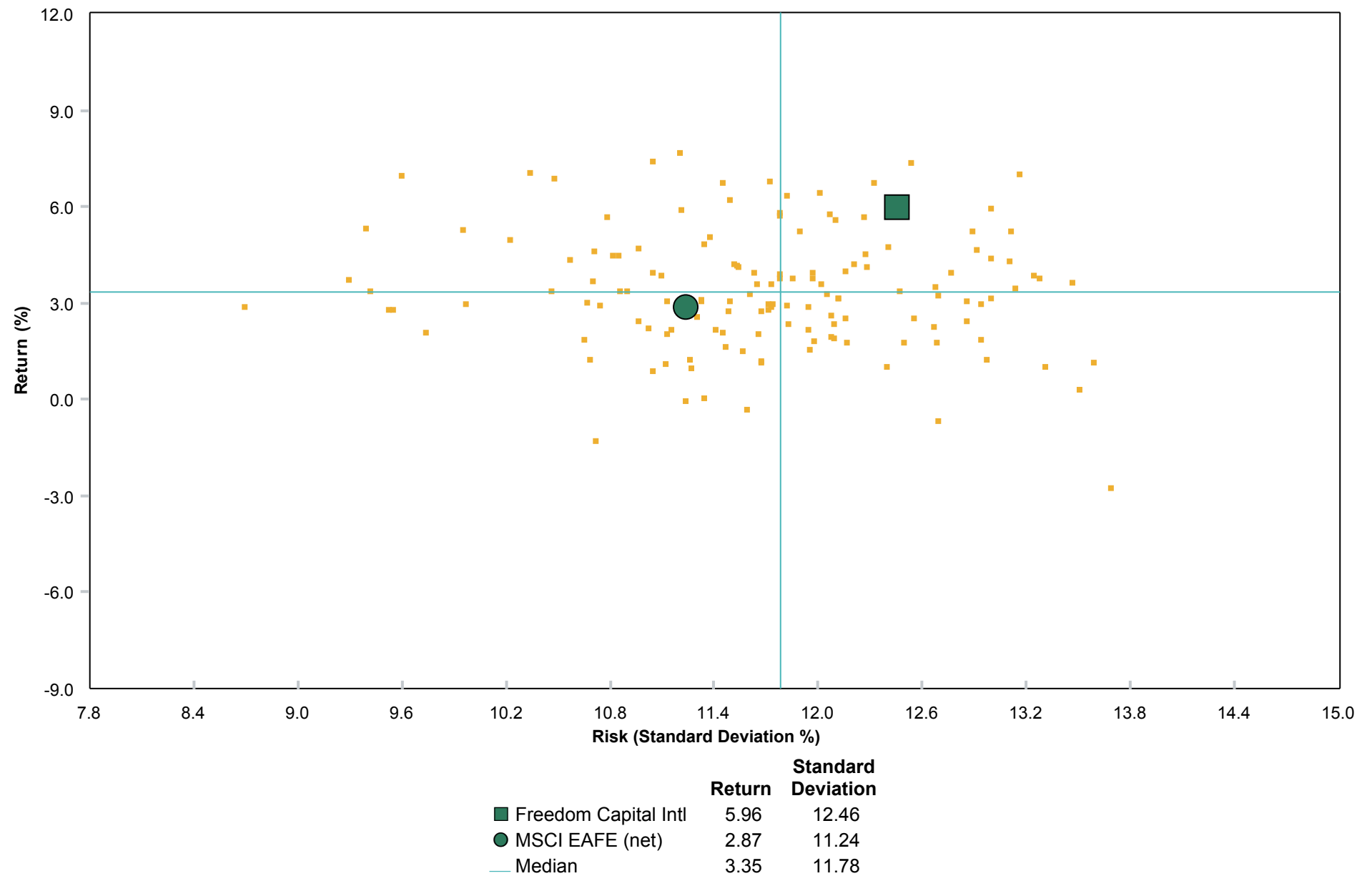
5th Percentile	-10.00	-9.05	-9.05	7.67	6.77	10.92	12.39
1st Quartile	-12.50	-12.39	-12.39	4.62	2.70	8.19	9.07
Median	-13.54	-15.12	-15.12	3.35	1.70	6.88	7.89
3rd Quartile	-15.36	-17.76	-17.76	2.32	0.76	6.18	7.12
95th Percentile	-17.98	-21.86	-21.86	0.95	-0.41	4.48	5.90

Parentheses contain percentile rankings.
 Calculation based on monthly periodicity.

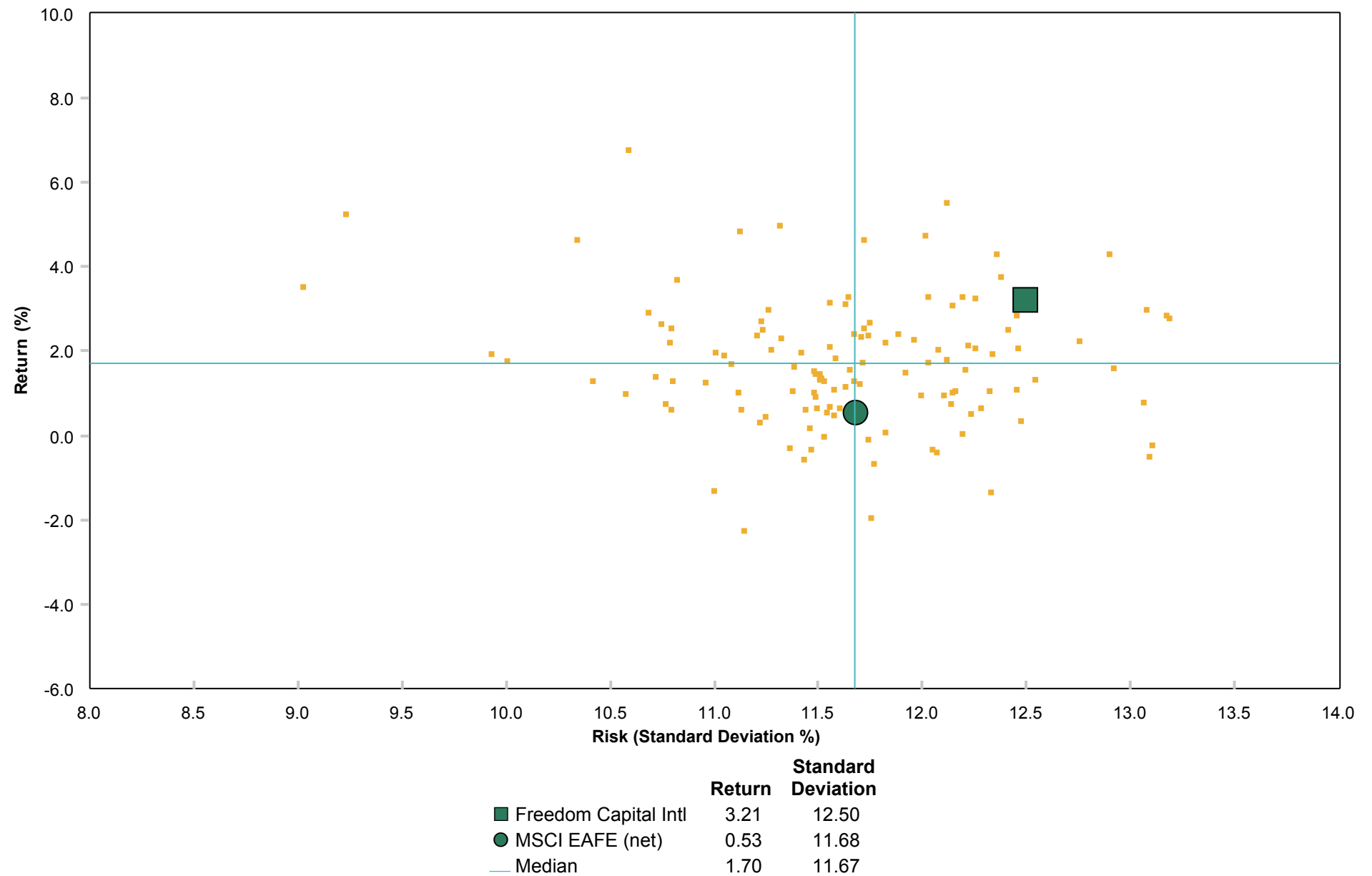
As of December 31, 2018



Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



Calculation based on monthly periodicity.



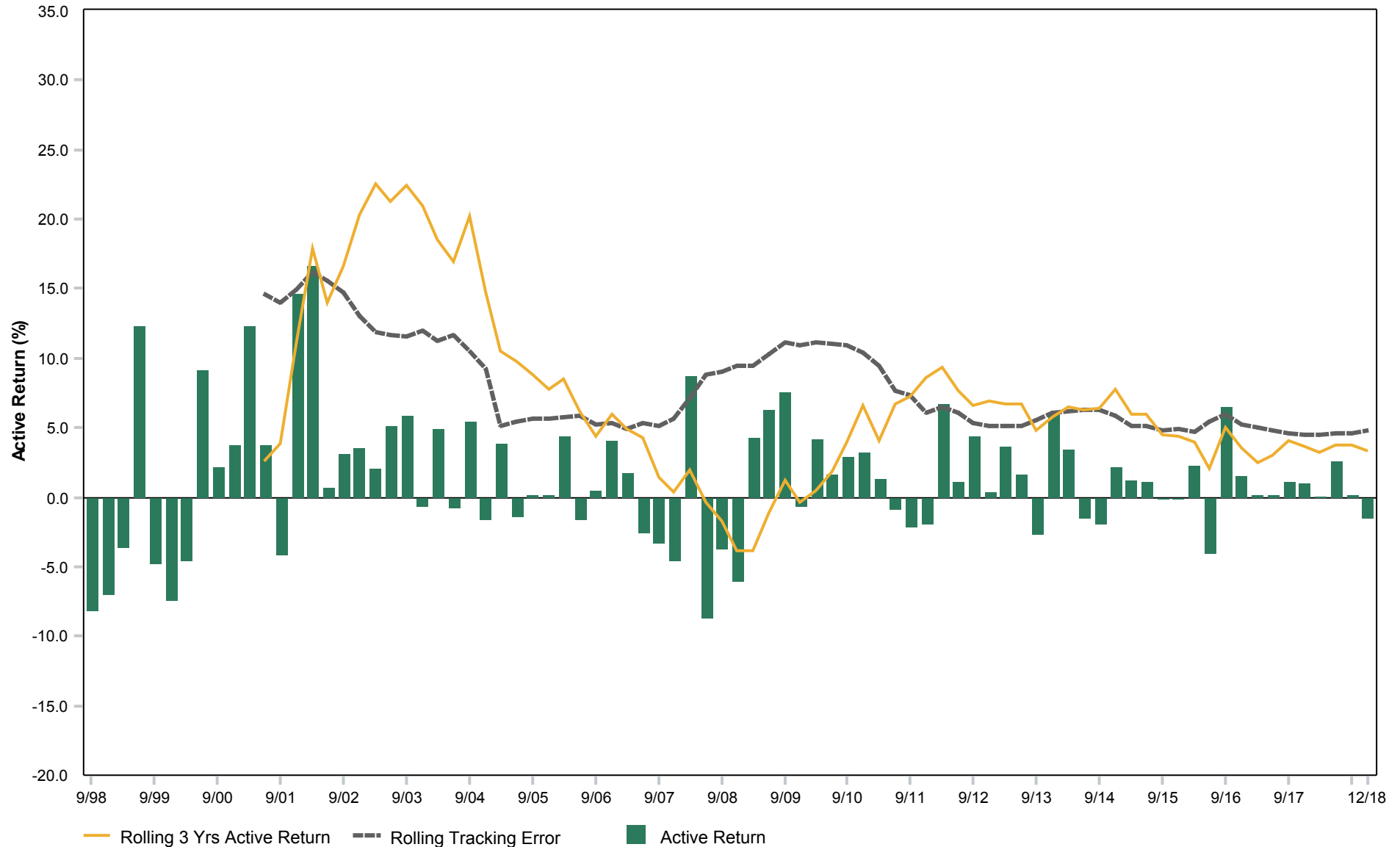
Calculation based on monthly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Freedom Capital Intl	-14.11	-12.90	-12.90	5.96	3.21	10.81	12.34	27.96	6.75	1.37	-2.88
MSCI EAFE (net)	-12.54	-13.79	-13.79	2.87	0.53	5.75	6.32	25.03	1.00	-0.81	-4.90
Difference	-1.57	0.89	0.89	3.09	2.68	5.06	6.02	2.93	5.75	2.18	2.02



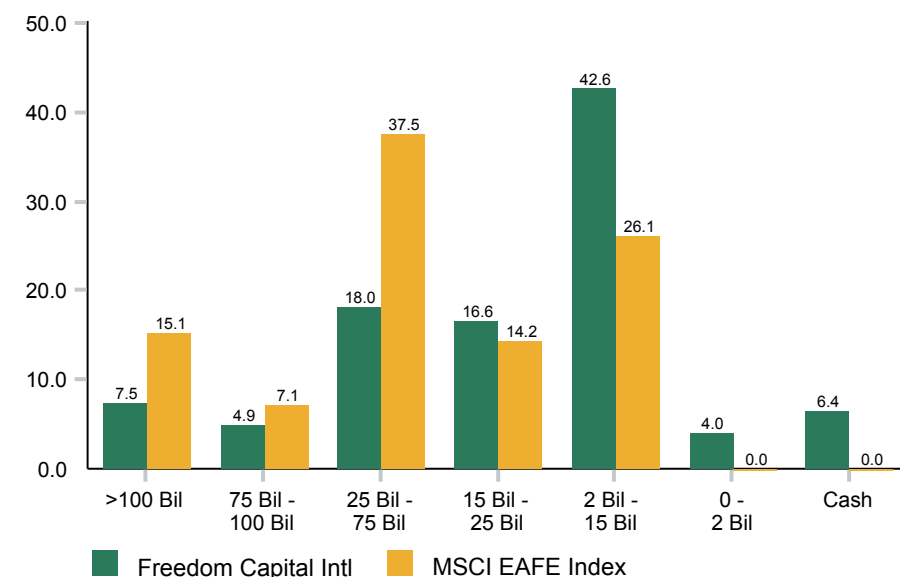
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Linde Plc	2.94	0.00	2.94	-2.41
Novartis AG	2.67	1.48	1.19	-1.23
Infosys Ltd	2.65	0.00	2.65	-5.42
Cineworld Group	2.60	0.00	2.60	-18.53
BHP Group Ltd	2.54	0.57	1.97	-4.75
Nexon Co Ltd	2.46	0.05	2.41	-1.58
United Overseas Bank Ltd	2.42	0.19	2.23	-8.98
Hannover Rueck SE	2.42	0.07	2.35	-4.70
DnB ASA	2.35	0.12	2.23	-24.27
Popular Inc	2.33	0.00	2.33	-7.43
% of Portfolio	25.38	2.48	22.90	

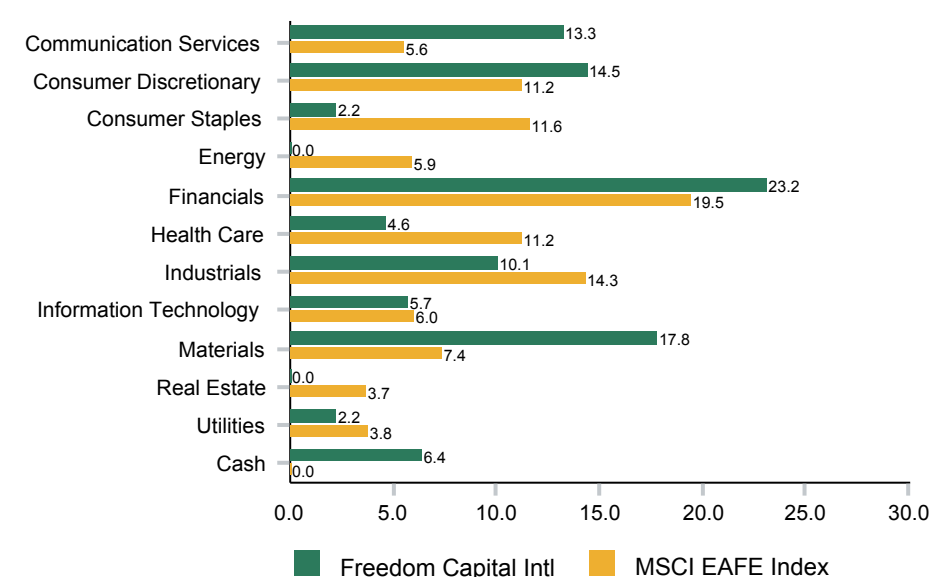
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	31,690,724,375	55,193,733,249
Median Mkt. Cap (\$)	13,488,386,776	9,371,617,180
Price/Earnings ratio	11.31	12.27
Price/Book ratio	1.67	2.12
5 Yr. EPS Growth Rate (%)	6.09	9.78
Current Yield (%)	3.73	3.73
Beta (5 Years, Monthly)	1.00	1.00
Number of Stocks	51	920

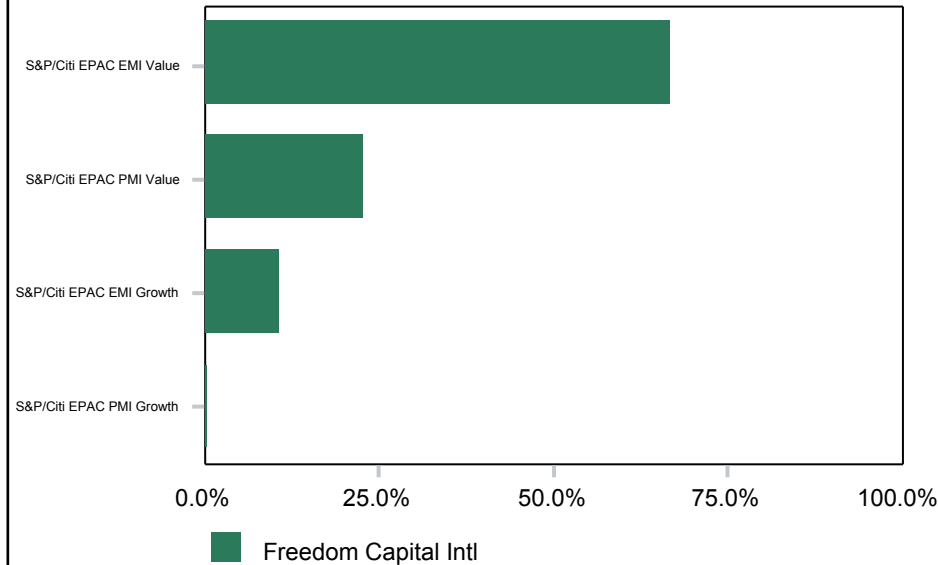
Distribution of Market Capitalization (%)



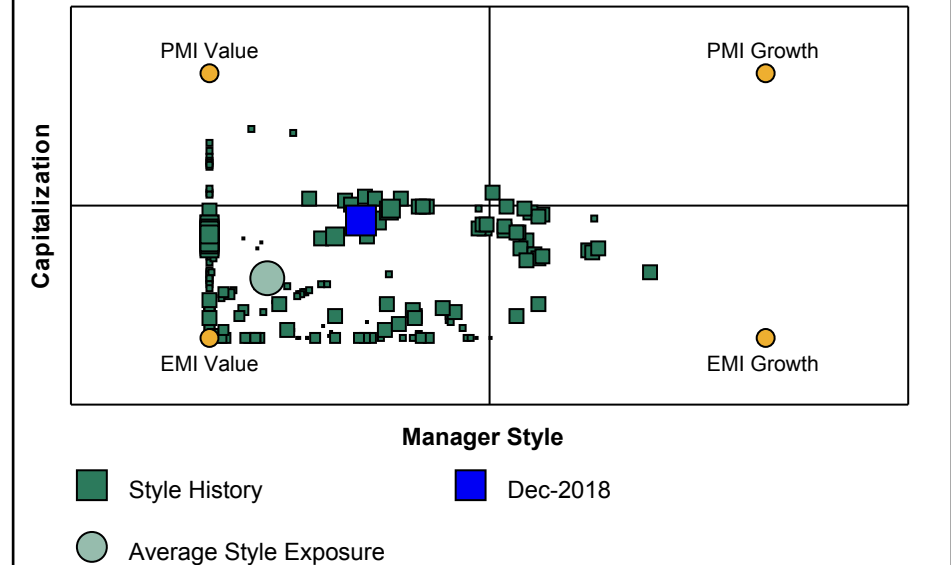
Sector Weights (%)



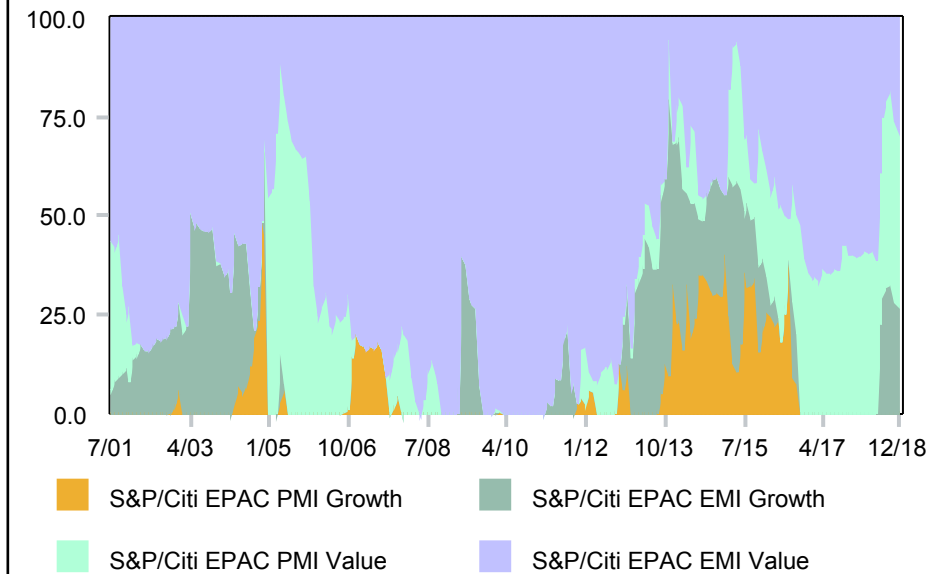
Investment Style Exposure



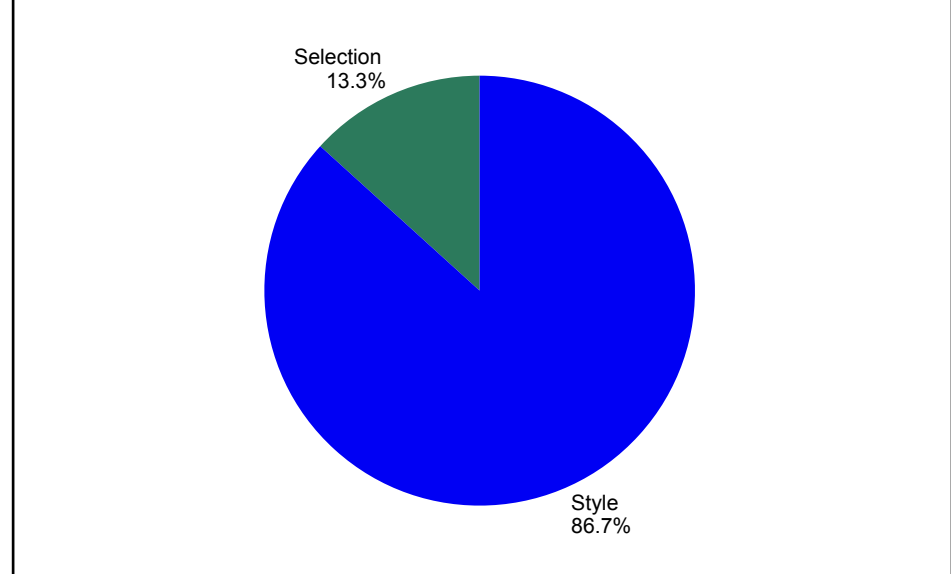
Style Map(ppp)



Style History(ppp)



Return Variance



Bristol County Retirement System

Fiera International Equity

As of December 31, 2018

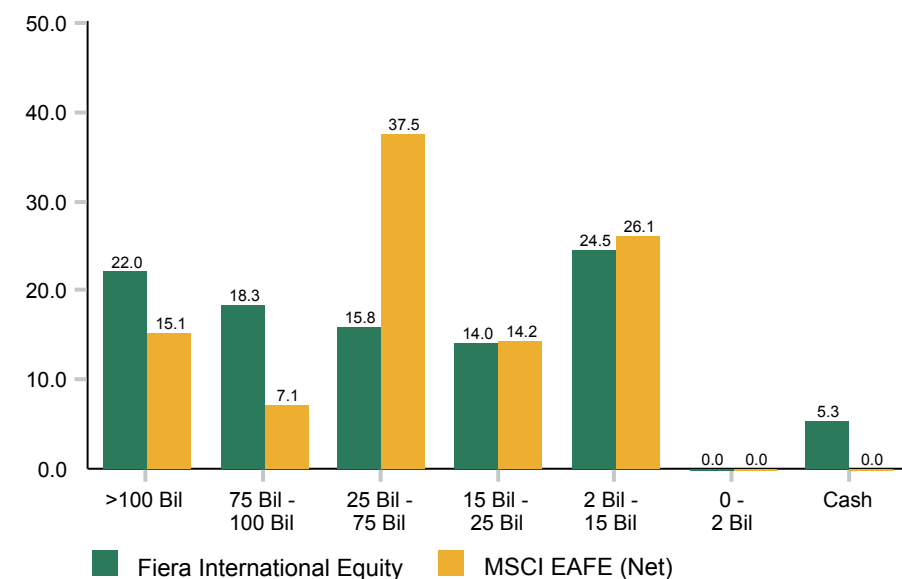
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Keyence Corp	6.16	0.39	5.77	-12.71
Unilever NV	4.61	0.67	3.94	-1.79
Nestle SA, Cham Und Vevey	4.47	1.99	2.48	-3.25
Diageo PLC	4.17	0.70	3.47	0.42
L'Oreal S.A., Paris	4.09	0.46	3.63	-4.55
Intercontinental Hotels Group PLC	3.99	0.08	3.91	-13.41
Roche Holding AG	3.91	1.39	2.52	1.55
Taiwan Semiconductor	3.70	0.00	3.70	-16.42
Intertek Group PLC, London	3.66	0.08	3.58	-5.43
Schindler Holding AG, Hergiswil	3.37	0.06	3.31	-21.04
% of Portfolio	42.13	5.82	36.31	

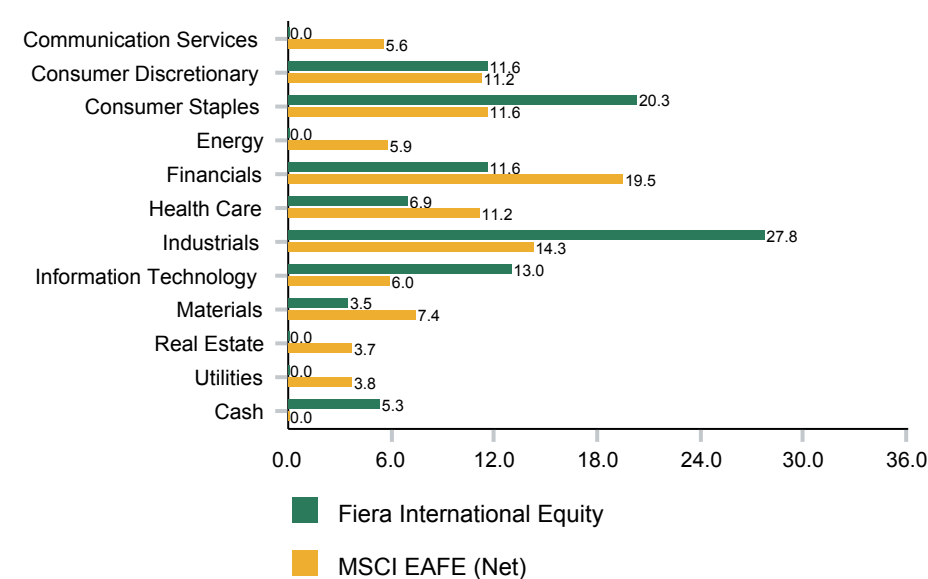
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	68,825,427,081	55,193,733,249
Median Mkt. Cap (\$)	25,015,740,235	9,371,617,180
Price/Earnings ratio	21.86	12.27
Price/Book ratio	3.98	2.12
5 Yr. EPS Growth Rate (%)	8.60	9.78
Current Yield (%)	2.31	3.73
Beta	N/A	1.00
Number of Stocks	33	920

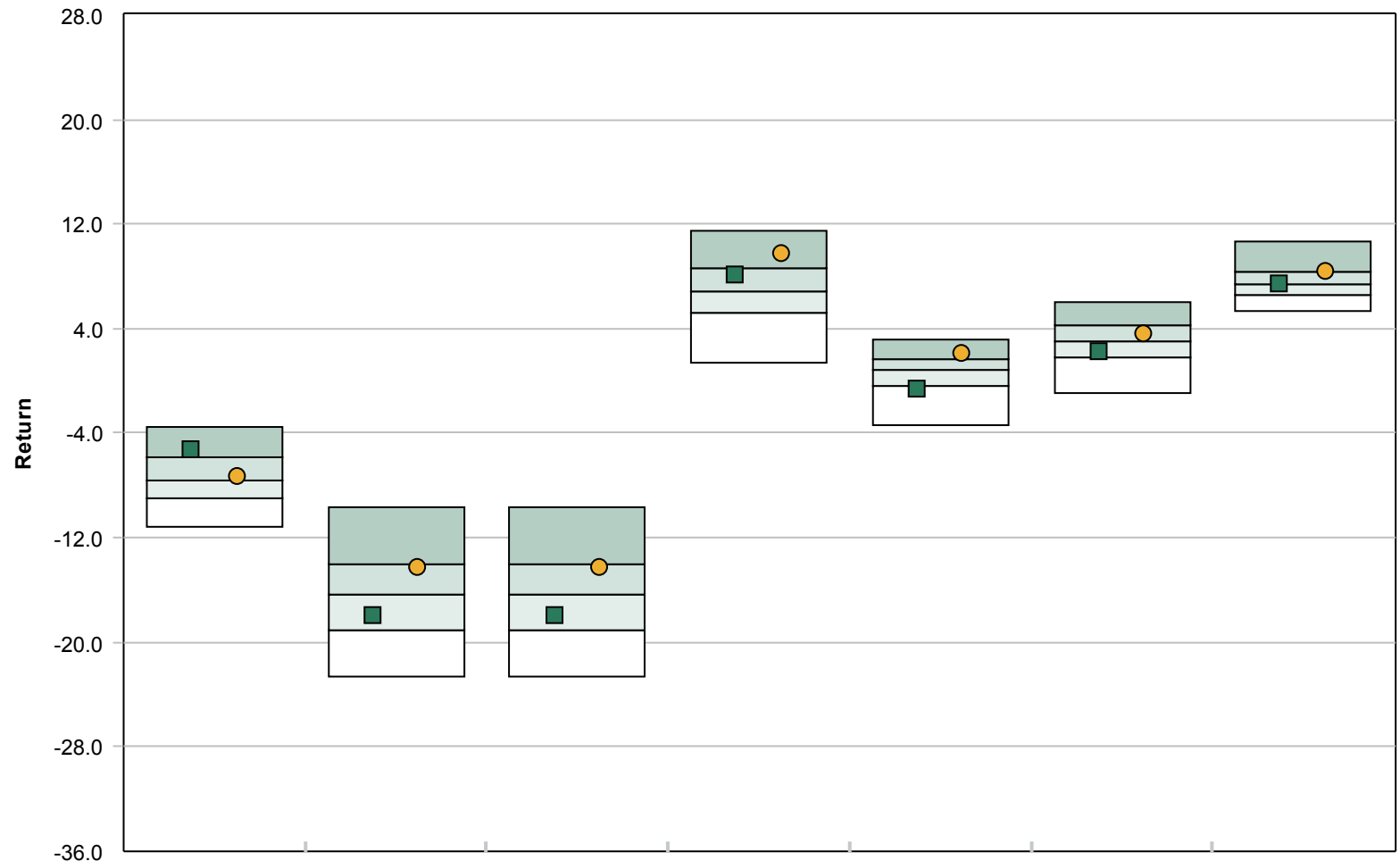
Distribution of Market Capitalization (%)



Sector Weights (%)



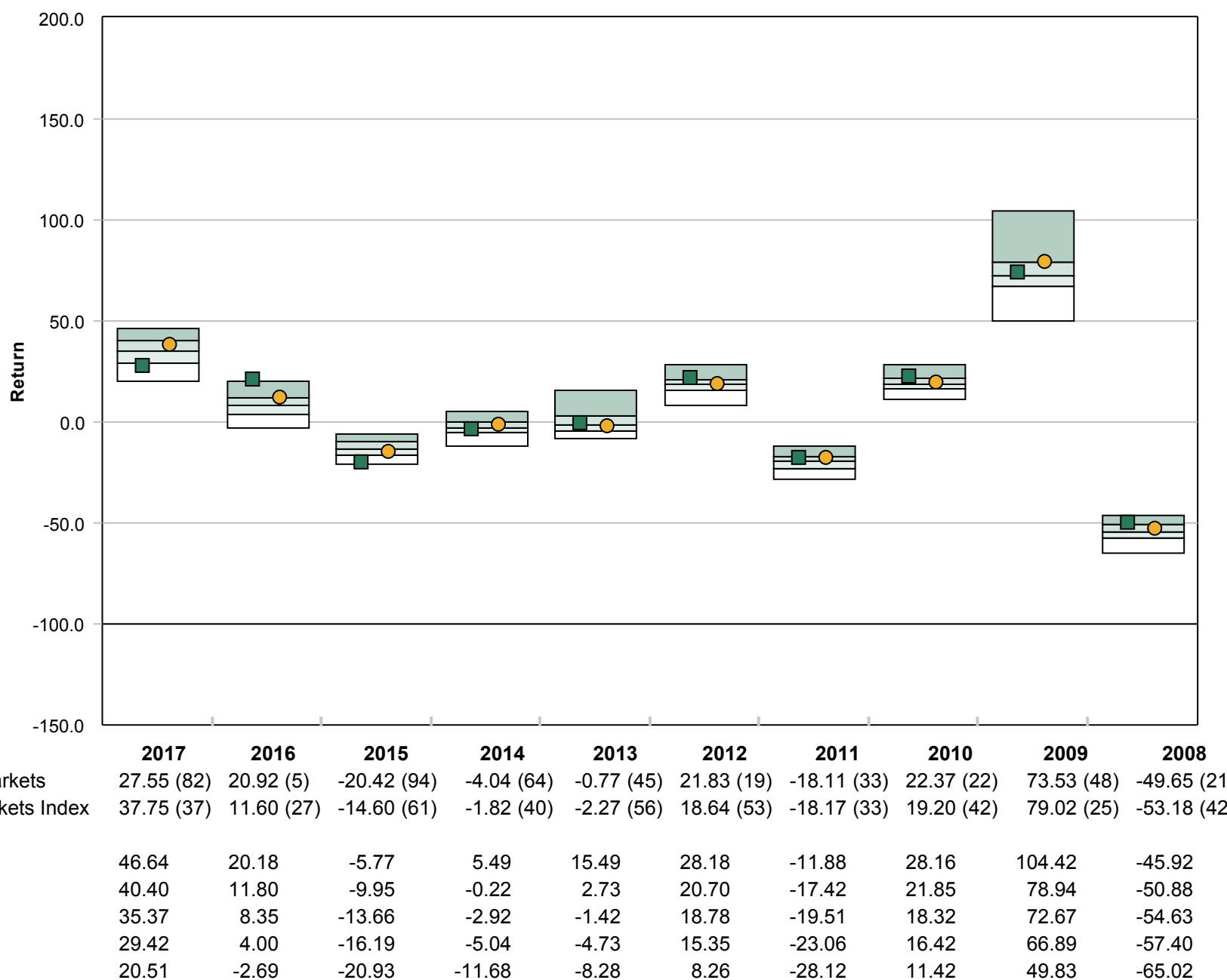
As of December 31, 2018



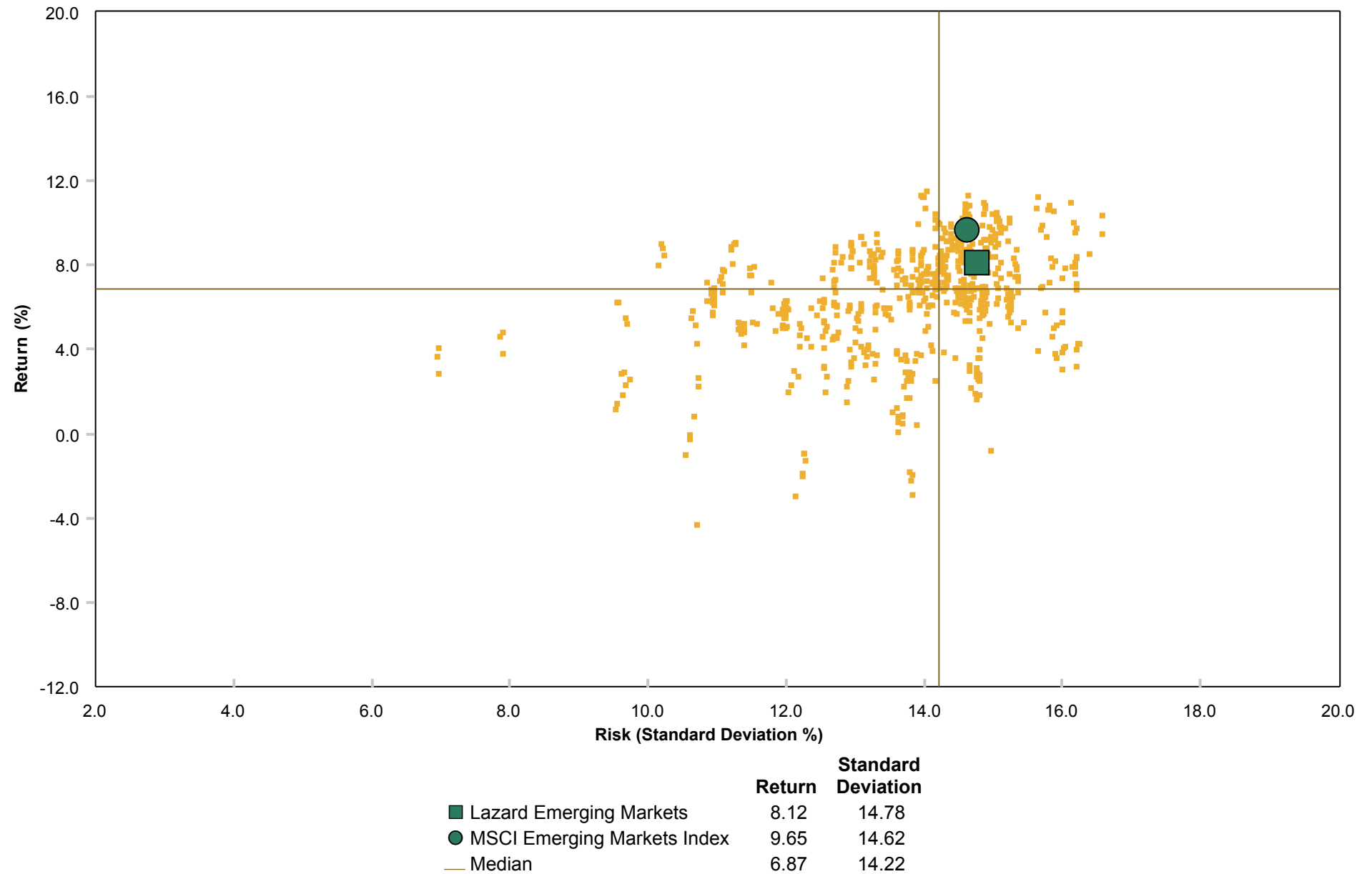
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Lazard Emerging Markets	-5.30 (19)	-18.05 (65)	-18.05 (65)	8.12 (31)	-0.71 (80)	2.23 (66)	7.33 (54)
● MSCI Emerging Markets Index	-7.40 (46)	-14.25 (27)	-14.25 (27)	9.65 (14)	2.03 (17)	3.61 (37)	8.39 (24)
5th Percentile	-3.52	-9.70	-9.70	11.46	3.11	6.05	10.62
1st Quartile	-5.84	-14.02	-14.02	8.58	1.71	4.21	8.34
Median	-7.62	-16.41	-16.41	6.87	0.87	2.96	7.43
3rd Quartile	-9.01	-19.05	-19.05	5.24	-0.42	1.77	6.58
95th Percentile	-11.12	-22.63	-22.63	1.43	-3.39	-0.88	5.29

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

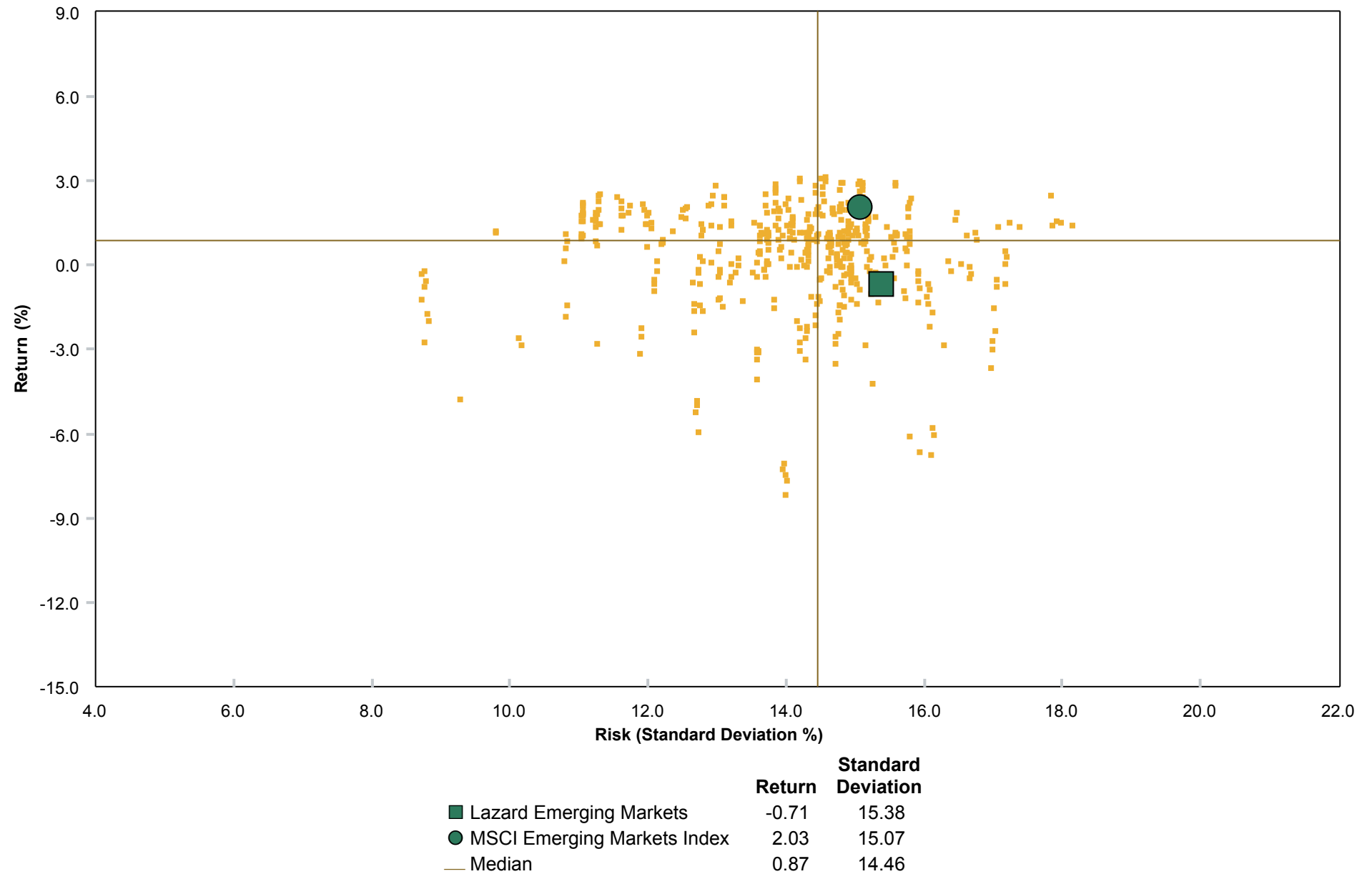
As of December 31, 2018



Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



Calculation based on monthly periodicity.



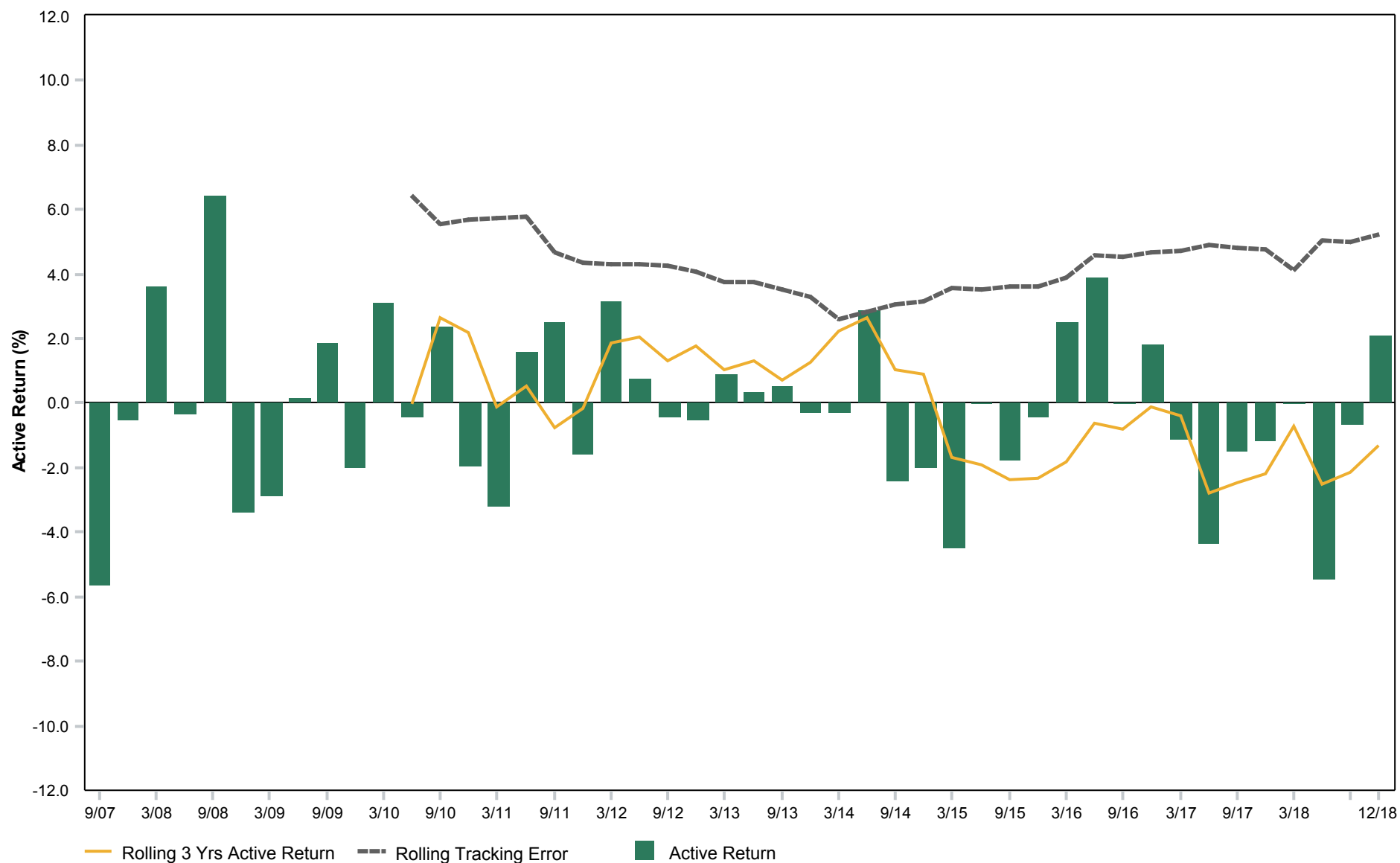
Calculation based on monthly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Lazard Emerging Markets	-5.30	-18.05	-18.05	8.12	-0.71	2.23	7.33	27.55	20.92	-20.42	-4.04
MSCI Emerging Markets Index	-7.40	-14.25	-14.25	9.65	2.03	3.61	8.39	37.75	11.60	-14.60	-1.82
Difference	2.10	-3.80	-3.80	-1.53	-2.74	-1.38	-1.06	-10.20	9.32	-5.82	-2.22



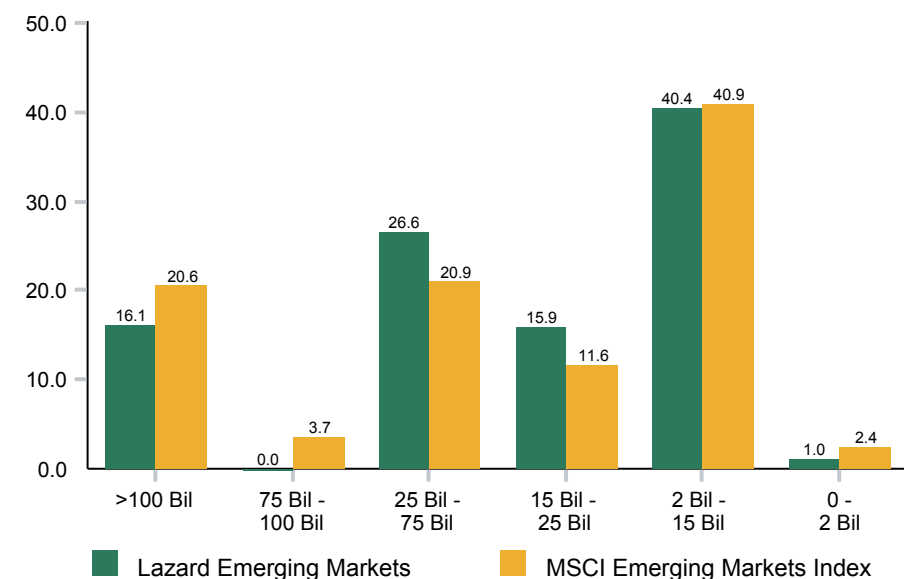
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
China Construction Bank Corp	5.49	1.65	3.84	-5.64
China Mobile Ltd	4.34	1.23	3.11	-1.90
Banco Do Brasil SA Bb Brasil	4.27	0.21	4.06	65.19
Taiwan Semiconductor Manuf	3.72	3.77	-0.05	-14.43
Sberbank of Russia OJSC	3.47	0.60	2.87	-13.61
Netease Inc	3.10	0.38	2.72	3.33
SK Hynix Inc	2.89	0.66	2.23	-16.14
Tata Consultancy Services Ltd	2.54	0.51	2.03	-9.45
Uti Bank Ltd	2.45	0.33	2.12	5.36
OTP Bank PLC	2.24	0.19	2.05	8.68
% of Portfolio	34.51	9.53	24.98	

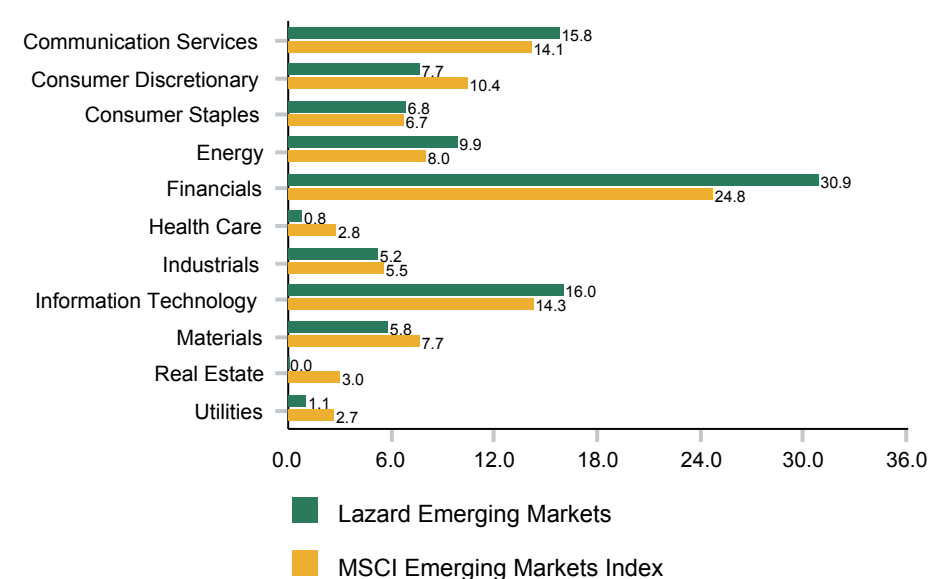
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	46,332,928,021	70,373,005,103
Median Mkt. Cap (\$)	9,967,741,466	4,928,214,974
Price/Earnings ratio	9.04	11.13
Price/Book ratio	2.33	2.37
5 Yr. EPS Growth Rate (%)	6.89	13.53
Current Yield (%)	4.26	3.07
Beta (5 Years, Monthly)	0.94	1.00
Number of Stocks	73	1,125

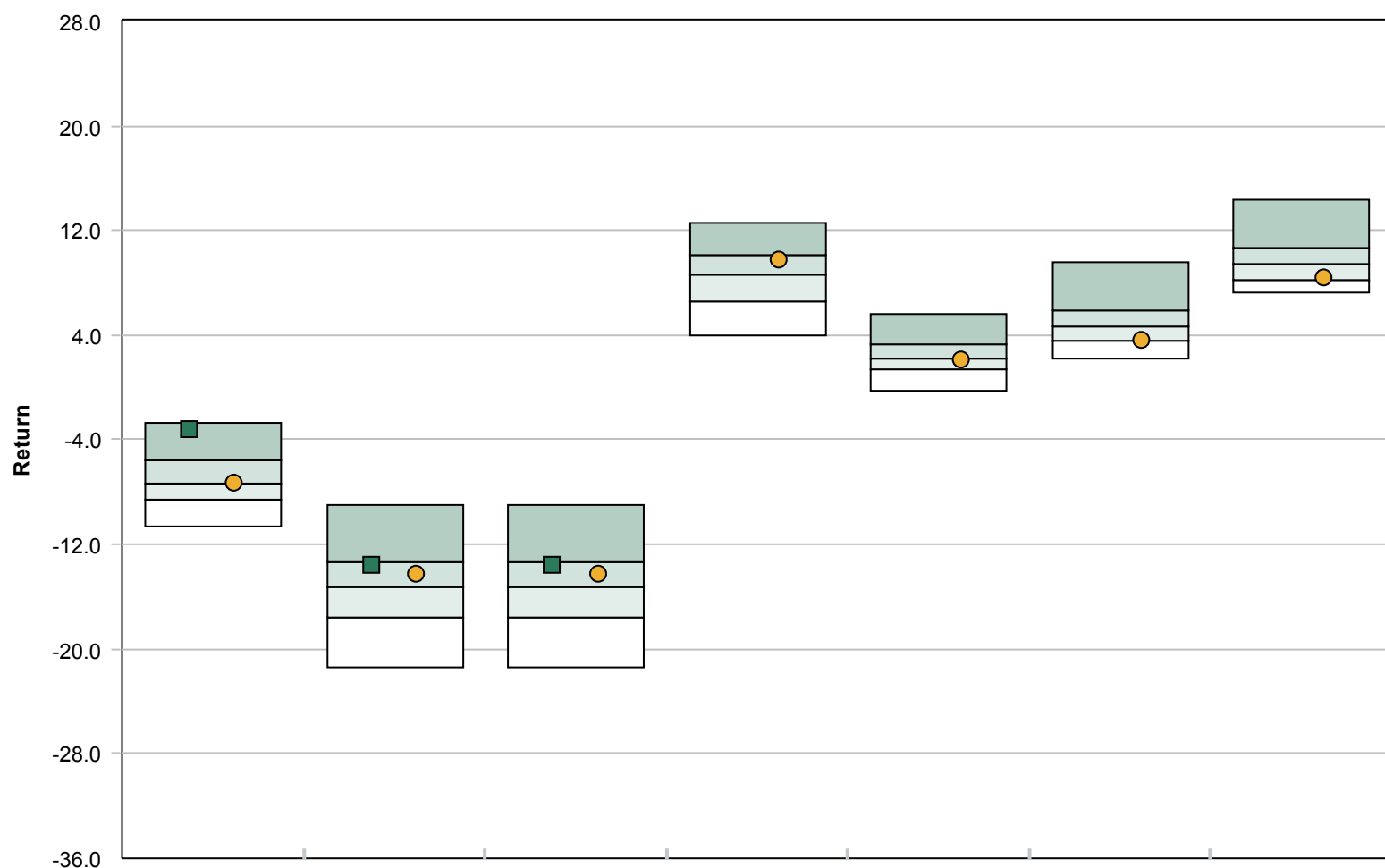
Distribution of Market Capitalization (%)



Sector Weights (%)



As of December 31, 2018



■ Aberdeen Emerging Markets
● MSCI Emerging Markets Index

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Aberdeen Emerging Markets	-3.21 (7)	-13.65 (30)	-13.65 (30)	N/A	N/A	N/A	N/A
MSCI Emerging Markets Index	-7.40 (53)	-14.25 (36)	-14.25 (36)	9.65 (32)	2.03 (58)	3.61 (75)	8.39 (70)
5th Percentile	-2.70	-9.02	-9.02	12.57	5.67	9.54	14.36
1st Quartile	-5.54	-13.34	-13.34	10.11	3.36	5.93	10.68
Median	-7.28	-15.23	-15.23	8.69	2.25	4.71	9.38
3rd Quartile	-8.63	-17.57	-17.57	6.63	1.44	3.59	8.19
95th Percentile	-10.58	-21.45	-21.45	3.94	-0.26	2.22	7.20

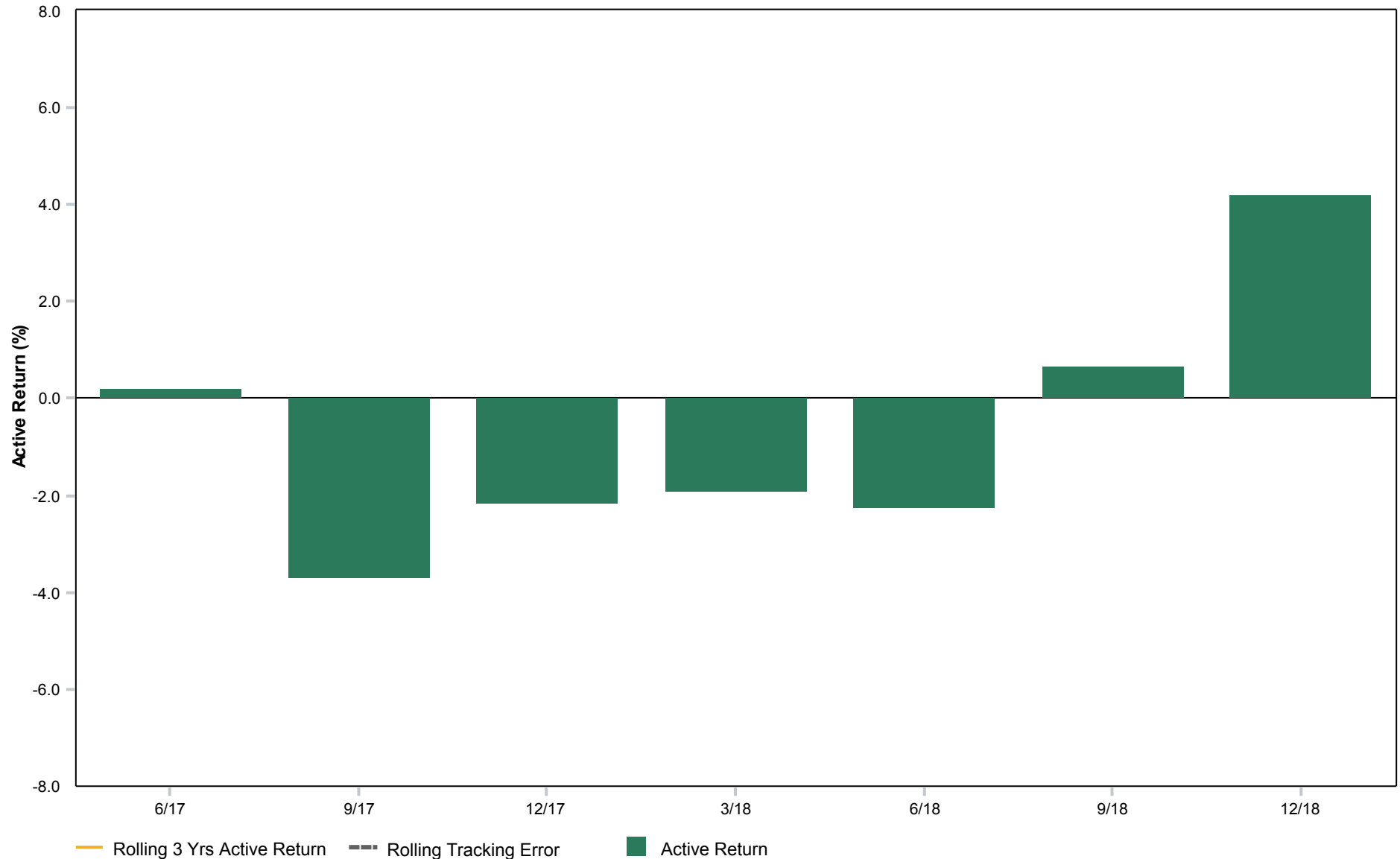
Parentheses contain percentile rankings.
 Calculation based on quarterly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Aberdeen Emerging Markets	-3.21	-13.65	-13.65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI Emerging Markets Index	-7.40	-14.25	-14.25	9.65	2.03	3.61	8.39	37.75	11.60	-14.60	-1.82
Difference	4.19	0.60	0.60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Top Ten Equity Holdings

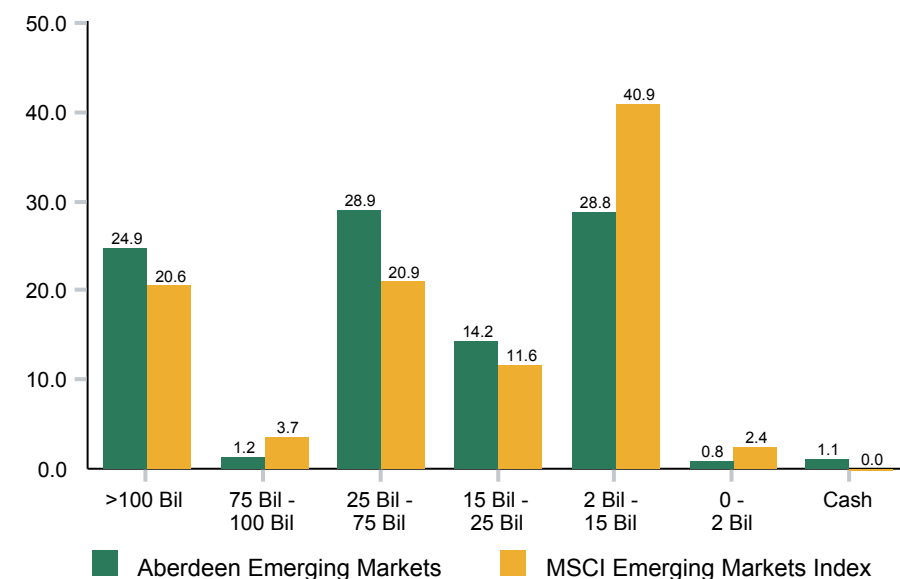
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Tencent Holdings LTD	6.48	4.76	1.72	-2.93
Samsung Electronics Co Ltd	5.42	0.51	4.91	-15.42
Taiwan Semiconductor Manuf	5.08	3.77	1.31	-14.43
Housing Development Finance Corp Ltd	3.82	0.94	2.88	16.93
Banco Bradesco Sa Brad	3.28	0.18	3.10	42.73
Ping An Insurance Group	2.83	0.96	1.87	-13.09
Vale SA	2.65	0.87	1.78	-11.12
AIA Group Ltd	2.57	0.00	2.57	-7.09
PT Astra International TBK	2.38	0.24	2.14	16.67
PT Bank Central Asia TBK	2.23	0.37	1.86	11.65

% of Portfolio	36.74	12.60	24.14
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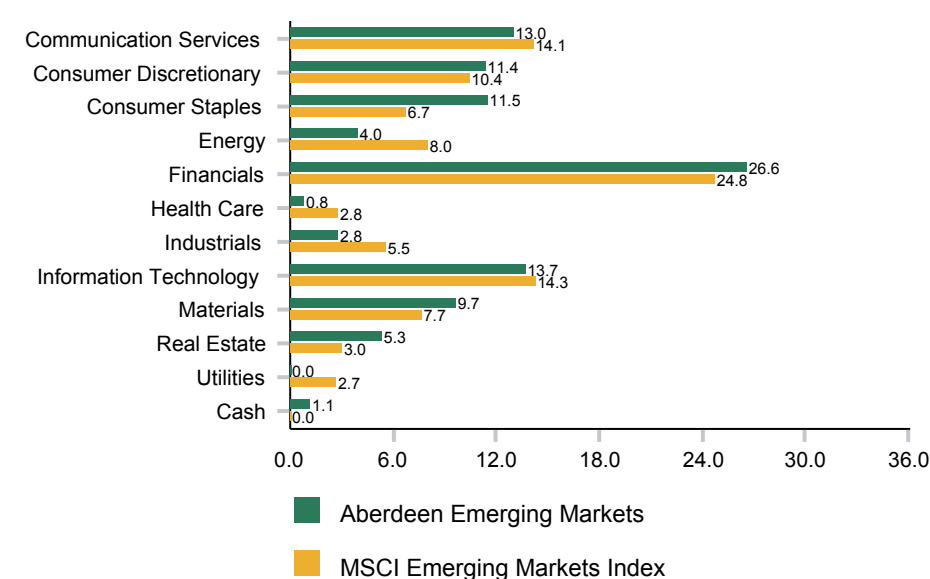
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	59,505,727,958	70,373,005,103
Median Mkt. Cap (\$)	13,114,924,567	4,928,214,974
Price/Earnings ratio	17.26	11.13
Price/Book ratio	2.76	2.37
5 Yr. EPS Growth Rate (%)	13.14	13.53
Current Yield (%)	2.33	3.07
Beta	N/A	1.00
Number of Stocks	65	1,125

Distribution of Market Capitalization (%)

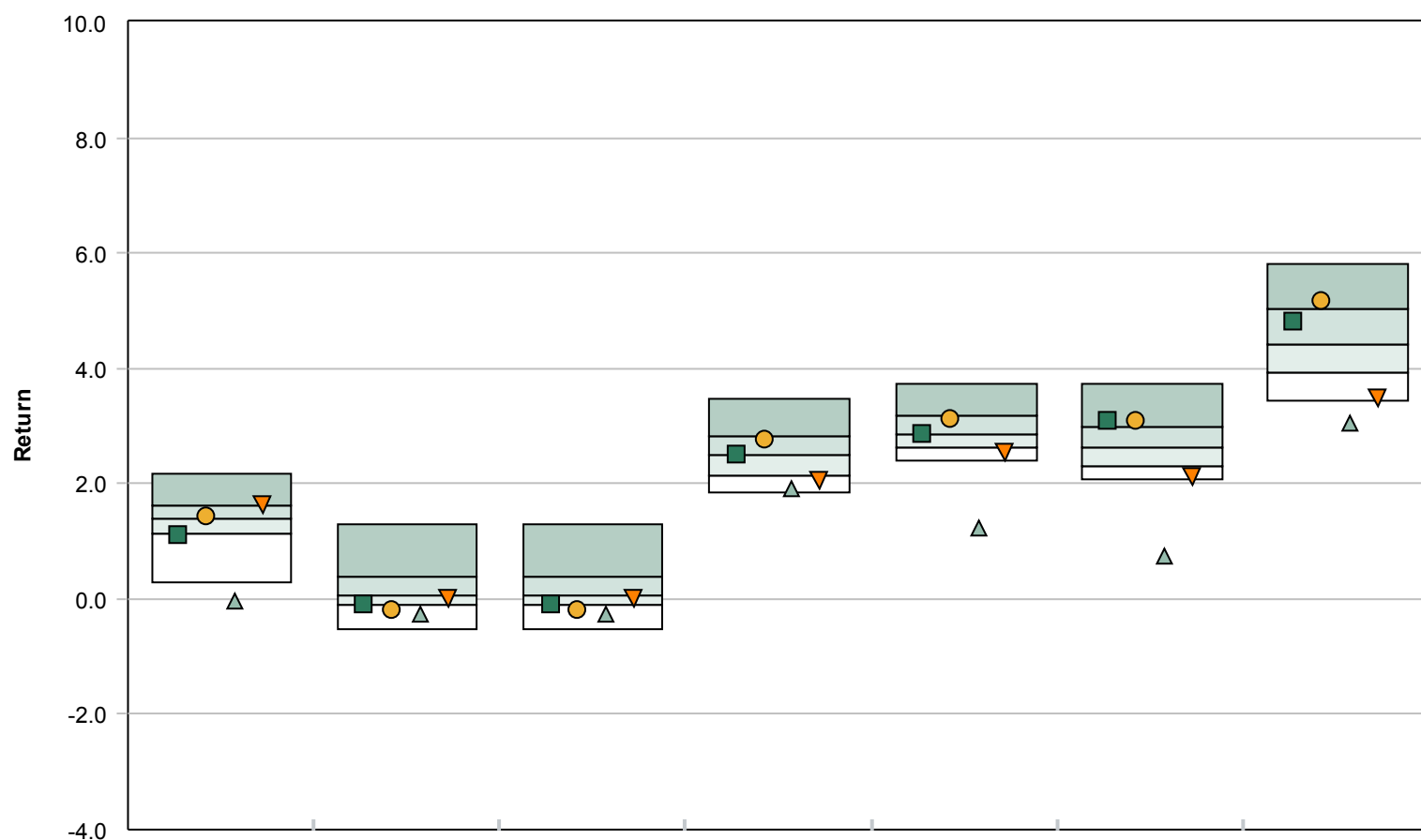


Sector Weights (%)



Domestic Fixed Income

As of December 31, 2018

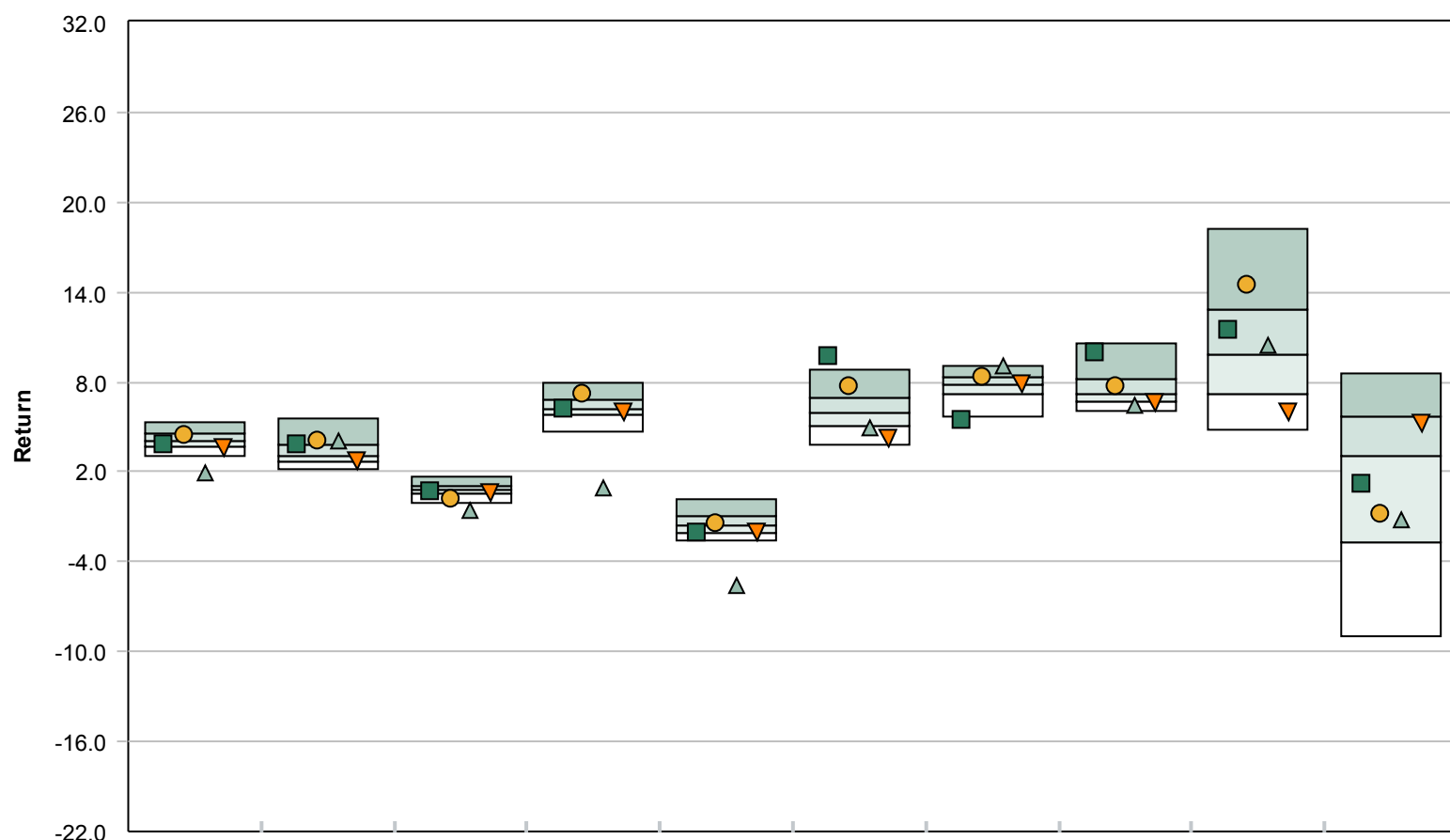


■ Total Domestic Fixed
 ● Income Research & Management
 ▲ IRM-TIPS
 ▼ Barclays Aggregate

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Domestic Fixed	1.10 (76)	-0.12 (77)	-0.12 (77)	2.50 (48)	2.85 (51)	3.07 (21)	4.79 (31)
Income Research & Management	1.43 (47)	-0.19 (82)	-0.19 (82)	2.74 (33)	3.11 (32)	3.09 (19)	5.15 (23)
IRM-TIPS	-0.03 (97)	-0.26 (85)	-0.26 (85)	1.92 (92)	1.22 (100)	0.75 (100)	3.05 (100)
Barclays Aggregate	1.64 (24)	0.01 (62)	0.01 (62)	2.06 (85)	2.52 (84)	2.10 (94)	3.48 (93)
5th Percentile	2.17	1.31	1.31	3.47	3.74	3.72	5.82
1st Quartile	1.63	0.39	0.39	2.81	3.18	2.98	5.04
Median	1.40	0.07	0.07	2.48	2.86	2.63	4.41
3rd Quartile	1.12	-0.10	-0.10	2.15	2.63	2.31	3.92
95th Percentile	0.30	-0.53	-0.53	1.85	2.39	2.07	3.44

Parentheses contain percentile rankings.
 Calculation based on monthly periodicity.

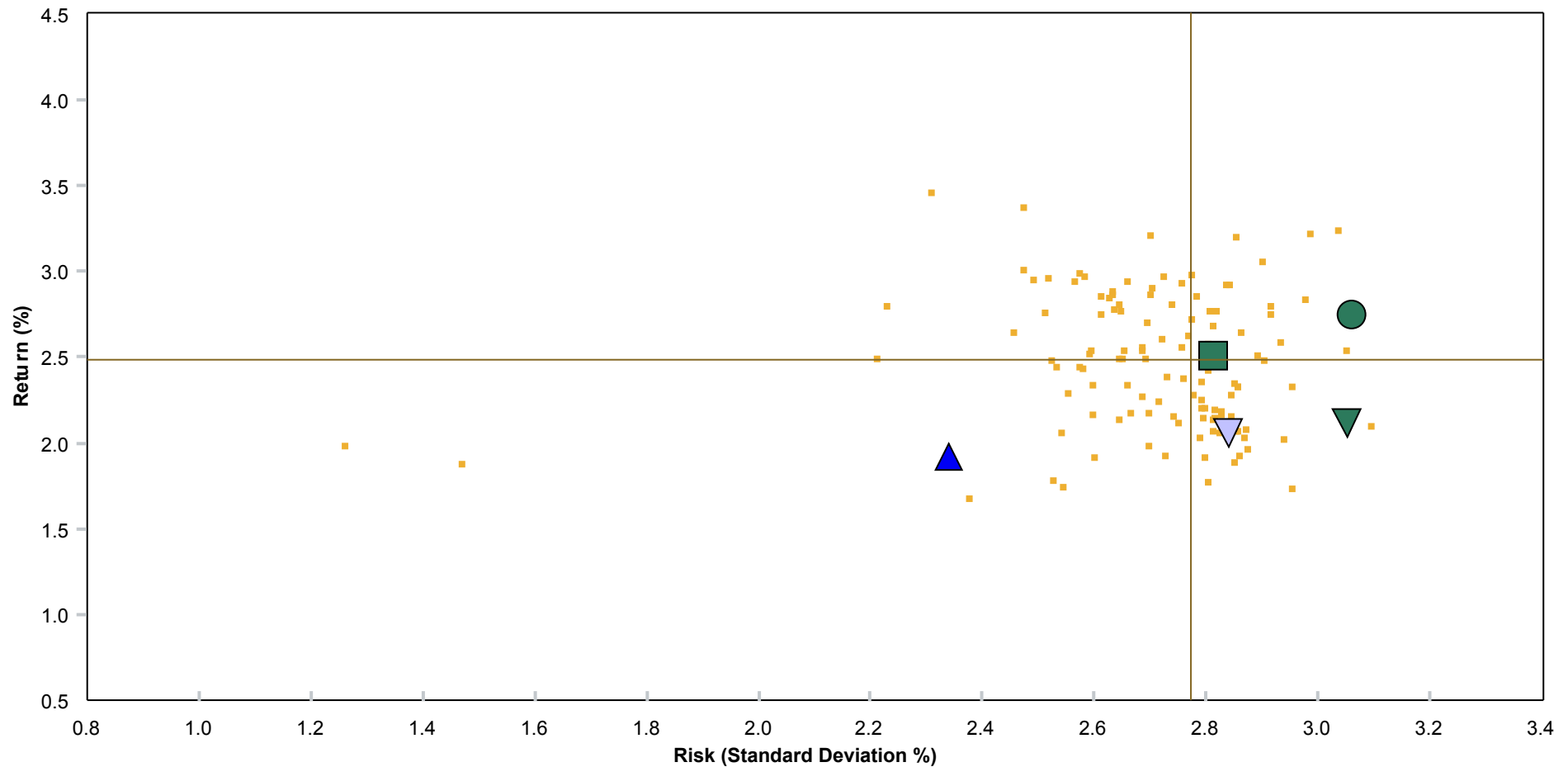
As of December 31, 2018



	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
■ Total Domestic Fixed	3.82 (62)	3.86 (25)	0.66 (64)	6.15 (52)	-2.14 (82)	9.73 (5)	5.49 (97)	9.95 (8)	11.40 (36)	1.20 (60)
● Income Research & Management	4.49 (27)	4.00 (22)	0.20 (86)	7.23 (10)	-1.39 (41)	7.70 (12)	8.31 (24)	7.71 (39)	14.40 (18)	-0.80 (66)
▲ IRM-TIPS	1.97 (100)	4.11 (17)	-0.53 (98)	0.88 (100)	-5.54 (100)	4.96 (77)	9.08 (6)	6.41 (85)	10.49 (42)	-1.17 (69)
▼ Barclays Aggregate	3.54 (84)	2.65 (77)	0.55 (74)	5.97 (67)	-2.02 (74)	4.21 (91)	7.84 (51)	6.54 (83)	5.93 (89)	5.24 (31)
5th Percentile	5.30	5.62	1.68	7.91	0.21	8.85	9.13	10.61	18.28	8.56
1st Quartile	4.52	3.83	1.09	6.79	-1.01	6.96	8.26	8.18	12.85	5.69
Median	4.05	3.11	0.82	6.17	-1.56	5.92	7.84	7.24	9.88	3.04
3rd Quartile	3.64	2.65	0.53	5.79	-2.04	5.09	7.25	6.75	7.19	-2.67
95th Percentile	3.06	2.23	-0.07	4.63	-2.62	3.85	5.74	6.03	4.86	-8.94

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

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

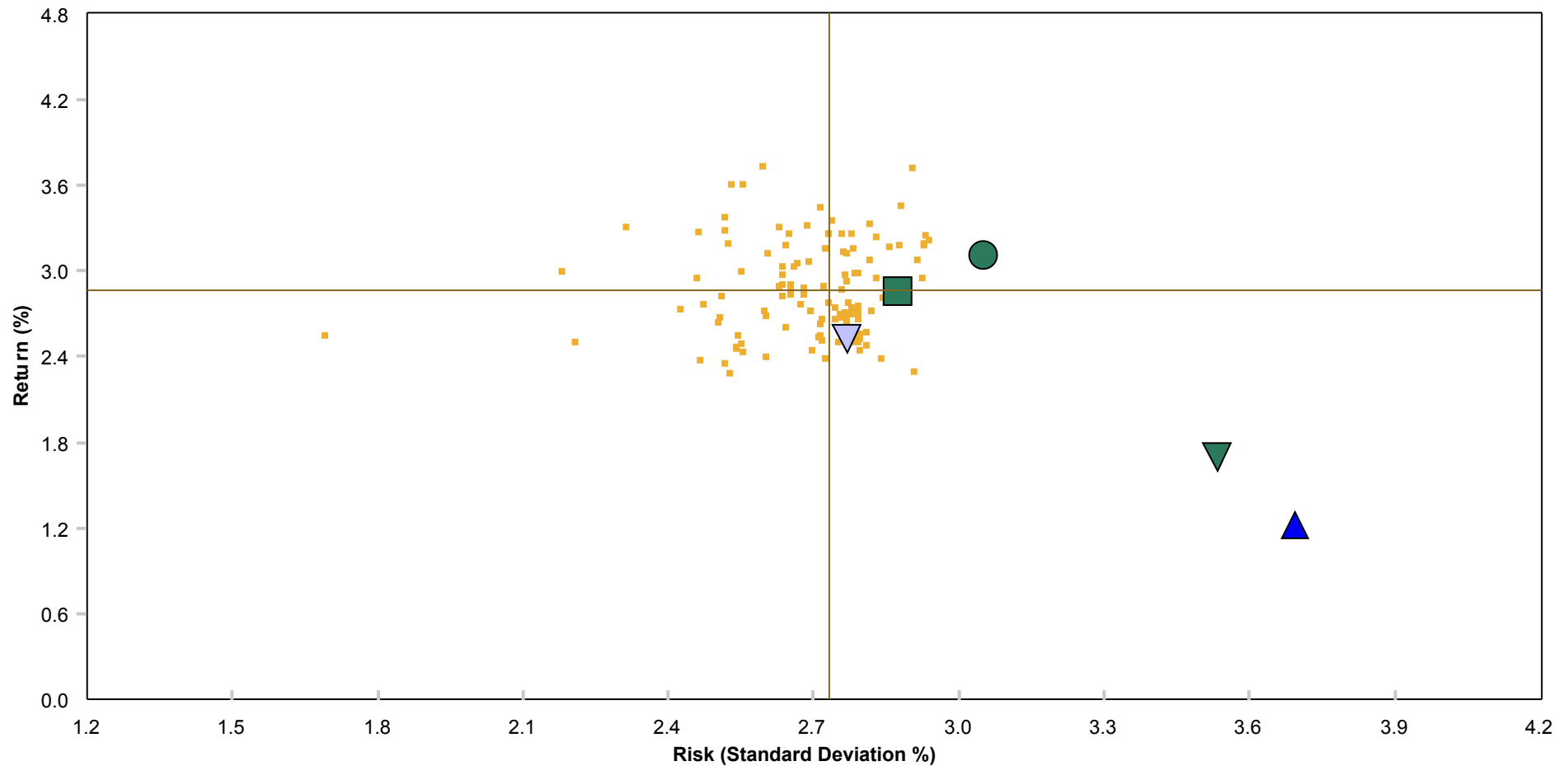


	Return	Standard Deviation
■ Total Domestic Fixed	2.50	2.81
● Income Research & Management	2.74	3.06
▼ Barclays Aggregate	2.06	2.84
▲ IRM-TIPS	1.92	2.34
▼ Blmbg. Barc. U.S. TIPS	2.11	3.05
— Median	2.48	2.77

Calculation based on monthly periodicity.

5 Years Ending December 31, 2018

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



	Return	Standard Deviation
■ Total Domestic Fixed	2.85	2.87
● Income Research & Management	3.11	3.05
▼ Barclays Aggregate	2.52	2.77
▲ IRM-TIPS	1.22	3.69
▼ Blmbg. Barc. U.S. TIPS	1.69	3.54
— Median	2.86	2.73

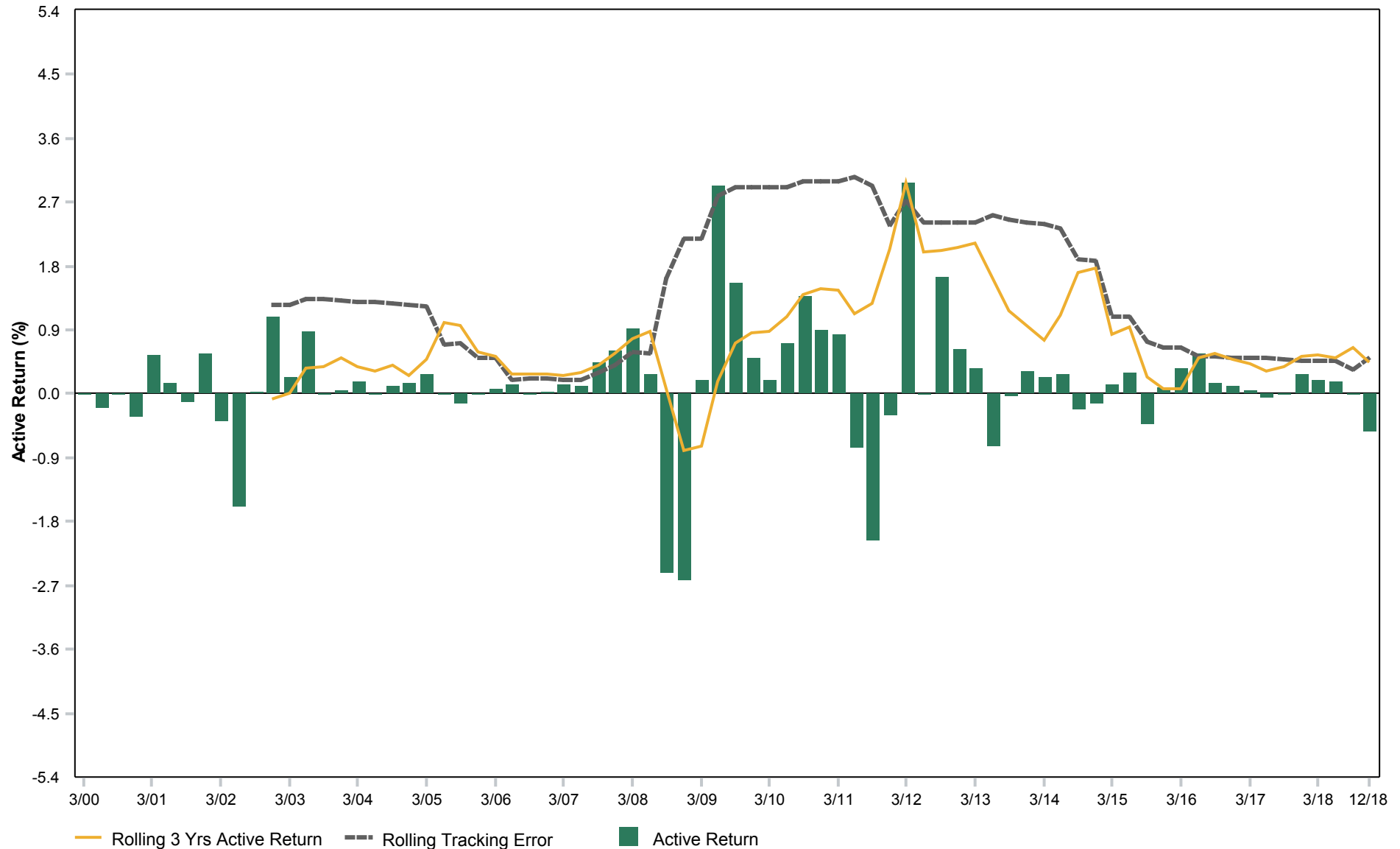
Calculation based on monthly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

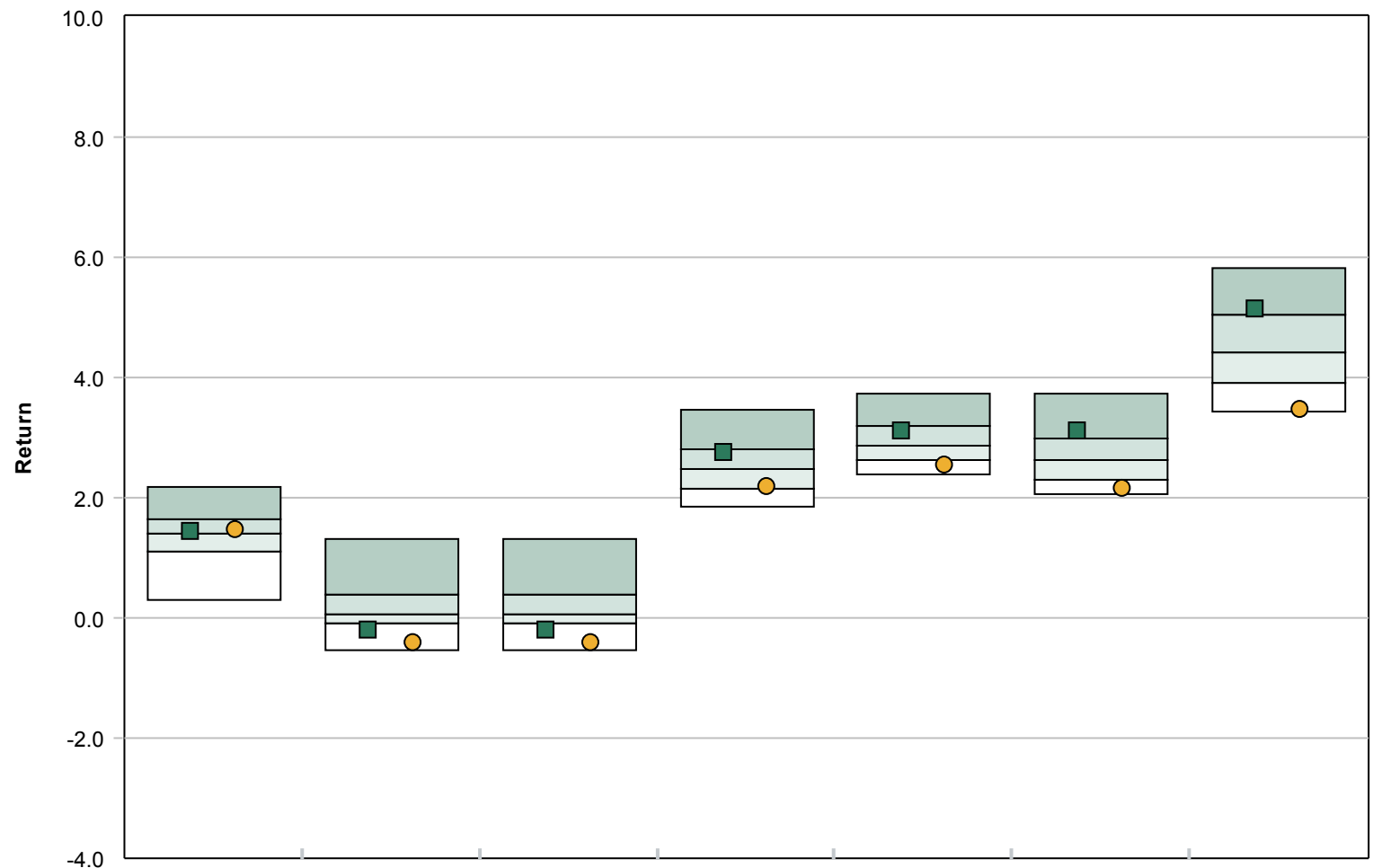
As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Total Domestic Fixed	1.10	-0.12	-0.12	2.50	2.85	3.07	4.79	3.82	3.86	0.66	6.15
Barclays Aggregate	1.64	0.01	0.01	2.06	2.52	2.10	3.48	3.54	2.65	0.55	5.97
Difference	-0.54	-0.13	-0.13	0.44	0.33	0.97	1.31	0.28	1.21	0.11	0.18



Gross of Fees

As of December 31, 2018



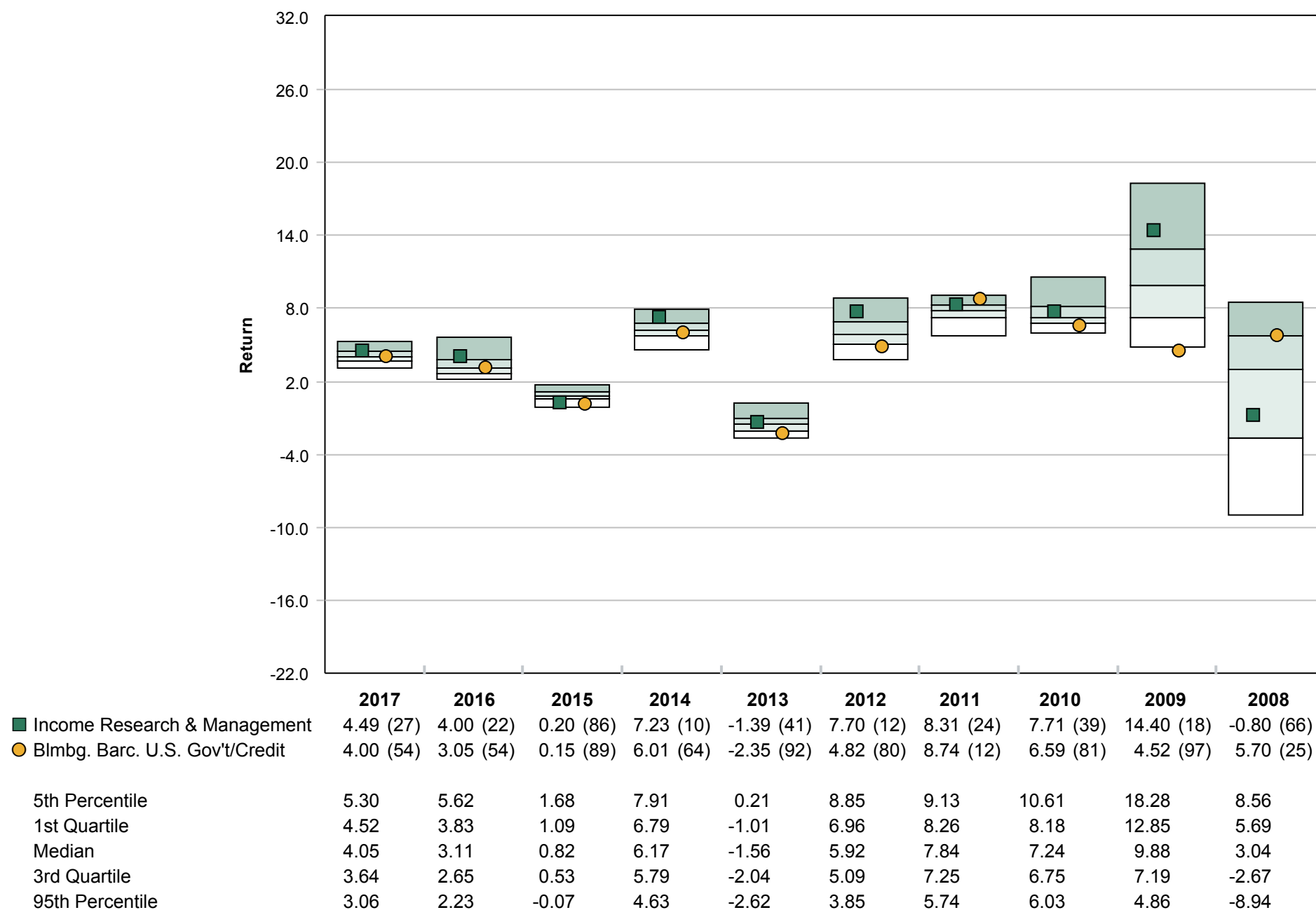
■ Income Research & Management

● Blmbg. Barc. U.S. Gov't/Credit

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
	1.43 (47)	-0.19 (82)	-0.19 (82)	2.74 (33)	3.11 (32)	3.09 (19)	5.15 (23)
	1.46 (45)	-0.42 (94)	-0.42 (94)	2.19 (70)	2.53 (84)	2.14 (91)	3.46 (94)
5th Percentile	2.17	1.31	1.31	3.47	3.74	3.72	5.82
1st Quartile	1.63	0.39	0.39	2.81	3.18	2.98	5.04
Median	1.40	0.07	0.07	2.48	2.86	2.63	4.41
3rd Quartile	1.12	-0.10	-0.10	2.15	2.63	2.31	3.92
95th Percentile	0.30	-0.53	-0.53	1.85	2.39	2.07	3.44

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

As of December 31, 2018



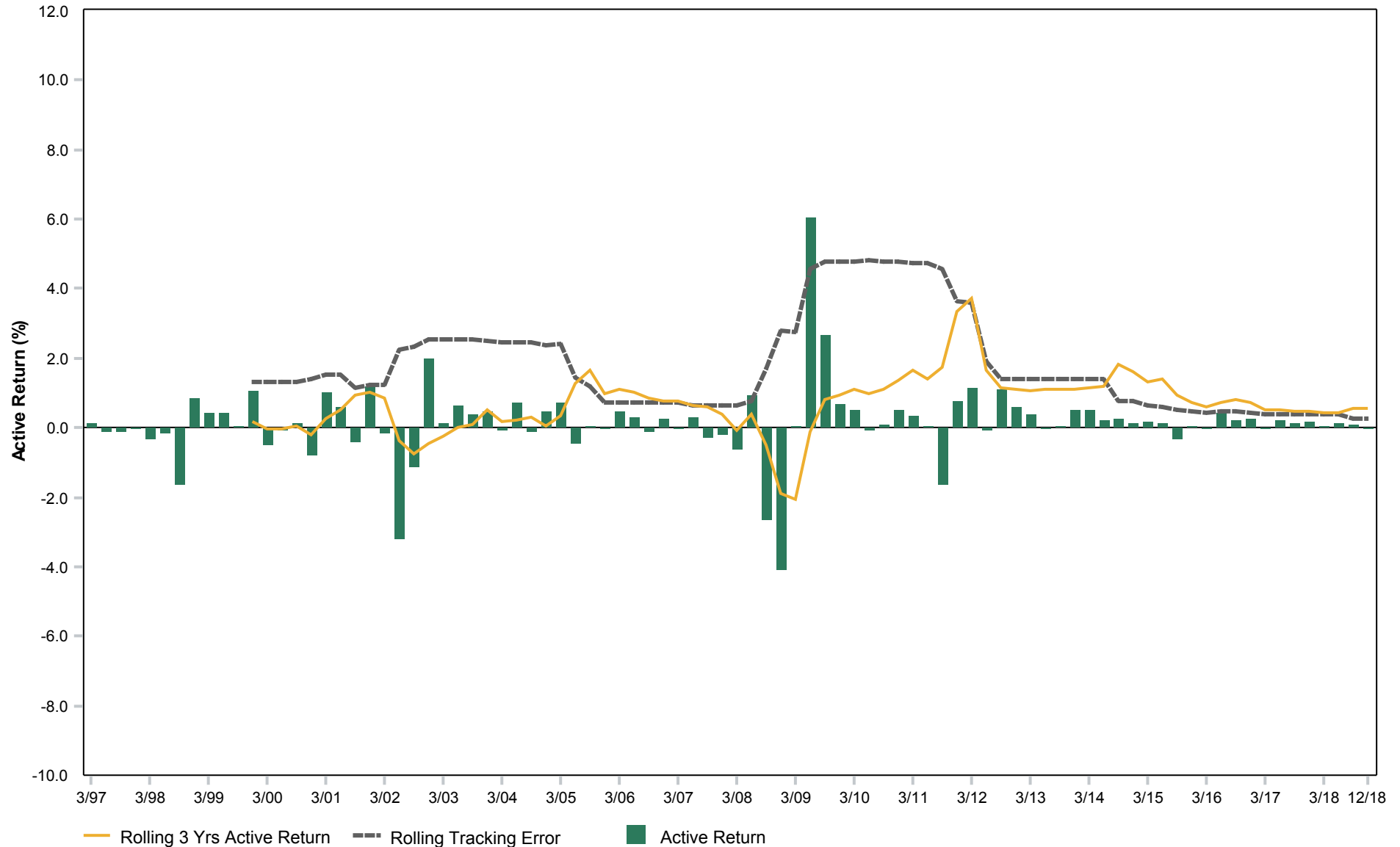
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

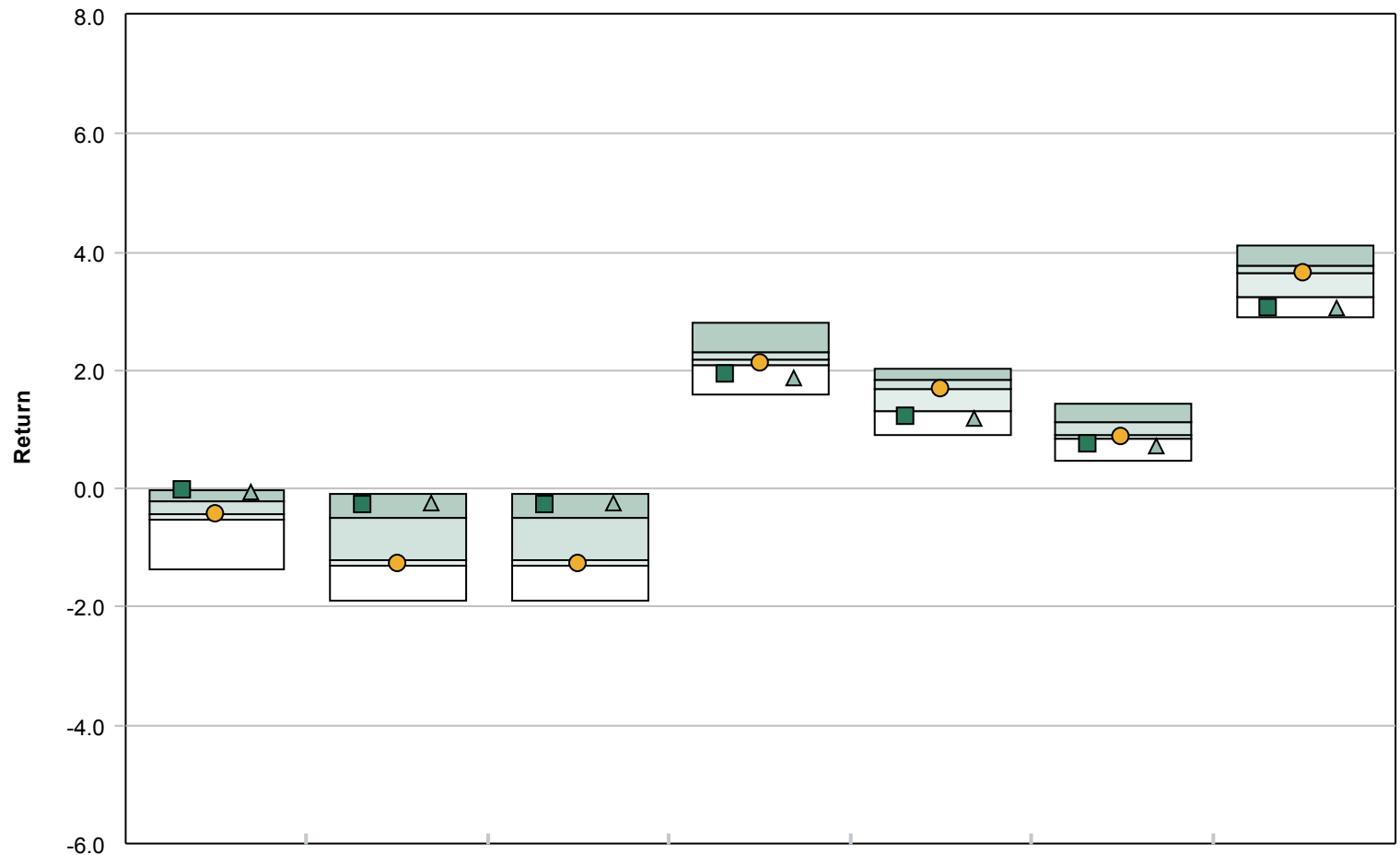
Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

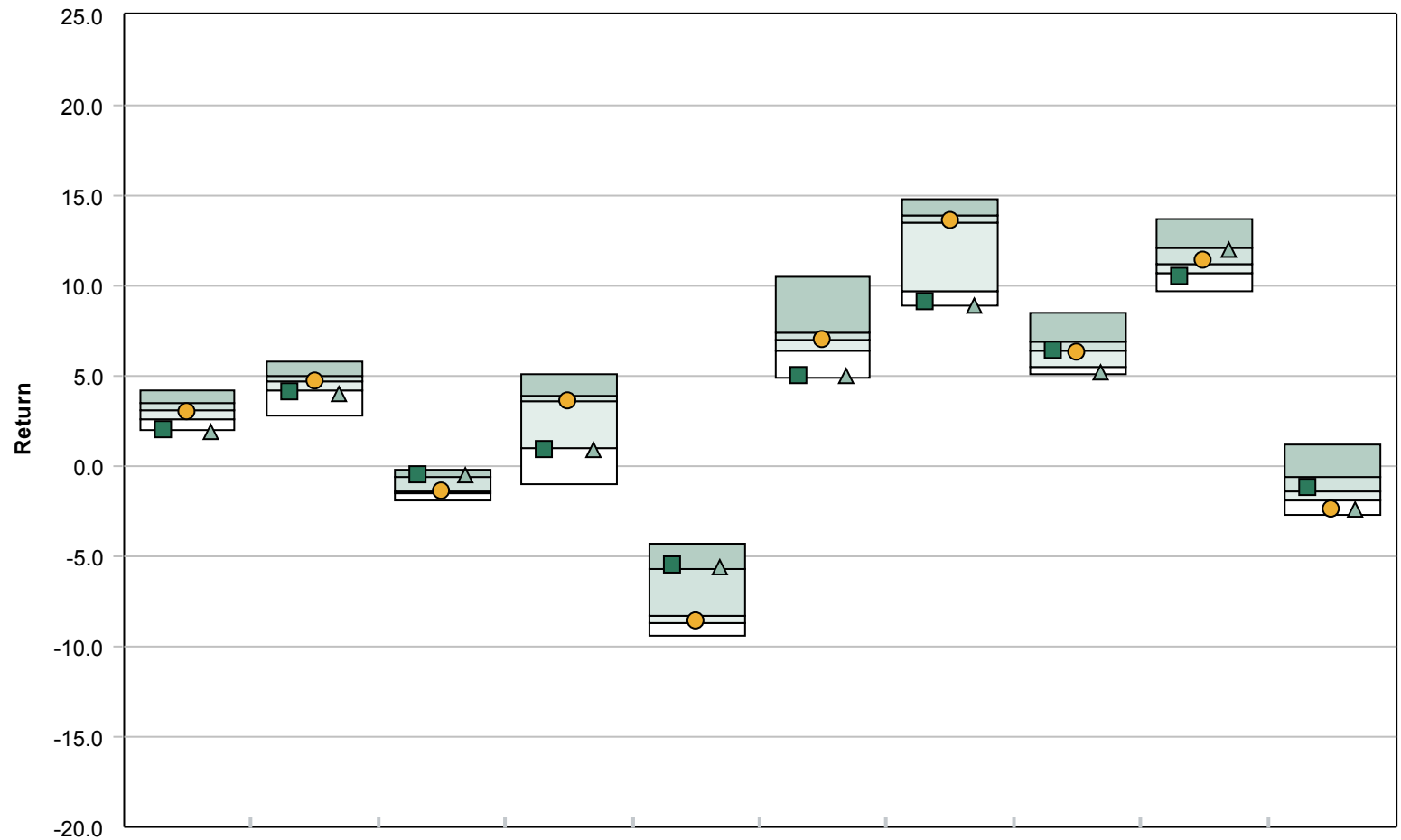
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Income Research & Management	1.43	-0.19	-0.19	2.74	3.11	3.09	5.15	4.49	4.00	0.20	7.23
Blmbg. Barc. U.S. Gov't/Credit	1.46	-0.42	-0.42	2.19	2.53	2.14	3.46	4.00	3.05	0.15	6.01
Difference	-0.03	0.23	0.23	0.55	0.58	0.95	1.69	0.49	0.95	0.05	1.22





	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
IRM-TIPS	-0.03 (6)	-0.26 (23)	-0.26 (23)	1.92 (83)	1.22 (90)	0.75 (87)	3.05 (87)
Blmbg. Barc. U.S. TIPS	-0.42 (46)	-1.26 (59)	-1.26 (59)	2.11 (75)	1.69 (51)	0.88 (72)	3.64 (44)
Blmbg. Barc. U.S. TIPS 1-10 Year	-0.05 (7)	-0.25 (20)	-0.25 (20)	1.87 (91)	1.20 (94)	0.73 (90)	3.06 (87)
5th Percentile	-0.03	-0.08	-0.08	2.80	2.04	1.44	4.12
1st Quartile	-0.21	-0.49	-0.49	2.31	1.83	1.12	3.77
Median	-0.42	-1.20	-1.20	2.17	1.70	0.92	3.64
3rd Quartile	-0.54	-1.30	-1.30	2.08	1.31	0.86	3.23
95th Percentile	-1.35	-1.90	-1.90	1.58	0.92	0.46	2.91

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
IRM-TIPS	1.97 (96)	4.11 (81)	-0.53 (20)	0.88 (86)	-5.54 (18)	4.96 (89)	9.08 (82)	6.41 (50)	10.49 (81)	-1.17 (39)
Blmbg. Barc. U.S. TIPS	3.01 (67)	4.68 (46)	-1.44 (59)	3.64 (44)	-8.61 (70)	6.98 (51)	13.56 (46)	6.31 (56)	11.41 (41)	-2.35 (83)
Blmbg. Barc. U.S. TIPS 1-10 Year	1.90 (98)	4.01 (89)	-0.52 (20)	0.91 (83)	-5.58 (22)	5.04 (83)	8.93 (89)	5.22 (93)	12.02 (28)	-2.43 (86)

5th Percentile	4.18	5.77	-0.16	5.09	-4.34	10.53	14.80	8.50	13.67	1.23
1st Quartile	3.51	4.96	-0.65	3.95	-5.68	7.44	13.87	6.89	12.08	-0.57
Median	3.10	4.66	-1.40	3.59	-8.33	6.99	13.52	6.40	11.24	-1.39
3rd Quartile	2.65	4.23	-1.52	1.00	-8.67	6.37	9.66	5.46	10.71	-1.92
95th Percentile	1.97	2.85	-1.91	-0.99	-9.43	4.92	8.87	5.08	9.75	-2.67

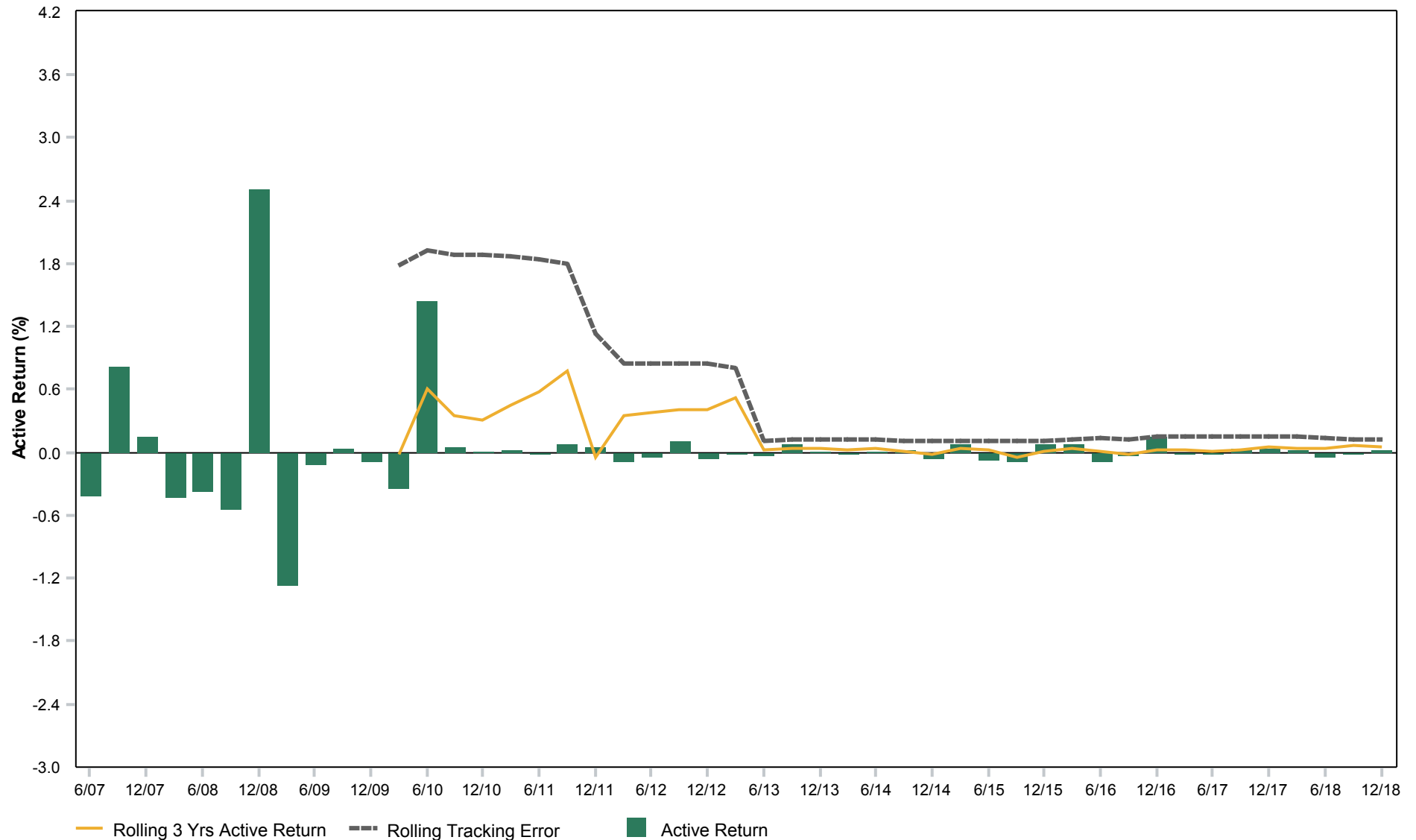
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

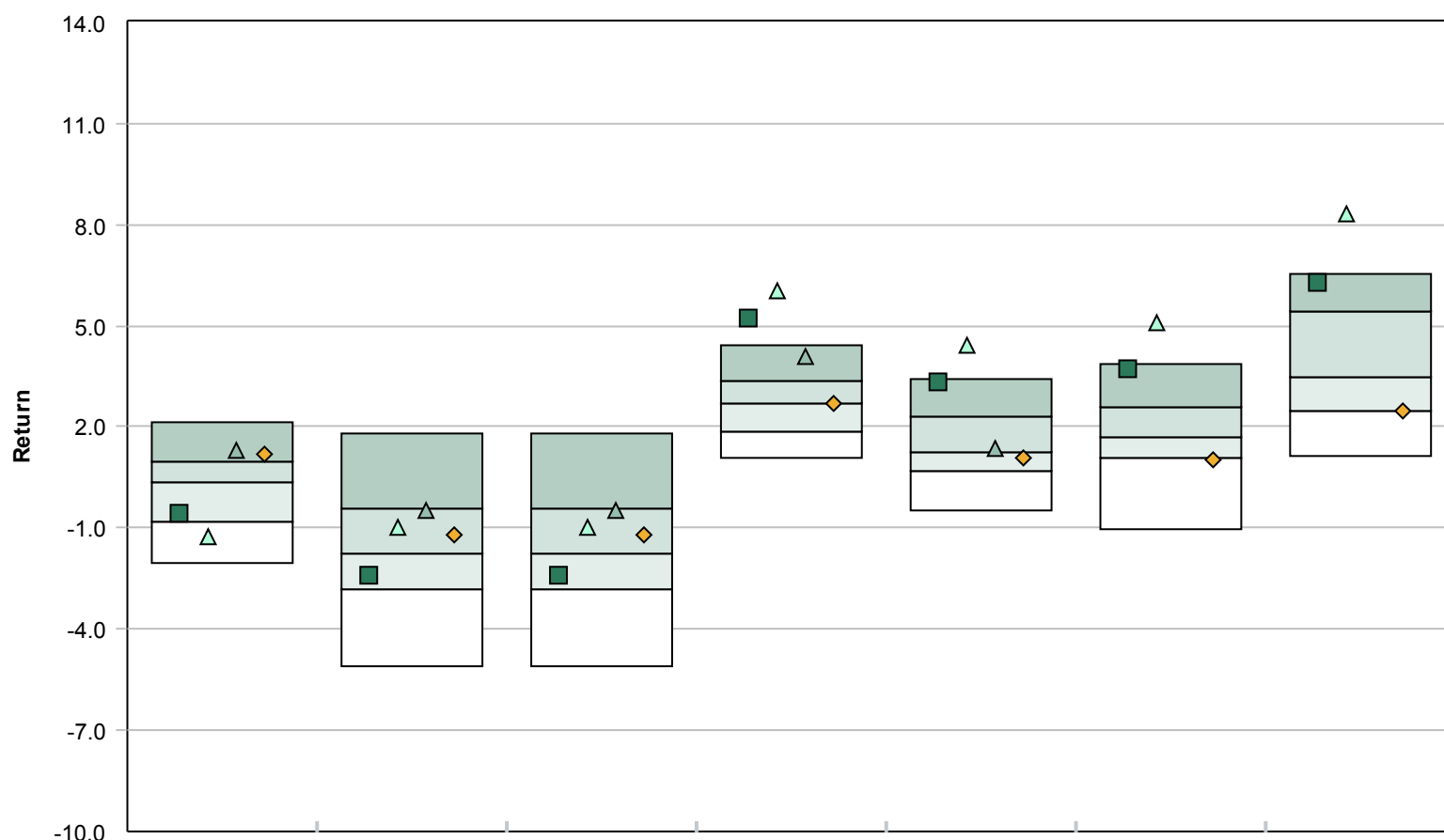
As of December 31, 2018

	YTD	1 Yr	3 Yrs	5 Yrs	2017	2016	2015	Since Inception	Inception Date
IRM-TIPS	-0.26	-0.26	1.92	1.22	1.97	4.11	-0.53	3.39	02/01/2007
Blmbg. Barc. U.S. TIPS 1-10 Year	-0.25	-0.25	1.87	1.20	1.90	4.01	-0.52	3.26	
Difference	-0.01	-0.01	0.05	0.02	0.07	0.10	-0.01	0.13	



Global Fixed Income

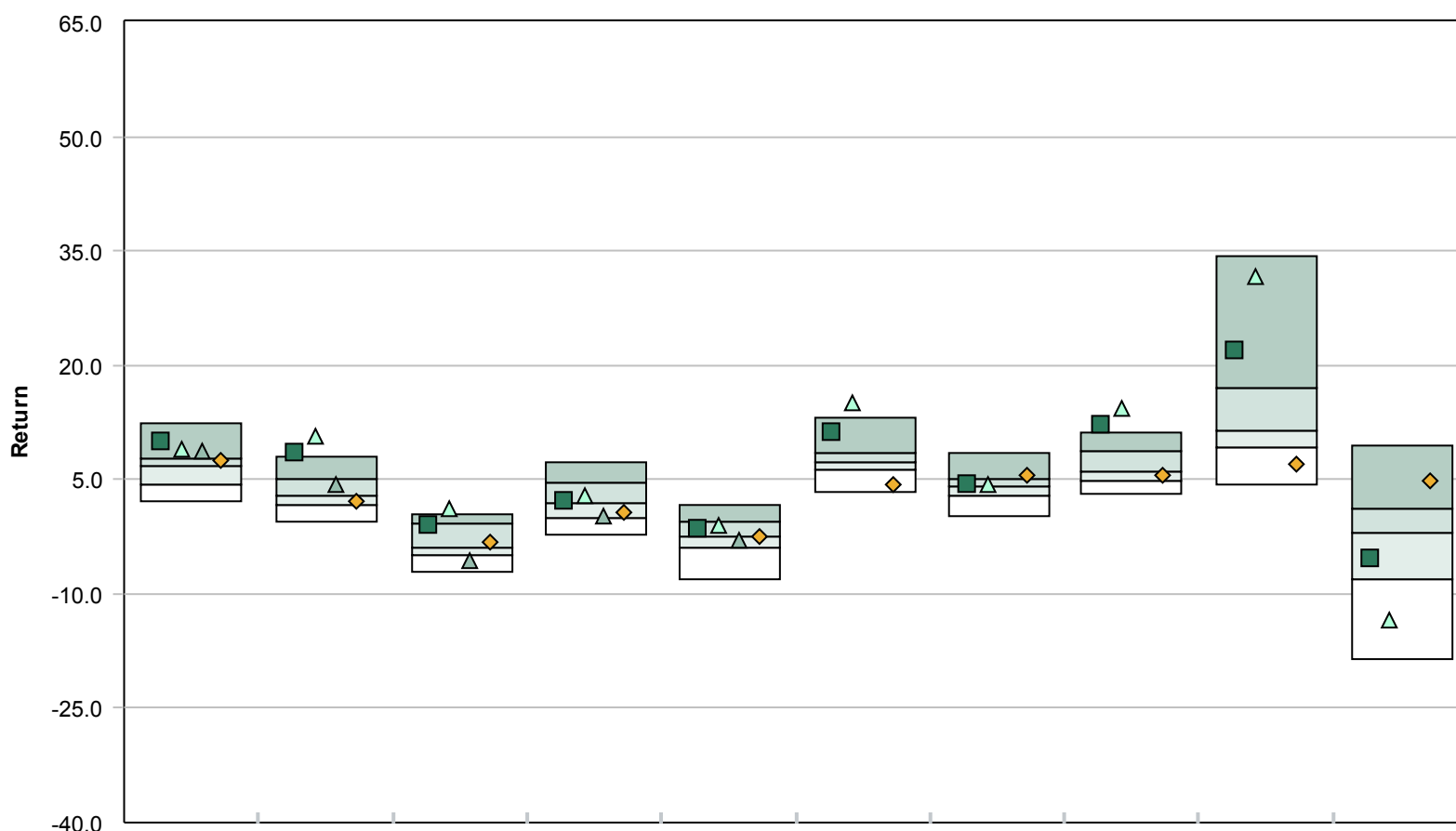
As of December 31, 2018



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Global Fixed	-0.58 (73)	-2.43 (69)	-2.43 (69)	5.22 (1)	3.32 (7)	3.67 (8)	6.25 (7)
△ PIMCO Diversified Income	-1.26 (90)	-0.96 (36)	-0.96 (36)	6.02 (1)	4.44 (1)	5.09 (1)	8.32 (1)
▲ Colchester Global Bond	1.32 (11)	-0.47 (26)	-0.47 (26)	4.12 (13)	1.34 (48)	N/A	N/A
◆ Blmbg. Barc. Global Aggregate	1.20 (12)	-1.19 (40)	-1.19 (40)	2.70 (49)	1.08 (59)	1.00 (77)	2.49 (76)
5th Percentile	2.14	1.83	1.83	4.42	3.41	3.84	6.54
1st Quartile	0.97	-0.40	-0.40	3.37	2.29	2.57	5.44
Median	0.33	-1.76	-1.76	2.68	1.27	1.71	3.49
3rd Quartile	-0.83	-2.82	-2.82	1.85	0.67	1.08	2.49
95th Percentile	-2.06	-5.10	-5.10	1.06	-0.48	-1.04	1.15

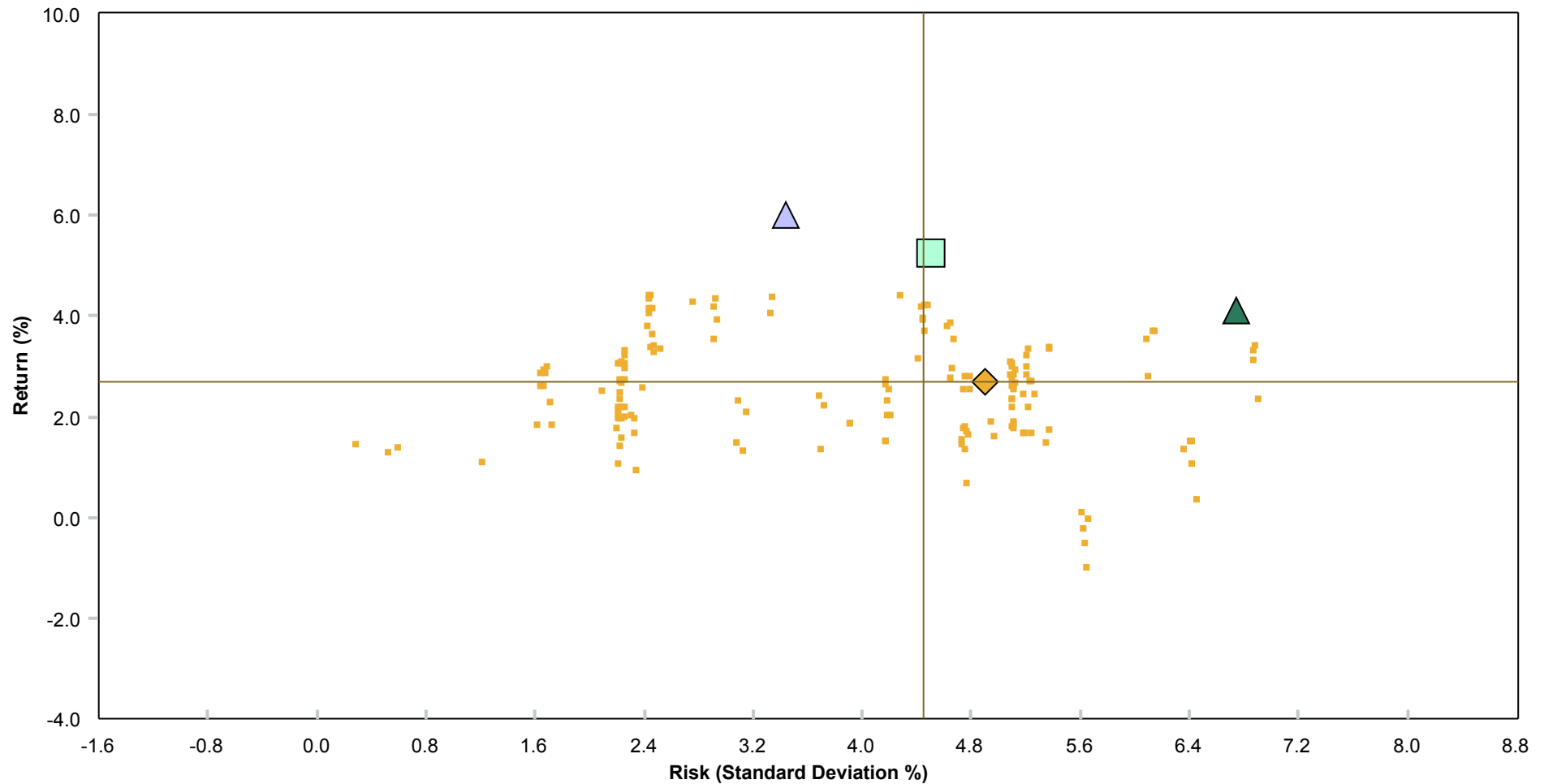
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

As of December 31, 2018

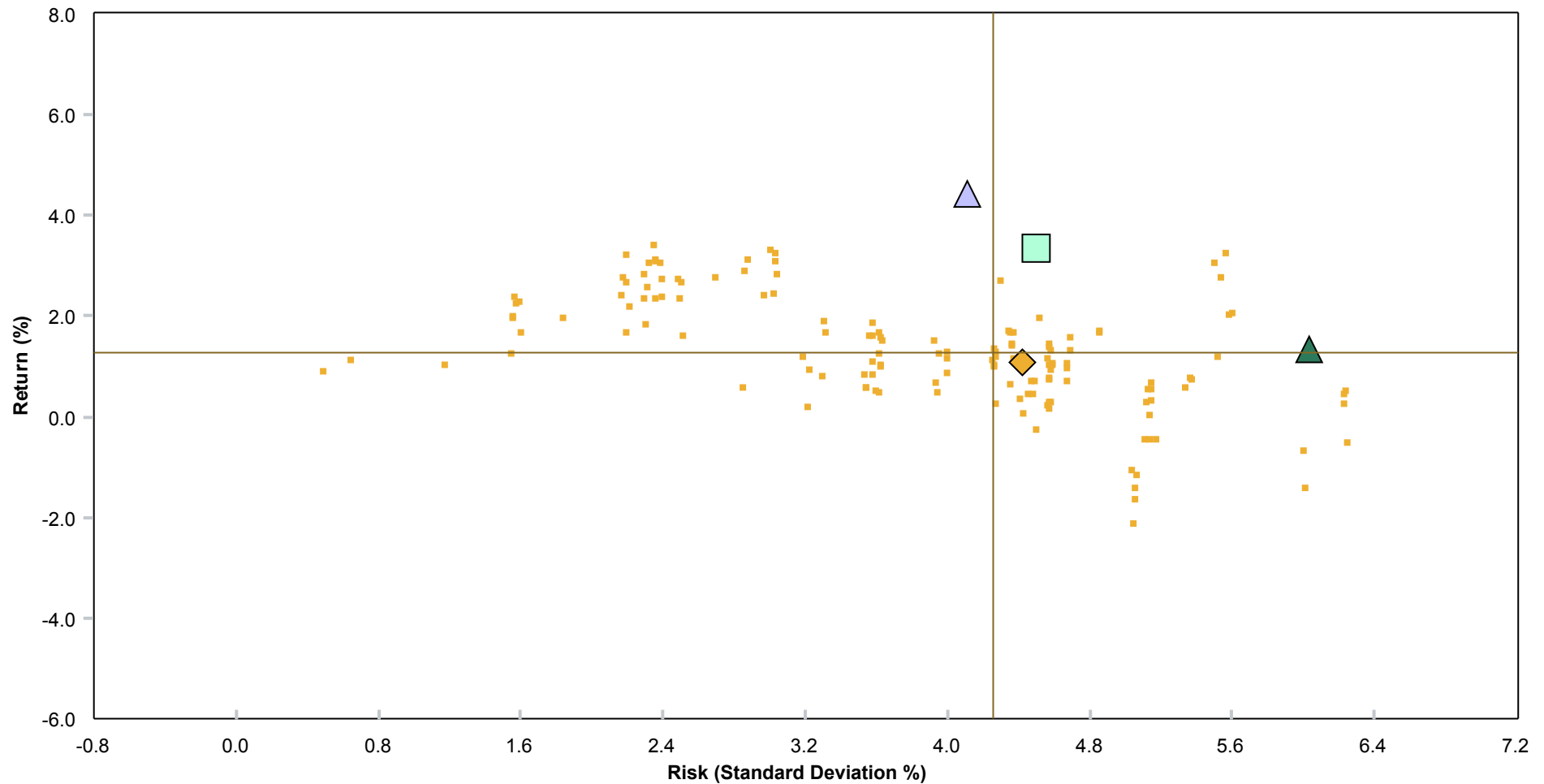


	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
■ Total Global Fixed	10.00 (9)	8.55 (3)	-1.05 (27)	2.13 (47)	-1.54 (38)	11.04 (14)	4.23 (46)	12.13 (4)	21.87 (17)	-5.31 (71)
△ PIMCO Diversified Income	8.85 (16)	10.56 (2)	1.24 (1)	2.98 (38)	-0.91 (29)	14.97 (4)	4.44 (38)	14.27 (1)	31.57 (6)	-13.34 (88)
▲ Colchester Global Bond	8.74 (17)	4.28 (36)	-5.53 (85)	0.27 (70)	-2.88 (56)	N/A	N/A	N/A	N/A	N/A
◆ Blmbg. Barc. Global Aggregate	7.39 (38)	2.09 (69)	-3.15 (41)	0.59 (62)	-2.60 (52)	4.32 (94)	5.64 (21)	5.54 (59)	6.93 (80)	4.79 (15)
5th Percentile	12.27	7.96	0.40	7.36	1.66	13.22	8.48	11.05	34.25	9.40
1st Quartile	7.86	4.95	-0.86	4.52	-0.49	8.43	5.14	8.64	16.98	1.27
Median	6.81	2.92	-3.83	1.91	-2.52	7.33	4.01	5.97	11.42	-1.95
3rd Quartile	4.42	1.70	-4.94	-0.14	-3.90	6.27	2.81	4.72	9.32	-8.17
95th Percentile	2.21	-0.62	-7.00	-2.35	-8.15	3.48	0.26	3.08	4.45	-18.54

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	Return	Standard Deviation
■ Total Global Fixed	5.22	4.51
▲ PIMCO Diversified Income	6.02	3.43
▲ Colchester Global Bond	4.12	6.74
◆ Blmbg. Barc. Global Aggregate	2.70	4.91
— Median	2.68	4.45



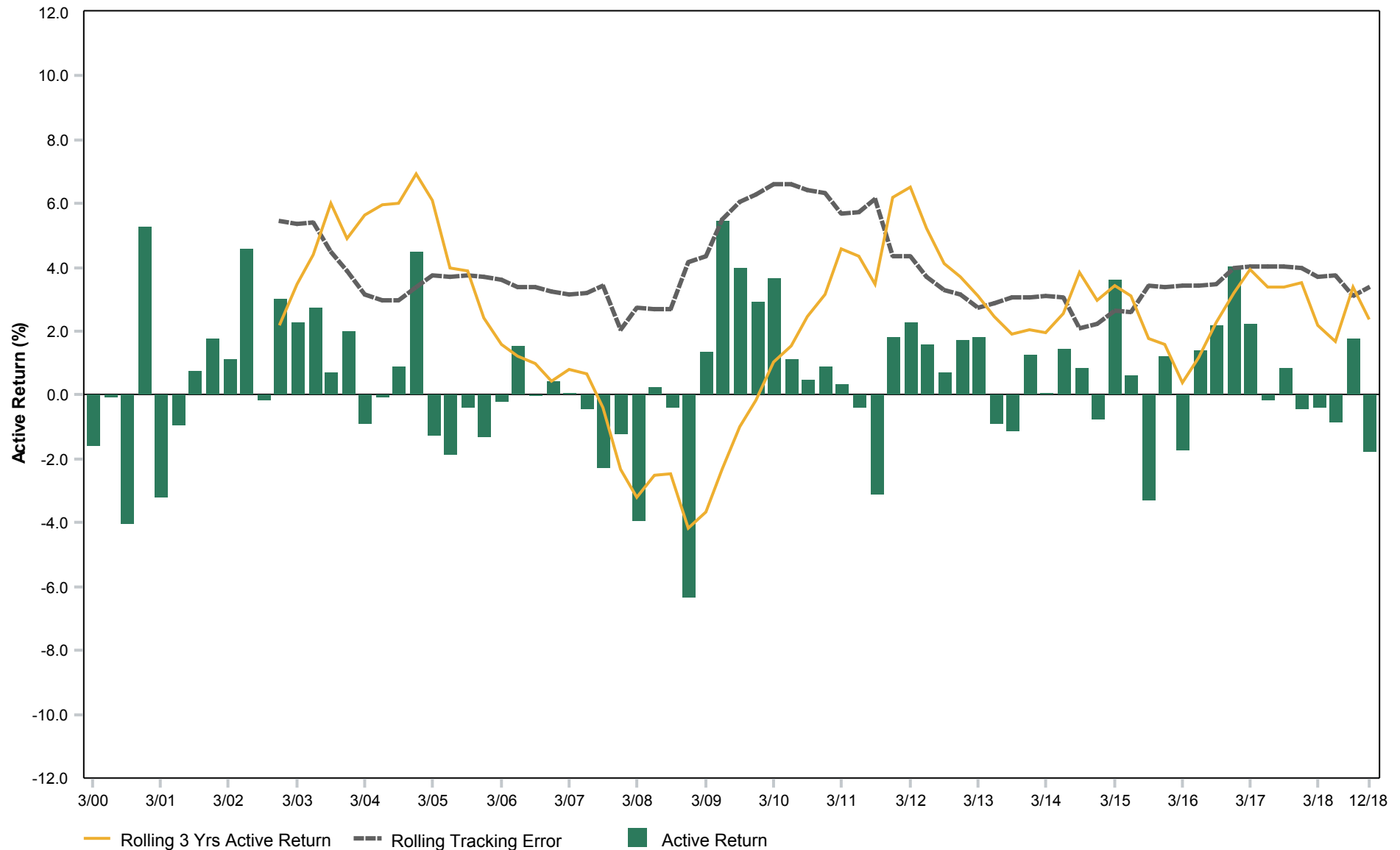
	Return	Standard Deviation
■ Total Global Fixed	3.32	4.50
▲ PIMCO Diversified Income	4.44	4.12
▲ Colchester Global Bond	1.34	6.04
◆ Blmbg. Barc. Global Aggregate	1.08	4.42
— Median	1.27	4.25

Bristol County Retirement System

Comparative Performance & Rolling Return

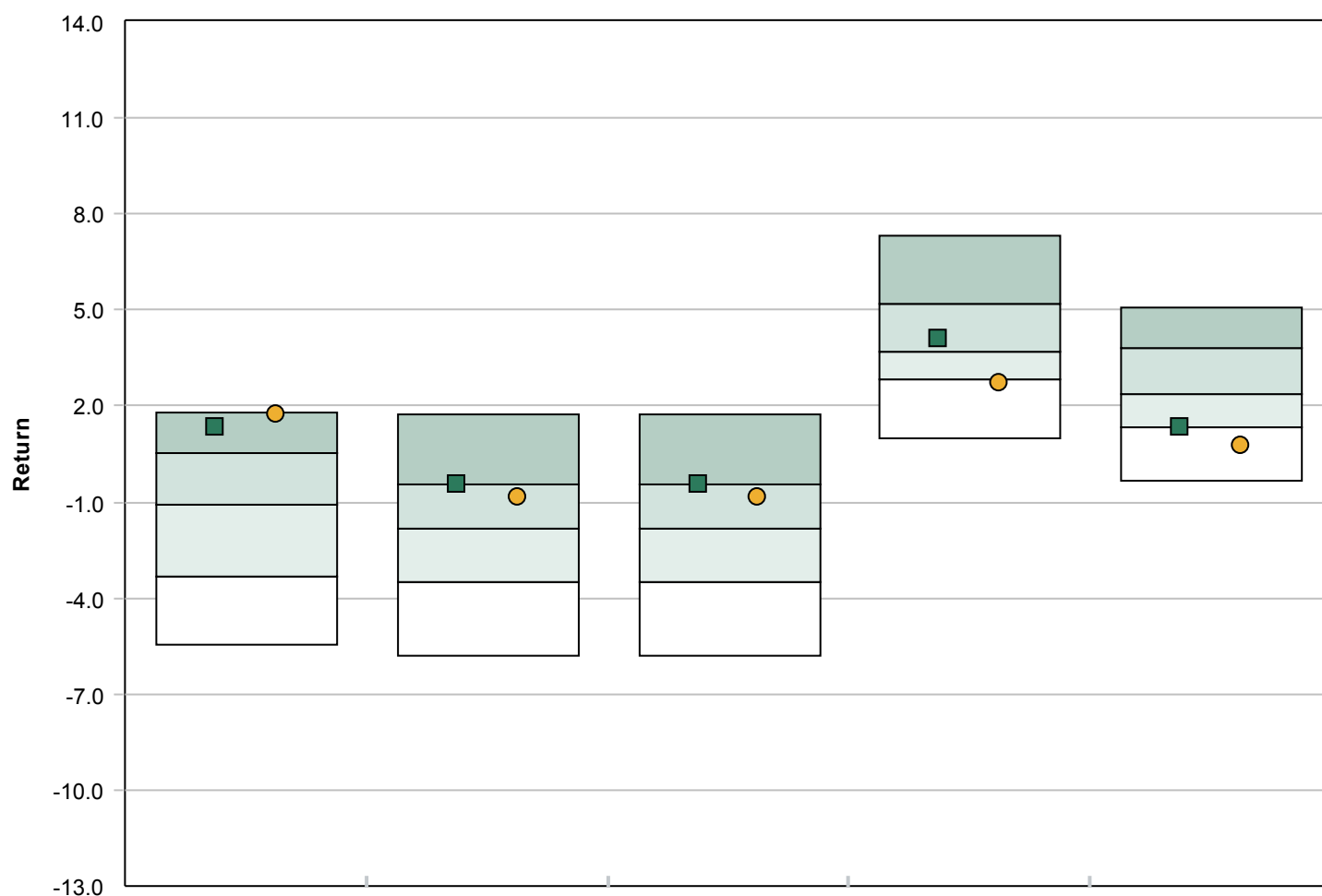
As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Total Global Fixed	-0.58	-2.43	-2.43	5.22	3.32	3.67	6.25	10.00	8.55	-1.05	2.13
BImbg. Barc. Global Aggregate	1.20	-1.19	-1.19	2.70	1.08	1.00	2.49	7.39	2.09	-3.15	0.59
Difference	-1.78	-1.24	-1.24	2.52	2.24	2.67	3.76	2.61	6.46	2.10	1.54



Net of fees.

As of December 31, 2018

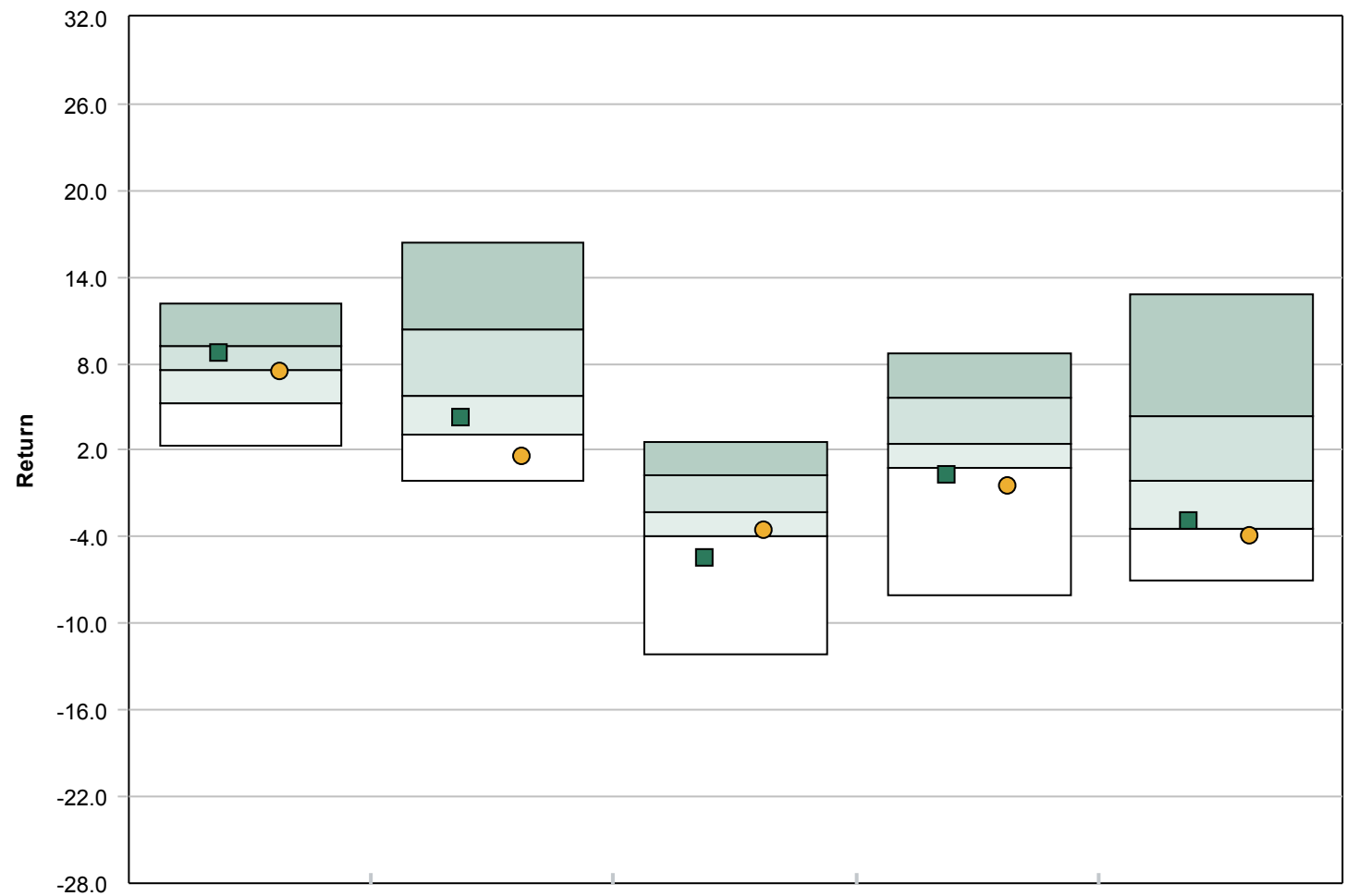


■ Colchester Global Bond
 ● FTSE World Government Bond Index

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
	1.32 (13)	-0.47 (25)	-0.47 (25)	4.12 (42)	1.34 (77)
	1.75 (6)	-0.84 (34)	-0.84 (34)	2.69 (79)	0.77 (89)
5th Percentile	1.81	1.74	1.74	7.32	5.05
1st Quartile	0.54	-0.47	-0.47	5.19	3.83
Median	-1.07	-1.82	-1.82	3.71	2.35
3rd Quartile	-3.33	-3.53	-3.53	2.86	1.35
95th Percentile	-5.46	-5.81	-5.81	0.98	-0.32

Parentheses contain percentile rankings.
 Calculation based on monthly periodicity.

As of December 31, 2018



■ Colchester Global Bond

● FTSE World Government Bond Index

8.74 (29)

4.28 (63)

-5.53 (86)

0.27 (80)

-2.88 (70)

7.49 (52)

1.60 (89)

-3.57 (69)

-0.48 (85)

-4.00 (80)

5th Percentile

12.20

16.40

2.54

8.66

12.82

1st Quartile

9.24

10.40

0.30

5.67

4.38

Median

7.62

5.75

-2.27

2.51

-0.06

3rd Quartile

5.30

3.09

-3.93

0.76

-3.45

95th Percentile

2.28

-0.09

-12.09

-8.07

-6.99

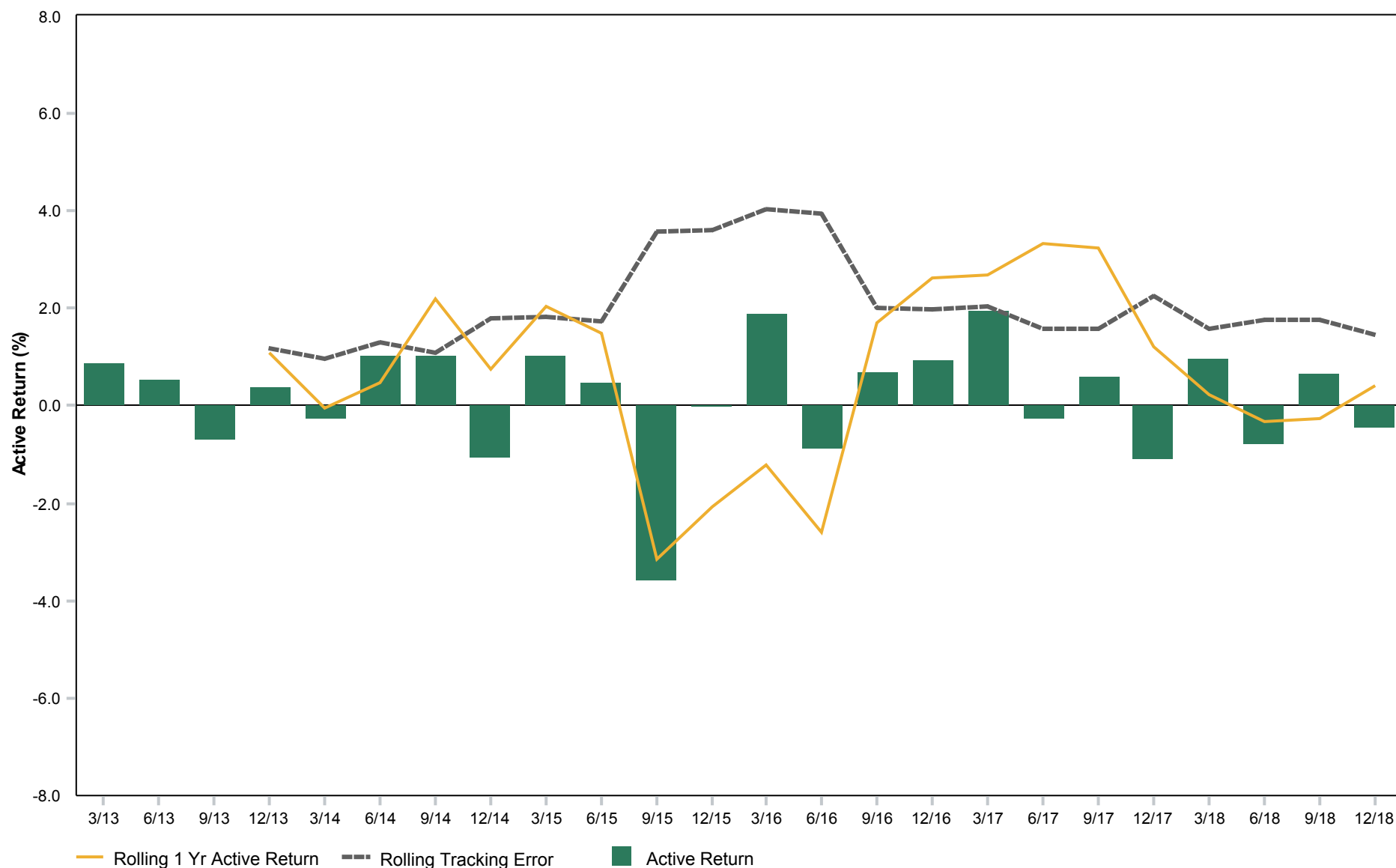
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Bristol County Retirement System

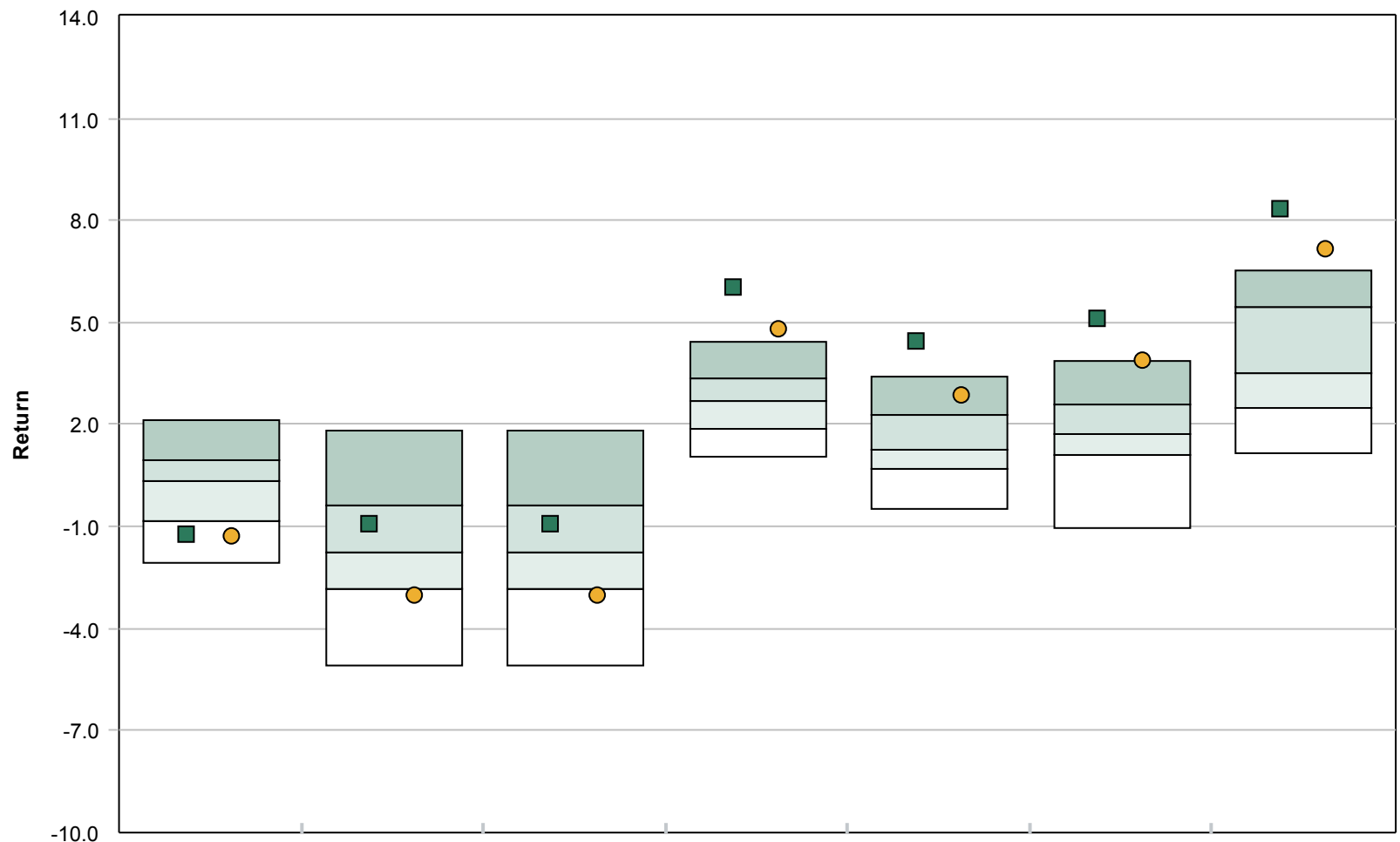
Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Colchester Global Bond	1.32	-0.47	-0.47	4.12	1.34	N/A	N/A	8.74	4.28	-5.53	0.27
FTSE World Government Bond Index	1.75	-0.84	-0.84	2.69	0.77	0.20	1.52	7.49	1.60	-3.57	-0.48
Difference	-0.43	0.37	0.37	1.43	0.57	N/A	N/A	1.25	2.68	-1.96	0.75



As of December 31, 2018



■ PIMCO Diversified Income

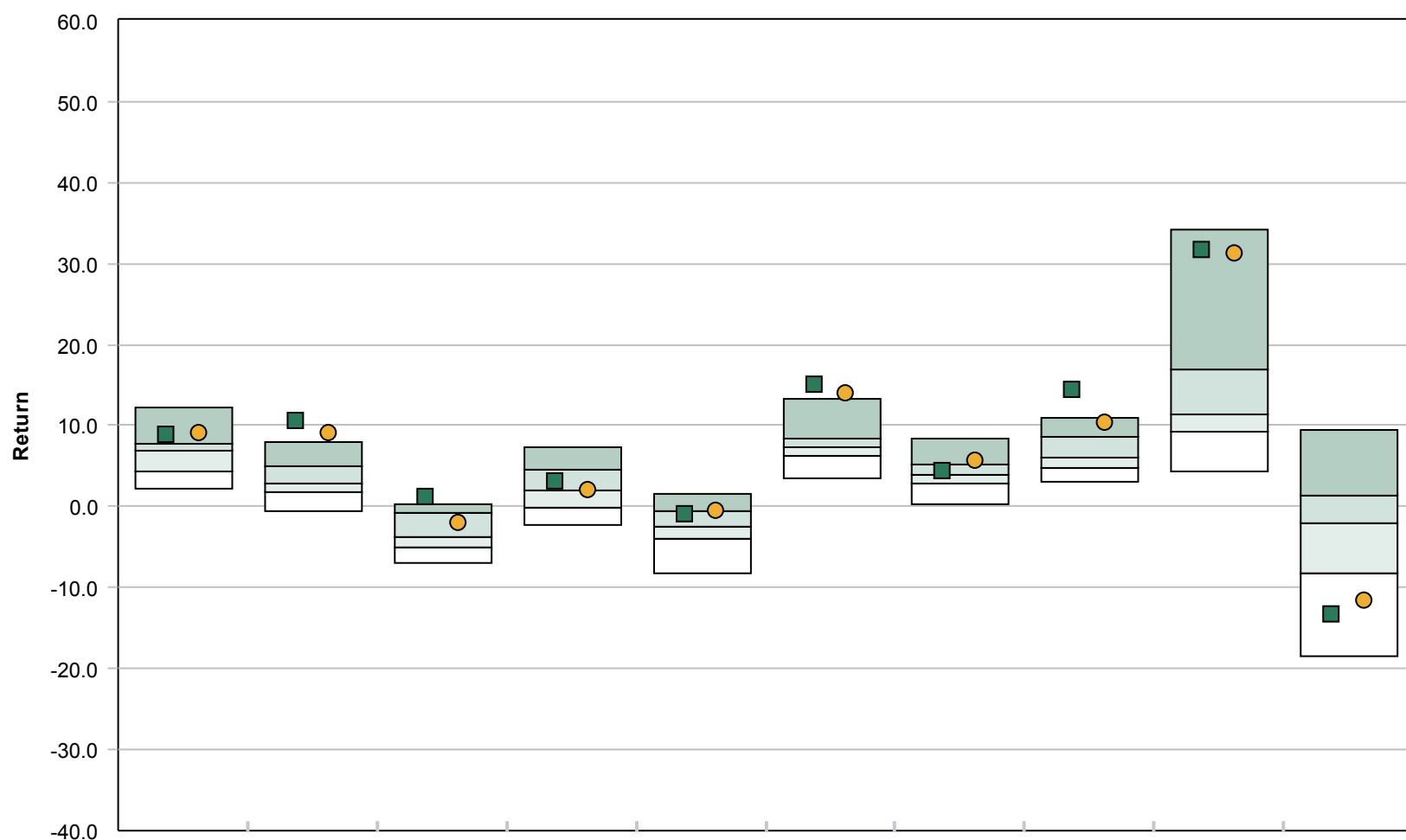
● PIMCO Diversified Index*

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
PIMCO Diversified Income	-1.26 (90)	-0.96 (36)	-0.96 (36)	6.02 (1)	4.44 (1)	5.09 (1)	8.32 (1)
PIMCO Diversified Index*	-1.29 (91)	-3.03 (77)	-3.03 (77)	4.81 (2)	2.85 (14)	3.86 (5)	7.15 (2)

5th Percentile	2.14	1.83	1.83	4.42	3.41	3.84	6.54
1st Quartile	0.97	-0.40	-0.40	3.37	2.29	2.57	5.44
Median	0.33	-1.76	-1.76	2.68	1.27	1.71	3.49
3rd Quartile	-0.83	-2.82	-2.82	1.85	0.67	1.08	2.49
95th Percentile	-2.06	-5.10	-5.10	1.06	-0.48	-1.04	1.15

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

As of December 31, 2018



■ PIMCO Diversified Income

● PIMCO Diversified Index*

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
PIMCO Diversified Income	8.85 (16)	10.56 (2)	1.24 (1)	2.98 (38)	-0.91 (29)	14.97 (4)	4.44 (38)	14.27 (1)	31.57 (6)	-13.34 (88)
PIMCO Diversified Index*	8.97 (13)	8.97 (2)	-2.02 (34)	1.99 (48)	-0.49 (25)	13.86 (5)	5.68 (21)	10.39 (10)	31.15 (6)	-11.55 (88)
5th Percentile	12.27	7.96	0.40	7.36	1.66	13.22	8.48	11.05	34.25	9.40
1st Quartile	7.86	4.95	-0.86	4.52	-0.49	8.43	5.14	8.64	16.98	1.27
Median	6.81	2.92	-3.83	1.91	-2.52	7.33	4.01	5.97	11.42	-1.95
3rd Quartile	4.42	1.70	-4.94	-0.14	-3.90	6.27	2.81	4.72	9.32	-8.17
95th Percentile	2.21	-0.62	-7.00	-2.35	-8.15	3.48	0.26	3.08	4.45	-18.54

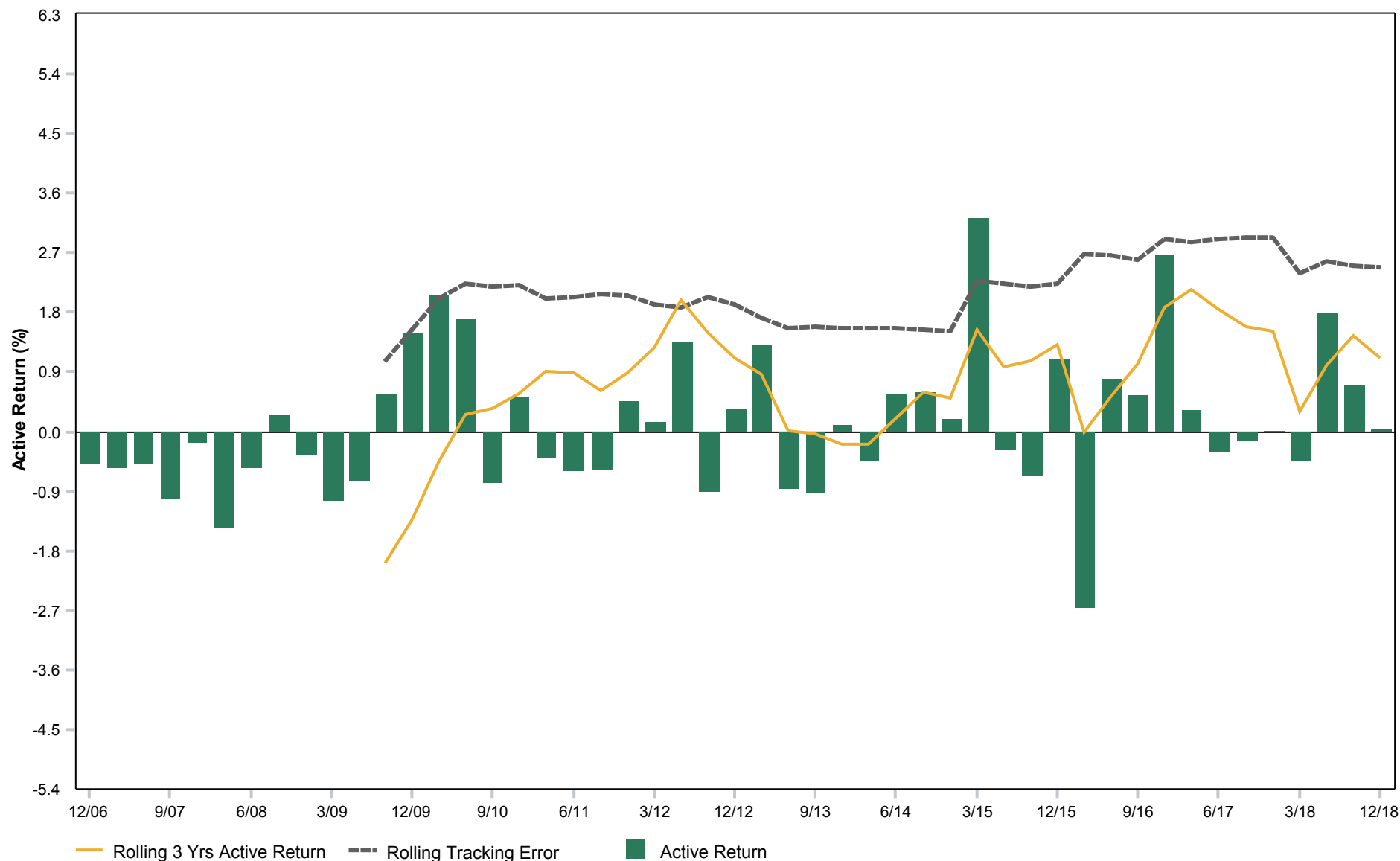
*33.3% ML Global HY/33.3% JPM EMBI Global/33.3% LB Global Agg

Bristol County Retirement System

Comparative Performance & Rolling Return

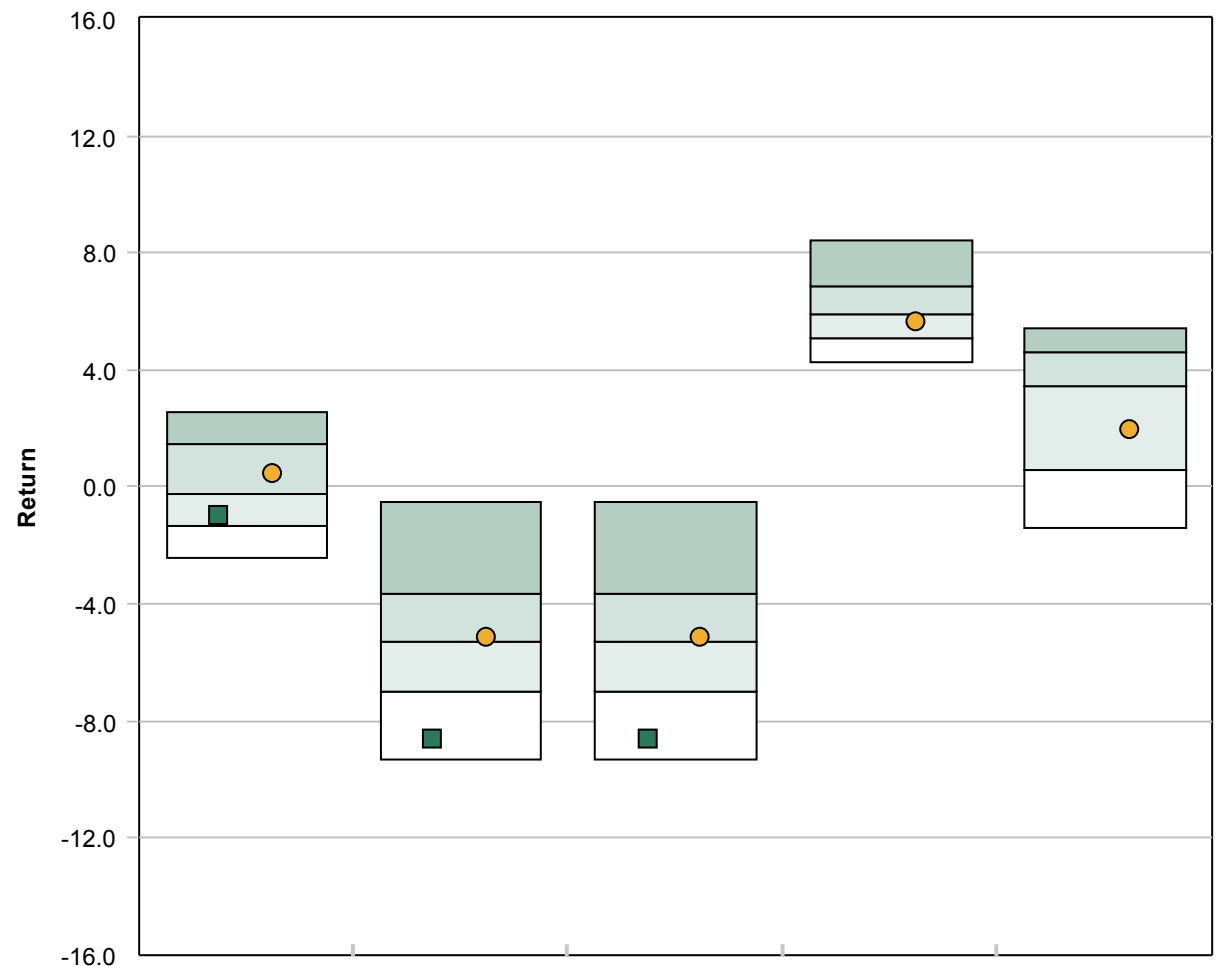
As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
PIMCO Diversified Income	-1.26	-0.96	-0.96	6.02	4.44	5.09	8.32	8.85	10.56	1.24	2.98
PIMCO Diversified Index*	-1.27	-3.03	-3.03	4.81	2.85	3.86	7.15	8.97	8.97	-2.02	1.99
Difference	0.01	2.07	2.07	1.21	1.59	1.23	1.17	-0.12	1.59	3.26	0.99



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

As of December 31, 2018



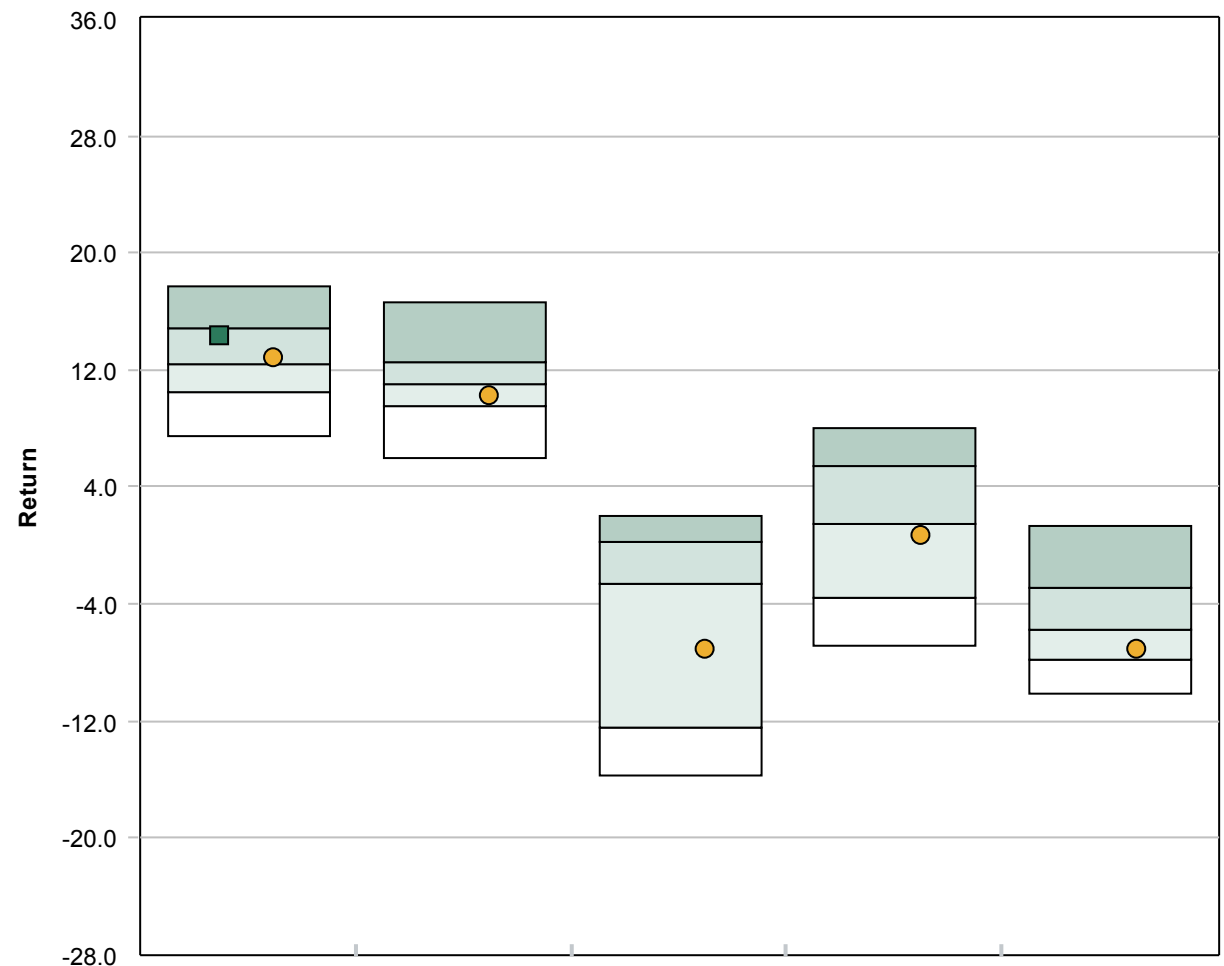
■ Stone Harbor EMD

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

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Stone Harbor EMD	-0.99 (64)	-8.65 (92)	-8.65 (92)	N/A	N/A
50% JPM EMBI Global Div. / 50% JPM GBI-EM Global Div.	0.43 (38)	-5.15 (47)	-5.15 (47)	5.61 (59)	1.95 (63)
5th Percentile	2.59	-0.49	-0.49	8.41	5.39
1st Quartile	1.47	-3.64	-3.64	6.84	4.64
Median	-0.25	-5.32	-5.32	5.88	3.44
3rd Quartile	-1.32	-6.98	-6.98	5.12	0.57
95th Percentile	-2.43	-9.34	-9.34	4.29	-1.43

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

As of December 31, 2018



■ Stone Harbor EMD

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

	2017	2016	2015	2014	2013
	14.30 (31)	N/A	N/A	N/A	N/A
	12.74 (46)	10.16 (67)	-7.14 (66)	0.71 (59)	-7.10 (66)
5th Percentile	17.70	16.62	2.04	8.07	1.39
1st Quartile	14.79	12.59	0.26	5.41	-2.95
Median	12.40	11.09	-2.67	1.52	-5.81
3rd Quartile	10.52	9.53	-12.49	-3.61	-7.87
95th Percentile	7.45	6.04	-15.77	-6.82	-10.08

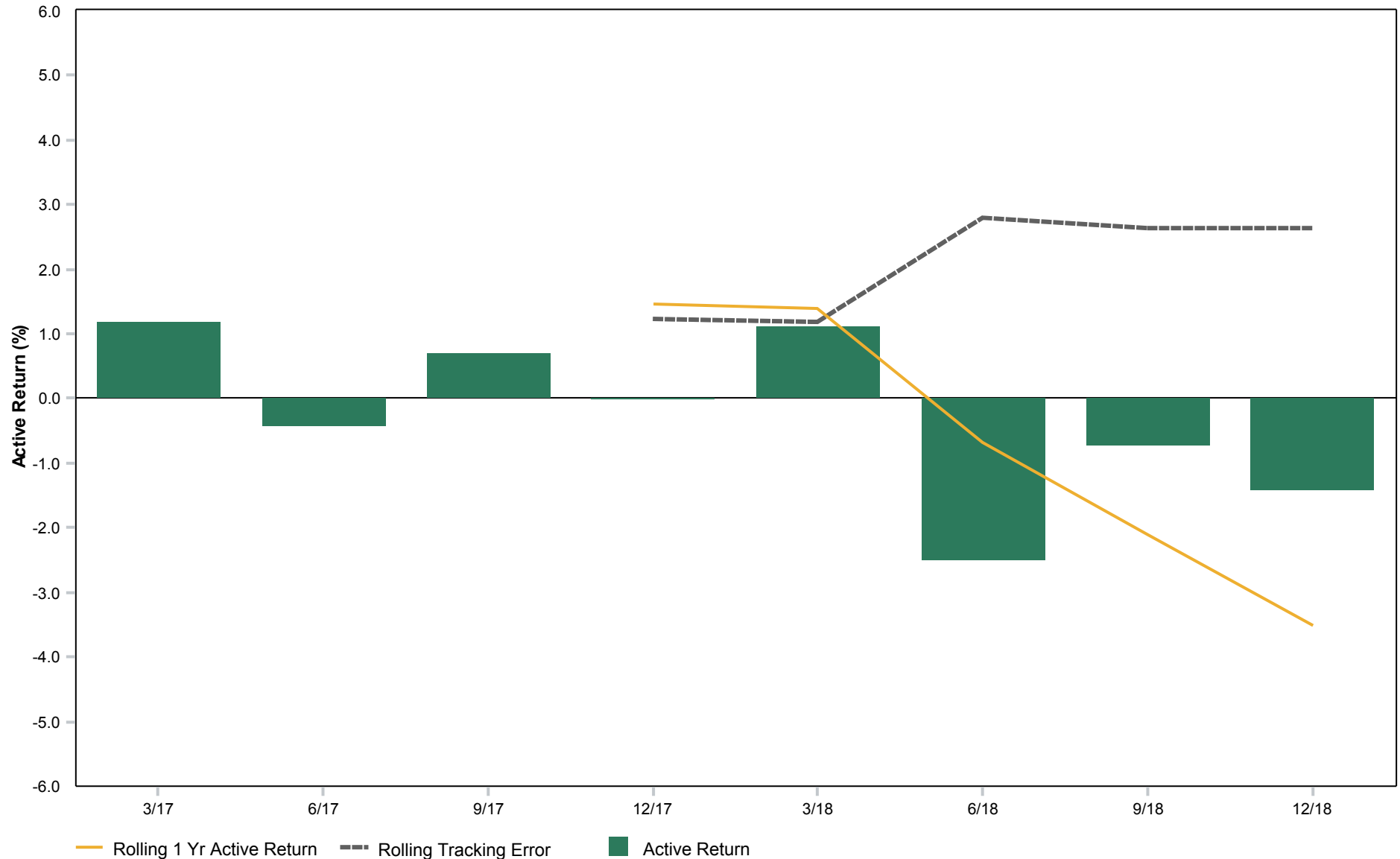
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Bristol County Retirement System

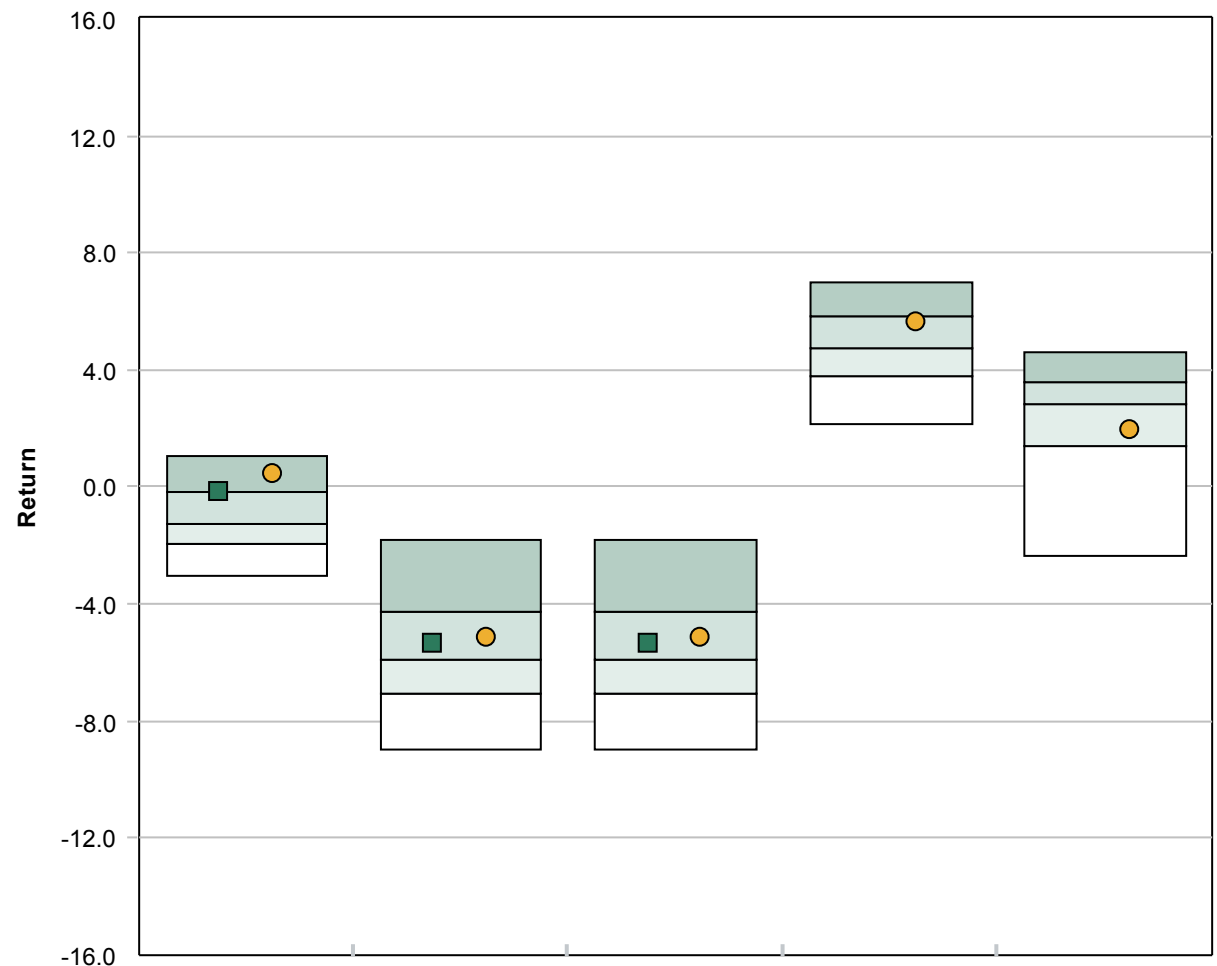
Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Stone Harbor EMD	-0.99	-8.65	-8.65	N/A	N/A	N/A	N/A	14.30	N/A	N/A	N/A
50% JPM EMBI Global Diversified/50% JPM GBI-EM Global Diversified US	0.43	-5.15	-5.15	5.61	1.95	2.63	5.88	12.74	10.16	-7.14	0.71
Difference	-1.42	-3.50	-3.50	N/A	N/A	N/A	N/A	1.56	N/A	N/A	N/A



As of December 31, 2018

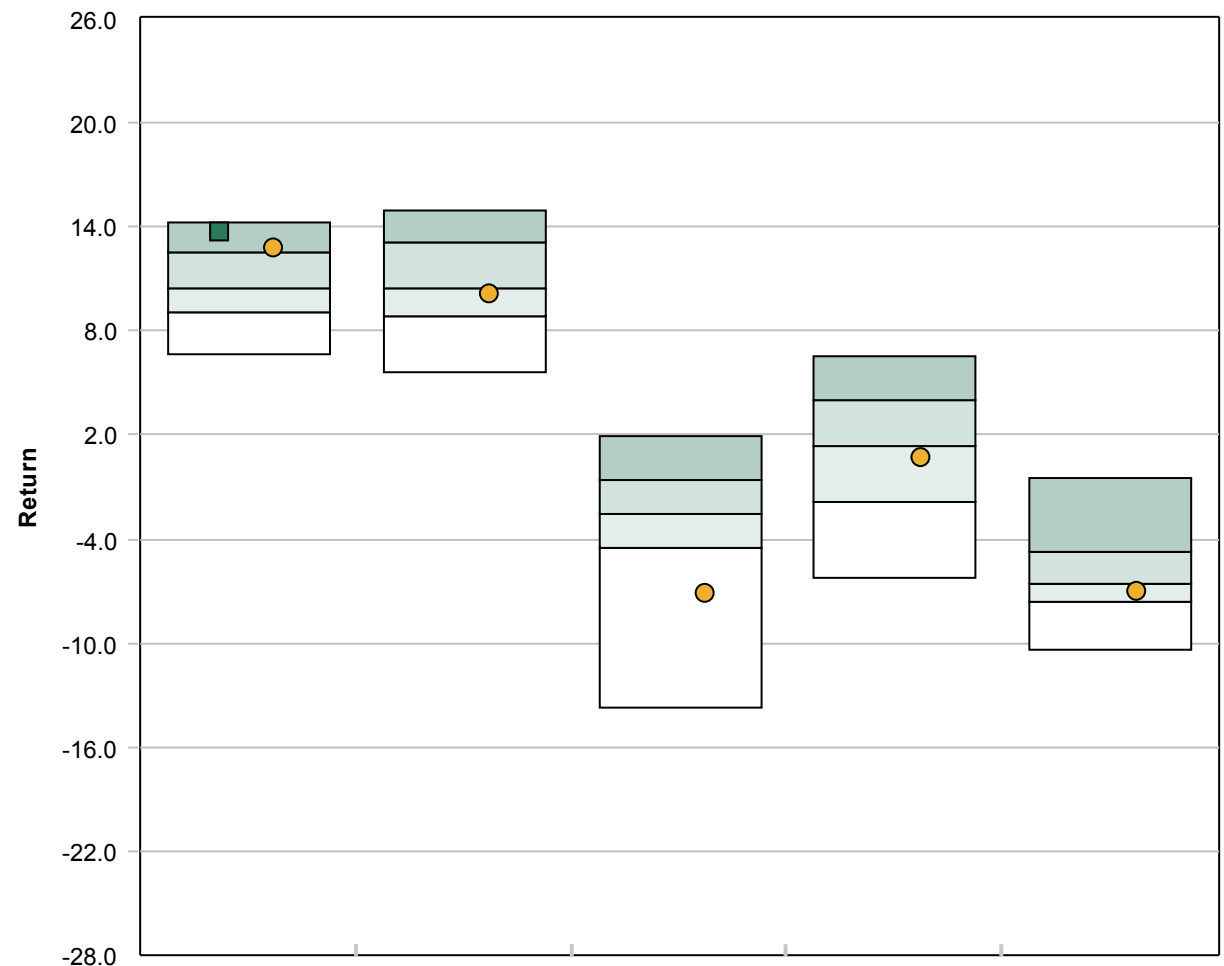


■ Ashmore Emerging Markets Total Return
 ● 50% JPM EMBI Global Div./ 50% JPM GBI-EM Global Div.

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
	-0.16 (24)	-5.33 (42)	-5.33 (42)	N/A	N/A
	0.43 (11)	-5.15 (39)	-5.15 (39)	5.61 (29)	1.95 (68)
5th Percentile	1.04	-1.82	-1.82	7.01	4.57
1st Quartile	-0.20	-4.27	-4.27	5.85	3.59
Median	-1.29	-5.91	-5.91	4.71	2.86
3rd Quartile	-1.94	-7.08	-7.08	3.82	1.37
95th Percentile	-3.04	-8.99	-8.99	2.15	-2.38

Parentheses contain percentile rankings.
 Calculation based on monthly periodicity.

As of December 31, 2018



■ Ashmore Emerging Markets Total Return

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

	2017	2016	2015	2014	2013
	13.66 (10)	N/A	N/A	N/A	N/A
	12.74 (22)	10.16 (55)	-7.14 (84)	0.71 (57)	-7.10 (62)
5th Percentile	14.25	14.96	1.98	6.51	-0.47
1st Quartile	12.52	13.09	-0.59	4.05	-4.71
Median	10.49	10.42	-2.53	1.31	-6.58
3rd Quartile	9.02	8.88	-4.49	-1.88	-7.67
95th Percentile	6.67	5.57	-13.69	-6.22	-10.41

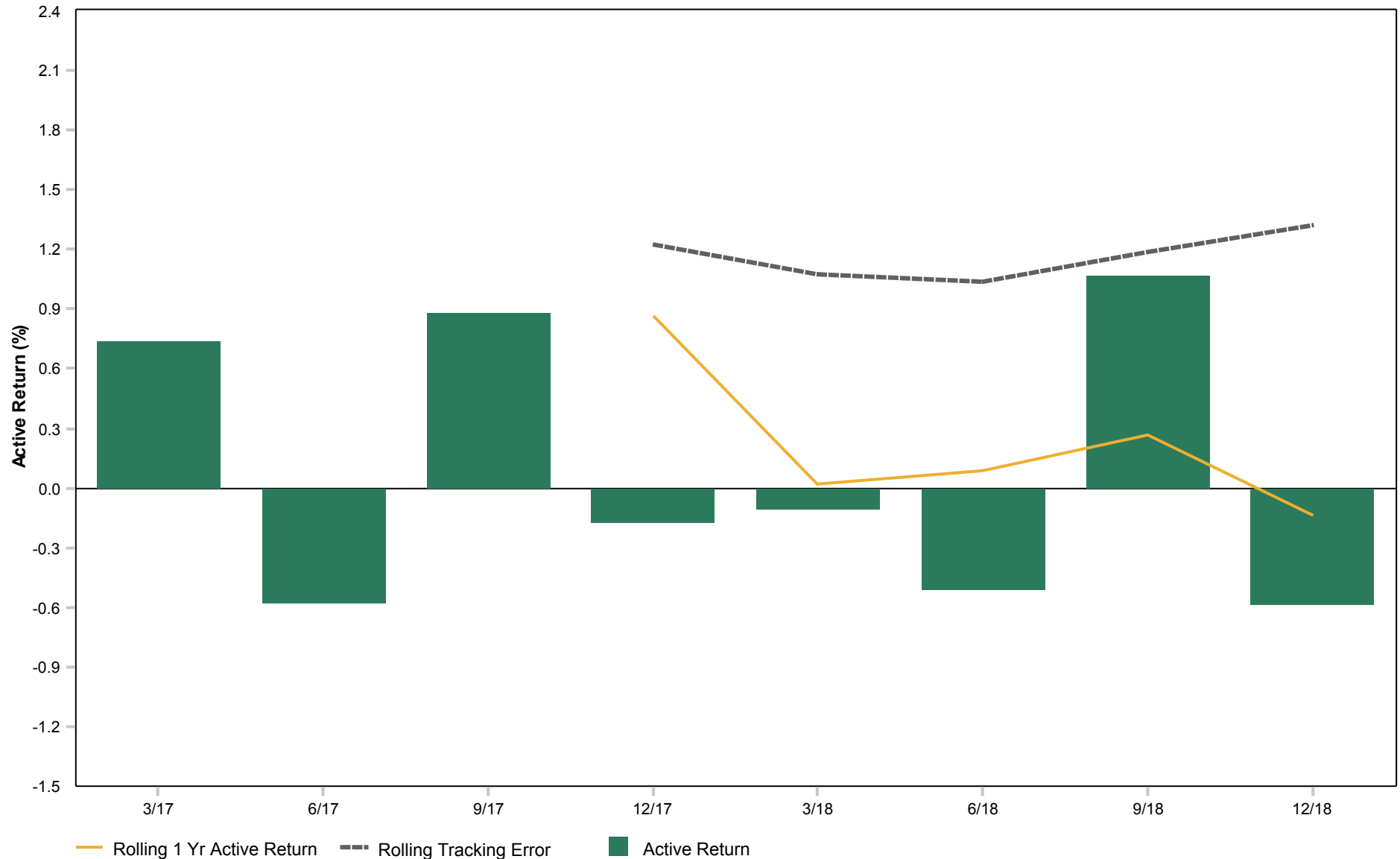
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Bristol County Retirement System

Comparative Performance & Rolling Return

As of December 31, 2018

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	2017	2016	2015	2014
Ashmore Emerging Markets Total Return	-0.16	-5.33	-5.33	N/A	N/A	N/A	N/A	13.66	N/A	N/A	N/A
50% JPM EMBI Global Diversified/50% JPM GBI-EM Global Diversified US	0.43	-5.15	-5.15	5.61	1.95	2.63	5.88	12.74	10.16	-7.14	0.71
Difference	-0.59	-0.18	-0.18	N/A	N/A	N/A	N/A	0.92	N/A	N/A	N/A



Other Fixed Income

As of December 31, 2018

	Market Value (\$)	%	1 Quarter	Year To Date	1 Year	3 Years	Since Inception	Inception Date
Invesco Mortgage Recovery Fund	355,598	0.06	0.00	13.87	13.87	-0.26	13.95	03/31/2010

Bristol County Retirement System

Schedule of Investable Assets

Invesco Mortgage Recovery Fund

Since Inception Ending December 31, 2018

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	5.74	105.74	27,307	0.00
Sep-2010	2,151,396	739,731	921,104	181,373	142,577	3,033,704	5.94	112.02	75,028	3.49
Dec-2010	3,033,704	-448,204	33,362	481,566	96,495	2,681,995	3.67	116.13	209,106	6.89
Mar-2011	2,681,995	-265,432	215,509	480,941	114,718	2,531,281	4.31	121.13	206,684	7.71
Jun-2011	2,531,281	-248,483	200,172	448,655	-37,226	2,245,572	-1.67	119.11	33,871	1.34
Sep-2011	2,245,572	1,186,159	1,302,619	116,460	-15,163	3,416,568	-0.67	118.31	8,310	0.37
Dec-2011	3,416,568	-974,627	-	974,627	7,383	2,449,324	0.24	118.60	38,619	1.13
Mar-2012	2,449,324	-880,764	-	880,764	106,038	1,674,598	4.64	124.10	18,649	0.76
Jun-2012	1,674,598	-3,746	159,003	162,749	44,872	1,715,724	2.45	127.14	75,013	4.48
Sep-2012	1,715,724	-10,305	-	10,305	37,498	1,742,917	2.19	129.92	-	0.00
Dec-2012	1,742,917	-510,562	-	510,562	85,492	1,317,847	5.91	137.60	-	0.00
Mar-2013	1,317,847	-65,326	-	65,326	22,847	1,275,368	1.74	140.00	-	0.00
Jun-2013	1,275,368	-59,917	20,152	80,069	26,281	1,241,732	2.19	143.07	-	0.00
Sep-2013	1,241,732	221,939	221,939	-	2,024	1,465,695	0.14	143.27	-	0.00
Dec-2013	1,465,695	132,967	329,829	196,862	124,547	1,723,209	8.11	154.89	-	0.00
Mar-2014	1,723,209	-97,979	-	97,979	39,216	1,664,446	2.35	158.54	-	0.00
Jun-2014	1,664,446	-64,464	70,551	135,015	53,465	1,653,447	3.34	163.84	-	0.00
Sep-2014	1,653,447	-38,489	40,092	78,581	82,363	1,697,321	5.10	172.19	-	0.00
Dec-2014	1,697,321	53,602	88,065	34,463	315,116	2,066,039	18.00	203.18	-	0.00
Mar-2015	2,066,039	-338,868	42,571	381,439	49,102	1,776,273	2.88	209.03	-	0.00
Jun-2015	1,776,273	28,704	28,704	-	67,010	1,871,987	3.91	217.20	-	0.00
Sep-2015	1,871,987	-239,366	44,631	283,997	184,643	1,817,264	11.31	241.76	-	0.00
Dec-2015	1,817,264	-255,351	-	255,351	107,519	1,669,432	6.88	258.40	-	0.00
Mar-2016	1,669,432	9,080	57,199	48,119	-204	1,678,308	-0.01	258.37	-	0.00
Jun-2016	1,678,308	-423,449	-	423,449	62,718	1,317,577	5.00	271.28	-	0.00
Sep-2016	1,317,577	-175,341	-	175,341	1,890	1,144,126	0.17	271.73	-	0.00
Dec-2016	1,144,126	-1,965	-	1,965	-85,161	1,057,000	-7.44	251.51	-	0.00
Mar-2017	1,057,000	-	-	-	-25,343	1,031,657	-2.40	245.48	-	0.00
Jun-2017	1,031,657	-559,332	-	559,332	-399	471,926	-0.08	245.27	-	0.00
Sep-2017	471,926	-80,808	-	80,808	-25,848	365,270	-6.61	229.06	-	0.00
Dec-2017	365,270	-	-	-	18,088	383,358	4.95	240.40	-	0.00
Mar-2018	383,358	840	840	-	12,252	396,450	3.36	248.49	-	0.00
Jun-2018	396,450	-76,638	-	76,638	22,664	342,476	5.75	262.78	-	0.00
Sep-2018	342,476	-	-	-	13,122	355,598	3.83	272.85	-	0.00

*% return represents a time weighted return.

Bristol County Retirement System

Schedule of Investable Assets

Invesco Mortgage Recovery Fund

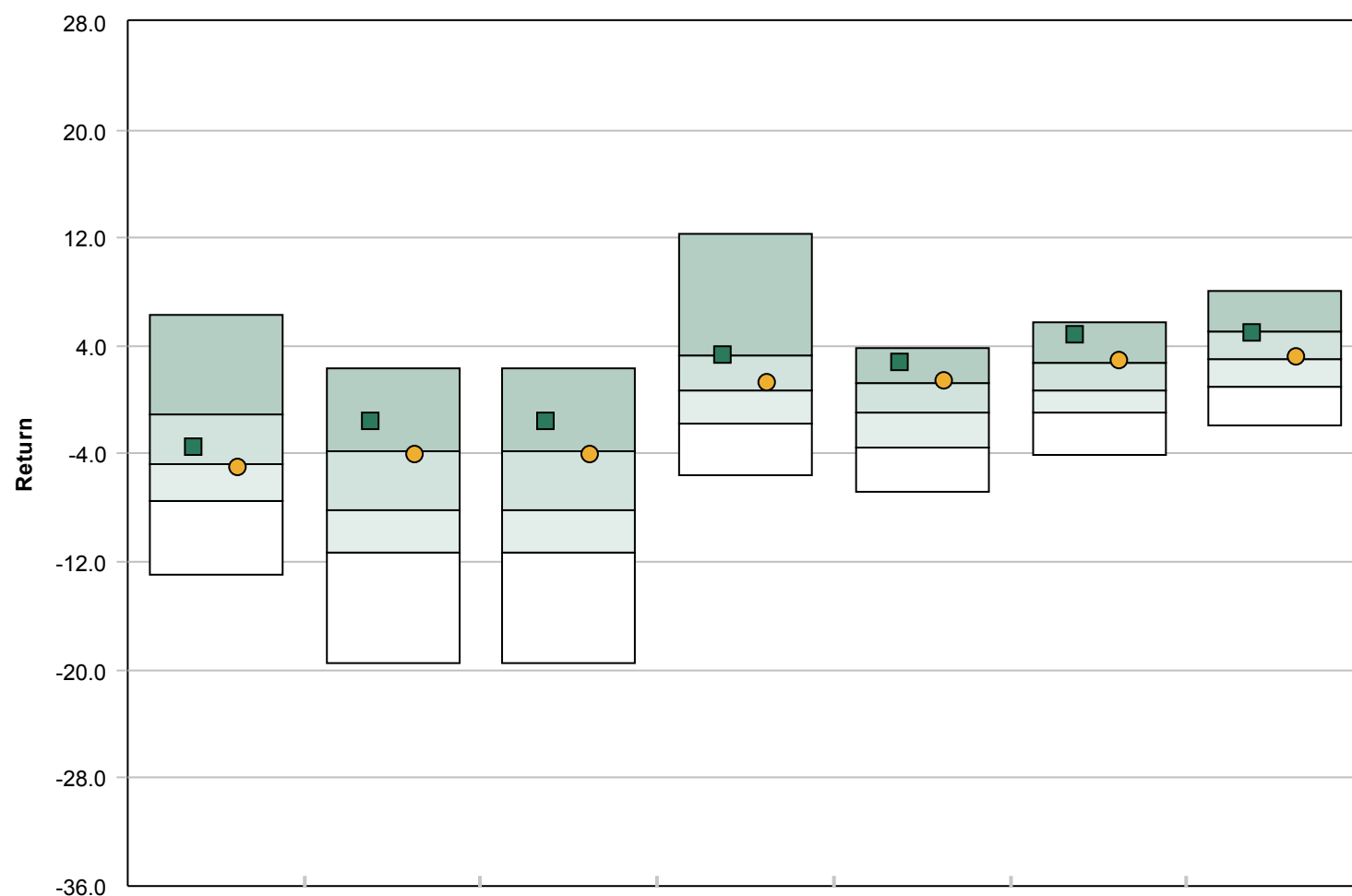
Since Inception Ending December 31, 2018

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-2018	355,598	-	-	-	-	355,598	0.00	272.85	-	0.00
	-	-1,398,595	5,866,186	7,264,781	1,650,596	355,598	12.16	272.85	692,587	0.00

*% return represents a time weighted return.

Alternatives

As of December 31, 2018



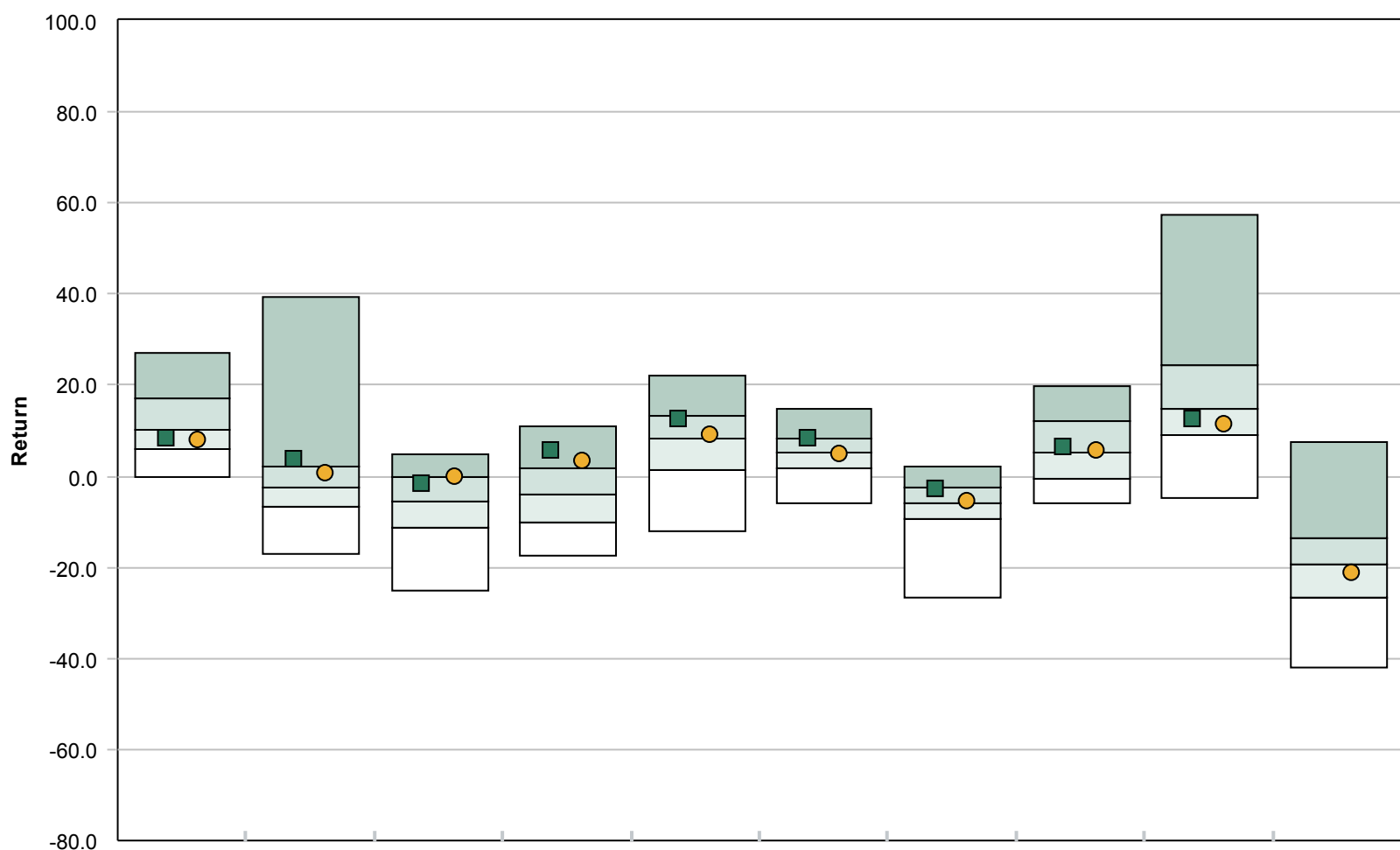
■ PRIT Absolute Return

● HFRI Fund of Funds Composite Index

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
PRIT Absolute Return	-3.53 (41)	-1.56 (15)	-1.56 (15)	3.31 (25)	2.69 (12)	4.86 (9)	4.93 (28)
HFRI Fund of Funds Composite Index	-5.01 (53)	-4.09 (27)	-4.09 (27)	1.28 (44)	1.38 (24)	2.92 (22)	3.11 (49)
5th Percentile	6.36	2.29	2.29	12.37	3.80	5.77	8.09
1st Quartile	-1.12	-3.79	-3.79	3.26	1.23	2.76	5.12
Median	-4.73	-8.10	-8.10	0.69	-0.89	0.71	3.06
3rd Quartile	-7.50	-11.29	-11.29	-1.76	-3.56	-0.88	0.93
95th Percentile	-12.89	-19.54	-19.54	-5.63	-6.84	-4.00	-1.94

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

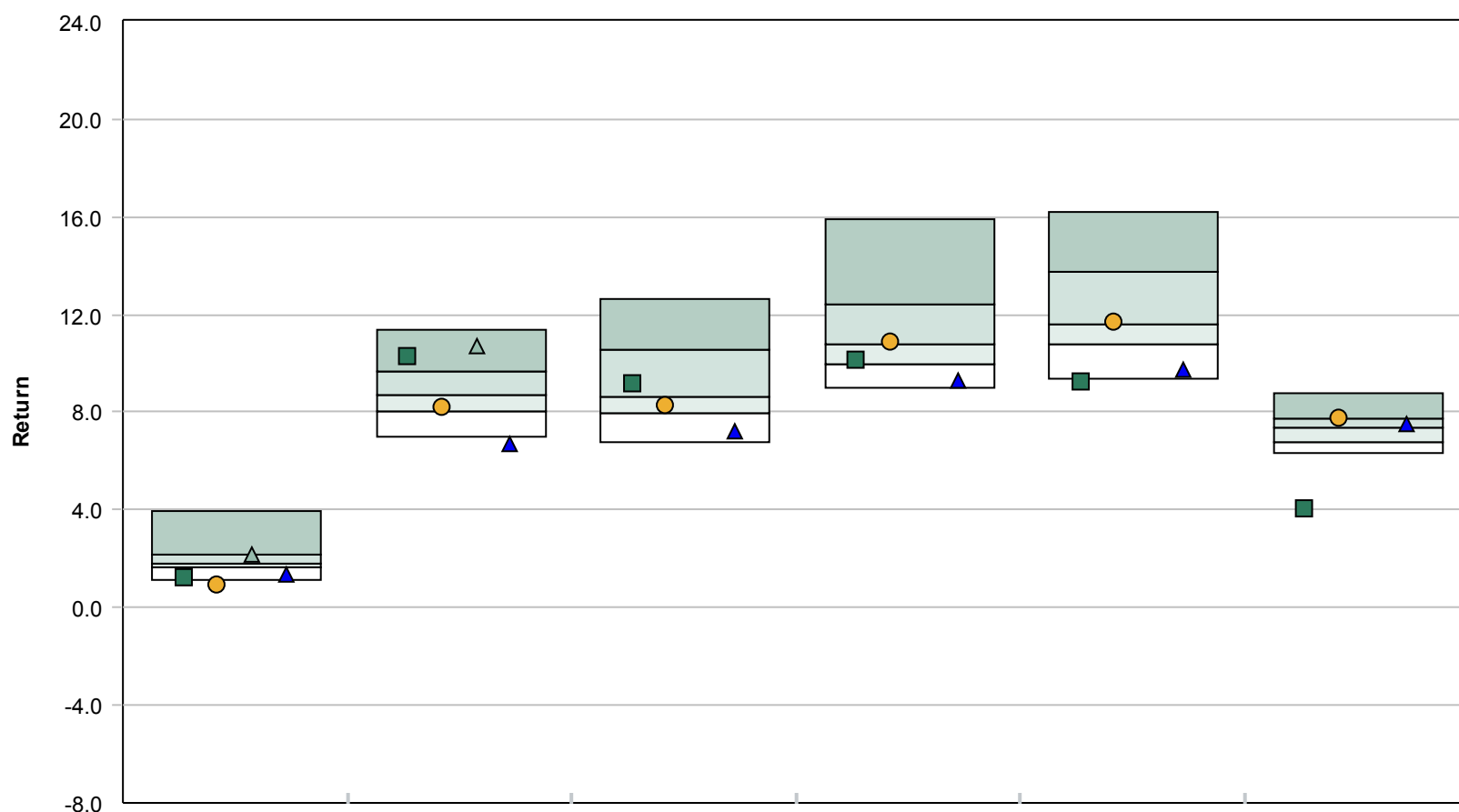
As of December 31, 2018



	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
■ PRIT Absolute Return	8.16 (63)	3.57 (21)	-1.86 (34)	5.53 (10)	12.61 (29)	8.36 (24)	-2.77 (28)	6.29 (44)	12.33 (63)	N/A
● HFRI F of F Composite Index	7.77 (65)	0.51 (33)	-0.27 (25)	3.37 (19)	8.96 (48)	4.79 (54)	-5.72 (50)	5.70 (47)	11.47 (67)	-21.37 (58)
5th Percentile	27.22	39.26	4.95	10.85	22.15	14.73	2.30	19.71	57.27	7.61
1st Quartile	17.25	2.12	-0.27	1.91	13.38	8.24	-2.39	11.95	24.30	-13.71
Median	10.22	-2.30	-5.49	-3.83	8.40	5.20	-5.75	5.08	14.88	-19.35
3rd Quartile	6.02	-6.63	-11.15	-10.14	1.32	1.63	-9.50	-0.42	9.00	-26.56
95th Percentile	-0.34	-17.25	-25.21	-17.36	-12.14	-5.81	-26.74	-6.07	-4.66	-42.01

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

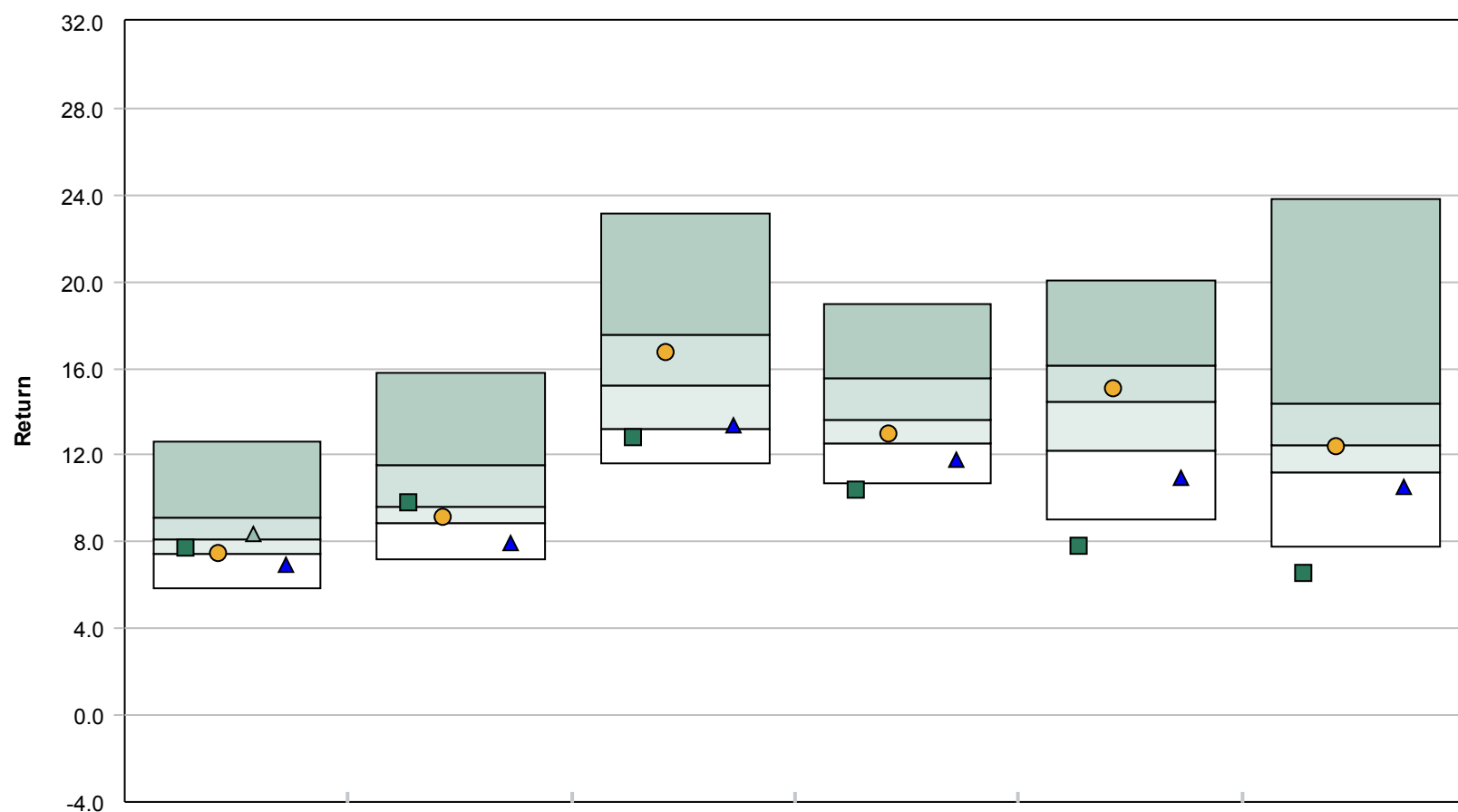
As of December 31, 2018



	1 Qtr	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Real Estate	1.23 (94)	10.26 (21)	9.15 (45)	10.10 (70)	9.25 (100)	4.01 (100)
● RREEF America REIT II	0.91 (96)	8.17 (70)	8.25 (70)	10.84 (50)	11.65 (49)	7.72 (25)
▲ Intercontinental	2.14 (25)	10.74 (15)	N/A	N/A	N/A	N/A
▲ NCREIF Property Index	1.37 (92)	6.72 (100)	7.21 (91)	9.33 (93)	9.74 (93)	7.49 (42)
5th Percentile	3.97	11.35	12.66	15.89	16.17	8.77
1st Quartile	2.14	9.66	10.54	12.43	13.75	7.71
Median	1.80	8.71	8.66	10.82	11.57	7.34
3rd Quartile	1.62	8.03	7.93	9.93	10.78	6.80
95th Percentile	1.15	6.99	6.79	8.98	9.36	6.31

Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.

As of December 31, 2018



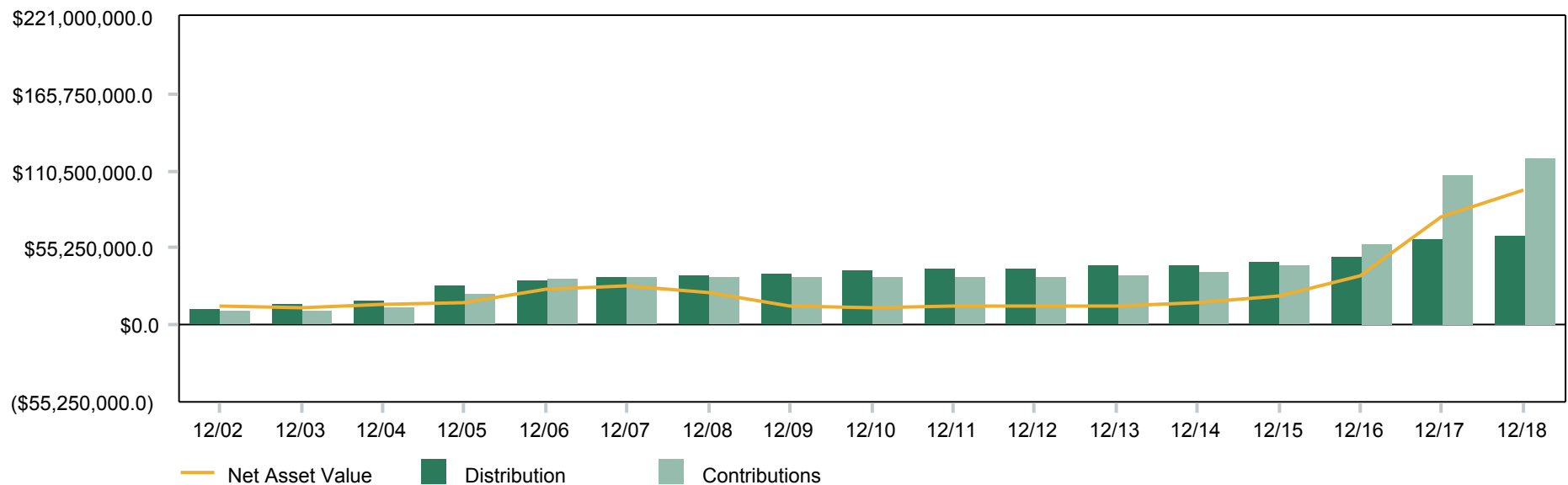
■ Total Real Estate	2017	7.73 (59)	2016	9.74 (49)	2015	12.77 (86)	2014	10.35 (97)	2013	7.79 (99)	2012	6.52 (97)
● RREEF America REIT II		7.44 (73)		9.14 (62)		16.70 (35)		12.99 (68)		15.01 (37)		12.41 (54)
▲ Intercontinental		8.37 (47)		N/A		N/A		N/A		N/A		N/A
▲ NCREIF Property Index		6.96 (82)		7.97 (88)		13.33 (75)		11.82 (82)		10.98 (86)		10.54 (81)
5th Percentile		12.62		15.83		23.17		18.98		20.08		23.79
1st Quartile		9.12		11.50		17.53		15.54		16.14		14.34
Median		8.08		9.63		15.23		13.59		14.47		12.45
3rd Quartile		7.42		8.90		13.23		12.57		12.23		11.16
95th Percentile		5.85		7.15		11.60		10.68		9.07		7.77

Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.

Cash Flow Summary

Capital Committed:	\$138,427,501
Total Contributions:	\$128,459,475
Remaining Capital Commitment:	\$18,585,855
Total Distributions:	\$64,446,930
Market Value:	\$97,019,687
Inception Date:	01/01/1995
Inception IRR:	16.27
TVPI:	1.27

Cash Flow Analysis



Bristol County Retirement System

Total Active Hard Assets and Real Estate

As of December 31, 2018

Partnerships	Vintage Year	Investment Strategy	Capital Commitment (\$)	Drawn Down (\$)	Distributed (\$)	Market Value (\$)	IRR (%)	TVPI Multiple
Brookfield Timberlands Fund V	2013	Timber	5,000,000	1,132,172	489,612	1,224,028	10.70	1.51
Eastern Timberland Opportunities II	2014	Timber	2,500,000	2,258,324	287,435	2,898,480	8.79	1.41
GCM Customized Infrastructures Strategies II, LP	2015	Infrastructure	13,000,000	9,076,682	3,721,288	6,548,674	10.01	1.13
Invesco Mortgage Recovery II	2016	Real Estate	15,000,000	12,497,857	7,692,680	7,149,554	11.32	1.25
TerraCap Partners IV			10,000,000	10,566,939	99,961	10,831,342	3.46	1.08
Total Hard Assets			138,427,501	128,459,475	64,446,930	97,019,687	16.27	1.27

As of December 31, 2018

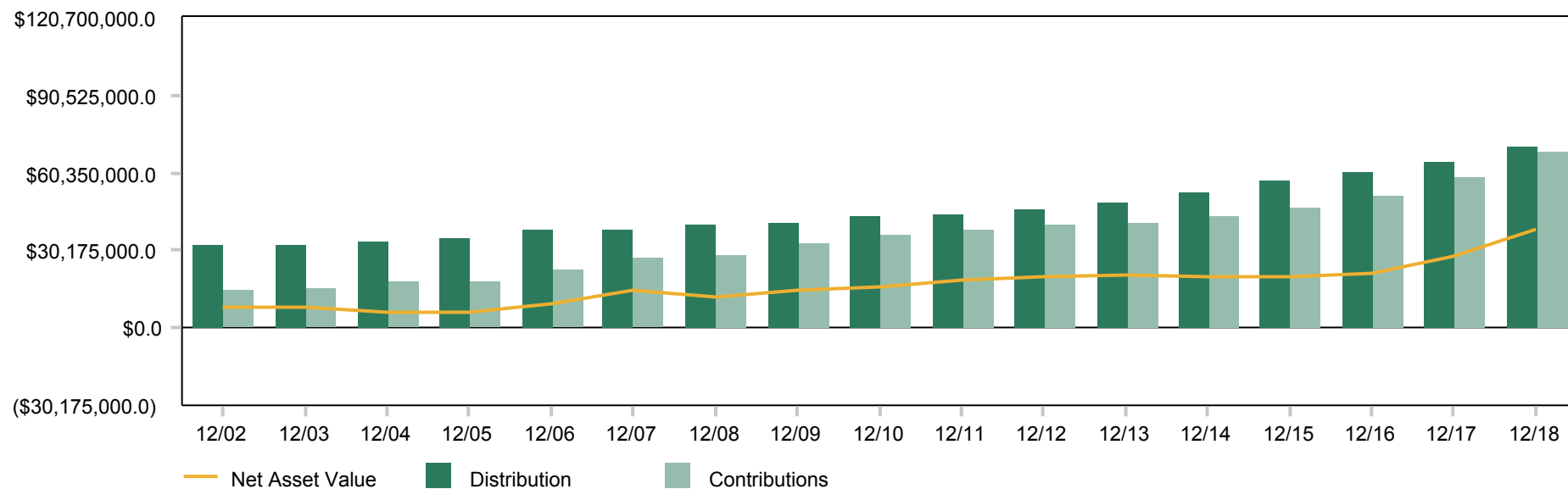
Internal Rates of Return

	Market Value (\$)	%	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Brookfield Timberlands Fund V	1,224,028	0.19	0.00	11.96	11.96	12.24	10.76	N/A	N/A	10.70	12/23/2013
Eastern Timberland Opportunities II	2,898,480	0.45	-0.94	1.24	1.24	6.43	N/A	N/A	N/A	8.79	07/03/2014
GCM Customized Infrastructures Strategies II, LP	6,548,674	1.02	5.23	10.39	10.39	N/A	N/A	N/A	N/A	10.01	03/10/2016
Invesco Mortgage Recovery II	7,149,554	1.11	0.00	12.75	12.75	N/A	N/A	N/A	N/A	11.32	05/20/2016
TerraCap Partners IV	10,831,342	1.68	0.00	N/A	N/A	N/A	N/A	N/A	N/A	3.46	07/31/2018

Cash Flow Summary

Capital Committed:	\$110,180,465
Total Contributions:	\$69,083,495
Remaining Capital Commitment:	\$43,258,549
Total Distributions:	\$70,332,473
Market Value:	\$38,123,879
Inception Date:	01/05/1995
Inception IRR:	177.68
TVPI:	1.57

Cash Flow Analysis



Bristol County Retirement System

Private Equity Summary of Partnership

As of December 31, 2018

Partnerships	Vintage Year	Capital Commitment (\$)	Contributions (\$)	Distributions (\$)	Market Value (\$)	IRR (%)	DPI Multiple	TVPI Multiple	Remaining Commitment (\$)
DuPont Capital Management II	2005	5,000,000	3,654,639	3,139,751	718,797	0.73	0.86	1.06	1,589,330
BlackRock Vesey Street Fund III	2005	5,000,000	4,433,304	5,601,598	421,013	4.23	1.26	1.36	650,000
DN Partners II	2005	6,000,000	2,803,066	-	1,072,419	-11.92	-	0.38	3,196,934
BlackRock Vesey Street Fund IV	2007	10,000,000	9,186,825	9,740,847	4,930,276	8.23	1.06	1.60	2,349,995
Mesirow PE Fund V	2008	5,000,000	4,047,431	3,450,658	3,967,727	14.08	0.85	1.84	956,700
PRIT Vintage 2014	2014	9,090,291	6,696,411	2,220,778	7,945,491	20.14	0.33	1.52	2,402,436
PRIT Vintage 2015	2015	12,290,670	8,142,047	854,233	10,707,865	22.58	0.11	1.42	4,209,574
PRIT Vintage 2016	2016	8,302,928	4,576,314	80,293	4,727,624	5.17	0.02	1.05	3,733,748
PRIT Vintage 2017	2017	15,696,576	3,107,756	86,962	2,449,684	-33.82	0.03	0.82	12,593,661
PRIT Vintage 2018	2018	15,000,000	1,302,108	50	1,042,374	-42.39	0.00	0.80	13,701,019
Total Private Equity		110,180,465	69,083,495	70,332,473	38,123,879	177.68	1.02	1.57	43,258,549

*Active Private Equity managers shown

Bristol County Retirement System

Active Private Equity Funds

As of December 31, 2018

Internal Rates of Return

	Market Value (\$)	%	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Total Private Equity	38,123,879	5.92	1.24	19.46	19.46	12.79	8.96	9.52	7.08	177.68	01/05/1995
BlackRock Vesey Street Fund III	421,013	0.07	0.00	-9.35	-9.35	-8.12	7.19	8.72	10.35	4.23	07/17/2006
DuPont Capital Management II	718,797	0.11	0.00	-1.96	-1.96	-2.51	-1.61	3.47	2.60	0.73	08/14/2006
DN Partners II	1,072,419	0.17	0.00	-1.12	-1.12	6.42	-15.86	-13.30	-11.39	-11.92	01/11/2007
BlackRock Vesey Street Fund IV	4,930,276	0.77	0.00	8.36	8.36	8.43	7.47	10.58	N/A	8.23	02/24/2009
Mesirow PE Fund V	3,967,727	0.62	0.00	12.76	12.76	13.22	14.65	15.48	N/A	14.08	04/09/2009
PRIT Vintage 2014	7,945,491	1.23	5.63	41.39	41.39	25.06	20.14	N/A	N/A	20.14	05/01/2014
PRIT Vintage 2015	10,707,865	1.66	8.99	35.72	35.72	27.58	N/A	N/A	N/A	22.58	03/01/2015
PRIT Vintage 2016	4,727,624	0.73	0.99	14.63	14.63	N/A	N/A	N/A	N/A	5.17	03/01/2016
PRIT Vintage 2017	2,449,684	0.38	-28.95	-26.67	-26.67	N/A	N/A	N/A	N/A	-33.82	04/30/2017
PRIT Vintage 2018	1,042,374	0.16	-27.77	N/A	N/A	N/A	N/A	N/A	N/A	-42.39	05/30/2018