Investment Performance Review
Period Ending September 30, 2019

Miami Beach Fire & Police Pension Fund

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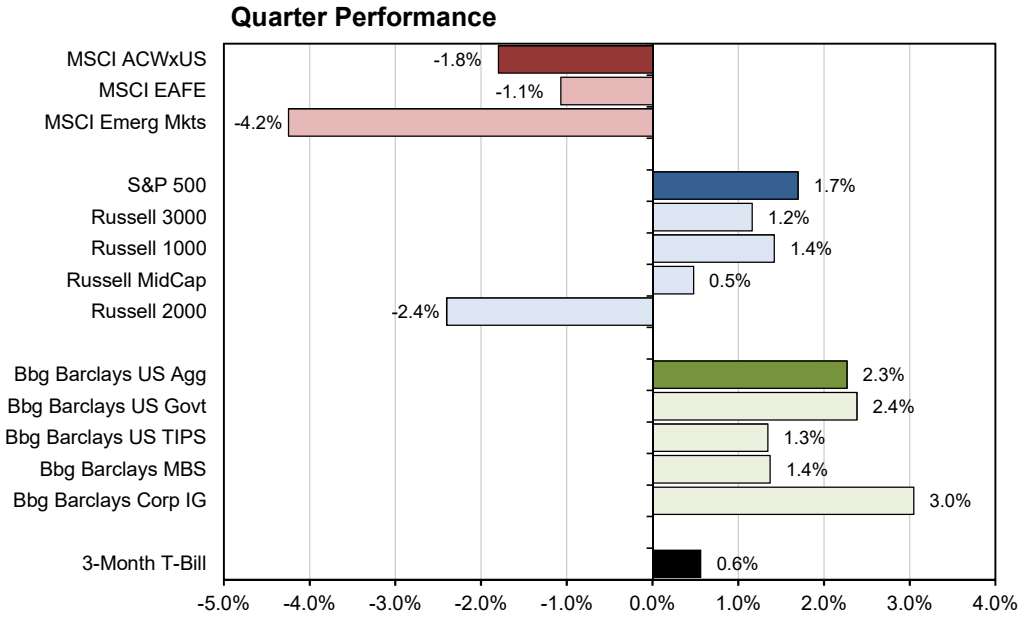
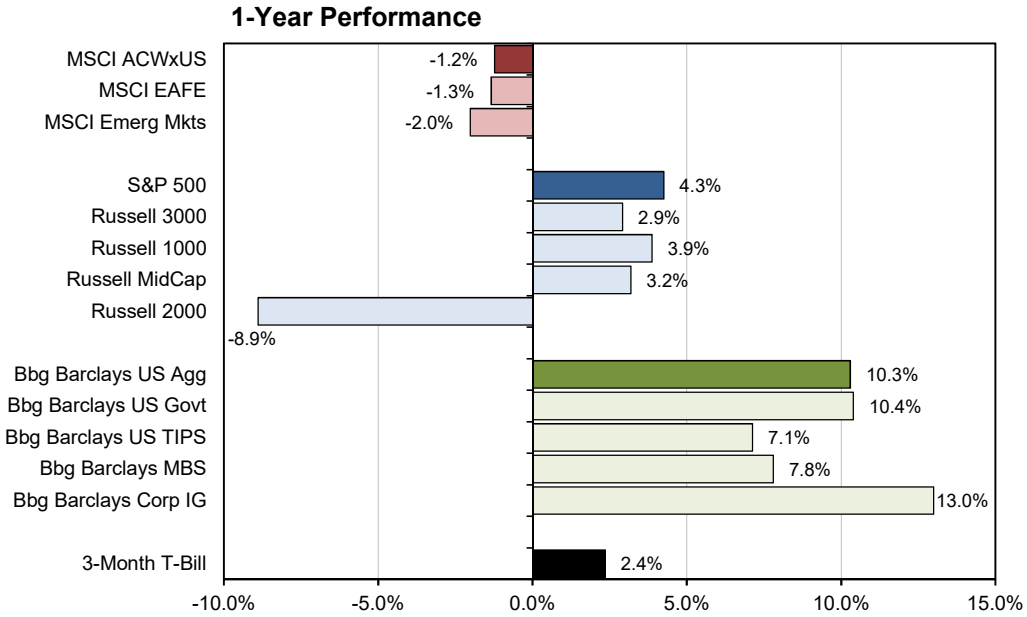
3rd Quarter 2019 Market Environment

- Broad asset class returns were mixed during the 3rd quarter of 2019 with both US large cap equity and fixed income indices extending their year-to-date gains while US small cap and international indices declined. Volatility was high during the period as investors weighed the effects of ongoing trade disruption and slowing global economic data against the announcement of several new central bank stimulus measures. US stocks continued their year-to-date outperformance relative to international stocks during the period. US markets faced headwinds from continued escalation in the ongoing trade dispute with China, slowing economic data, particularly with regards to manufacturing, and political uncertainty following a late quarter impeachment inquiry against President Donald Trump. However, markets were supported by easing monetary policy from the Federal Reserve (Fed) which cut interest rates twice during the period. In general, lower risk assets performed better through the period as investors weighed the increased risk of a recession. Within domestic equity markets, large cap stocks outperformed small cap equities during the quarter with the S&P 500 Index returning 1.7% versus a -2.4% return on the small cap Russell 2000 Index. US equity returns over the 1-year period were positive for large and mid-cap stocks, returning 4.3% and 3.2% respectively, but small cap stocks posted a loss, falling -8.9%.

- International markets posted negative returns for the 3rd quarter. Similar to US markets, international returns were impacted by continued weakness in economic data, heightened geopolitical uncertainly around global trade and Brexit and newly announced stimulus measures from global central banks including the European Central Bank (ECB) and Peoples Bank of China (PBoC). International returns also faced headwinds from a strengthening US dollar (USD) which appreciated against most major currencies during the period. Developed markets continued their outperformance relative to emerging markets during the period with the MSCI EAFE Index falling -1.1% versus a -4.2% decline for the MSCI Emerging Markets Index. Both developing and emerging markets posted slight losses over the 1-year period, returning -1.3% and -2.0% respectively.

- Fixed income returns outperformed equities during the 3rd quarter as investors looked for relative safety amid the equity market volatility. The broad market Bloomberg Barclays Aggregate Index gained 2.3% as interest rates fell following central bank stimulus from the Fed and other global central banks. The US Treasury Yield Curve also inverted in August, contributing to growing concern around the potential for an upcoming recession. Investment grade corporate issues were the best performing securities for the third quarter in a row, returning 3.0%, outperforming Treasury and securitized issues. Corporate issues benefitted from their relatively high duration and yield. The bond market has meaningfully outperformed the equity market over the trailing 1-year period with the Bloomberg Barclays Aggregate posting a solid 10.3% return.





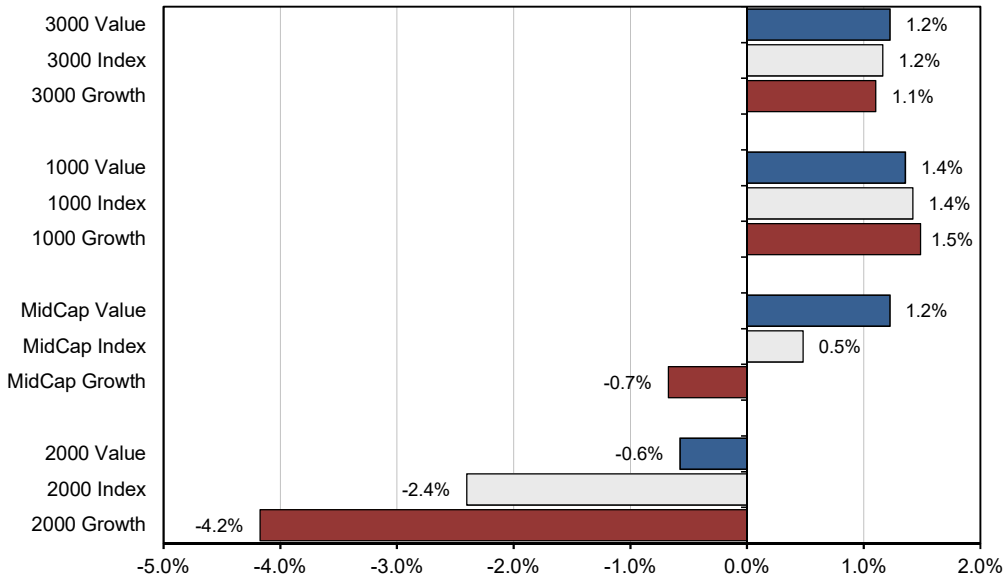
Source: Investment Metrics

- US equity returns were modestly positive during the 3rd quarter, but results varied considerably across the style and capitalization spectrum. Data released during the quarter showed signs that the US economy could be slowing down. Weakening metrics around manufacturing and sentiment were particularly concerning and employment, typically a bright spot for the US economy, missed expectations for the pace of new jobs and hours worked. A likely contributor to the softening economic data is the ongoing trade war between the US and China. Despite last quarter's agreement to cease escalations following a meeting between President Trump and President Jinping at the G20 summit, the 3rd quarter saw the announcement and implementation of a series of new tariffs from both the US and China. Additionally, in response to new tariffs, the PBoC allowed the yuan to depreciate to its lowest level since 2008 leading US Treasury officials to accuse China of currency manipulation. Even with the apparent breakdown in relations between the two sides, both China and the US agreed to continue negotiations set to take place in October. Markets also reacted to the late quarter announcement of a formal impeachment inquiry against President Trump following a whistle blower report alleging that President Trump pressured the government of Ukraine to investigate the son of political opponent Joe Biden. Despite these substantial headwinds, the US equity market found support from Fed easing of monetary policy in the form of two separate interest rate cuts and ended the period with a gain. The Russell 3000 Index returned 1.2% and 2.9% for the quarter and 1-year period respectively.

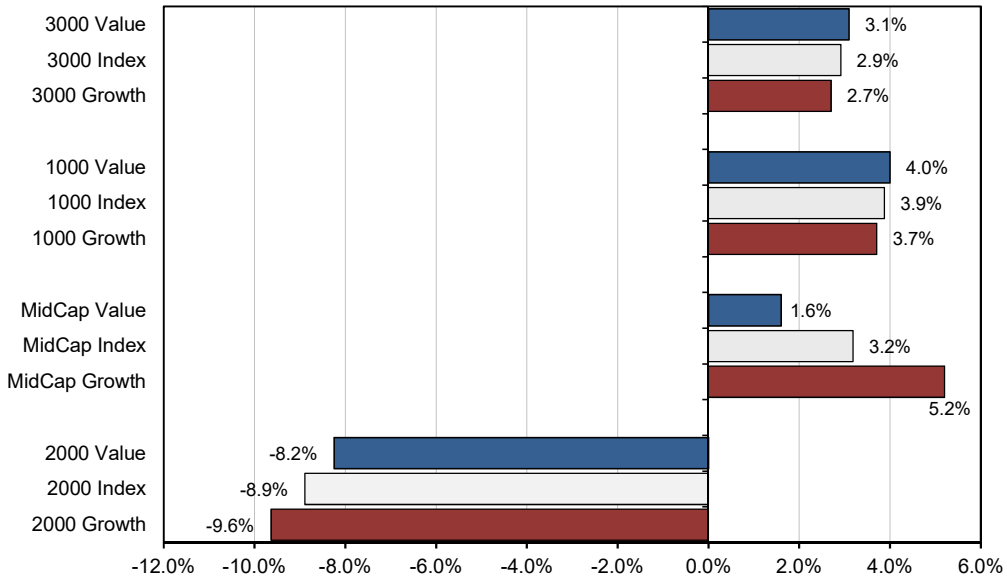
- During the quarter, higher market cap stocks outperformed lower market cap stocks across the style spectrum. The large cap Russell 1000 Index gained 1.4% during the period versus a -2.4% return for the small cap Russell 2000 Index. Investors may have been attracted to large cap names as a result of the quarter's volatility as large cap stocks are typically viewed as less risky than their small cap counterparts. When viewed over the most recent 1-year period, large cap stocks significantly outperformed small cap stocks with the Russell 1000 posting a 3.9% gain while the while the Russell 2000 had considerable losses, declining -8.9%.

- In general, value stocks outperformed growth stocks during the 3rd quarter as investors gravitated toward the relative safety these securities typically provide. However, large cap growth stocks slightly outperformed large cap value stocks due to favorable holdings in the technology and industrials sectors as well as a large underweight to the underperforming energy sector. The Russell 1000 Growth Index was the best performing style index for the period, returning 1.5%, with the small cap growth index posting the lowest relative return, a loss of -4.2%. Results over the 1-year period are mixed with value stocks outperforming in large and small cap and growth stocks outperforming in mid-cap.

Quarter Performance - Russell Style Series



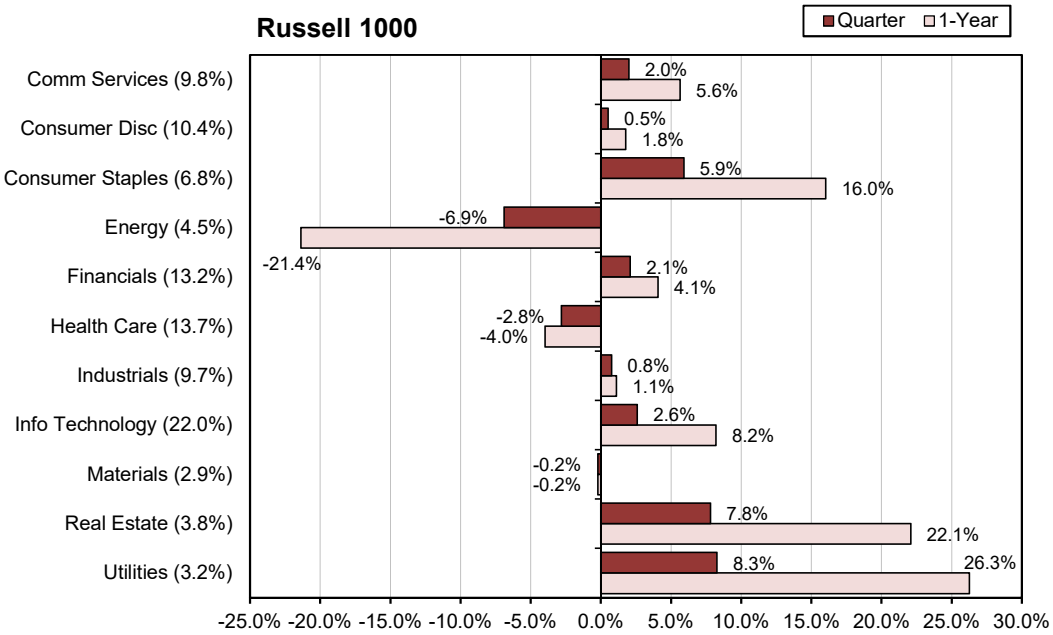
1-Year Performance - Russell Style Series

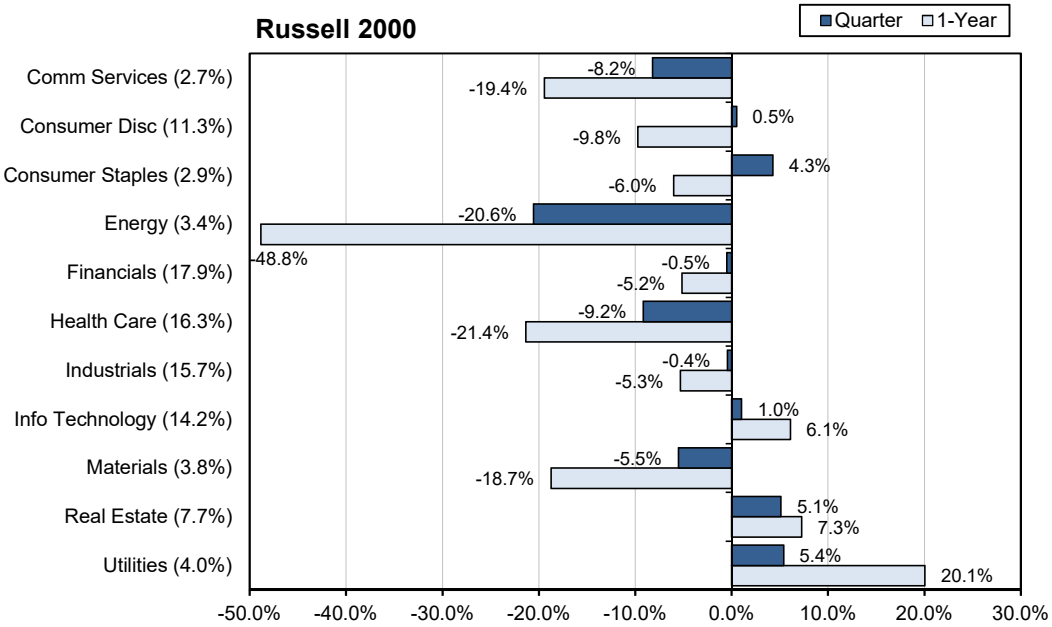


Source: Investment Metrics

- Sector performance was mixed across large cap sectors for the 3rd quarter. There were gains for eight out of eleven sectors within the Russell 1000 Index during the period with six sectors outpacing the return of the index. Defensive sectors such as utilities, real estate and consumer staples were the best performers through the quarter returning 8.3%, 7.8% and 5.9% respectively as investors looked toward these sectors for their higher yields and lower historical volatility. Energy, health care and materials stocks were the worst performers during the period. Energy stocks fell -6.9% as crude oil prices fell during the period despite a sharp upward spike in September following a terrorist attack in Saudi Arabia that temporarily reduced the country's oil production, causing a large disruption in supply. Health care stocks also lagged, declining -2.8%, as discussions in Washington around the potential for increased regulation on drug pricing acted as a headwind. Health care reform has also been a major topic of discussion among candidates for the 2020 US Presidential election, creating additional uncertainty within the sector. Materials returned -0.2% as demand concerns weighed on the economically sensitive sector. Returns over the 1-year period were also generally positive with eight out of eleven sectors posting gains. Similar to the quarter's results, defensive sectors outperformed by a considerable margin. Utilities, real estate and consumer staples performed well returning 26.3%, 22.1% and 16.0% respectively. Technology returns were also strong gaining 8.2%. Energy, health care and materials were the only sectors to post negative results over the 1-year period with energy falling -21.4%, health care dropping -4.0% and materials returning -0.2%.

- Quarterly results for small cap sectors were worse than their large capitalization counterparts with all eleven sectors trailing their corresponding large cap equivalents. Five of eleven economic sectors produced gains during the period with seven of eleven sectors outpacing the Russell 2000 Index return for the quarter. Similar to large caps, defensive sectors performed well as investors gravitated toward their relative safety and higher yields. Utilities were the best performers, returning 5.4% followed closely by REITs and consumer staples which returned 5.1% and 4.3% respectively. The cyclically oriented energy sector was the largest detractor for the period, posting a loss of -20.6%. Health care and communication services stocks also experienced notable declines, falling -9.2% and -8.2% respectively. Over the trailing 1-year period, returns were broadly negative. Utilities, real estate and technology were the only sectors to post gains returning 20.1% 7.3% and 6.1%. The energy sector was an outlier in terms of negative returns dropping -48.8% during the period. There were also notable losses in health care, communication services and materials which declined -21.4%, -19.4% and -18.7% respectively.





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

Top 10 Index Weights & Quarterly Performance for the Russell 1000 & 2000

As of September 30, 2019

Top 10 Weighted Stocks				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Microsoft Corp	3.82%	4.1%	22.9%	Information Technology
Apple Inc	3.68%	13.6%	0.8%	Information Technology
Amazon.com Inc	2.61%	-8.3%	-13.3%	Consumer Discretionary
Facebook Inc A	1.55%	-7.7%	8.3%	Communication Services
Berkshire Hathaway Inc B	1.48%	-2.4%	-2.8%	Financials
JPMorgan Chase & Co	1.36%	6.0%	7.4%	Financials
Alphabet Inc Class C	1.35%	12.8%	2.1%	Communication Services
Alphabet Inc A	1.33%	12.8%	1.2%	Communication Services
Johnson & Johnson	1.25%	-6.4%	-3.8%	Health Care
Procter & Gamble Co	1.12%	14.2%	54.0%	Consumer Staples

Top 10 Weighted Stocks				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
NovoCure Ltd	0.34%	18.3%	42.7%	Health Care
Haemonetics Corp	0.33%	4.8%	10.1%	Health Care
Trex Co Inc	0.28%	26.8%	18.1%	Industrials
Science Applications International	0.27%	1.3%	10.4%	Information Technology
Portland General Electric Co	0.26%	4.8%	27.2%	Utilities
ONE Gas Inc	0.26%	7.0%	19.5%	Utilities
First Industrial Realty Trust Inc	0.26%	8.3%	29.3%	Real Estate
Southwest Gas Holdings Inc	0.26%	2.2%	18.2%	Utilities
Maximus Inc	0.25%	6.9%	20.4%	Information Technology
Teladoc Health Inc	0.25%	2.0%	-21.6%	Health Care

Top 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Insulet Corp	0.04%	38.2%	55.7%	Health Care
CyrusOne Inc	0.03%	37.9%	28.8%	Real Estate
KLA Corp	0.09%	35.7%	61.1%	Information Technology
New York Community Bancorp Inc	0.02%	27.6%	28.7%	Financials
Entegris Inc	0.02%	26.3%	63.9%	Information Technology
Pilgrims Pride Corp	0.01%	26.2%	77.1%	Consumer Staples
Western Digital Corp	0.06%	25.4%	5.6%	Information Technology
DocuSign Inc	0.03%	24.6%	17.8%	Information Technology
Target Corp	0.19%	24.4%	24.3%	Consumer Discretionary
XPO Logistics Inc	0.02%	23.8%	-37.3%	Industrials

Top 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
NextCure Inc	0.00%	105.9%	N/A	Health Care
Dova Pharmaceuticals Inc	0.01%	98.2%	33.3%	Health Care
WW International Inc	0.09%	98.0%	-47.5%	Consumer Discretionary
R.R.Donnelley & Sons Co	0.01%	94.7%	-27.6%	Industrials
Infinera Corp	0.05%	87.3%	-25.3%	Information Technology
Lannett Co Inc	0.02%	84.8%	135.8%	Health Care
Owens & Minor Inc	0.02%	81.6%	-64.4%	Health Care
Allakos Inc	0.08%	81.5%	74.8%	Health Care
Solid Biosciences Inc	0.01%	79.8%	-78.1%	Health Care
Ardelyx Inc	0.01%	74.7%	8.0%	Health Care

Bottom 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
2U Inc	0.00%	-56.7%	-78.3%	Information Technology
PG&E Corp	0.02%	-56.4%	-78.3%	Utilities
Covetrus Inc	0.00%	-51.4%	N/A	Health Care
Sarepta Therapeutics Inc	0.02%	-50.4%	-53.4%	Health Care
Nektar Therapeutics Inc	0.01%	-48.8%	-70.1%	Health Care
DXC Technology Co	0.03%	-46.2%	-67.9%	Information Technology
Antero Resources Corp	0.00%	-45.4%	-82.9%	Energy
Range Resources Corp	0.00%	-45.0%	-77.3%	Energy
Pluralsight Inc Class A	0.00%	-44.6%	-47.5%	Information Technology
Fluor Corp	0.01%	-42.5%	-66.1%	Industrials

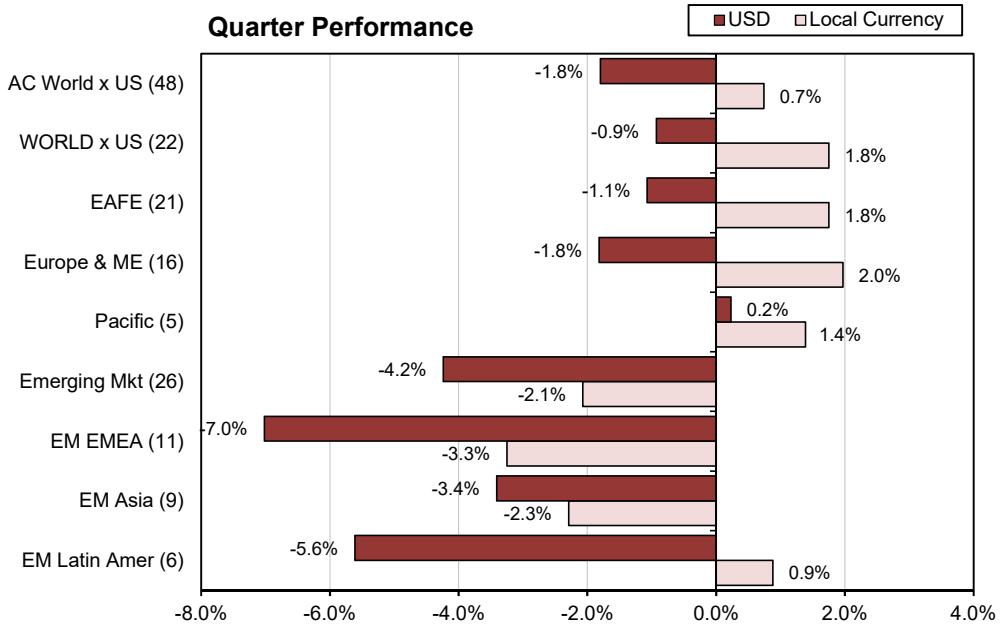
Bottom 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Tocagen Inc	0.00%	-90.1%	-95.8%	Health Care
Waitr Holdings Inc Class A	0.00%	-79.6%	-88.1%	Consumer Discretionary
McDermott International Inc	0.02%	-79.1%	-89.0%	Energy
Sonim Technologies Inc	0.00%	-77.0%	N/A	Information Technology
Synlogic Inc	0.00%	-74.8%	-83.9%	Health Care
Mallinckrodt PLC	0.01%	-73.7%	-91.8%	Health Care
Clovis Oncology Inc	0.01%	-73.6%	-86.6%	Health Care
Bloom Energy Corp Class A	0.01%	-73.5%	-90.5%	Industrials
Chaparral Energy Inc Class A	0.00%	-71.5%	-92.4%	Energy
Pacific Drilling SA	0.01%	-69.3%	-99.7%	Energy

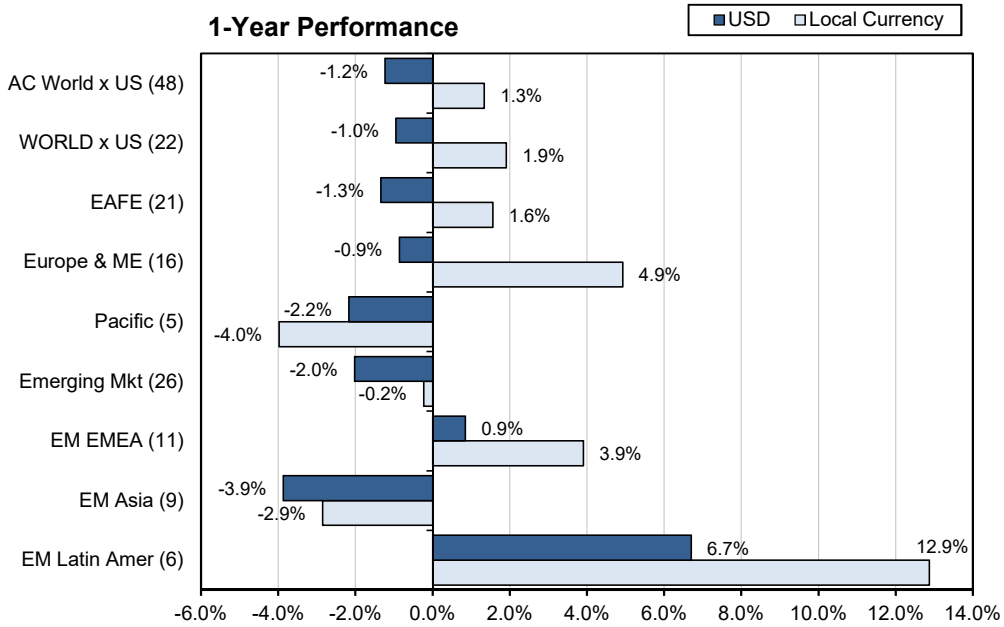
Source: Morningstar Direct

- Broad international equity returns were negative in USD terms for the 3rd quarter as US investors in international markets faced a meaningful headwind from a USD that strengthened against most major currencies. In local currency terms, developed markets were generally positive while emerging markets posted losses. The MSCI ACWI ex US Index gained 0.7% in local currency terms, but a USD investor experienced a loss of -1.8% due to the currency effect. Similar to US markets, international equity markets balanced headwinds from slowing economic data and concerns around global trade with tailwinds from central bank shifts toward more accommodative policies. Among others, the ECB and PBoC announced new stimulus measures during the quarter. The ECB cut its policy rate and committed to a new quantitative easing program and the PBoC announced new stimulus measures designed to encourage bank lending and reduce borrowing costs as it tries to counteract a cooling economy and the effects of its ongoing trade war with the US. The recent USD strength can also be seen over the 1-year period with USD returns trailing most local currency returns. Returns for the MSCI ACWI ex US Index were 1.3% in local currency terms and -1.2% in USD terms for the trailing year.

- Results for developed market international indices were generally positive in local currency terms, but negative in USD terms for the 3rd quarter, with the MSCI EAFE Index returning 1.8% and -0.9% respectively. Outside of central bank policy and trade, there were notable developments within the political sphere. In Europe, Christine Lagarde was nominated to succeed Mario Draghi as the head of the ECB. Japanese stocks rose as election results appeared to support continuity for Prime Minister Abe's ongoing policy efforts. In the UK, pro-Brexit Boris Johnson was appointed to prime minister, replacing Theresa May. The UK continues to face uncertainty around Brexit as its late October deadline to agree to a withdrawal agreement with the European Union (EU) quickly approaches. Stocks in Hong Kong fell as the government dealt with major pro-democracy protests throughout the quarter. The MSCI EAFE Index returned 1.6% and -1.3% for the last twelve months in local currency and USD terms respectively.

- Emerging markets continued their trend of 2019 underperformance relative to developed markets during the 3rd quarter, posting negative returns in both local currency and USD terms. The MSCI Emerging Markets Index fell -2.1% and -4.2% respectively. As expected, geopolitical tensions around trade continued to put pressure on emerging market stocks. Countries with greater sensitivities to commodity prices or a strong USD tended to underperform during the period. Argentina's stock market fell -46.8% as primary elections in the country saw the defeat of the country's current market friendly president. One year returns for the MSCI Emerging Market Index were -0.2% in local currency terms and -2.0% in USD terms.





Source: MSCI Global Index Monitor (Returns are Net)

US Dollar International Index Attribution & Country Detail

As of September 30, 2019

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	5.4%	-0.9%	-0.7%
Consumer Discretionary	11.5%	0.3%	-2.0%
Consumer Staples	12.0%	1.9%	6.9%
Energy	5.1%	-6.5%	-14.5%
Financials	18.6%	-2.6%	-6.3%
Health Care	11.6%	2.4%	4.3%
Industrials	14.7%	-2.0%	-2.1%
Information Technology	6.7%	-0.5%	1.8%
Materials	7.0%	-5.4%	-5.7%
Real Estate	3.6%	-1.3%	4.3%
Utilities	3.8%	2.4%	13.2%
Total	**100.0%**	**-1.1%**	**-1.3%**

MSCI - ACWIxUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	6.8%	-2.9%	-1.0%
Consumer Discretionary	11.4%	-0.7%	-1.6%
Consumer Staples	10.2%	1.5%	6.8%
Energy	6.7%	-4.6%	-9.8%
Financials	21.6%	-3.6%	-3.2%
Health Care	8.5%	1.1%	0.9%
Industrials	11.9%	-2.5%	-2.4%
Information Technology	8.9%	2.2%	4.1%
Materials	7.3%	-6.5%	-7.2%
Real Estate	3.2%	-3.1%	5.0%
Utilities	3.5%	1.3%	12.6%
Total	**100.0%**	**-1.8%**	**-1.2%**

MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	11.6%	-5.2%	-2.5%
Consumer Discretionary	13.1%	-3.1%	0.1%
Consumer Staples	6.9%	-0.8%	3.0%
Energy	7.7%	-4.0%	-2.3%
Financials	24.7%	-8.0%	1.6%
Health Care	2.6%	-6.6%	-24.2%
Industrials	5.4%	-5.2%	-4.4%
Information Technology	15.1%	5.6%	3.9%
Materials	7.3%	-10.7%	-15.9%
Real Estate	2.9%	-8.8%	6.8%
Utilities	2.8%	-3.6%	7.2%
Total	**100.0%**	**-4.2%**	**-2.0%**

Country	MSCI-EAFE Weight	MSCI-ACWIxUS Weight	Quarter Return	1- Year Return
Japan	24.6%	16.5%	3.1%	-4.7%
United Kingdom	16.4%	11.0%	-2.5%	-2.9%
France	11.4%	7.6%	-1.7%	-1.6%
Switzerland	9.4%	6.3%	0.3%	12.0%
Germany	8.5%	5.7%	-4.0%	-7.1%
Australia	7.0%	4.7%	-1.4%	6.1%
Netherlands	4.0%	2.7%	2.4%	9.5%
Hong Kong	3.5%	2.4%	-11.9%	-1.8%
Spain	2.9%	2.0%	-3.8%	-3.5%
Sweden	2.6%	1.7%	-4.8%	-8.0%
Italy	2.3%	1.6%	-0.1%	3.9%
Denmark	1.8%	1.2%	-1.0%	2.3%
Singapore	1.3%	0.9%	-5.8%	-0.2%
Belgium	1.0%	0.7%	3.4%	-0.8%
Finland	1.0%	0.7%	-1.8%	-9.3%
Norway	0.7%	0.4%	-3.4%	-13.4%
Israel	0.6%	0.4%	-3.7%	-12.5%
Ireland	0.5%	0.4%	-0.6%	-4.6%
New Zealand	0.2%	0.2%	-2.9%	10.0%
Austria	0.2%	0.2%	-3.1%	-16.0%
Portugal	0.2%	0.1%	1.6%	-2.5%
Total EAFE Countries	**100.0%**	**67.0%**	**-1.1%**	**-1.3%**
Canada		7.0%	0.5%	3.0%
Total Developed Countries		**74.0%**	**-0.9%**	**-1.0%**
China		8.3%	-4.7%	-3.9%
Korea		3.2%	-4.5%	-13.8%
Taiwan		3.0%	5.2%	-0.2%
India		2.3%	-5.2%	4.7%
Brazil		2.0%	-4.6%	25.4%
South Africa		1.2%	-12.6%	-6.4%
Russia		1.0%	-1.4%	18.0%
Thailand		0.8%	-6.0%	-0.9%
Saudi Arabia		0.7%	-9.5%	4.0%
Mexico		0.7%	-1.7%	-14.8%
Indonesia		0.5%	-5.2%	11.9%
Malaysia		0.5%	-6.3%	-10.4%
Philippines		0.3%	-4.6%	13.1%
Poland		0.3%	-12.1%	-12.2%
Qatar		0.3%	-0.2%	5.0%
Chile		0.3%	-7.3%	-16.8%
United Arab Emirates		0.2%	-0.2%	-0.3%
Turkey		0.2%	11.7%	16.5%
Colombia		0.1%	-6.1%	-7.3%
Peru		0.1%	-9.3%	-4.0%
Greece		0.1%	-3.1%	6.8%
Hungary		0.1%	-3.9%	3.4%
Argentina		0.1%	-46.8%	-32.3%
Czech Republic		0.0%	-10.1%	-12.6%
Egypt		0.0%	7.4%	21.5%
Pakistan		0.0%	1.1%	-32.7%
Total Emerging Countries		**26.0%**	**-4.2%**	**-2.0%**
Total ACWIxUS Countries		**100.0%**	**-1.8%**	**-1.2%**

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

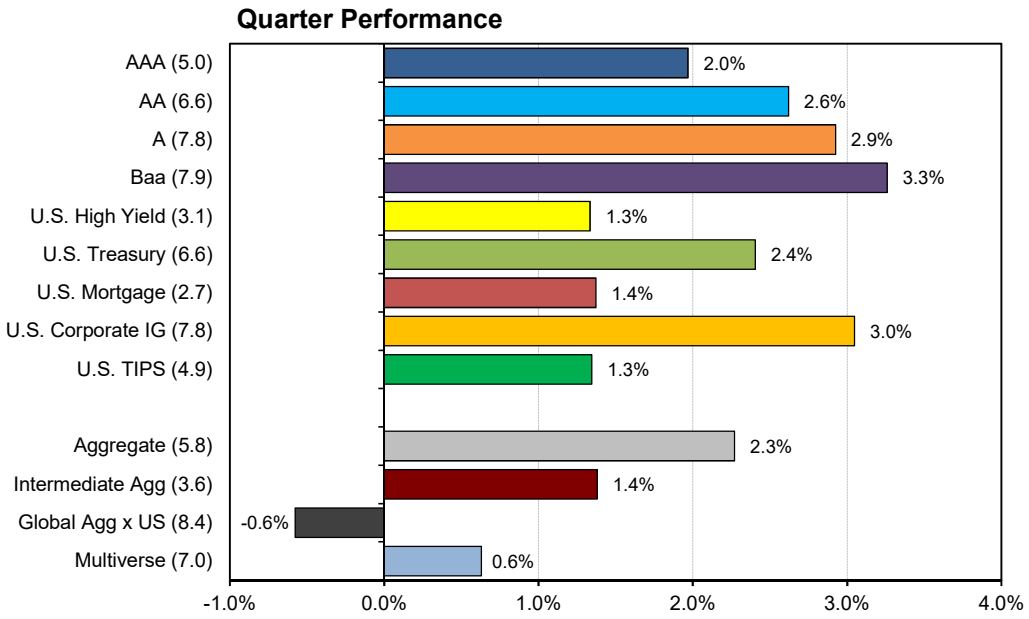
Domestic Bond Sector & Broad/Global Bond Market Performance (Duration)

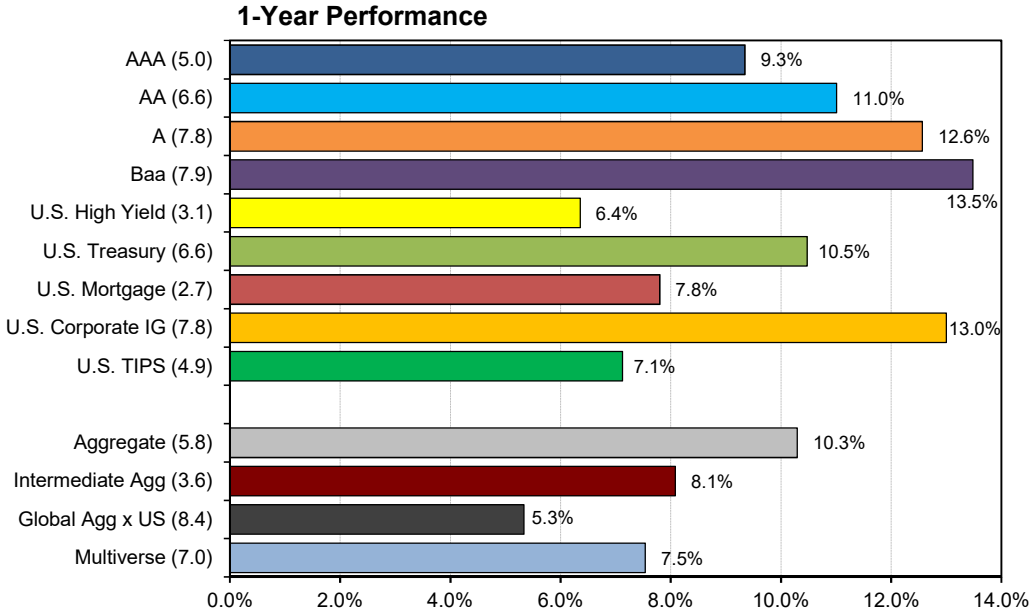
As of September 30, 2019

- Broad fixed income benchmarks continued their trend of 2019 gains during the 3rd quarter. Interest rates fell across the US Treasury Yield Curve through the quarter as the Fed continued to shift toward an easing of monetary policy in an attempt to combat slowing economic data. The Fed cut short-term interest rates twice during the period following their July and September meetings. In addition, it ended its balance sheet reduction plan in September which represents a further easing of monetary policy. After its September meeting, the Fed issued a statement commenting that future changes to monetary policy are not on a preset course and will be evaluated as the Fed receives new information on the state of the economy, but that Fed officials "will continue to monitor the implications of incoming information for the economic outlook and will act as appropriate to sustain the expansion." The Fed response provided market support in a quarter where we saw the formal inversion of the yield curve. Treasury yields on 2-year issues briefly surpassed the yield on 10-year issues in August. This inversion of the yield curve has historically preceded a recession within the next 6-24 months. However, the magnitude of the inversion was mild and short in duration with rates on the 10-year Treasury rising above the yield of the 2-year by early September. The bellwether Bloomberg Barclays US Aggregate Index posted positive returns for both the 3rd quarter and the 1-year period, returning 2.3% and 10.3% respectively.

- Within investment grade credit, lower quality issues outperformed higher quality issues during the quarter. Lower quality issues benefitted from their higher durations as interest rates fell during the quarter. On an absolute basis, without negating the duration differences in the sub-indices, Baa rated credit was the best performing investment grade credit quality segment returning 3.3% for the quarter, while AAA was the worst performing, returning 2.0%. High yield issues returned 1.3% for the quarter as these issues did not commensurately benefit from the drop in interest rates due to their relatively low durations. Returns over the 1-year period show lower quality securities outperforming higher quality issues with Baa rated issues returning 13.5% versus a 9.3% return for AAA securities.

- Investment grade corporates outperformed the more defensive Treasury and mortgage backed sectors of the Bloomberg Barclays US Aggregate Index's three broad sectors during the 3rd quarter. Investment grade corporate credit returned 3.0%, as they benefitted from their higher sensitivity to interest rates, low credit spreads and high investor demand for yield. When viewed over the 1-year period, corporate credit outperformed both Treasuries and mortgage backed securities. Corporate issues returned 13.0% versus a 7.8% return for mortgages and 10.5% gain on Treasury securities.



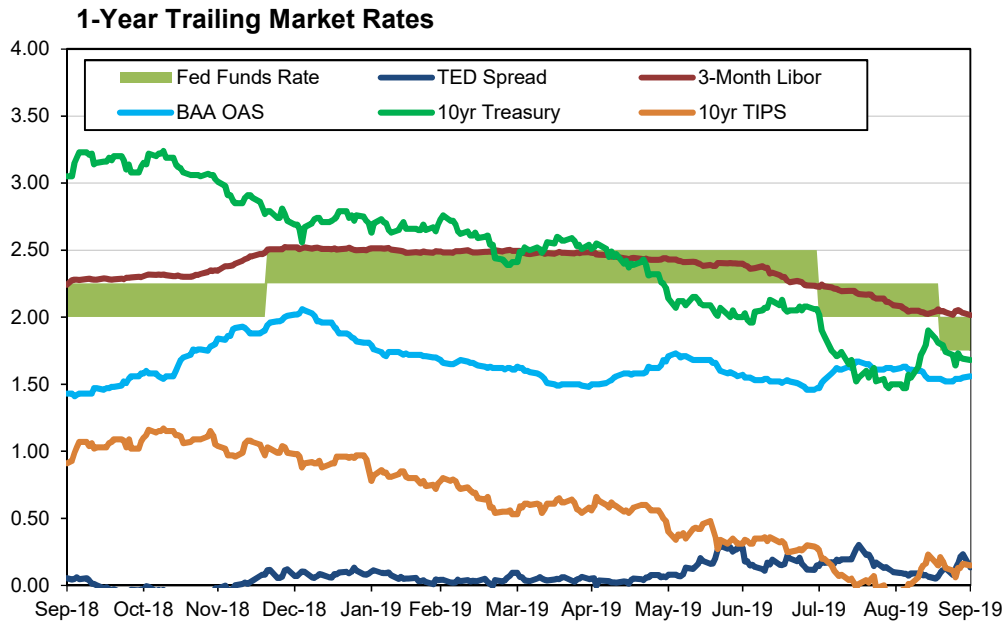


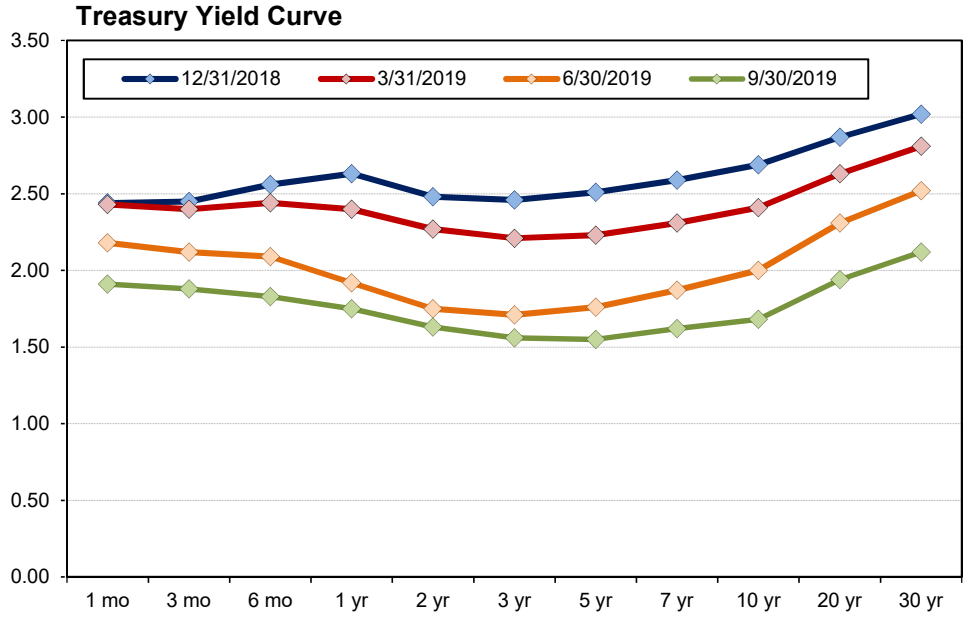
Source: Bloomberg

- Global fixed income returns underperformed their domestic counterparts during the 3rd quarter. These indices have lower, or in some cases (Germany, Japan), negative yields, but have higher durations. Given their higher durations, these issues would be expected to perform relatively well during periods of falling rates, however, the returns of these indices are also significantly influenced by fluctuations in their currency denomination relative to the USD. As mentioned, the USD appreciated against most other developed currencies during the quarter, acting as a headwind to global bond indices. The return on global bonds, as represented by the Bloomberg Barclays Global Aggregate ex US Index, was -0.6%. Global bonds also trailed over the 1-year period with the Global Aggregate ex US Index returning 5.3% versus a 10.3% return on the domestically focused Bloomberg Barclays Aggregate Index. As global growth has shown signs of stalling, several international central banks have started to step back from more restrictive postures. The ECB and the PBoC have moved toward an easing of monetary policy and implemented various stimulus programs designed to support their respective economies. The Bank of England and the Bank of Japan made no major policy changes during the quarter as they continue to review macroeconomic data within their respective countries.

- Much of the index performance detailed in the bar graphs on the previous page is visible on a time series basis by reviewing the line graphs to the right. The '1-Year Trailing Market Rates' chart illustrates that over the last year, the 10-year Treasury yield (green line) fell from high's greater than 3.0%, to yields below 1.5% before ending the quarter at 1.68%. The blue line illustrates changes in the BAA OAS (Option Adjusted Spread). This measure quantifies the additional yield premium that investors require to purchase and hold non-Treasury issues. This line illustrates an abrupt increase in credit spreads during the 4th quarter of 2018 as investors moved to higher quality assets during the quarter's risk-off environment. Subsequently, spreads declined steadily, remaining somewhat range bound with increases in May and August. There was little change through the quarter with spreads tightening by about 1 basis point. Spread tightening is equivalent to an interest rate decrease on corporate bonds, which produces an additional tailwind for corporate bond index returns. The green band across the graph illustrates the decrease in the Federal Funds Rate due to the recent easing in US monetary policy. The rate cuts in July and September have pushed the Fed Funds Rate to 1-year lows.

- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four calendar quarters. The downward shift in interest rates as well as a general flattening of the yield curve are clearly visible over the last quarter. As mentioned, the yield curve continues to invert as yields on shorter- and middle-term maturities fell less than interest rates at the long-end of the curve.





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

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Total Fund Compliance:	Yes	No
The total plan return equaled or exceeded the total plan benchmark over the trailing three year period.	●	
The total plan return equaled or exceeded the total plan benchmark over the trailing five year period.		●
The total return of the fund over the trailing three year period equal or exceed the actuarial assumption rate of return which is currently 7.85%.	●	
The total return of the fund over the trailing five year period equal or exceed the actuarial assumption rate of return which is currently 7.85%.		●

Equity Compliance:	Yes	No
The Total Equity portfolio beat its index through the trailing three year period.	●	
The Total Equity portfolio beat its index through the trailing five year period.	●	
The amount invested in any one issuing company is less than 5% of the Fund's total assets.	●	
The aggregate investment in any one company is less than 5% of the outstanding stock of the company.	●	

Inverness Equity	Yes	No
The equity return equaled or exceeded its benchmark during the trailing three year period.	●	
The equity return equaled or exceeded its benchmark during the trailing five year period.		●
The three year return ranks in the top 40% of its peers.	●	
The five year return ranks in the top 40% of its peers.	●	
Inverness' quarterly equity returns outperformed its benchmark for at least one of the last four quarters.	●	
Inverness' annualized alpha has been positive for the last three years.		●

Rhumbline Large Cap Value	Yes	No
The equity return equaled or exceeded its benchmark during the trailing three year period. (One Year)		●
The equity return equaled or exceeded its benchmark during the trailing five year period. (Inception)		●
The five year return ranks in the top 40% of its peers. (One Year)	●	
The five year return ranks in the top 40% of its peers. (Inception)		●

Logan Capital	Yes	No
The equity return equaled or exceeded its benchmark during the trailing three year period.		●
The equity return equaled or exceeded its benchmark during the trailing five year period.		●
The three year return ranks in the top 40% of its peers.	●	
The five year return ranks in the top 40% of its peers.	●	
Logan's quarterly equity returns outperformed its benchmark for at least one of the last four quarters.	●	
Logan's annualized alpha has been positive for the last three years.		●

Rhumbline S&P Mid Cap	Yes	No
The equity return equaled or exceeded its benchmark during the trailing three year period.		●
The equity return equaled or exceeded its benchmark during the trailing five year period.		●
The three year return ranks in the top 40% of its peers.		●
The five year return ranks in the top 40% of its peers.	●	

Wellington	Yes	No
The equity return equaled or exceeded its benchmark during the trailing three year period.	●	
The equity return equaled or exceeded its benchmark during the trailing five year period.	●	
The three year return ranks in the top 40% of its peers.	●	
The five year return ranks in the top 40% of its peers.	●	
Wellington's quarterly equity returns outperformed its benchmark for at least one of the last four quarters.	●	
Wellington's annualized alpha has been positive for the last three years.	●	

RhumbLine International	Yes	No
The equity return equaled or exceeded its benchmark during the trailing three year period.		●
The equity return equaled or exceeded its benchmark during the trailing five year period. (Inception)		●
The three year return ranks in the top 40% of its peers.	●	
The five year return ranks in the top 40% of its peers. (Inception)		●

Fixed Income Compliance:

Inverness Fixed Income	Yes	No
The total fixed income return equaled or exceed the benchmark over the trailing three year period.		●
The total fixed income return equaled or exceed the benchmark over the trailing five year period.	●	
The three year fixed income return ranks in the top 40% of its peers.	●	
The five year fixed income return ranks in the top 40% of its peers.	●	
Inverness' quarterly fixed income returns outperformed its benchmark for at least one of the last four quarters.	●	
The annualized alpha has been positive over the rolling three year period.		●
All fixed income investments ranked in the top four categories by Standard and Poors, Moody's, or Value Line.	●	

Wells Capital	Yes	No
The total fixed income return equaled or exceed the benchmark over the trailing three year period.		●
The total fixed income return equaled or exceed the benchmark over the trailing five year period.		●
The three year fixed income return ranks in the top 40% of its peers.		●
The five year fixed income return ranks in the top 40% of its peers.		●
Wells Capital's quarterly returns outperformed its benchmark for at least one of the last four quarters.	●	
The annualized alpha has been positive over the rolling three year period.		●

JP Morgan RE	Yes	No
The return equaled or exceed the benchmark over the trailing three year period.		●
The return equaled or exceed the benchmark over the trailing five year period.		●
The three year return ranks in the top 40% of its peers.		●
The five year return ranks in the top 40% of its peers.		●
The quarterly returns outperformed its benchmark for at least one of the last four quarters.	●	

Intercontinental	Yes	No
The return equaled or exceed the benchmark over the trailing three year period. (One Year)	●	
The return equaled or exceed the benchmark over the trailing five year period. (Inception)	●	
The three year return ranks in the top 40% of its peers. (One Year)		●
The five year return ranks in the top 40% of its peers. (Inception)	●	

"Net returns" used when available.

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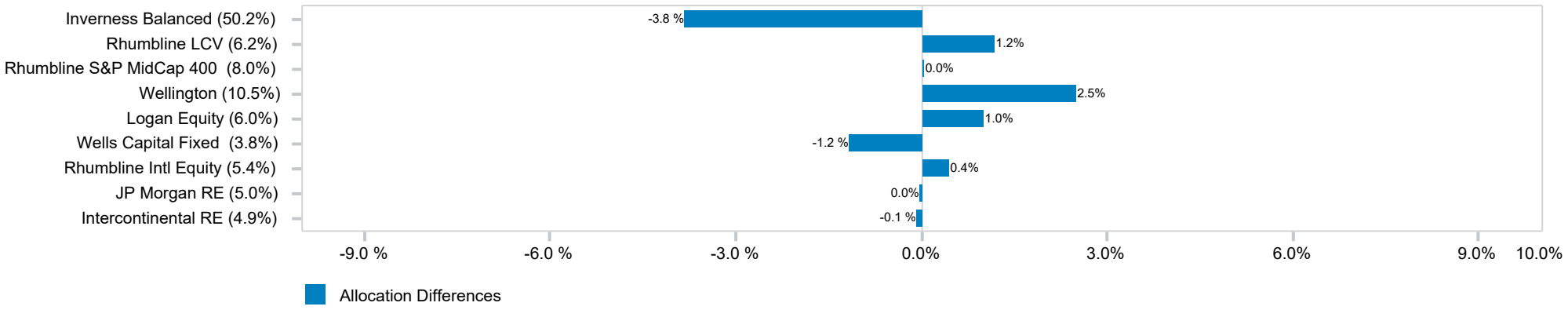
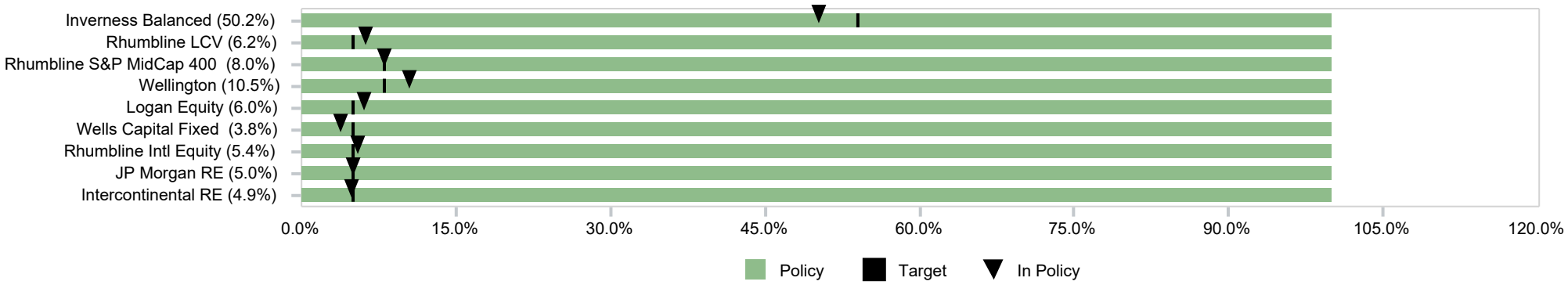
Asset Allocation Compliance

	Asset Allocation $	Current Allocation (%)	Target Allocation (%)	Differences (%)	Target Rebal. ($000)
Total Fund Composite	915,555,736	100.0	100.0	0.0	-
Inverness Balanced	459,289,139	50.2	54.0	-3.8	35,110,959
Rhumbline LCV	56,512,551	6.2	5.0	1.2	-10,734,764
Rhumbline S&P MidCap 400	73,693,771	8.0	8.0	0.0	-449,313
Wellington	96,061,138	10.5	8.0	2.5	-22,816,680
Logan Equity	54,984,729	6.0	5.0	1.0	-9,206,942
Wells Capital Fixed	35,055,094	3.8	5.0	-1.2	10,722,692
Rhumbline Intl Equity	49,769,632	5.4	5.0	0.4	-3,991,845
JP Morgan RE	45,328,043	5.0	5.0	0.0	449,744
Intercontinental RE	44,861,638	4.9	5.0	-0.1	916,149

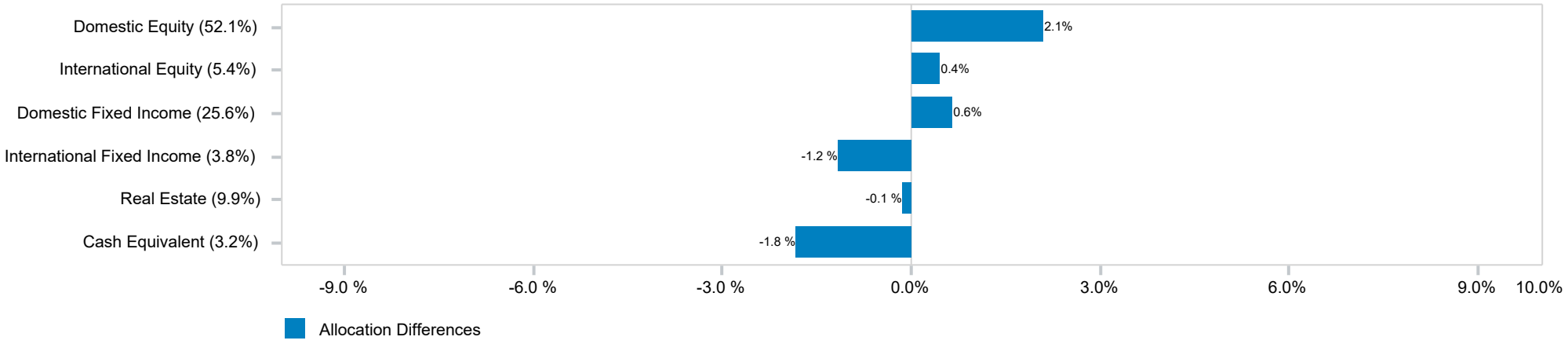


Executive Summary

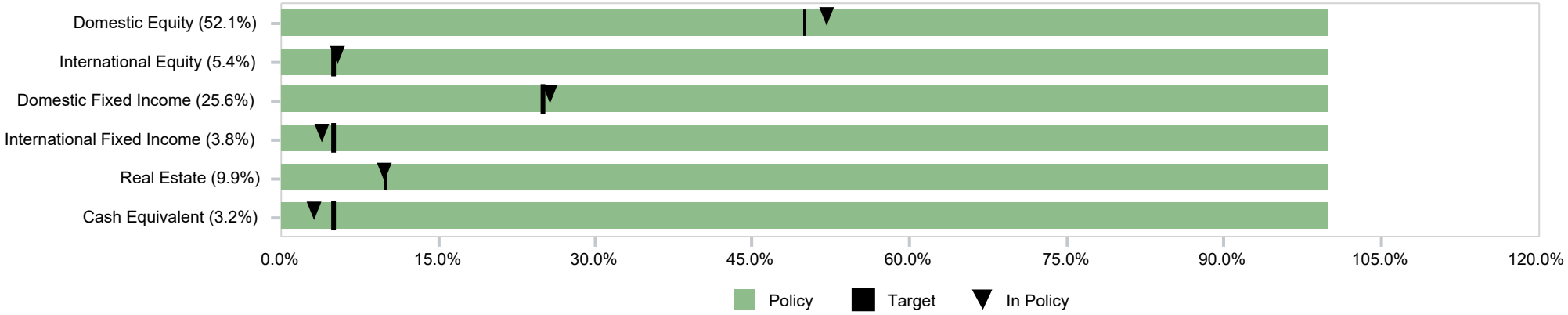


Asset Allocation Compliance

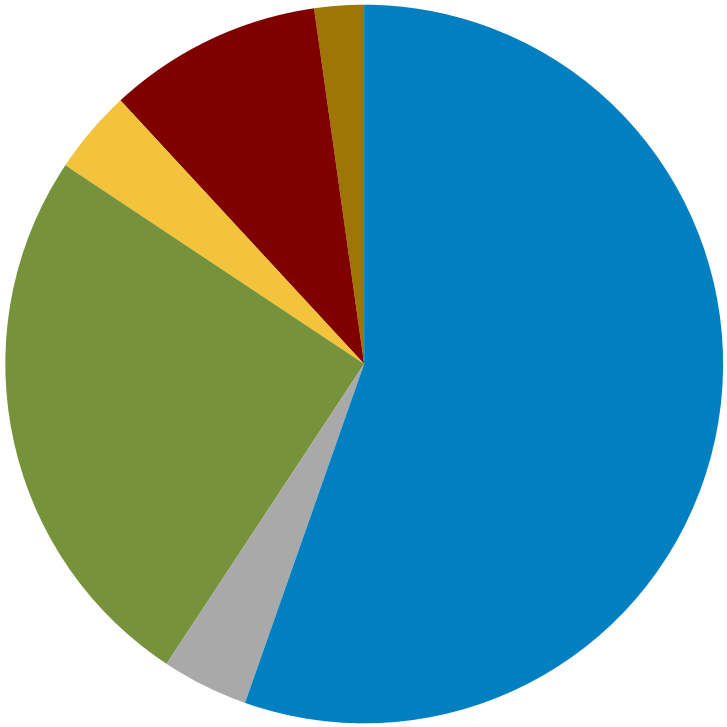
	Asset Allocation $	Current Allocation (%)	Target Allocation (%)	Differences (%)	Target Rebal. ($000)
Domestic Equity	476,839,801	52.1	50.0	2.1	-19,061,933
International Equity	49,769,632	5.4	5.0	0.4	-3,991,845
Domestic Fixed Income	234,752,138	25.6	25.0	0.6	-5,863,204
International Fixed Income	35,054,637	3.8	5.0	-1.2	10,723,150
Real Estate	90,189,681	9.9	10.0	-0.1	1,365,893
Cash Equivalent	28,949,847	3.2	5.0	-1.8	16,827,939
Total Fund	915,555,736	100.0	100.0	0.0	-



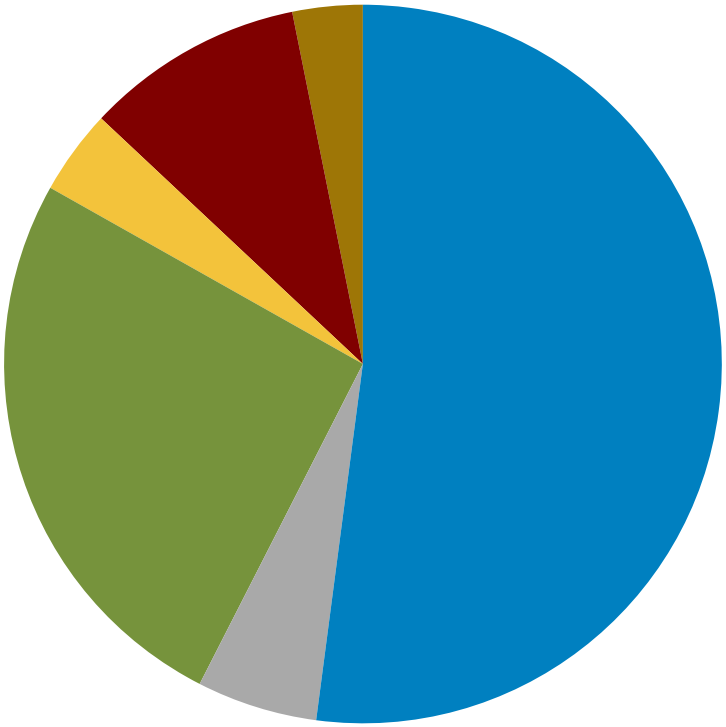
Executive Summary



Asset Allocation By Segment as of June 30, 2019 : $926,657,220



Asset Allocation By Segment as of September 30, 2019 : $915,555,736



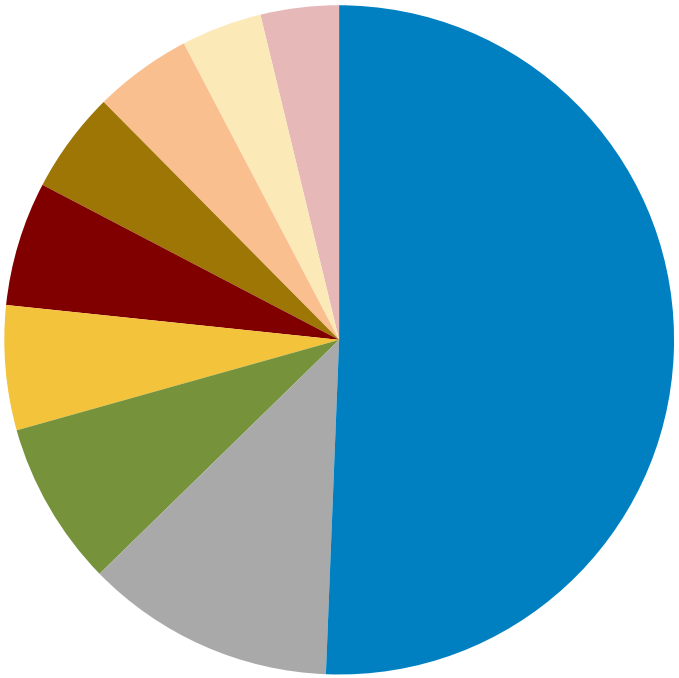
Allocation

Segments	Market Value	Allocation
Domestic Equity	513,260,665	55.4
International Equity	36,110,307	3.9
Domestic Fixed Income	232,118,979	25.0
International Fixed Income	35,054,076	3.8
Real Estate	89,420,328	9.6
Cash Equivalent	20,692,865	2.2

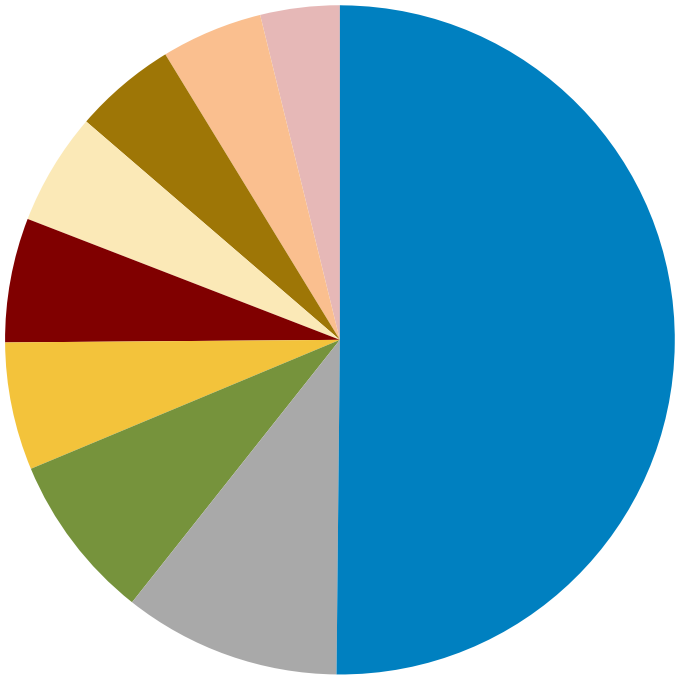
Allocation

Segments	Market Value	Allocation
Domestic Equity	476,839,801	52.1
International Equity	49,769,632	5.4
Domestic Fixed Income	234,752,138	25.6
International Fixed Income	35,054,637	3.8
Real Estate	90,189,681	9.9
Cash Equivalent	28,949,847	3.2

Asset Allocation By Manager as of June 30, 2019 : $926,657,220



Asset Allocation By Manager as of September 30, 2019 : $915,555,736



Allocation

	Market Value	Allocation
Inverness Balanced	469,196,091	50.6
Wellington	111,707,044	12.1
Rhumbline S&P MidCap 400	73,751,742	8.0
Rhumbline LCV	55,756,647	6.0
Logan Equity	55,660,530	6.0
JP Morgan RE	45,552,797	4.9
Intercontinental RE	43,867,531	4.7
Rhumbline Intl Equity	36,110,307	3.9
Wells Capital Fixed	35,054,531	3.8

Allocation

	Market Value	Allocation
Inverness Balanced	459,289,139	50.2
Wellington	96,061,138	10.5
Rhumbline S&P MidCap 400	73,693,771	8.0
Rhumbline LCV	56,512,551	6.2
Logan Equity	54,984,729	6.0
Rhumbline Intl Equity	49,769,632	5.4
JP Morgan RE	45,328,043	5.0
Intercontinental RE	44,861,638	4.9
Wells Capital Fixed	35,055,094	3.8

Financial Reconciliation Quarter to Date

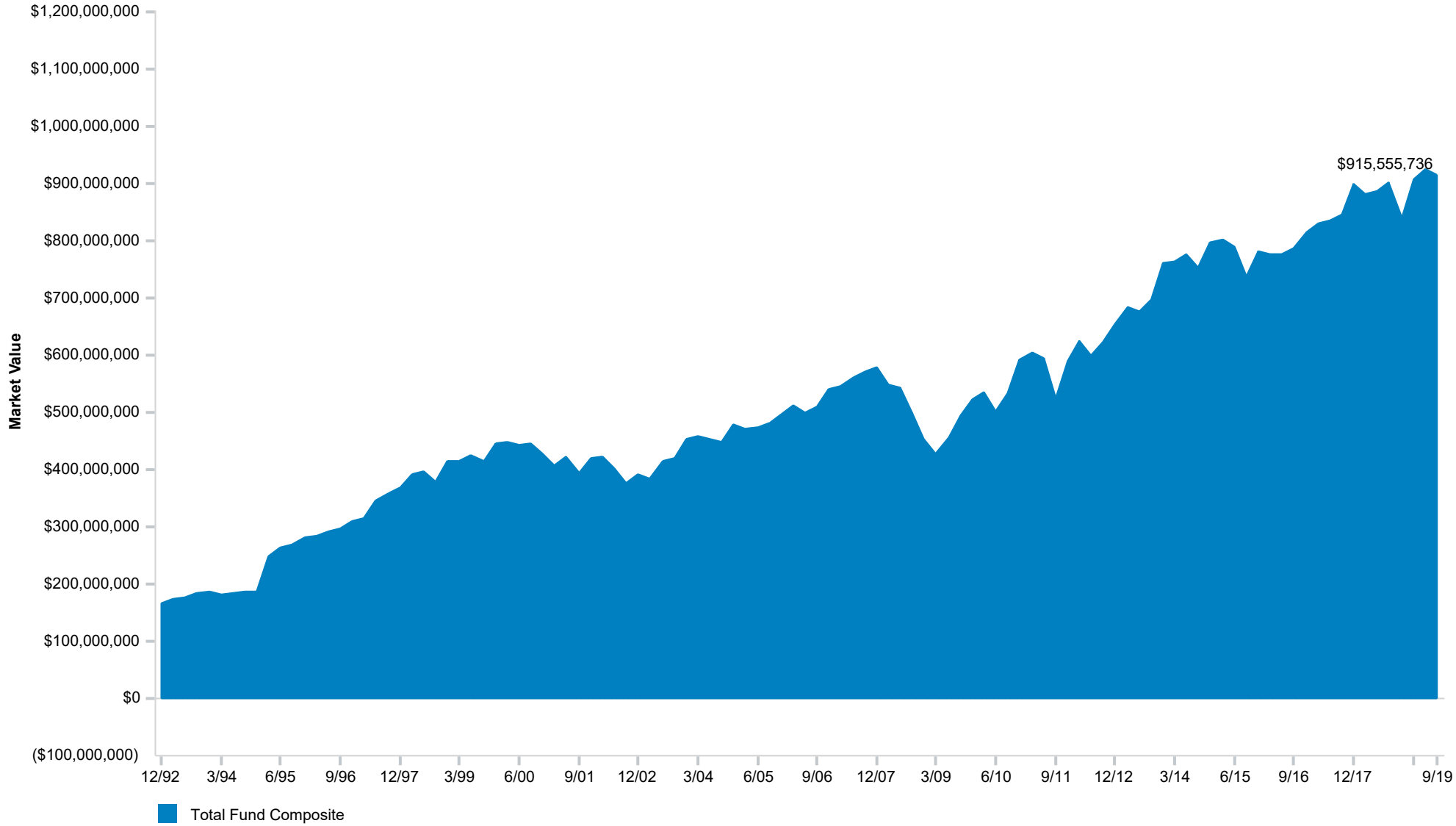
	Market Value 07/01/2019	Apprec./ Deprec.	Income	Net Flows	Management Fees	Market Value 09/30/2019
Inverness Balanced	469,196,091	4,181,215	2,919,309	-14,088,168	-348,099	459,289,139
Logan Equity	55,660,530	-788,071	112,270	112,270	-83,490	54,984,729
Rhumbline LCV	55,756,647	755,904	-	-	-6,608	56,512,551
Wellington	111,707,044	-1,952,202	306,296	-13,693,704	-163,069	96,061,138
Rhumbline S&P MidCap 400	73,751,742	-383,457	325,487	325,487	-18,182	73,693,771
Rhumbline Intl Equity	36,110,307	-326,428	-	13,985,754	-4,417	49,769,632
Wells Capital Fixed	35,054,531	560	4	4	-30,407	35,055,094
JP Morgan RE	45,552,797	-225,670	428,228	915	-113,882	45,328,043
Intercontinental RE	43,867,531	1,096,733	-	-102,626	-102,626	44,861,638
Total Fund Composite	**926,657,220**	**2,358,585**	**4,091,594**	**-13,460,069**	**-870,780**	**915,555,736**

AndCo Consulting Annual Fee $92,643, 1 Basis Point, 0.01%

Asset Allocation Attributes

	Domestic Equity		International Equity		Domestic Fixed Income		International Fixed Income		Real Estate		Cash Equivalent		Total Fund	
	($)	%	($)	%	($)	%	($)	%	($)	%	($)	%	($)	%
Inverness Balanced	196,533,228	42.79	-	-	234,752,138	51.11	-	-	-	-	28,003,773	6.10	459,289,139	50.17
Logan Equity	54,187,233	98.55	-	-	-	-	-	-	-	-	797,496	1.45	54,984,729	6.01
Rhumbline LCV	56,512,551	100.00	-	-	-	-	-	-	-	-	-	-	56,512,551	6.17
Wellington	96,061,138	100.00	-	-	-	-	-	-	-	-	-	-	96,061,138	10.49
Rhumbline S&P MidCap 400	73,545,650	99.80	-	-	-	-	-	-	-	-	148,121	0.20	73,693,771	8.05
Rhumbline Intl Equity	-	-	49,769,632	100.00	-	-	-	-	-	-	-	-	49,769,632	5.44
Wells Capital Fixed	-	-	-	-	-	-	35,054,637	100.00	-	-	457	0.00	35,055,094	3.83
JP Morgan RE	-	-	-	-	-	-	-	-	45,328,043	100.00	-	-	45,328,043	4.95
Intercontinental RE	-	-	-	-	-	-	-	-	44,861,638	100.00	-	-	44,861,638	4.90
Total Fund Composite	**476,839,801**	**52.08**	**49,769,632**	**5.44**	**234,752,138**	**25.64**	**35,054,637**	**3.83**	**90,189,681**	**9.85**	**28,949,847**	**3.16**	**915,555,736**	**100.00**

Schedule of Investable Assets



Schedule of Investable Assets

Periods Ending	Beginning Market Value $	Ending Market Value $	%Return
Inception	161,588,000	915,555,736	7.95

Asset Allocation & Performance

	Allocation		Performance(%)														
	Market Value $	%	QTD		FYTD		1 YR		3 YR		5 YR		Inception		Inception Date
Total Fund Composite (Gross)	**915,555,736**	**100.0**	**0.70**	**(75)**	**4.89**	**(36)**	**4.89**	**(36)**	**8.57**	**(20)**	**7.25**	**(10)**	**8.22**	**(1)**	**10/01/1992**
Total Policy Index			1.00	(46)	4.40	(56)	4.40	(56)	7.79	(62)	6.90	(22)	7.64	(21)	
Difference			-0.30		0.49		0.49		0.78		0.35		0.58		
All Public Plans-Total Fund Median			0.99		4.54		4.54		8.09		6.22		7.48		
Total Fund Composite (Net)	915,555,736	100.0	0.61		4.46		4.46		8.15		6.83		7.95		10/01/1992
Total Policy Index			1.00		4.40		4.40		7.79		6.90		7.64		
Difference			-0.39		0.06		0.06		0.36		-0.07		0.31		
Balanced Fund															
Inverness Balanced (Gross)	459,289,139	50.2	1.52	(57)	7.62	(23)	7.62	(23)	7.49	(67)	6.40	(59)	5.90	(70)	01/01/2000
Inverness Balanced Policy			1.78	(48)	7.24	(29)	7.24	(29)	7.11	(77)	6.24	(61)	5.12	(98)	
Difference			-0.26		0.38		0.38		0.38		0.16		0.78		
IM U.S. Balanced (SA+CF) Median			1.72		4.46		4.46		8.25		6.74		7.20		
Inverness Balanced (Net)	459,289,139	50.2	1.45		7.27		7.27		7.13		6.05		5.56		01/01/2000
Inverness Balanced Policy			1.78		7.24		7.24		7.11		6.24		5.12		
Difference			-0.33		0.03		0.03		0.02		-0.19		0.44		
Total Equity Composite (Gross)	**476,839,801**	**52.1**	**0.18**		**1.99**		**1.99**		**13.03**		**10.08**		**10.99**		**10/01/1990**
Total Equity Policy			0.56		0.82		0.82		11.52		9.56		10.26		
Difference			-0.38		1.17		1.17		1.51		0.52		0.73		
Inverness Equity (Gross)	196,533,228	21.5	1.31	(54)	4.26	(38)	4.26	(38)	14.42	(28)	10.81	(40)	6.71	(54)	01/01/2000
S&P 500 Index			1.70	(39)	4.25	(39)	4.25	(39)	13.39	(41)	10.84	(39)	5.67	(89)	
Difference			-0.39		0.01		0.01		1.03		-0.03		1.04		
IM U.S. Large Cap Equity (SA+CF) Median			1.42		3.42		3.42		12.84		10.32		6.85		
Rhumbline LCV (Net)	56,512,551	6.2	1.34	(54)	3.95	(30)	3.95	(30)	N/A		N/A		7.72	(57)	01/01/2017
Russell 1000 Value Index			1.36	(53)	4.00	(30)	4.00	(30)	9.43	(56)	7.79	(32)	7.77	(56)	
Difference			-0.02		-0.05		-0.05		N/A		N/A		-0.05		
IM U.S. Large Cap Value Equity (MF) Median			1.41		1.87		1.87		9.67		7.17		7.98		
Logan Equity (Net)	54,984,729	6.0	-1.36	(74)	2.94	(43)	2.94	(43)	16.58	(32)	13.14	(28)	9.59	(51)	04/01/2007
Russell 1000 Growth Index			1.49	(16)	3.71	(33)	3.71	(33)	16.89	(27)	13.39	(22)	10.49	(22)	
Difference			-2.85		-0.77		-0.77		-0.31		-0.25		-0.90		
IM U.S. Large Cap Growth Equity (MF) Median			-0.01		2.32		2.32		15.72		12.20		9.63		

	Allocation		Performance(%)														
	Market Value $	%	QTD		FYTD		1 YR		3 YR		5 YR		Inception		Inception Date
Rhumbline S&P MidCap 400 (Net)	73,693,771	8.0	-0.10	(74)	-2.53	(76)	-2.53	(76)	9.27	(42)	8.80	(21)	10.47	(2)	07/01/1997
S&P MidCap 400 Index			-0.09	(74)	-2.49	(76)	-2.49	(76)	9.38	(40)	8.88	(21)	10.47	(2)	
Difference			-0.01		-0.04		-0.04		-0.11		-0.08		0.00		
IM U.S. Mid Cap Core Equity (MF) Median			0.91		0.93		0.93		8.76		6.92		8.10		
Wellington (Net)	96,061,138	10.5	-1.96	(74)	-1.69	(3)	-1.69	(3)	11.99	(1)	10.95	(2)	11.23	(1)	07/01/1999
Russell 2000 Index			-2.40	(80)	-8.89	(35)	-8.89	(35)	8.23	(33)	8.19	(39)	7.54	(91)	
Difference			0.44		7.20		7.20		3.76		2.76		3.69		
IM U.S. Small Cap Core Equity (MF) Median			-0.92		-9.88		-9.88		7.03		7.40		8.84		
International Equity															
Rhumbline Intl Equity (Net)	49,769,632	5.4	-1.05	(27)	-1.11	(43)	-1.11	(43)	6.57	(30)	N/A		5.82	(52)	01/01/2016
MSCI EAFE Index			-1.00	(25)	-0.82	(41)	-0.82	(41)	7.01	(24)	3.77	(32)	6.18	(47)	
Difference			-0.05		-0.29		-0.29		-0.44		N/A		-0.36		
IM International Equity (MF) Median			-1.90		-1.94		-1.94		5.44		2.81		5.94		
Total Fixed Income Composite (Gross)	**269,806,775**	**29.5**	**1.56**		**9.76**		**9.76**		**2.40**		**3.16**		**5.58**		**07/01/1994**
Total Fixed Income Index			1.64		9.24		9.24		2.39		2.84		5.17		
Difference			-0.08		0.52		0.52		0.01		0.32		0.41		
Inverness Fixed Income (Gross)	234,752,138	25.6	1.80	(8)	9.96	(5)	9.96	(5)	2.74	(37)	3.51	(12)	6.15	(12)	10/01/1990
Inverness Fixed Income Index			2.00	(7)	9.74	(5)	9.74	(5)	2.78	(32)	3.14	(23)	5.74	(64)	
Difference			-0.20		0.22		0.22		-0.04		0.37		0.41		
IM U.S. Intermediate Duration (SA+CF) Median			1.42		8.04		8.04		2.63		2.92		5.78		
Wells Capital Fixed Income (Net)	35,055,094	3.8	-0.08	(45)	8.09	(64)	8.09	(64)	-0.22	(95)	0.16	(77)	0.62	(82)	10/01/2011
FTSE Non-U.S. World Government Bond			-0.11	(46)	6.78	(70)	6.78	(70)	0.60	(88)	1.28	(62)	0.37	(86)	
Difference			0.03		1.31		1.31		-0.82		-1.12		0.25		
IM International Fixed Income All (MF) Median			-0.41		9.08		9.08		3.37		2.56		2.60		
Total Real Estate															
JP Morgan RE (Net)	45,328,043	5.0	0.20	(100)	2.88	(94)	2.88	(94)	5.43	(96)	7.81	(93)	5.41	(58)	10/01/2007
NCREIF Fund Index-Open End Diversified Core (EW)			1.38	(79)	6.16	(84)	6.16	(84)	7.59	(84)	9.59	(71)	5.28	(74)	
Difference			-1.18		-3.28		-3.28		-2.16		-1.78		0.13		
IM U.S. Open End Private Real Estate (SA+CF) Median			1.56		6.80		6.80		8.42		9.92		5.54		
Intercontinental RE (Net)	44,861,638	4.9	2.27	(13)	6.76	(72)	6.76	(72)	N/A		N/A		7.95	(47)	04/01/2018
NCREIF Fund Index-Open End Diversified Core (EW)			1.38	(79)	6.16	(84)	6.16	(84)	7.59	(84)	9.59	(71)	7.00	(83)	
Difference			0.89		0.60		0.60		N/A		N/A		0.95		
IM U.S. Open End Private Real Estate (SA+CF) Median			1.56		6.80		6.80		8.42		9.92		7.70		

Asset Allocation & Performance

	Allocation	Performance(%)									
	%	4 Quarters Ending Sep-2019	4 Quarters Ending Sep-2018	4 Quarters Ending Sep-2017	4 Quarters Ending Sep-2016	4 Quarters Ending Sep-2015	4 Quarters Ending Sep-2014	4 Quarters Ending Sep-2013	4 Quarters Ending Sep-2012	4 Quarters Ending Sep-2011	4 Quarters Ending Sep-2010
Total Fund Composite (Gross)	**100.0**	**4.89 (36)**	**9.81 (10)**	**11.09 (64)**	**9.94 (44)**	**0.88 (17)**	**10.42 (43)**	**13.25 (31)**	**19.91 (13)**	**-0.64 (79)**	**11.10 (23)**
Total Policy Index		4.40 (56)	8.64 (23)	10.41 (75)	10.53 (28)	0.85 (17)	9.50 (60)	12.02 (51)	18.03 (43)	2.49 (20)	9.76 (54)
Difference		0.49	1.17	0.68	-0.59	0.03	0.92	1.23	1.88	-3.13	1.34
All Public Plans-Total Fund Median		4.54	7.12	11.83	9.74	-0.78	9.93	12.05	17.55	0.68	9.90
Total Fund Composite (Net)	100.0	4.46	9.40	10.68	9.51	0.46	9.98	12.79	19.44	-1.05	10.67
Total Policy Index		4.40	8.64	10.41	10.53	0.85	9.50	12.02	18.03	2.49	9.76
Difference		0.06	0.76	0.27	-1.02	-0.39	0.48	0.77	1.41	-3.54	0.91
Balanced Fund											
Inverness Balanced (Gross)	50.2	7.62 (23)	8.11 (45)	6.74 (90)	7.90 (83)	1.78 (12)	9.62 (69)	8.91 (76)	17.14 (73)	0.13 (61)	8.78 (63)
Inverness Balanced Policy		7.24 (29)	6.65 (67)	7.45 (87)	8.74 (71)	1.25 (15)	9.46 (70)	7.38 (83)	15.13 (85)	2.89 (17)	8.97 (60)
Difference		0.38	1.46	-0.71	-0.84	0.53	0.16	1.53	2.01	-2.76	-0.19
IM U.S. Balanced (SA+CF) Median		4.46	7.80	11.73	9.72	-2.04	11.18	12.61	19.52	0.73	9.69
Inverness Balanced (Net)	50.2	7.27	7.74	6.38	7.54	1.45	9.24	8.55	16.75	-0.21	8.39
Inverness Balanced Policy		7.24	6.65	7.45	8.74	1.25	9.46	7.38	15.13	2.89	8.97
Difference		0.03	1.09	-1.07	-1.20	0.20	-0.22	1.17	1.62	-3.10	-0.58
Total Equity Composite (Gross)	**52.1**	**1.99**	**18.01**	**19.97**	**12.80**	**-0.77**	**15.62**	**23.72**	**33.10**	**-5.01**	**13.19**
Total Equity Policy		0.82	15.62	18.97	14.63	-0.70	14.72	21.70	27.57	0.61	10.86
Difference		1.17	2.39	1.00	-1.83	-0.07	0.90	2.02	5.53	-5.62	2.33
Inverness Equity (Gross)	21.5	4.26 (38)	21.05 (24)	18.70 (54)	11.47 (68)	0.06 (45)	19.67 (39)	21.68 (44)	34.89 (5)	-5.79 (94)	8.33 (73)
S&P 500 Index		4.25 (39)	17.91 (40)	18.61 (55)	15.43 (24)	-0.61 (57)	19.73 (37)	19.34 (70)	30.20 (38)	1.14 (46)	10.16 (50)
Difference		0.01	3.14	0.09	-3.96	0.67	-0.06	2.34	4.69	-6.93	-1.83
IM U.S. Large Cap Equity (SA+CF) Median		3.42	17.02	18.85	13.24	-0.33	18.78	21.08	29.11	0.78	10.13
Rhumbline LCV (Net)	6.2	3.95 (30)	9.38 (61)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 1000 Value Index		4.00 (30)	9.45 (60)	15.12 (72)	16.19 (18)	-4.42 (41)	18.89 (19)	22.30 (52)	30.92 (15)	-1.89 (30)	8.90 (28)
Difference		-0.05	-0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM U.S. Large Cap Value Equity (MF) Median		1.87	10.42	16.75	12.50	-4.90	17.21	22.35	28.44	-3.39	6.90
RBC (Net)	0.0	N/A	N/A	N/A	9.07 (91)	-1.61 (9)	18.61 (24)	20.35 (76)	33.15 (7)	-1.48 (26)	5.67 (73)
Russell 1000 Value Index		4.00 (30)	9.45 (60)	15.12 (72)	16.19 (18)	-4.42 (41)	18.89 (19)	22.30 (52)	30.92 (15)	-1.89 (30)	8.90 (28)
Difference		N/A	N/A	N/A	-7.12	2.81	-0.28	-1.95	2.23	0.41	-3.23
IM U.S. Large Cap Value Equity (MF) Median		1.87	10.42	16.75	12.50	-4.90	17.21	22.35	28.44	-3.39	6.90

	Allocation	Performance(%)									
	%	4 Quarters Ending Sep-2019	4 Quarters Ending Sep-2018	4 Quarters Ending Sep-2017	4 Quarters Ending Sep-2016	4 Quarters Ending Sep-2015	4 Quarters Ending Sep-2014	4 Quarters Ending Sep-2013	4 Quarters Ending Sep-2012	4 Quarters Ending Sep-2011	4 Quarters Ending Sep-2010
Logan Equity (Net)	6.0	2.94 (43)	26.84 (34)	21.34 (36)	9.59 (73)	6.79 (6)	16.18 (62)	23.47 (16)	24.55 (77)	-2.98 (79)	24.87 (1)
Russell 1000 Growth Index		3.71 (33)	26.30 (38)	21.94 (28)	13.76 (18)	3.17 (44)	19.15 (22)	19.27 (52)	29.19 (35)	3.78 (17)	12.65 (26)
Difference		-0.77	0.54	-0.60	-4.17	3.62	-2.97	4.20	-4.64	-6.76	12.22
IM U.S. Large Cap Growth Equity (MF) Median		2.32	25.08	20.13	10.96	2.84	16.89	19.37	27.40	0.50	10.24
Rhumbline S&P MidCap 400 (Net)	8.0	-2.53 (76)	14.03 (24)	17.38 (27)	15.20 (20)	1.46 (25)	11.89 (55)	27.63 (49)	27.96 (34)	-1.90 (33)	17.66 (14)
S&P MidCap 400 Index		-2.49 (76)	14.21 (23)	17.52 (26)	15.33 (20)	1.40 (25)	11.82 (56)	27.68 (48)	28.54 (29)	-1.28 (29)	17.78 (13)
Difference		-0.04	-0.18	-0.14	-0.13	0.06	0.07	-0.05	-0.58	-0.62	-0.12
IM U.S. Mid Cap Core Equity (MF) Median		0.93	10.79	15.28	11.77	-1.16	12.42	27.52	26.18	-3.68	13.75
Wellington (Net)	10.5	-1.69 (3)	13.92 (35)	25.41 (10)	15.81 (32)	3.35 (24)	10.15 (6)	32.43 (17)	37.20 (7)	-2.24 (30)	23.81 (2)
Russell 2000 Index		-8.89 (35)	15.24 (25)	20.74 (33)	15.47 (35)	1.25 (41)	3.93 (65)	30.06 (43)	31.91 (27)	-3.53 (46)	13.35 (41)
Difference		7.20	-1.32	4.67	0.34	2.10	6.22	2.37	5.29	1.29	10.46
IM U.S. Small Cap Core Equity (MF) Median		-9.88	11.79	19.59	13.84	0.21	4.81	29.01	28.84	-4.10	12.52
International Equity											
Rhumbline Intl Equity (Net)	5.4	-1.11 (43)	2.69 (25)	19.18 (53)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI EAFE Index		-0.82 (41)	3.25 (21)	19.65 (48)	7.06 (65)	-8.27 (47)	4.70 (44)	24.29 (19)	14.33 (66)	-8.94 (24)	3.71 (74)
Difference		-0.29	-0.56	-0.47	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM International Equity (MF) Median		-1.94	0.08	19.36	9.32	-8.75	4.26	17.81	16.20	-12.08	8.61
Total Fixed Income Composite (Gross)	**29.5**	**9.76**	**-1.08**	**-1.12**	**6.97**	**1.71**	**3.45**	**-1.18**	**6.30**	**3.67**	**9.02**
Total Fixed Income Index		9.24	-1.42	-0.33	5.79	1.31	2.56	-1.84	4.82	4.27	8.25
Difference		0.52	0.34	-0.79	1.18	0.40	0.89	0.66	1.48	-0.60	0.77
Inverness Fixed Income (Gross)	25.6	9.96 (5)	-0.50 (61)	-0.89 (100)	6.33 (4)	3.03 (26)	3.36 (30)	-0.84 (83)	6.45 (27)	3.67 (48)	9.02 (25)
Inverness Fixed Income Index		9.74 (5)	-1.16 (97)	0.11 (93)	4.68 (17)	2.71 (49)	3.13 (38)	-1.23 (93)	5.03 (66)	4.27 (21)	8.25 (51)
Difference		0.22	0.66	-1.00	1.65	0.32	0.23	0.39	1.42	-0.60	0.77
IM U.S. Intermediate Duration (SA+CF) Median		8.04	-0.39	0.69	3.90	2.70	2.88	-0.27	5.57	3.61	8.25
Wells Capital Fixed Income (Net)	3.8	8.09 (64)	-5.24 (71)	-3.01 (100)	10.71 (73)	-8.35 (50)	3.67 (52)	-4.20 (53)	4.98 (89)	N/A	N/A
FTSE Non-U.S. World Government Bond		6.78 (70)	-1.57 (14)	-3.14 (100)	12.61 (59)	-7.01 (41)	-0.99 (78)	-5.63 (77)	3.45 (95)	4.13 (4)	4.46 (90)
Difference		1.31	-3.67	0.13	-1.90	-1.34	4.66	1.43	1.53	N/A	N/A
IM International Fixed Income All (MF) Median		9.08	-3.90	6.27	13.82	-8.41	4.03	-4.01	13.45	-0.39	13.85

	Allocation	Performance(%)									
	%	4 Quarters Ending Sep-2019	4 Quarters Ending Sep-2018	4 Quarters Ending Sep-2017	4 Quarters Ending Sep-2016	4 Quarters Ending Sep-2015	4 Quarters Ending Sep-2014	4 Quarters Ending Sep-2013	4 Quarters Ending Sep-2012	4 Quarters Ending Sep-2011	4 Quarters Ending Sep-2010
Total Real Estate											
JP Morgan RE (Net)	5.0	2.88 (94)	6.94 (100)	6.51 (77)	8.56 (100)	14.48 (66)	12.13 (79)	14.92 (33)	12.41 (53)	18.07 (44)	5.78 (59)
NCREIF Fund Index-Open End Diversified Core (EW)		6.16 (84)	8.82 (59)	7.81 (60)	10.62 (69)	14.71 (62)	12.39 (68)	12.47 (67)	11.77 (63)	18.03 (44)	6.14 (55)
Difference		-3.28	-1.88	-1.30	-2.06	-0.23	-0.26	2.45	0.64	0.04	-0.36
IM U.S. Open End Private Real Estate (SA+CF) Median		6.80	9.04	8.29	11.32	15.45	12.78	13.18	12.87	16.96	6.43
Intercontinental RE (Net)	4.9	6.76 (72)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NCREIF Fund Index-Open End Diversified Core (EW)		6.16 (84)	8.82 (59)	7.81 (60)	10.62 (69)	14.71 (62)	12.39 (68)	12.47 (67)	11.77 (63)	18.03 (44)	6.14 (55)
Difference		0.60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM U.S. Open End Private Real Estate (SA+CF) Median		6.80	9.04	8.29	11.32	15.45	12.78	13.18	12.87	16.96	6.43

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Historical Rolling Performance

	QTR	1 YR	3 YR	5 YR	Inception
09/30/2019	0.70	4.89	8.57	7.25	8.22
06/30/2019	4.02	7.96	9.51	6.90	8.28
03/31/2019	9.99	6.18	8.72	6.78	8.20
12/31/2018	-8.96	-3.54	5.85	5.17	7.89
09/30/2018	3.65	9.81	10.28	8.36	8.35
06/30/2018	2.30	9.30	7.31	8.65	8.29
03/31/2018	-0.08	9.58	6.53	8.29	8.28
12/31/2017	3.64	13.91	7.46	9.70	8.36
09/30/2017	3.16	11.09	7.20	9.03	8.30
06/30/2017	2.57	11.30	5.77	9.48	8.25
03/31/2017	3.87	10.44	6.05	8.49	8.22
12/31/2016	1.07	7.93	5.40	9.33	8.14
09/30/2016	3.35	9.94	6.99	10.71	8.18
06/30/2016	1.79	1.59	7.58	7.68	8.12
03/31/2016	1.51	-0.10	7.16	7.27	8.13
12/31/2015	2.95	0.94	8.92	7.77	8.15
09/30/2015	-4.50	0.88	8.05	8.49	8.11
06/30/2015	0.10	4.65	11.64	11.23	8.42
03/31/2015	2.56	8.11	10.84	10.15	8.51
12/31/2014	2.89	7.49	12.77	10.55	8.49
09/30/2014	-0.93	10.42	14.46	10.61	8.45
06/30/2014	3.41	17.11	10.84	12.95	8.59
03/31/2014	1.97	13.93	9.55	14.14	8.53
12/31/2013	5.70	19.09	10.24	12.77	8.53
09/30/2013	5.07	13.25	10.50	8.93	8.35
06/30/2013	0.60	13.53	11.58	6.38	8.20
03/31/2013	6.59	10.58	9.61	6.40	8.27
12/31/2012	0.52	12.03	8.86	4.18	8.04
09/30/2012	5.33	19.91	9.80	4.04	8.11
06/30/2012	-2.02	2.43	11.40	3.58	7.94
03/31/2012	7.99	4.38	15.42	4.83	8.16
12/31/2011	7.59	0.42	10.99	3.77	7.83
09/30/2011	-10.02	-0.64	4.14	3.09	7.53
06/30/2011	-0.16	19.46	5.41	6.04	8.24
03/31/2011	3.90	14.09	5.72	5.83	8.36
12/31/2010	6.45	14.67	2.93	5.93	8.26
09/30/2010	8.18	11.10	0.76	4.92	8.00
06/30/2010	-4.65	12.99	-0.86	3.99	7.64
03/31/2010	4.43	29.12	2.06	5.34	8.05
12/31/2009	3.14	18.72	1.47	4.30	7.90

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

Historical Rolling Performance

	QTR	1 YR	3 YR	5 YR	Inception
09/30/2019	1.00	4.40	7.79	6.90	7.64
06/30/2019	3.33	6.88	8.46	6.47	7.67
03/31/2019	8.44	5.53	8.12	6.46	7.61
12/31/2018	-7.74	-3.12	5.92	5.11	7.36
09/30/2018	3.40	8.64	9.85	7.92	7.77
06/30/2018	2.01	8.16	7.24	8.11	7.70
03/31/2018	-0.45	8.57	6.44	7.81	7.70
12/31/2017	3.46	12.76	7.25	9.17	7.80
09/30/2017	2.95	10.41	7.16	8.58	7.73
06/30/2017	2.40	10.37	5.78	8.85	7.68
03/31/2017	3.39	10.33	6.07	8.06	7.66
12/31/2016	1.30	8.77	5.51	8.85	7.60
09/30/2016	2.91	10.53	6.87	10.04	7.62
06/30/2016	2.36	3.31	7.35	7.66	7.57
03/31/2016	1.93	0.67	6.74	7.35	7.55
12/31/2015	2.93	0.59	8.13	7.75	7.55
09/30/2015	-3.81	0.85	7.34	8.39	7.50
06/30/2015	-0.26	3.81	10.24	10.92	7.76
03/31/2015	1.86	7.46	9.88	9.86	7.87
12/31/2014	3.19	7.35	11.78	10.30	7.87
09/30/2014	-0.98	9.50	13.12	10.24	7.81
06/30/2014	3.25	15.35	10.49	12.74	7.95
03/31/2014	1.76	12.42	9.64	14.27	7.89
12/31/2013	5.25	17.06	10.39	12.24	7.89
09/30/2013	4.31	12.02	10.66	8.50	7.73
06/30/2013	0.62	11.89	11.93	6.40	7.61
03/31/2013	5.96	9.81	9.83	6.03	7.67
12/31/2012	0.72	11.13	9.12	3.92	7.46
09/30/2012	4.20	18.03	9.91	3.64	7.52
06/30/2012	-1.25	4.49	12.16	3.15	7.39
03/31/2012	7.24	6.76	16.42	3.99	7.56
12/31/2011	6.97	3.39	11.04	2.80	7.27
09/30/2011	-7.75	2.49	4.38	2.24	6.99
06/30/2011	0.89	19.92	5.25	4.82	7.55
03/31/2011	3.86	13.00	4.56	4.52	7.60
12/31/2010	6.03	13.07	1.79	4.16	7.49
09/30/2010	7.94	9.76	-0.38	3.25	7.25
06/30/2010	-4.93	12.59	-2.32	2.06	6.89
03/31/2010	3.92	30.80	0.26	3.50	7.30
12/31/2009	2.92	17.12	-0.61	2.44	7.17

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

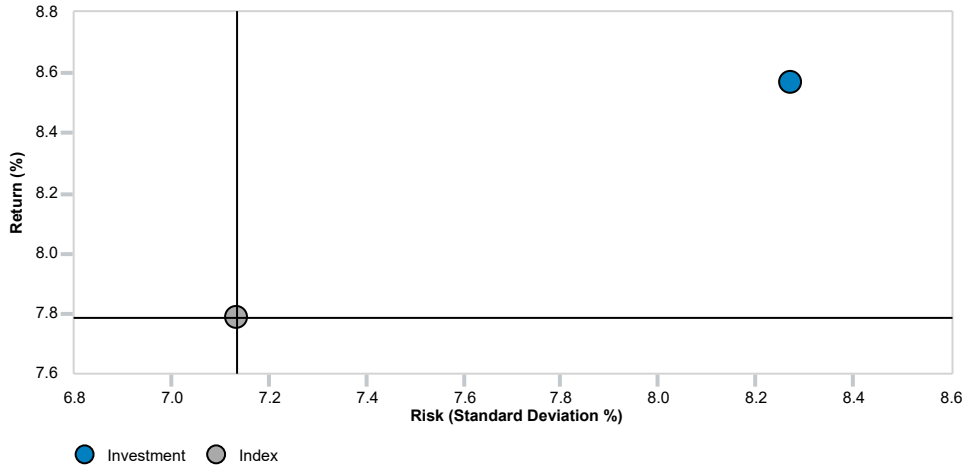
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	8.57	8.27	0.86	110.45	10	110.28	2
Index	7.79	7.13	0.88	100.00	10	100.00	2

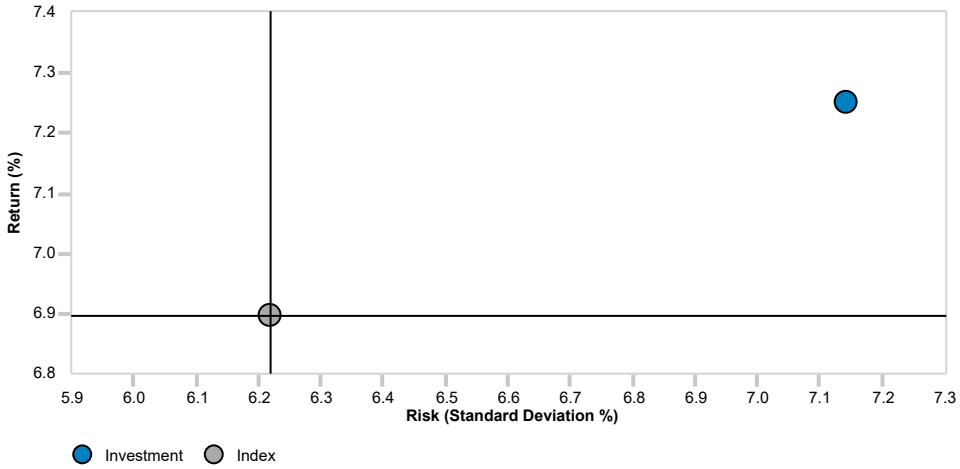
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	7.25	7.14	0.89	106.76	17	109.57	3
Index	6.90	6.22	0.96	100.00	16	100.00	4

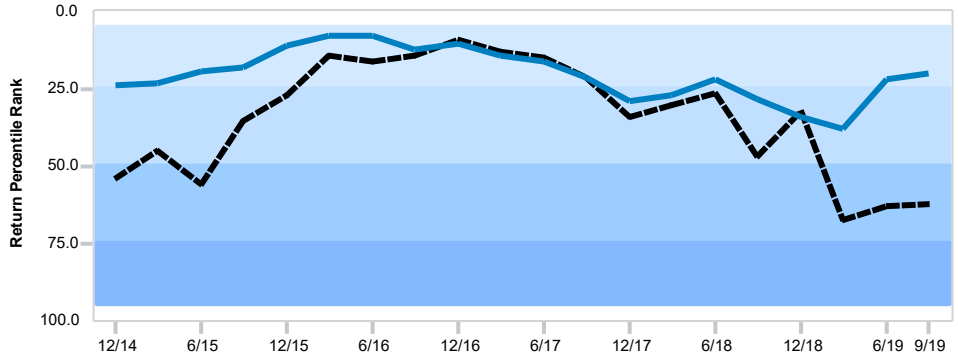
Risk and Return 3 Years



Risk and Return 5 Years

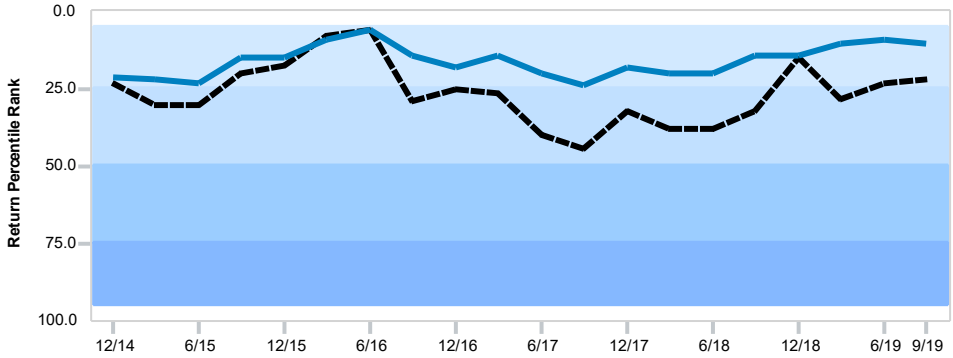


3 Year Rolling Percentile Rank All Public Plans-Total Fund



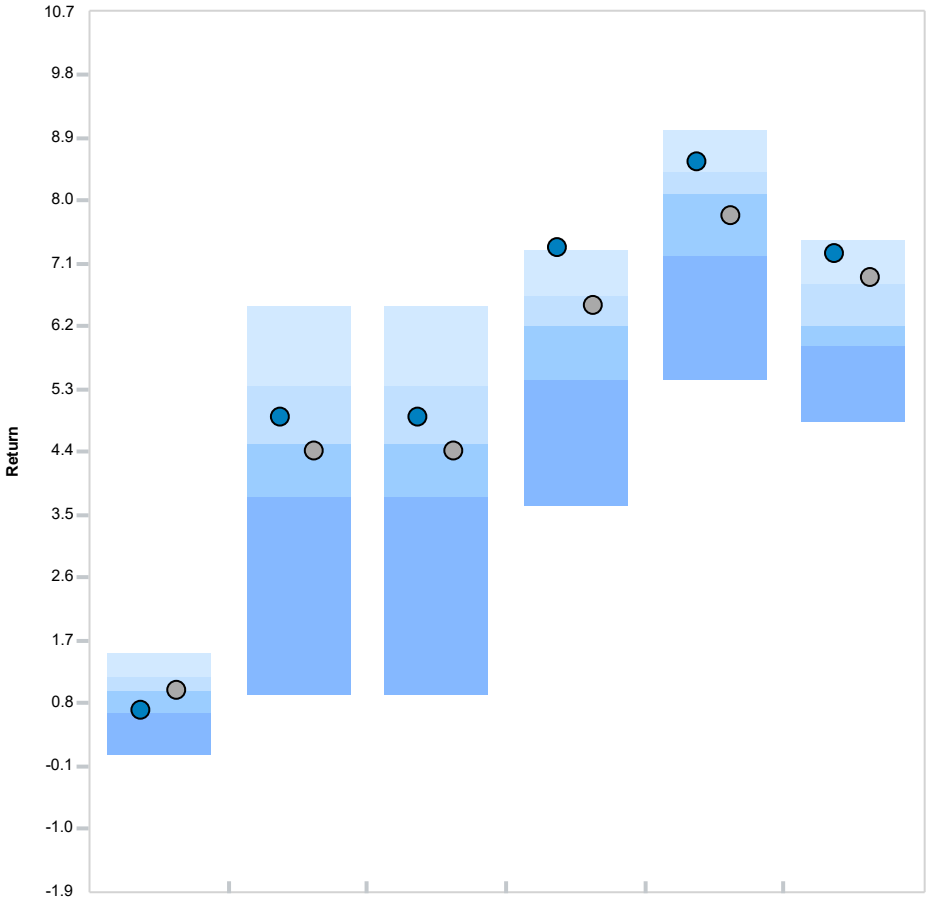
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	15 (75%)	5 (25%)	0 (0%)	0 (0%)
Index	20	7 (35%)	8 (40%)	5 (25%)	0 (0%)

5 Year Rolling Percentile Rank All Public Plans-Total Fund



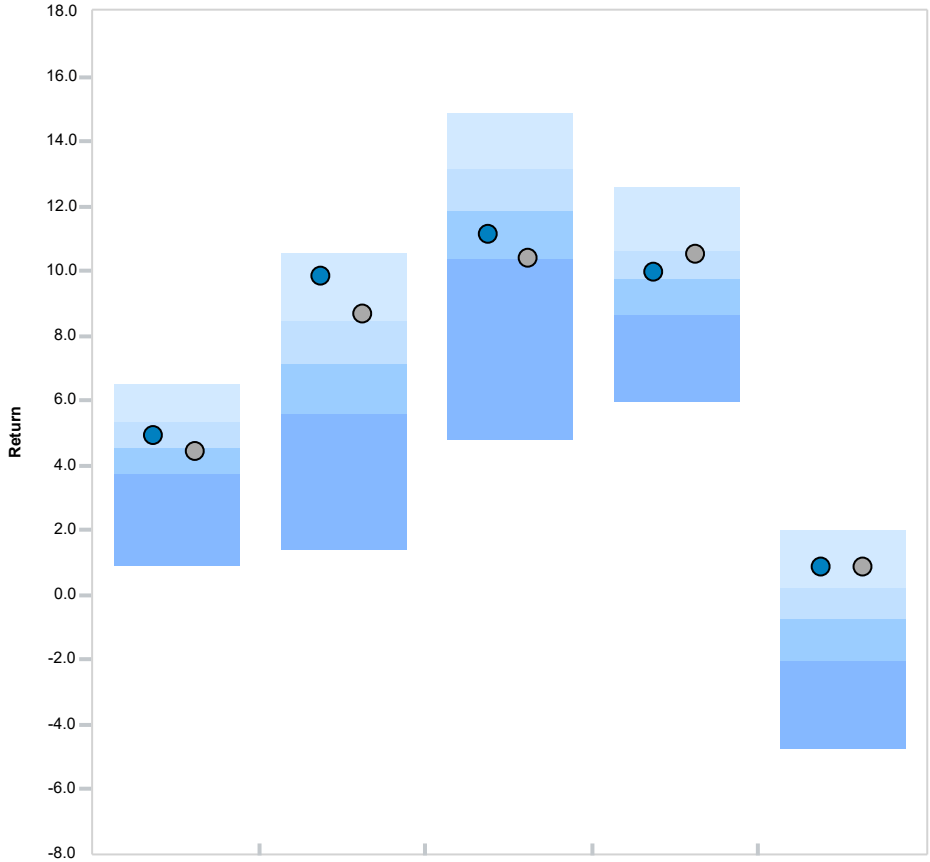
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)
Index	20	9 (45%)	11 (55%)	0 (0%)	0 (0%)

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



	QTR	FYTD	1 YR	2 YR	3 YR	5 YR
Investment	0.70 (75)	4.89 (36)	4.89 (36)	7.32 (5)	8.57 (20)	7.25 (10)
Index	1.00 (46)	4.40 (56)	4.40 (56)	6.50 (34)	7.79 (62)	6.90 (22)
Median	0.99	4.54	4.54	6.22	8.09	6.22

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

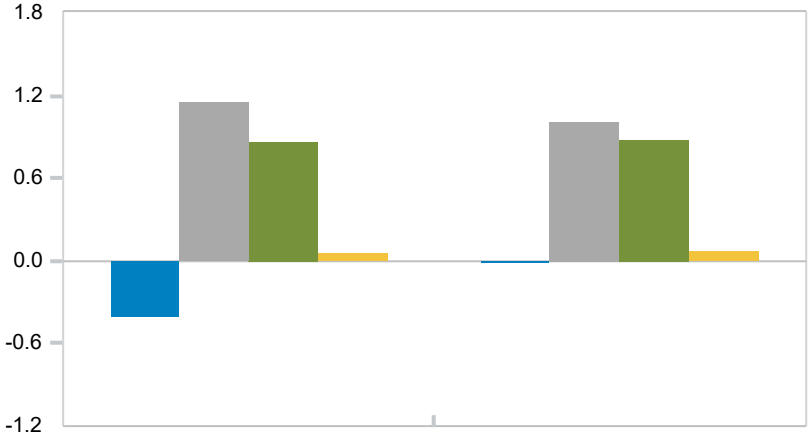


	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015
Investment	4.89 (36)	9.81 (10)	11.09 (64)	9.94 (44)	0.88 (17)
Index	4.40 (56)	8.64 (23)	10.41 (75)	10.53 (28)	0.85 (17)
Median	4.54	7.12	11.83	9.74	-0.78

Comparative Performance

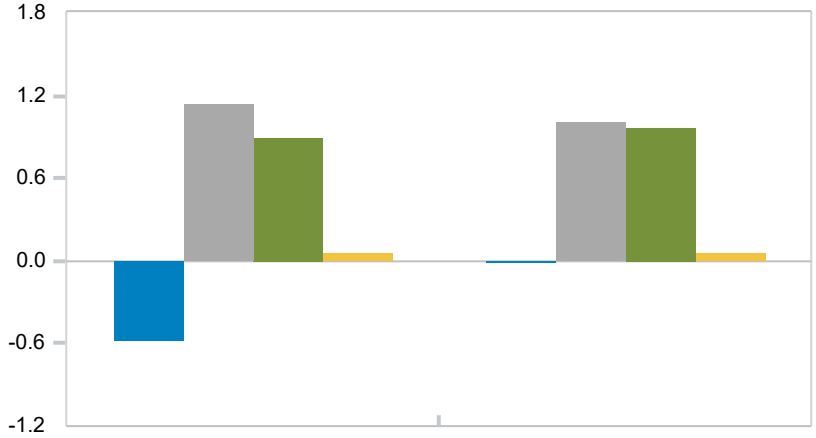
	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	4.02 (4)	9.99 (8)	-8.96 (84)	3.65 (10)	2.30 (6)	-0.08 (36)
Index	3.33 (40)	8.44 (50)	-7.74 (56)	3.40 (15)	2.01 (13)	-0.45 (59)
Median	3.24	8.43	-7.55	2.58	1.03	-0.32

Risk / Reward Historical Statistics 3 Years Ending September 30, 2019



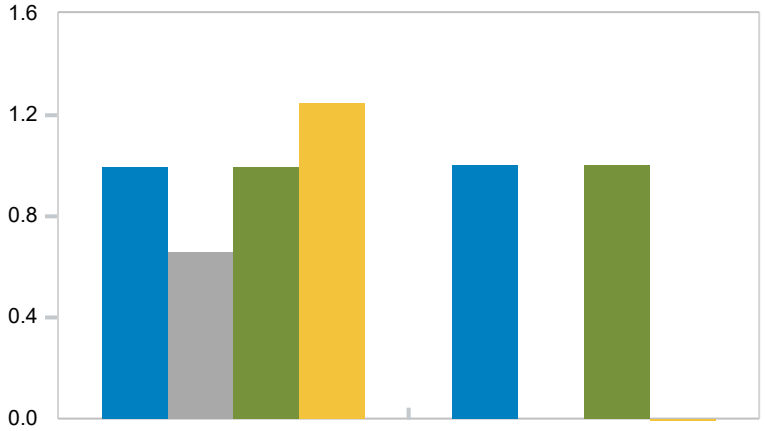
	Total Fund Composite	Total Policy Index
Alpha	-0.41	0.00
Beta	1.16	1.00
Sharpe Ratio	0.86	0.88
Treynor Ratio	0.06	0.06

Risk / Reward Historical Statistics 5 Years Ending September 30, 2019



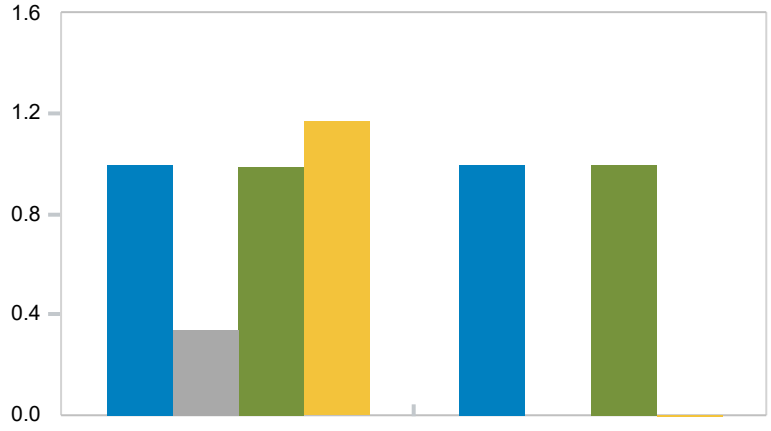
	Total Fund Composite	Total Policy Index
Alpha	-0.58	0.00
Beta	1.14	1.00
Sharpe Ratio	0.89	0.96
Treynor Ratio	0.06	0.06

Benchmark Relative Historical Statistics 3 Years Ending September 30, 2019



	Total Fund Composite	Total Policy Index
Actual Correlation	1.00	1.00
Information Ratio	0.66	N/A
R-Squared	1.00	1.00
Tracking Error	1.24	0.00

Benchmark Relative Historical Statistics 5 Years Ending September 30, 2019



	Total Fund Composite	Total Policy Index
Actual Correlation	0.99	1.00
Information Ratio	0.34	N/A
R-Squared	0.99	1.00
Tracking Error	1.17	0.00

Benchmark: Total Policy Index

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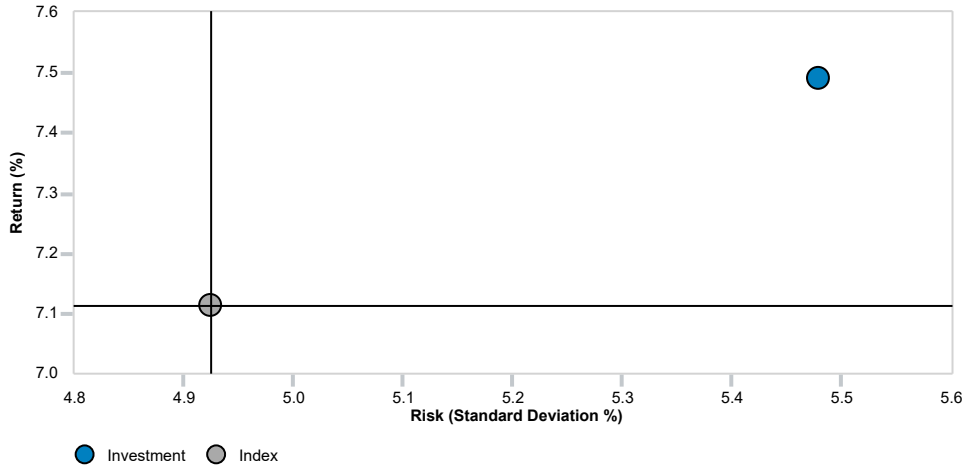
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	7.49	5.48	1.08	103.02	9	98.63	3
Index	7.11	4.93	1.12	100.00	10	100.00	2

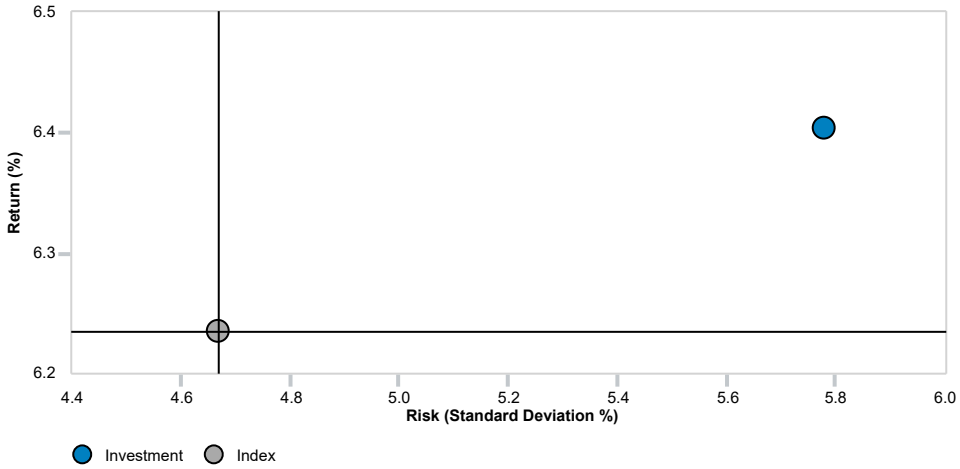
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	6.40	5.78	0.96	106.69	16	118.43	4
Index	6.24	4.67	1.13	100.00	16	100.00	4

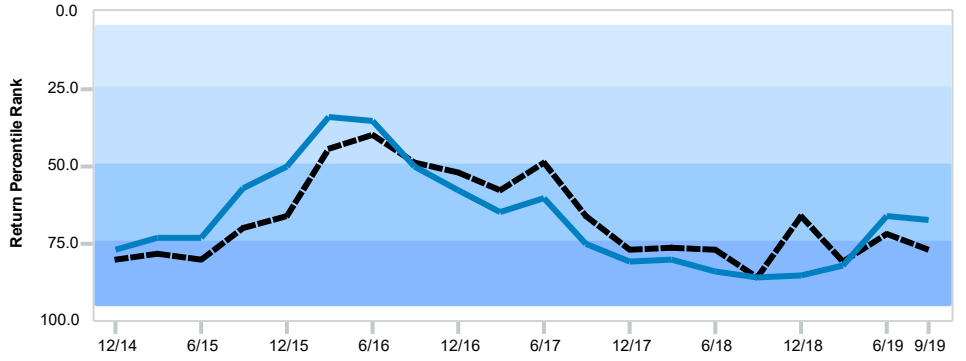
Risk and Return 3 Years



Risk and Return 5 Years

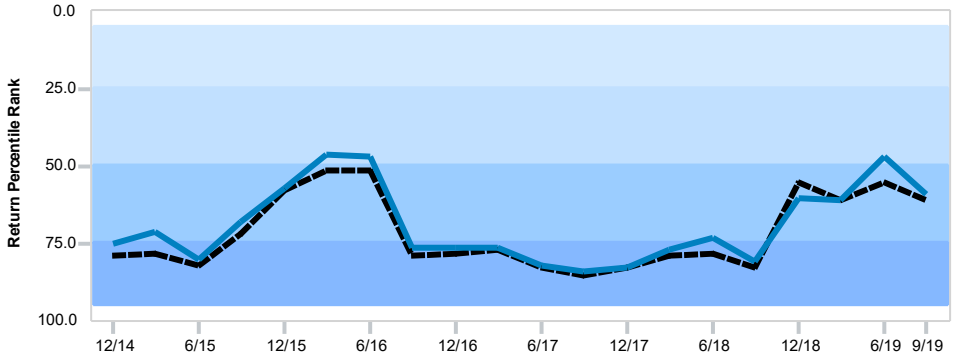


3 Year Rolling Percentile Rank IM U.S. Balanced (SA+CF)



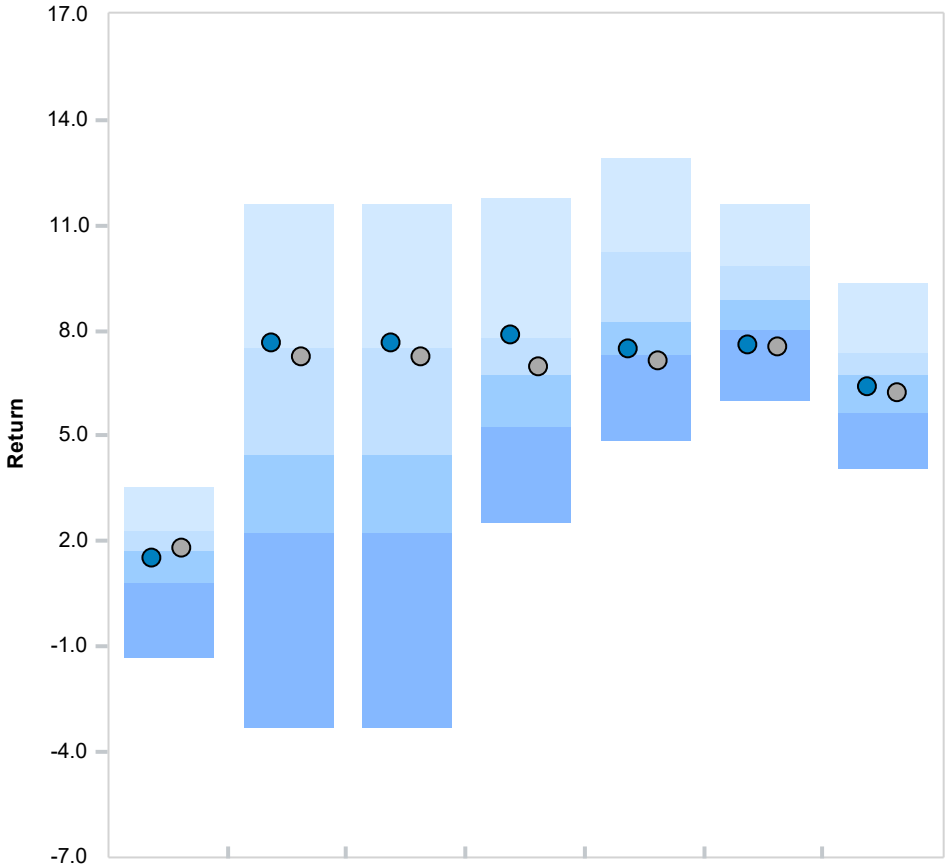
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	4 (20%)	9 (45%)	7 (35%)
Index	20	0 (0%)	4 (20%)	7 (35%)	9 (45%)

5 Year Rolling Percentile Rank IM U.S. Balanced (SA+CF)



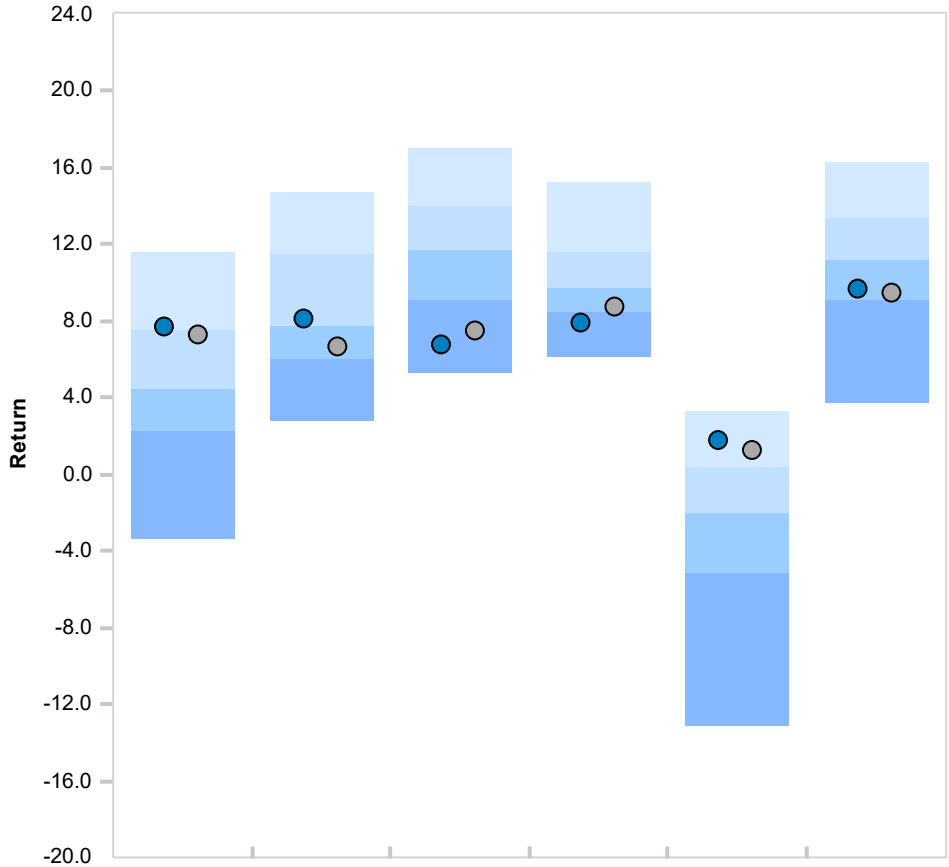
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	3 (15%)	8 (40%)	9 (45%)
Index	20	0 (0%)	0 (0%)	8 (40%)	12 (60%)

Peer Group Analysis - IM U.S. Balanced (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	1.52 (57)	7.62 (23)	7.62 (23)	7.86 (25)	7.49 (67)	7.59 (85)	6.40 (59)
Index	1.78 (48)	7.24 (29)	7.24 (29)	6.95 (45)	7.11 (77)	7.52 (85)	6.24 (61)
Median	1.72	4.46	4.46	6.73	8.25	8.88	6.74

Peer Group Analysis - IM U.S. Balanced (SA+CF)

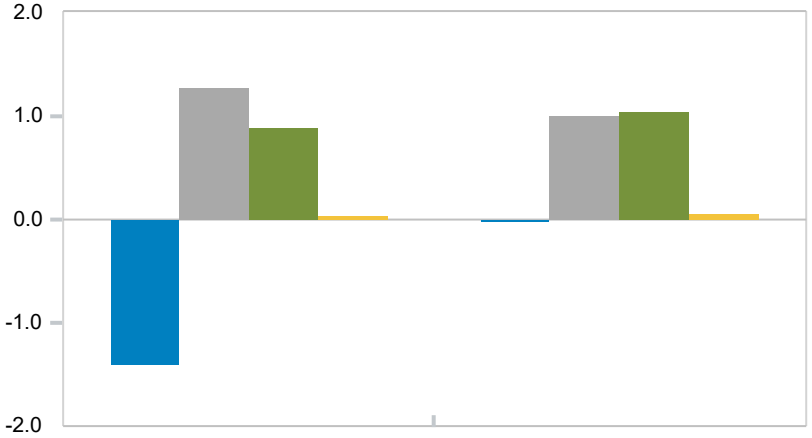


	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014
Investment	7.62 (23)	8.11 (45)	6.74 (90)	7.90 (83)	1.78 (12)	9.62 (69)
Index	7.24 (29)	6.65 (67)	7.45 (87)	8.74 (71)	1.25 (15)	9.46 (70)
Median	4.46	7.80	11.73	9.72	-2.04	11.18

Comparative Performance

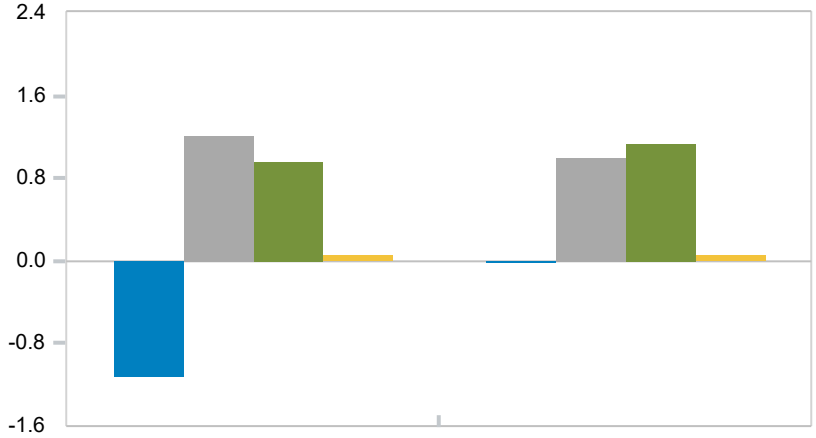
	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	4.40 (6)	8.68 (67)	-6.58 (22)	3.86 (44)	1.81 (49)	-0.53 (27)
Index	3.48 (51)	6.98 (92)	-4.81 (11)	3.24 (66)	1.36 (65)	-0.85 (44)
Median	3.50	9.24	-8.63	3.74	1.72	-0.98

Risk / Reward Historical Statistics 3 Years Ending September 30, 2019



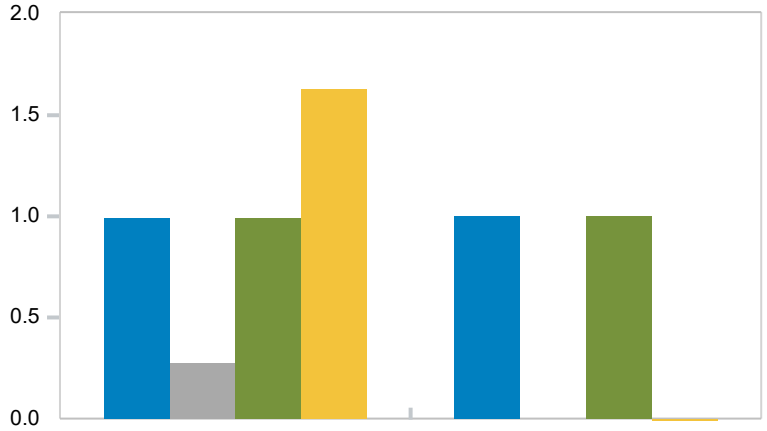
	Inverness Balanced	Inverness Balanced Policy
Alpha	-1.40	0.00
Beta	1.26	1.00
Sharpe Ratio	0.88	1.03
Treynor Ratio	0.05	0.06

Risk / Reward Historical Statistics 5 Years Ending September 30, 2019



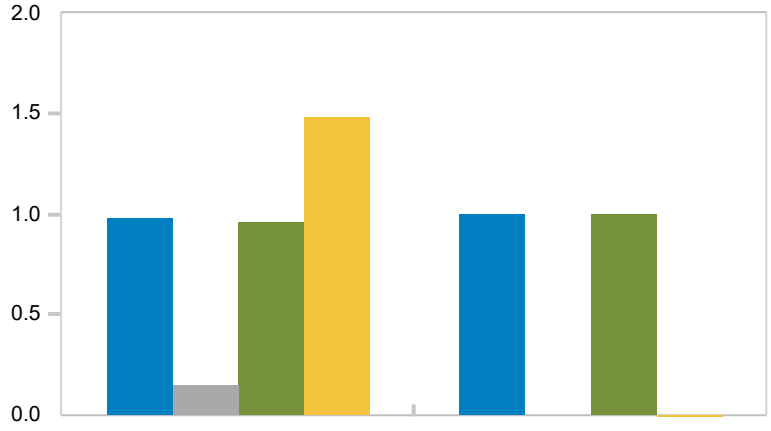
	Inverness Balanced	Inverness Balanced Policy
Alpha	-1.11	0.00
Beta	1.22	1.00
Sharpe Ratio	0.96	1.13
Treynor Ratio	0.04	0.05

Benchmark Relative Historical Statistics 3 Years Ending September 30, 2019



	Inverness Balanced	Inverness Balanced Policy
Actual Correlation	0.99	1.00
Information Ratio	0.28	N/A
R-Squared	0.99	1.00
Tracking Error	1.62	0.00

Benchmark Relative Historical Statistics 5 Years Ending September 30, 2019



	Inverness Balanced	Inverness Balanced Policy
Actual Correlation	0.98	1.00
Information Ratio	0.15	N/A
R-Squared	0.96	1.00
Tracking Error	1.48	0.00

Benchmark: Inverness Balanced Policy

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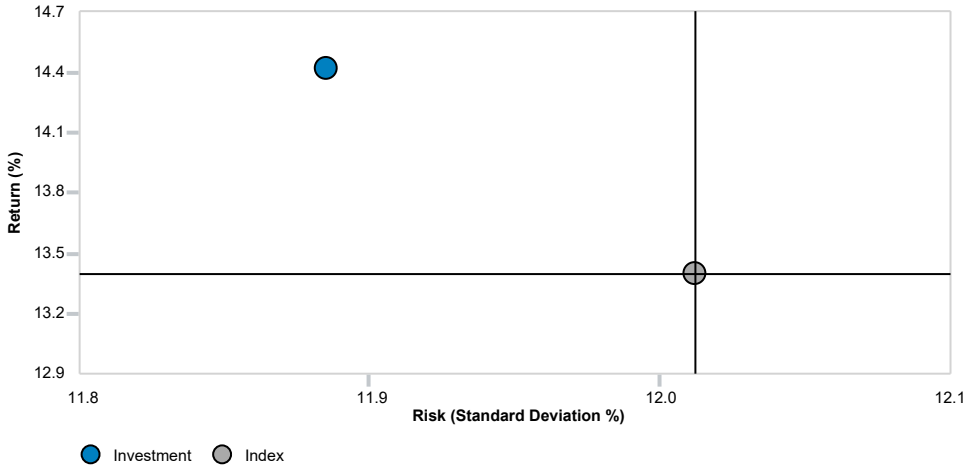
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	14.42	11.89	1.07	99.46	11	90.32	1
Index	13.39	12.01	0.98	100.00	10	100.00	2

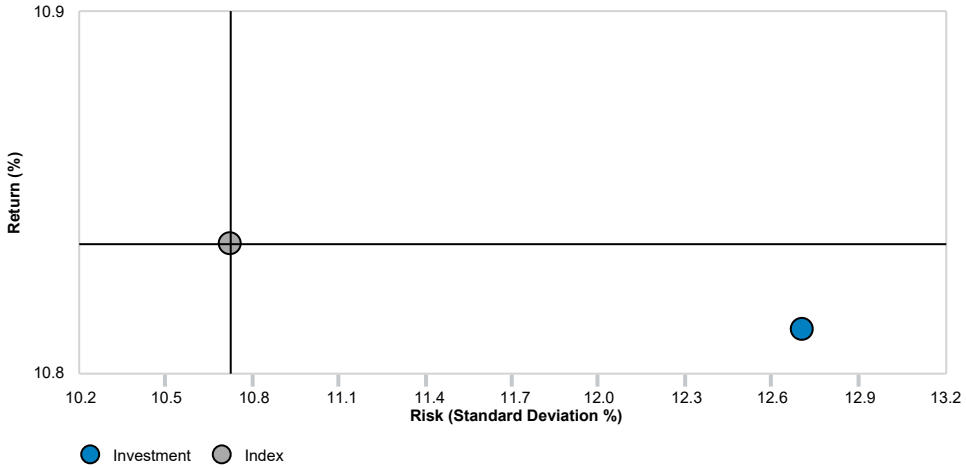
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	10.81	12.71	0.81	106.51	16	118.42	4
Index	10.84	10.72	0.94	100.00	17	100.00	3

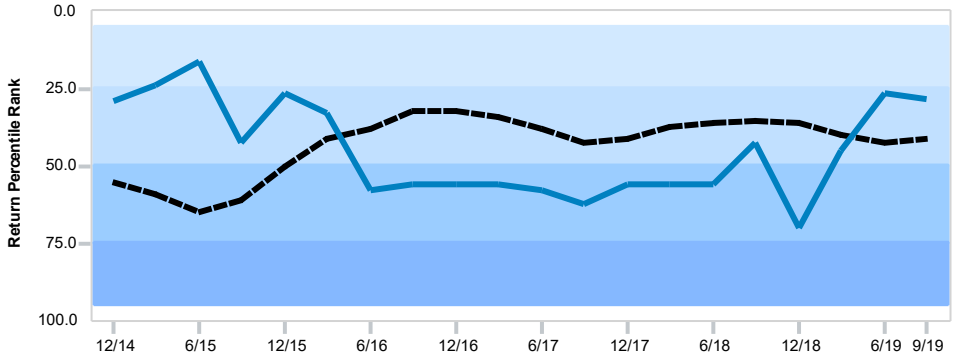
Risk and Return 3 Years



Risk and Return 5 Years

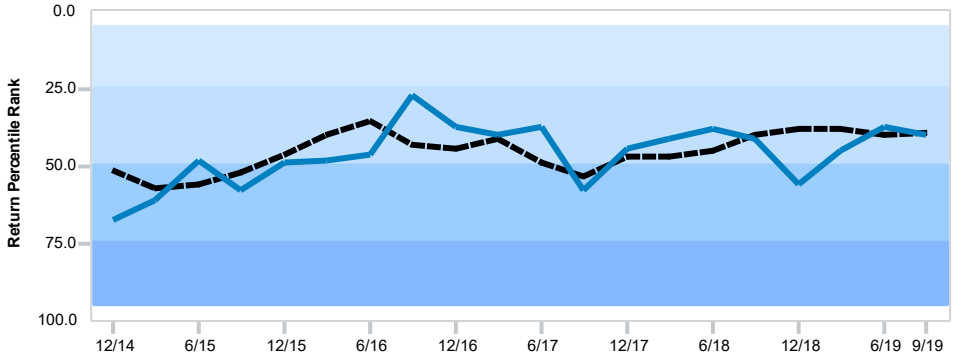


3 Year Rolling Percentile Rank IM U.S. Large Cap Equity (SA+CF)



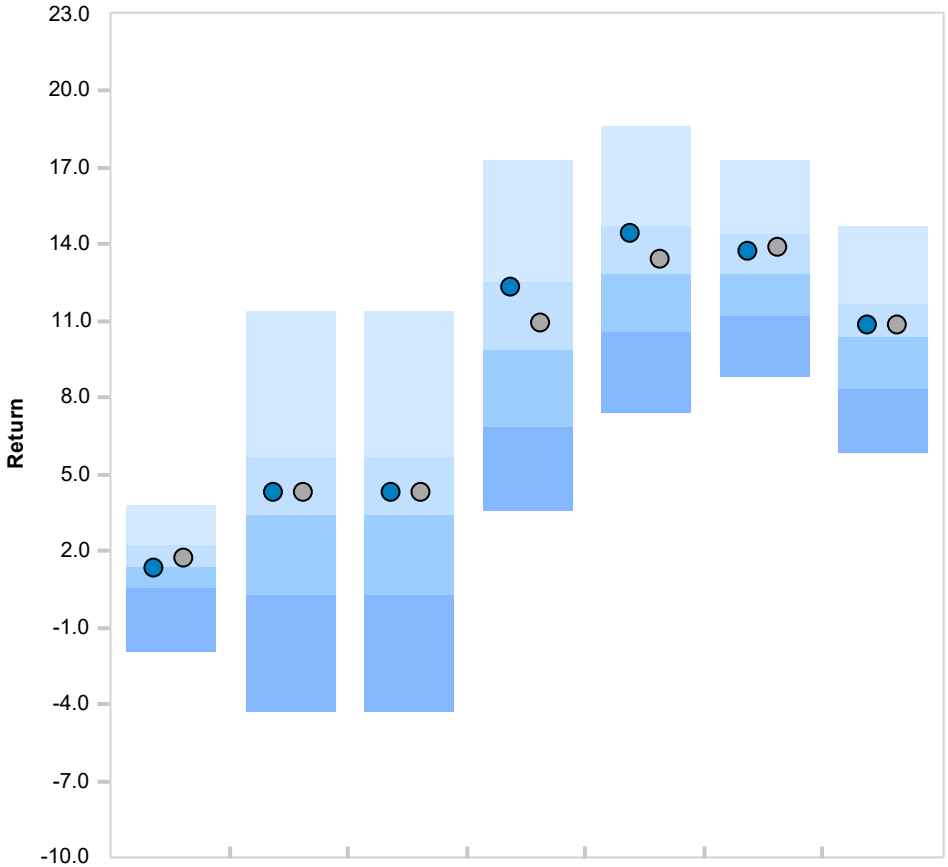
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	2 (10%)	8 (40%)	10 (50%)	0 (0%)
Index	20	0 (0%)	16 (80%)	4 (20%)	0 (0%)

5 Year Rolling Percentile Rank IM U.S. Large Cap Equity (SA+CF)



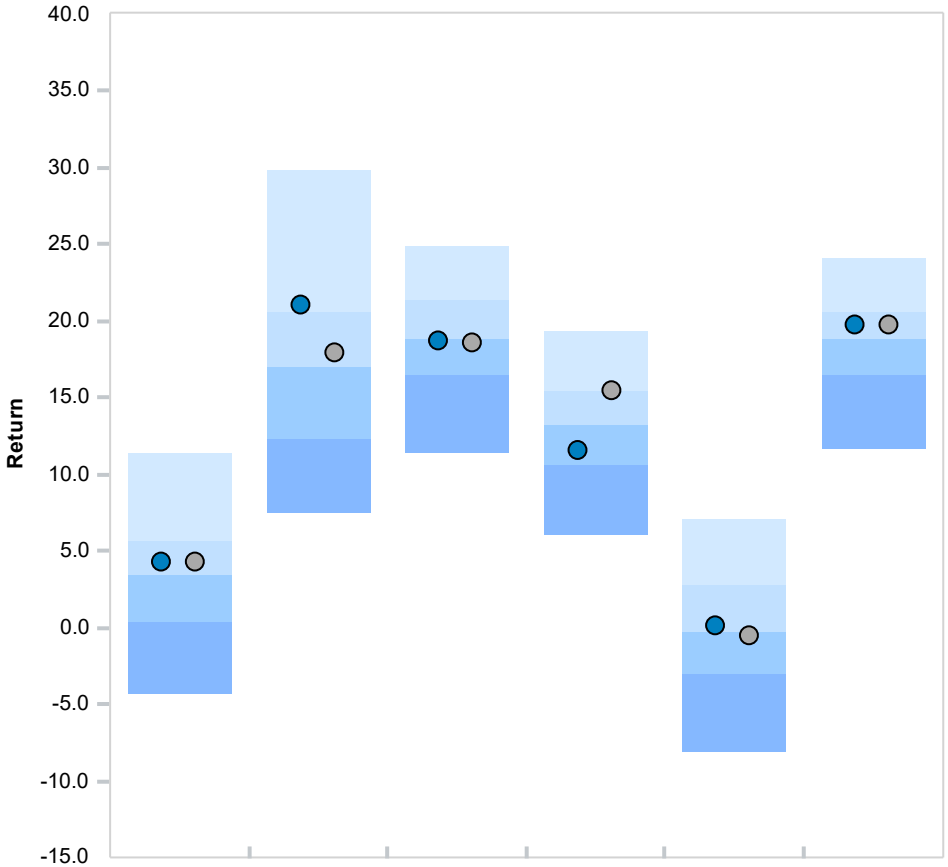
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	15 (75%)	5 (25%)	0 (0%)
Index	20	0 (0%)	15 (75%)	5 (25%)	0 (0%)

Peer Group Analysis - IM U.S. Large Cap Equity (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	1.31 (54)	4.26 (38)	4.26 (38)	12.34 (27)	14.42 (28)	13.68 (37)	10.81 (40)
Index	1.70 (39)	4.25 (39)	4.25 (39)	10.87 (38)	13.39 (41)	13.90 (33)	10.84 (39)
Median	1.42	3.42	3.42	9.87	12.84	12.88	10.32

Peer Group Analysis - IM U.S. Large Cap Equity (SA+CF)

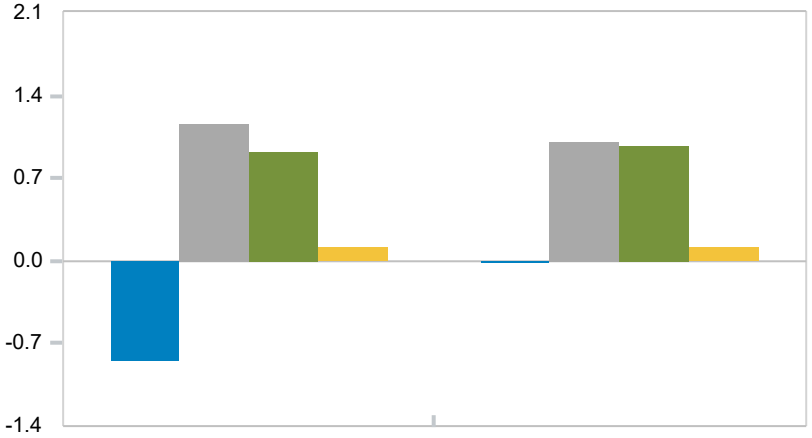


	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014
Investment	4.26 (38)	21.05 (24)	18.70 (54)	11.47 (68)	0.06 (45)	19.67 (39)
Index	4.25 (39)	17.91 (40)	18.61 (55)	15.43 (24)	-0.61 (57)	19.73 (37)
Median	3.42	17.02	18.85	13.24	-0.33	18.78

Comparative Performance

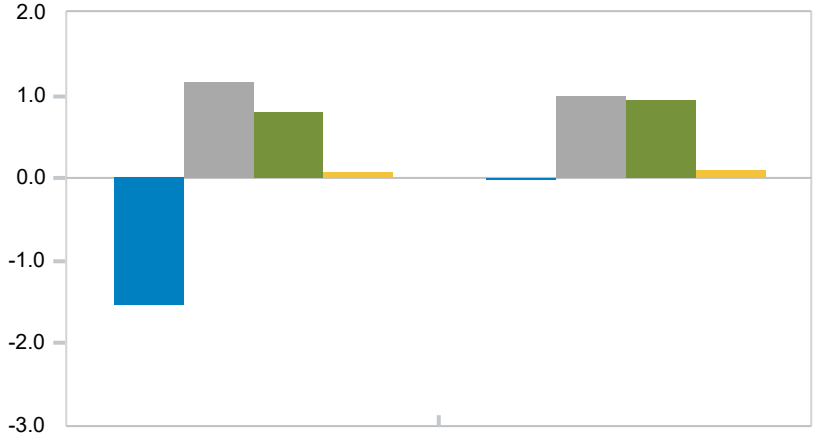
	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	6.08 (11)	15.84 (18)	-16.26 (85)	7.88 (29)	4.17 (26)	0.46 (32)
Index	4.30 (47)	13.65 (44)	-13.52 (42)	7.71 (34)	3.43 (41)	-0.76 (55)
Median	4.22	13.29	-13.94	7.11	3.00	-0.70

Risk / Reward Historical Statistics 3 Years Ending September 30, 2019



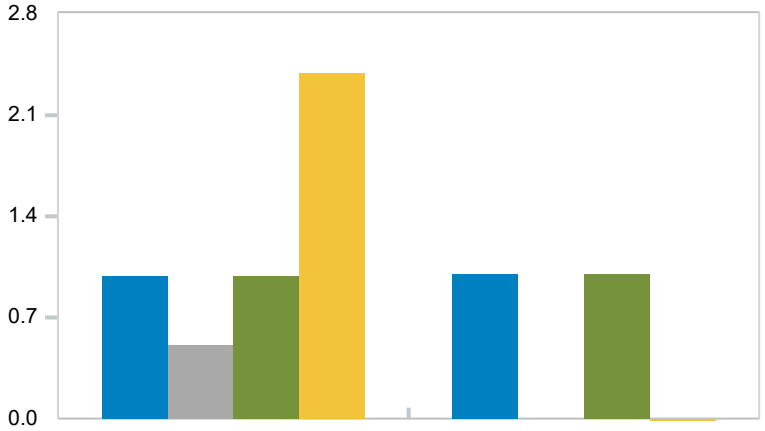
	Inverness Equity	S&P 500 Index
Alpha	-0.85	0.00
Beta	1.15	1.00
Sharpe Ratio	0.93	0.98
Treynor Ratio	0.11	0.12

Risk / Reward Historical Statistics 5 Years Ending September 30, 2019



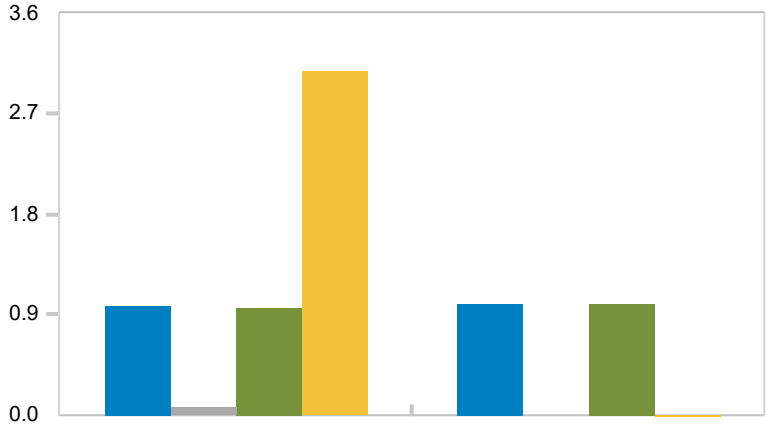
	Inverness Equity	S&P 500 Index
Alpha	-1.54	0.00
Beta	1.16	1.00
Sharpe Ratio	0.81	0.94
Treynor Ratio	0.09	0.10

Benchmark Relative Historical Statistics 3 Years Ending September 30, 2019



	Inverness Equity	S&P 500 Index
Actual Correlation	0.99	1.00
Information Ratio	0.51	N/A
R-Squared	0.99	1.00
Tracking Error	2.38	0.00

Benchmark Relative Historical Statistics 5 Years Ending September 30, 2019



	Inverness Equity	S&P 500 Index
Actual Correlation	0.98	1.00
Information Ratio	0.07	N/A
R-Squared	0.96	1.00
Tracking Error	3.09	0.00

Benchmark: S&P 500 Index

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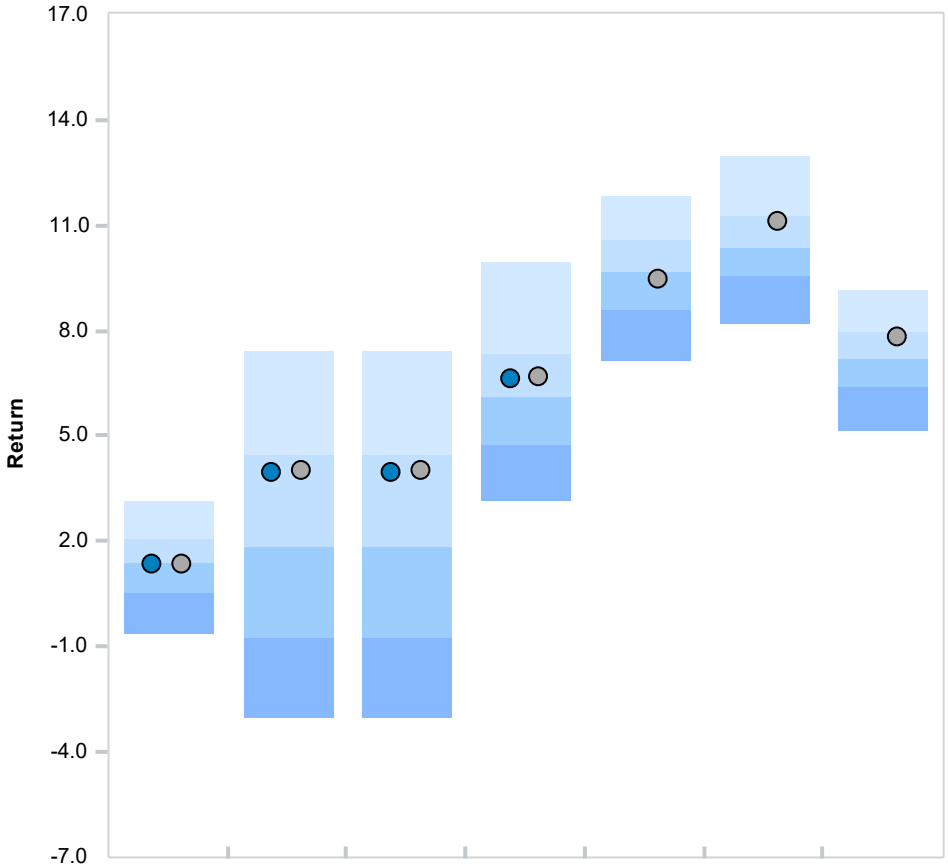
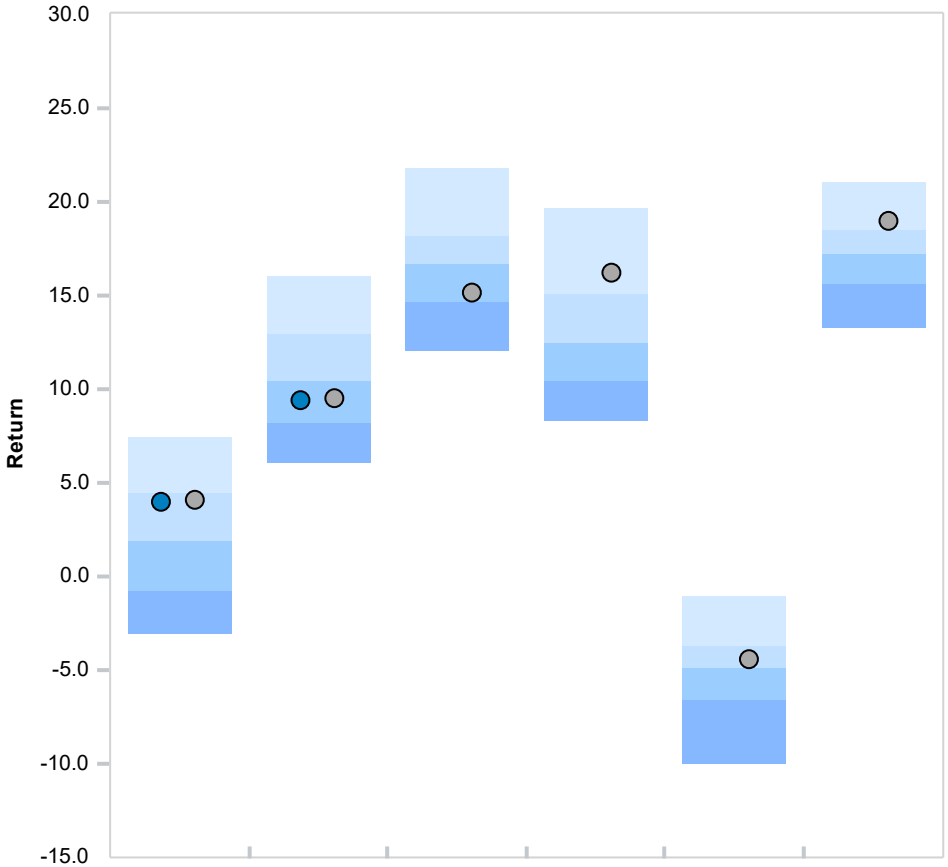
Peer Group Analysis - IM U.S. Large Cap Value Equity (MF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	1.34 (54)	3.95 (30)	3.95 (30)	6.63 (41)	N/A	N/A	N/A
Index	1.36 (53)	4.00 (30)	4.00 (30)	6.69 (39)	9.43 (56)	11.08 (30)	7.79 (32)
Median	1.41	1.87	1.87	6.12	9.67	10.35	7.17

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



	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014
Investment	3.95 (30)	9.38 (61)	N/A	N/A	N/A	N/A
Index	4.00 (30)	9.45 (60)	15.12 (72)	16.19 (18)	-4.42 (41)	18.89 (19)
Median	1.87	10.42	16.75	12.50	-4.90	17.21

Comparative Performance

	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	3.84 (40)	11.86 (43)	-11.69 (29)	5.69 (57)	1.15 (60)	-2.84 (58)
Index	3.84 (39)	11.93 (40)	-11.72 (29)	5.70 (57)	1.18 (59)	-2.83 (58)
Median	3.49	11.58	-12.92	5.95	1.38	-2.59

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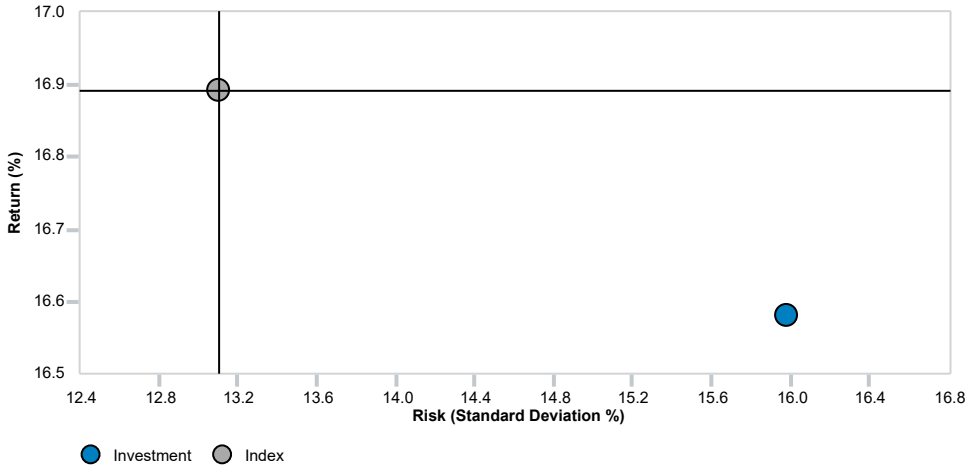
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	16.58	15.98	0.95	105.61	9	112.73	3
Index	16.89	13.11	1.15	100.00	11	100.00	1

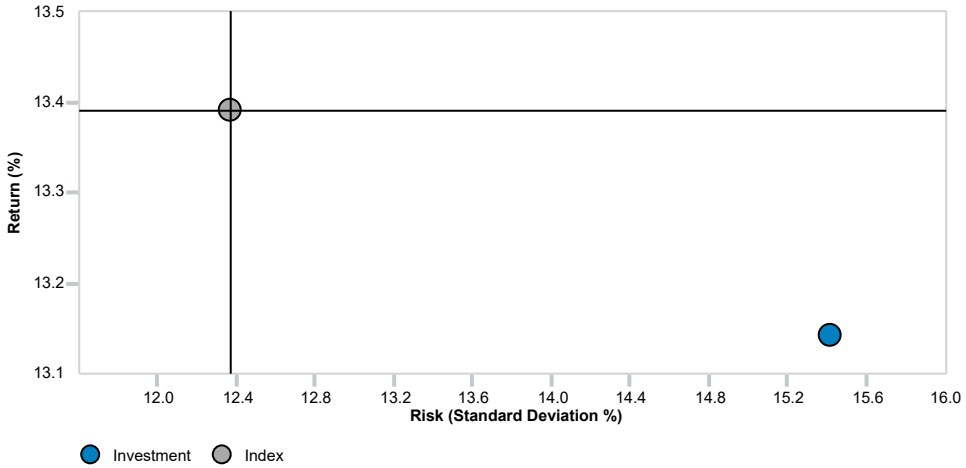
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	13.14	15.42	0.83	104.84	14	115.80	6
Index	13.39	12.37	1.02	100.00	18	100.00	2

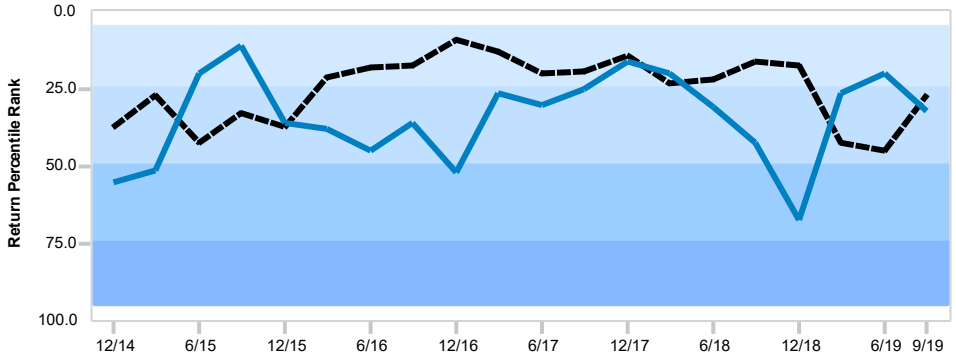
Risk and Return 3 Years



Risk and Return 5 Years

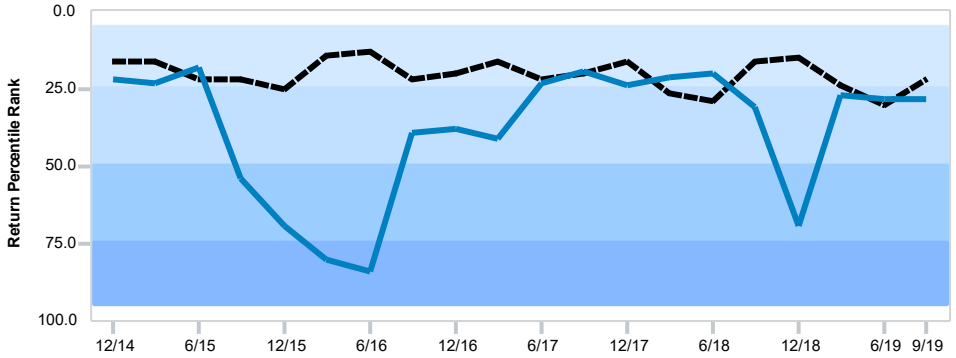


3 Year Rolling Percentile Rank IM U.S. Large Cap Growth Equity (MF)



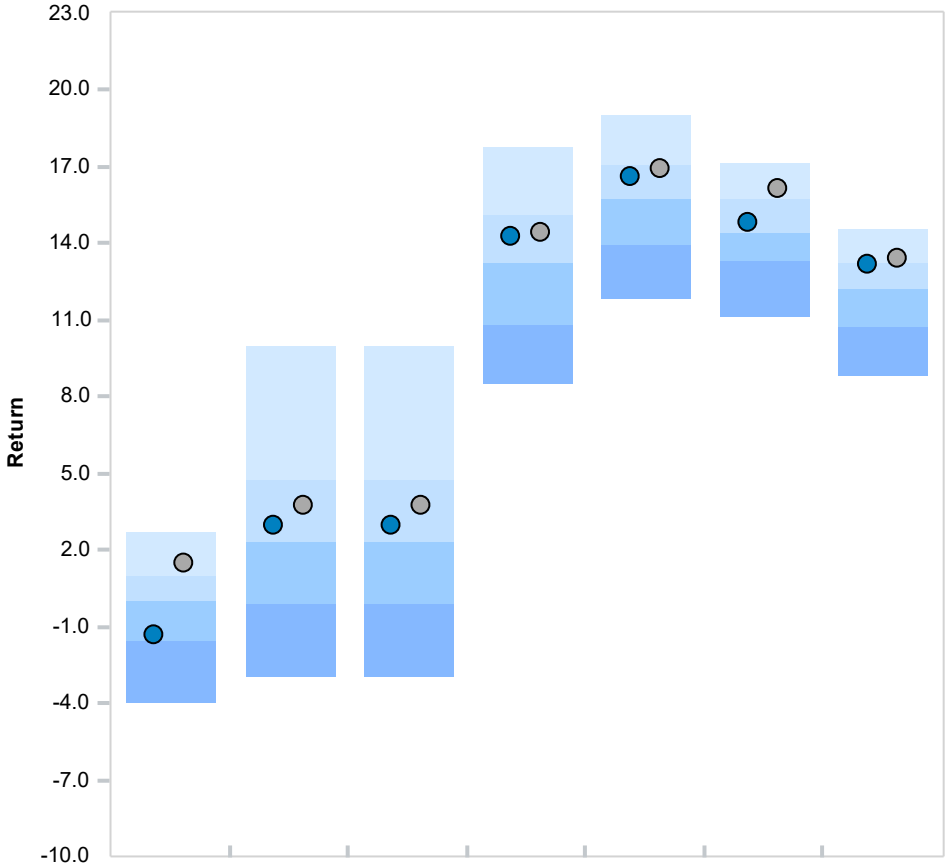
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	6 (30%)	10 (50%)	4 (20%)	0 (0%)
Index	20	12 (60%)	8 (40%)	0 (0%)	0 (0%)

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



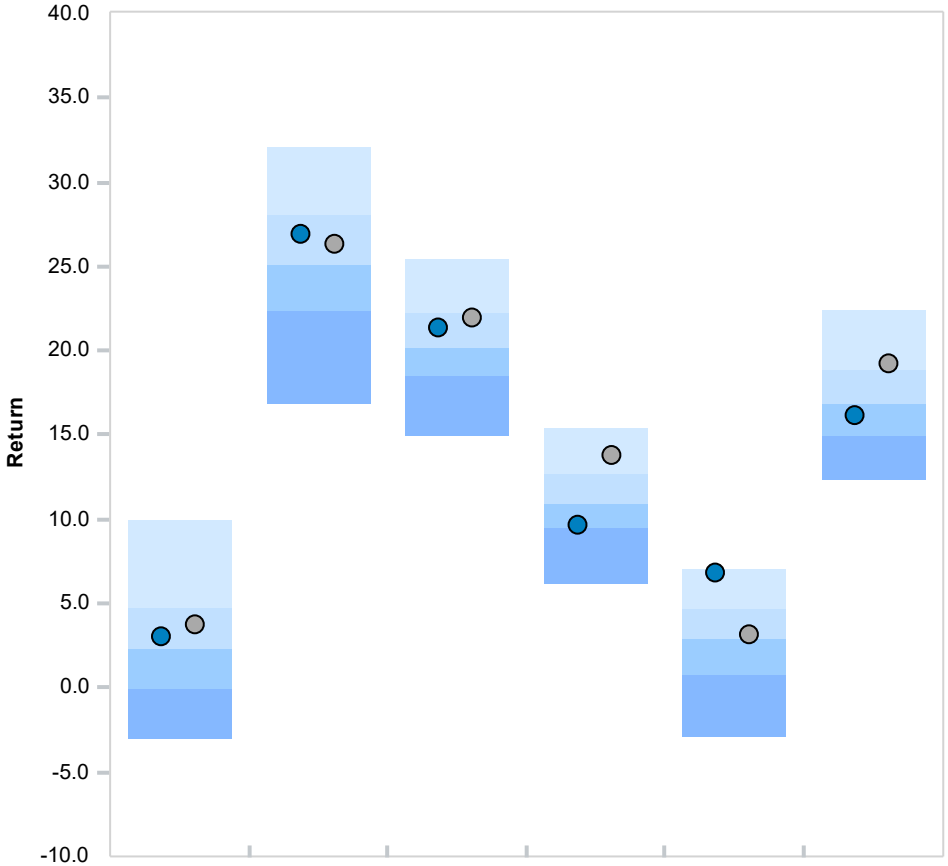
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	8 (40%)	7 (35%)	3 (15%)	2 (10%)
Index	20	17 (85%)	3 (15%)	0 (0%)	0 (0%)

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



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	-1.36 (74)	2.94 (43)	2.94 (43)	14.27 (34)	16.58 (32)	14.79 (44)	13.14 (28)
Index	1.49 (16)	3.71 (33)	3.71 (33)	14.45 (31)	16.89 (27)	16.10 (19)	13.39 (22)
Median	-0.01	2.32	2.32	13.21	15.72	14.43	12.20

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

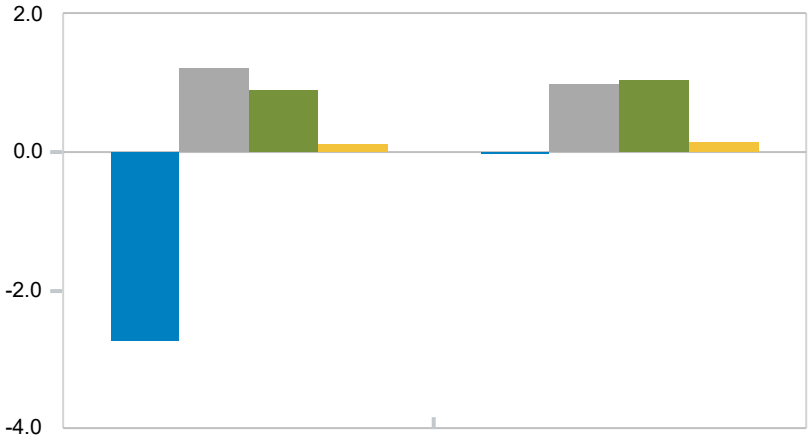


	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014
Investment	2.94 (43)	26.84 (34)	21.34 (36)	9.59 (73)	6.79 (6)	16.18 (62)
Index	3.71 (33)	26.30 (38)	21.94 (28)	13.76 (18)	3.17 (44)	19.15 (22)
Median	2.32	25.08	20.13	10.96	2.84	16.89

Comparative Performance

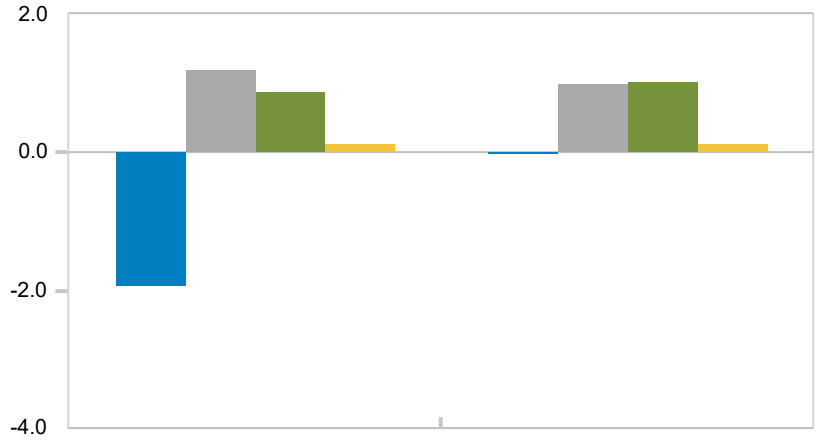
	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	5.35 (36)	22.52 (1)	-19.14 (99)	6.21 (86)	5.67 (55)	4.96 (18)
Index	4.64 (56)	16.10 (55)	-15.89 (54)	9.17 (11)	5.76 (51)	1.42 (78)
Median	4.76	16.25	-15.73	7.78	5.77	2.82

Risk / Reward Historical Statistics 3 Years Ending September 30, 2019



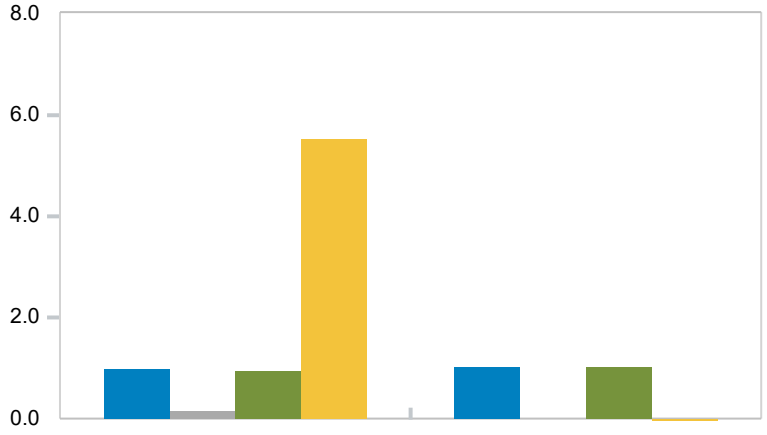
	Logan Equity	Russell 1000 Growth Index
Alpha	-2.73	0.00
Beta	1.22	1.00
Sharpe Ratio	0.90	1.06
Treynor Ratio	0.13	0.15

Risk / Reward Historical Statistics 5 Years Ending September 30, 2019



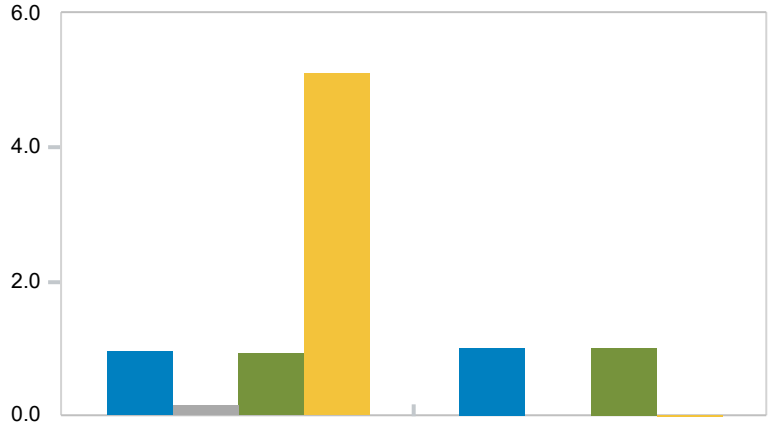
	Logan Equity	Russell 1000 Growth Index
Alpha	-1.93	0.00
Beta	1.19	1.00
Sharpe Ratio	0.86	1.02
Treynor Ratio	0.11	0.13

Benchmark Relative Historical Statistics 3 Years Ending September 30, 2019



	Logan Equity	Russell 1000 Growth Index
Actual Correlation	0.97	1.00
Information Ratio	0.17	N/A
R-Squared	0.94	1.00
Tracking Error	5.51	0.00

Benchmark Relative Historical Statistics 5 Years Ending September 30, 2019



	Logan Equity	Russell 1000 Growth Index
Actual Correlation	0.96	1.00
Information Ratio	0.14	N/A
R-Squared	0.92	1.00
Tracking Error	5.10	0.00

Benchmark: Russell 1000 Growth Index

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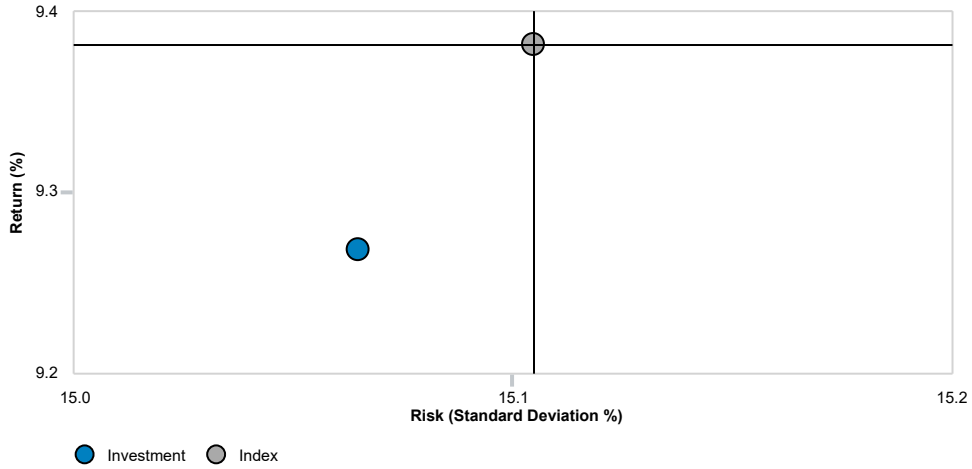
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	9.27	15.07	0.56	99.47	9	99.85	3
Index	9.38	15.10	0.57	100.00	9	100.00	3

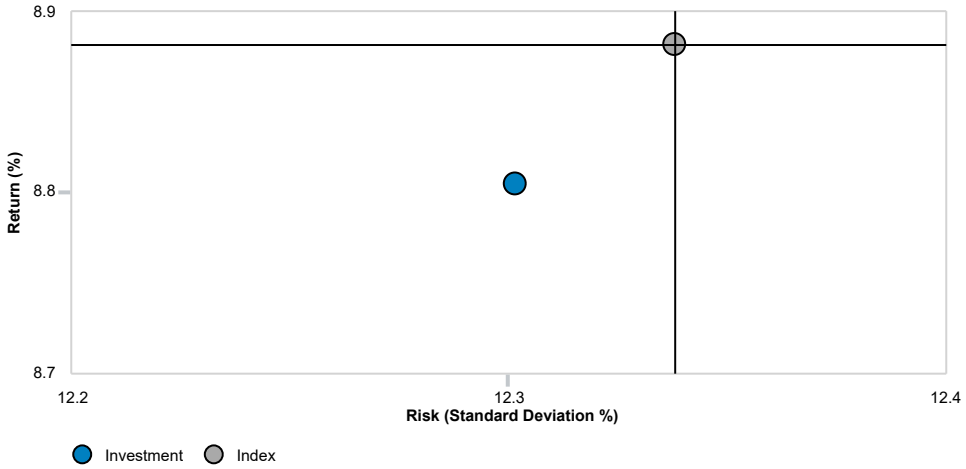
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	8.80	12.30	0.68	99.54	15	100.17	5
Index	8.88	12.34	0.68	100.00	15	100.00	5

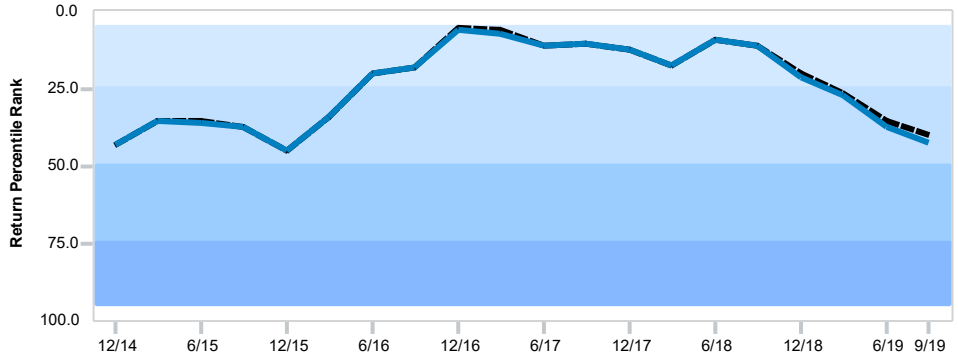
Risk and Return 3 Years



Risk and Return 5 Years

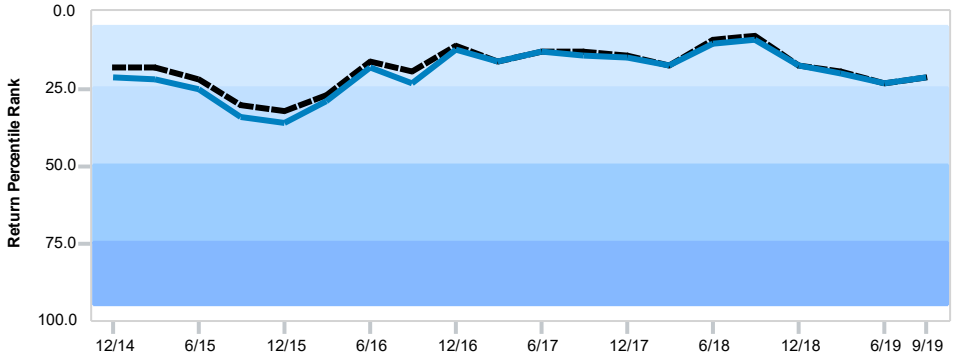


3 Year Rolling Percentile Rank IM U.S. Mid Cap Core Equity (MF)



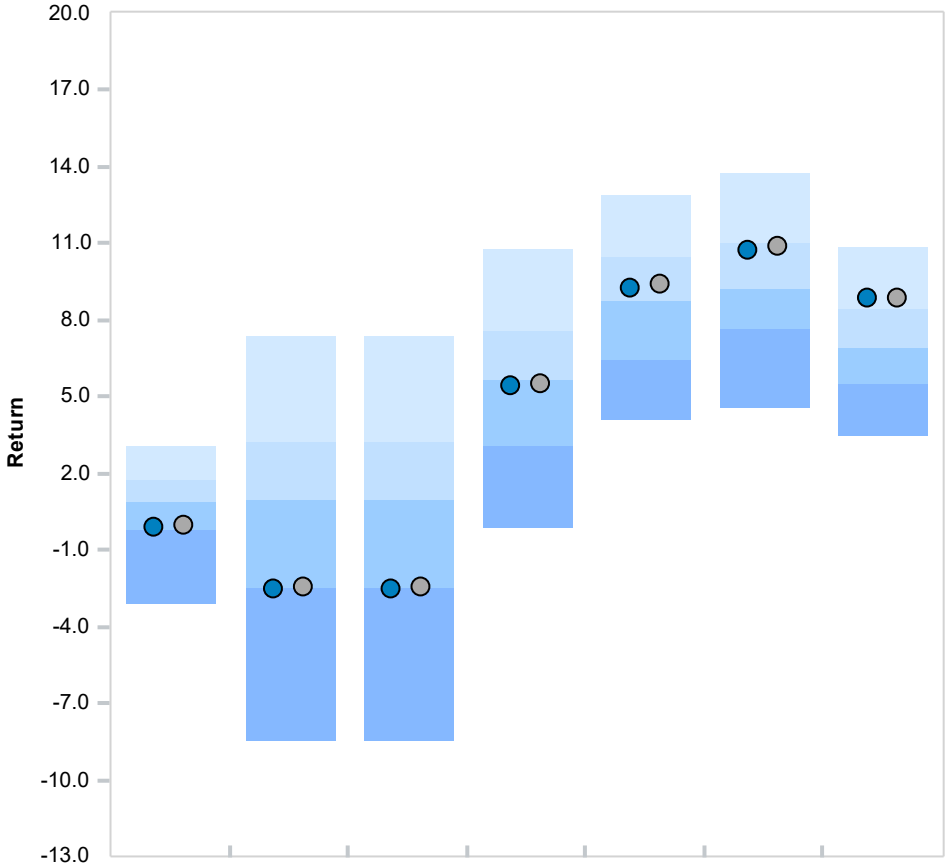
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	11 (55%)	9 (45%)	0 (0%)	0 (0%)
Index	20	11 (55%)	9 (45%)	0 (0%)	0 (0%)

5 Year Rolling Percentile Rank IM U.S. Mid Cap Core Equity (MF)



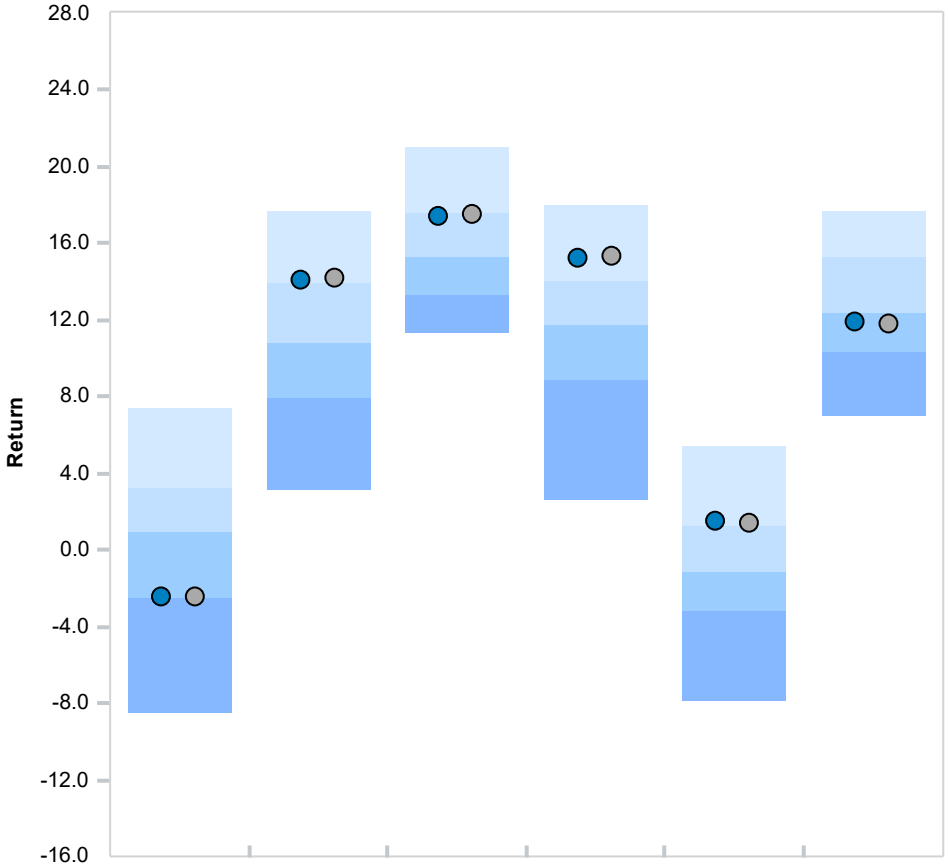
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	17 (85%)	3 (15%)	0 (0%)	0 (0%)
Index	20	17 (85%)	3 (15%)	0 (0%)	0 (0%)

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



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	-0.10 (74)	-2.53 (76)	-2.53 (76)	5.42 (54)	9.27 (42)	10.72 (31)	8.80 (21)
Index	-0.09 (74)	-2.49 (76)	-2.49 (76)	5.53 (53)	9.38 (40)	10.84 (29)	8.88 (21)
Median	0.91	0.93	0.93	5.67	8.76	9.22	6.92

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

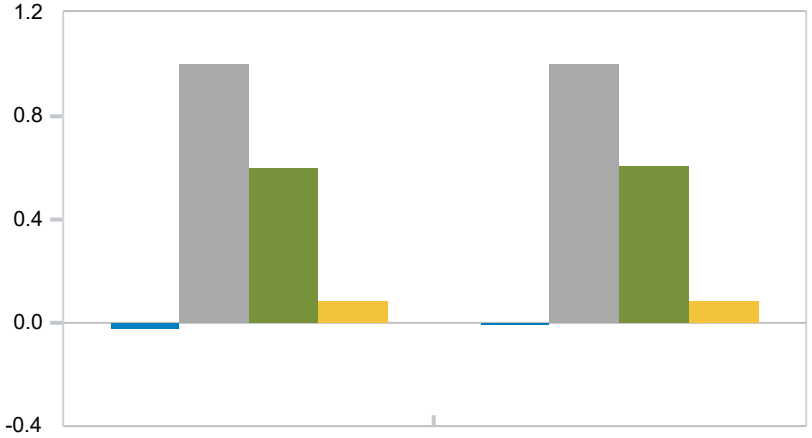


	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014
Investment	-2.53 (76)	14.03 (24)	17.38 (27)	15.20 (20)	1.46 (25)	11.89 (55)
Index	-2.49 (76)	14.21 (23)	17.52 (26)	15.33 (20)	1.40 (25)	11.82 (56)
Median	0.93	10.79	15.28	11.77	-1.16	12.42

Comparative Performance

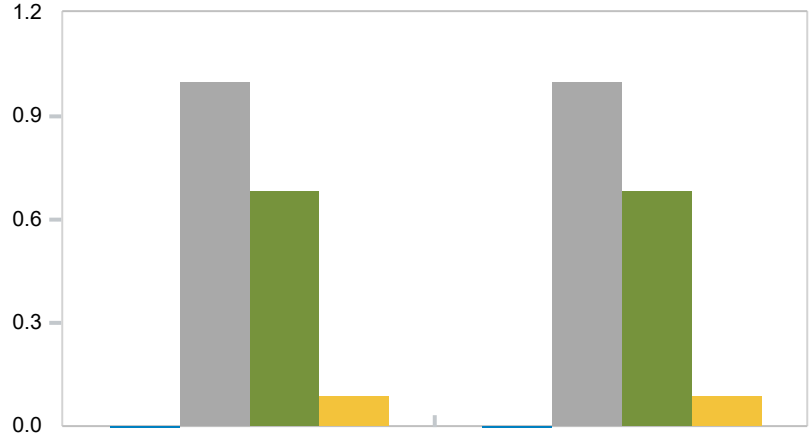
	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	3.04 (70)	14.41 (55)	-17.23 (73)	3.85 (55)	4.28 (17)	-0.89 (40)
Index	3.05 (70)	14.49 (52)	-17.28 (73)	3.86 (55)	4.29 (17)	-0.77 (36)
Median	4.11	14.55	-15.90	4.11	2.31	-1.36

Risk / Reward Historical Statistics 3 Years Ending September 30, 2019



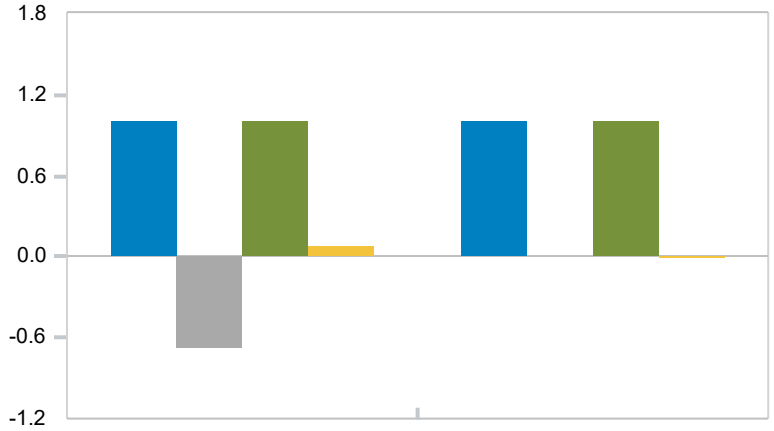
	Rhumbline S&P MidCap 400	S&P MidCap 400 Index
Alpha	-0.02	0.00
Beta	1.00	1.00
Sharpe Ratio	0.60	0.60
Treynor Ratio	0.09	0.09

Risk / Reward Historical Statistics 5 Years Ending September 30, 2019



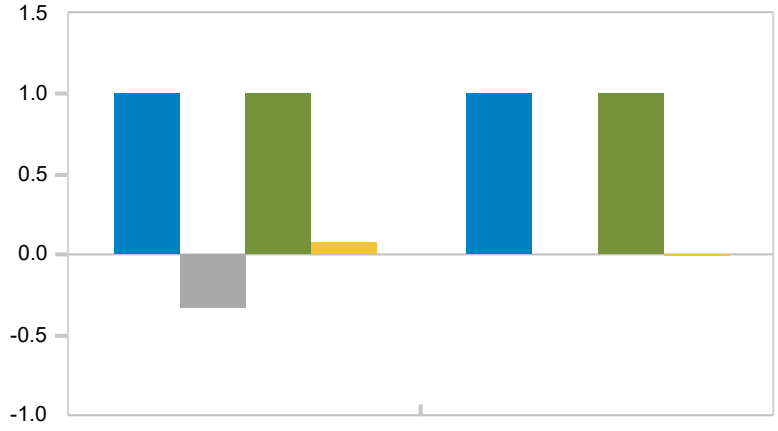
	Rhumbline S&P MidCap 400	S&P MidCap 400 Index
Alpha	0.00	0.00
Beta	1.00	1.00
Sharpe Ratio	0.68	0.68
Treynor Ratio	0.08	0.08

Benchmark Relative Historical Statistics 3 Years Ending September 30, 2019



	Rhumbline S&P MidCap 400	S&P MidCap 400 Index
Actual Correlation	1.00	1.00
Information Ratio	-0.68	N/A
R-Squared	1.00	1.00
Tracking Error	0.08	0.00

Benchmark Relative Historical Statistics 5 Years Ending September 30, 2019



	Rhumbline S&P MidCap 400	S&P MidCap 400 Index
Actual Correlation	1.00	1.00
Information Ratio	-0.33	N/A
R-Squared	1.00	1.00
Tracking Error	0.07	0.00

Benchmark: S&P MidCap 400 Index

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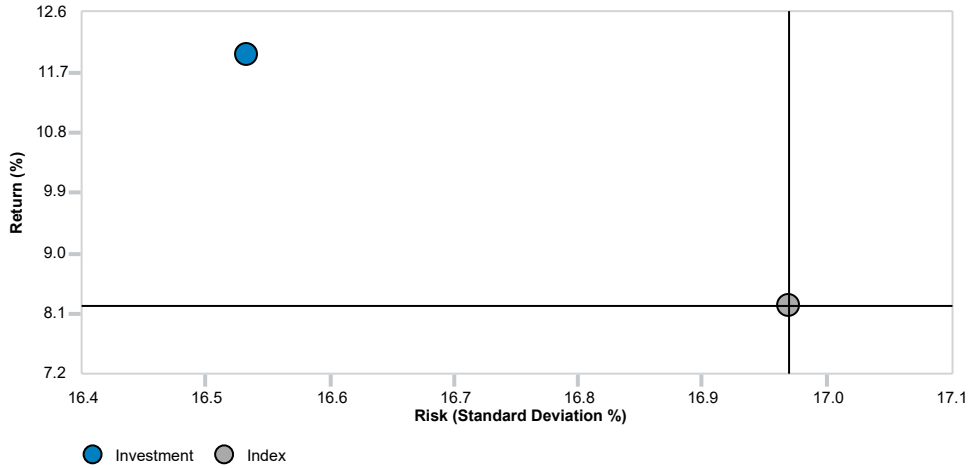
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	11.99	16.53	0.68	102.94	9	85.23	3
Index	8.23	16.97	0.46	100.00	9	100.00	3

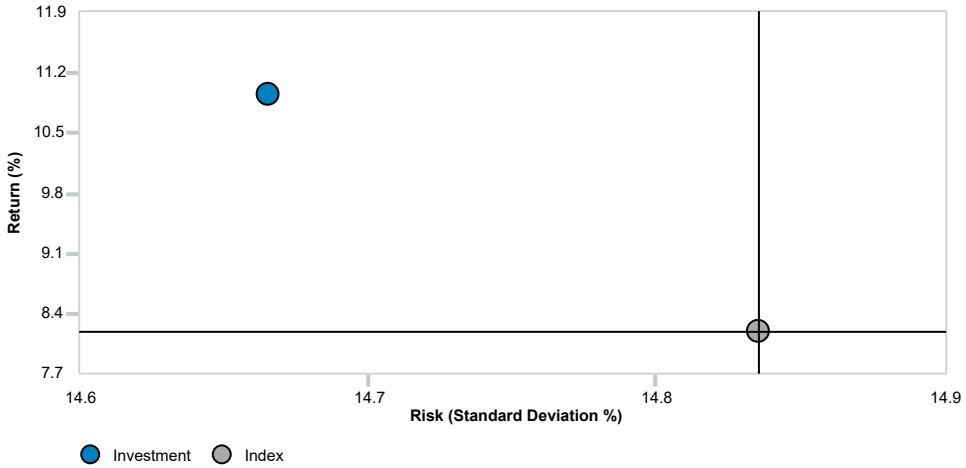
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	10.95	14.67	0.73	113.40	15	95.34	5
Index	8.19	14.84	0.55	100.00	15	100.00	5

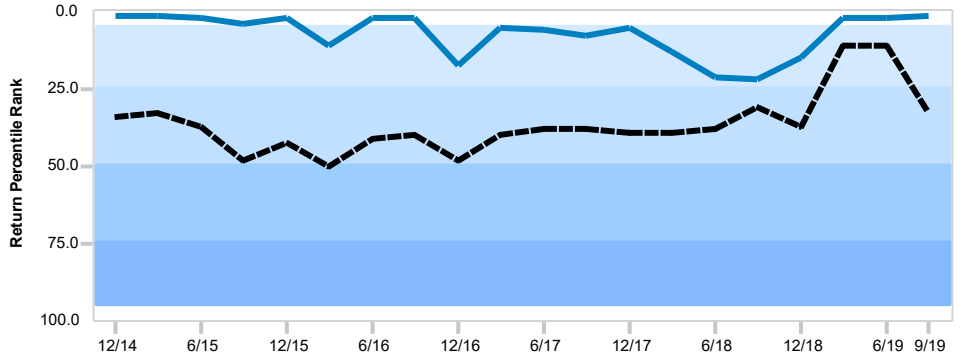
Risk and Return 3 Years



Risk and Return 5 Years

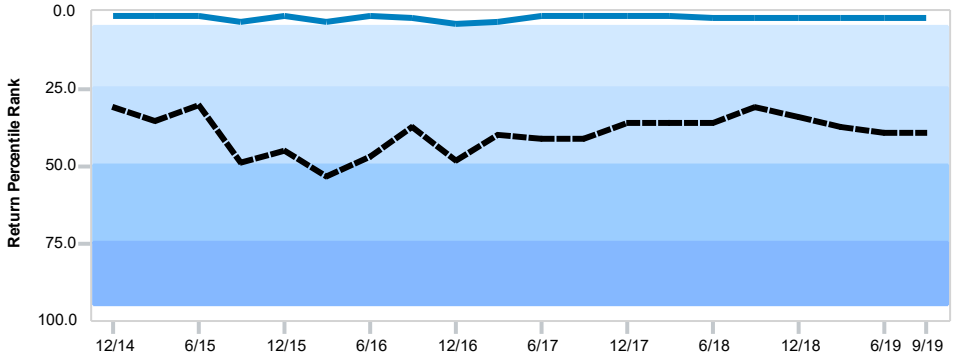


3 Year Rolling Percentile Rank IM U.S. Small Cap Core Equity (MF)



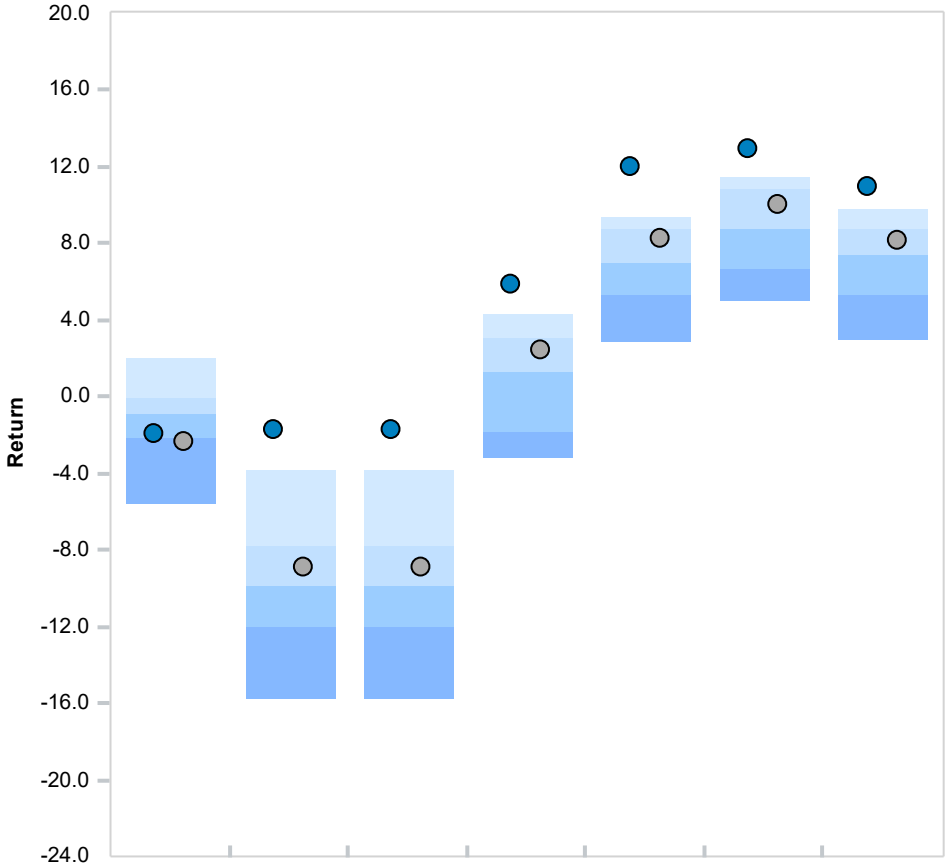
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)
Index	20	2 (10%)	18 (90%)	0 (0%)	0 (0%)

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



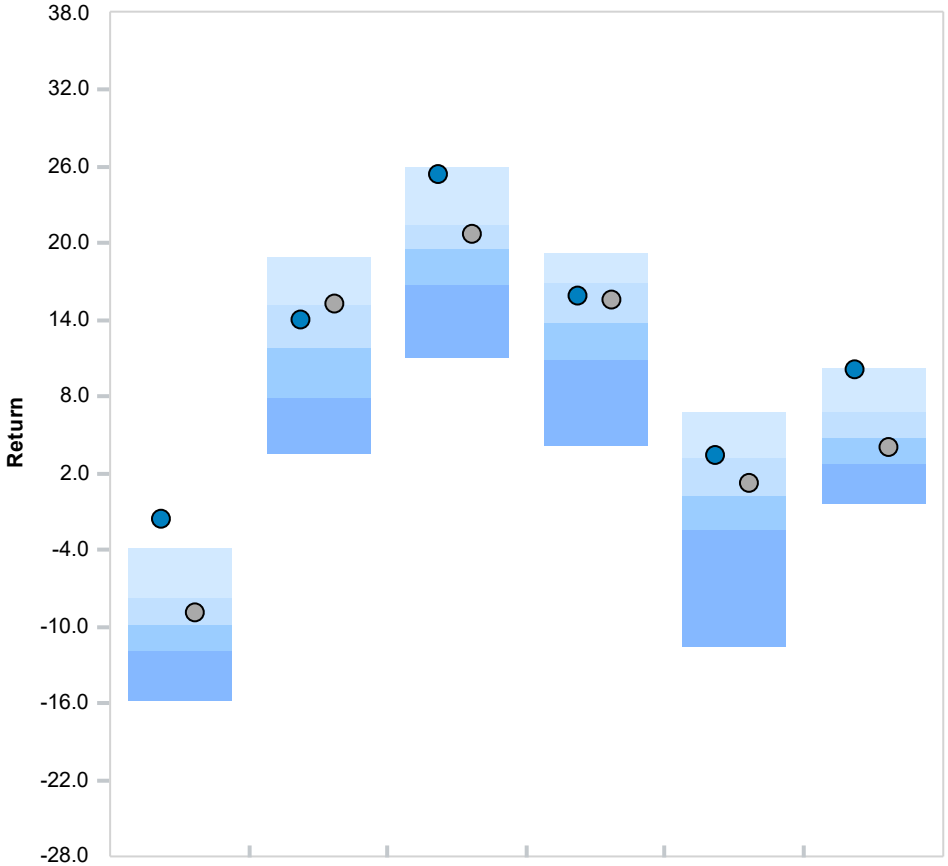
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)
Index	20	0 (0%)	19 (95%)	1 (5%)	0 (0%)

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



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	-1.96 (74)	-1.69 (3)	-1.69 (3)	5.83 (1)	11.99 (1)	12.93 (2)	10.95 (2)
Index	-2.40 (80)	-8.89 (35)	-8.89 (35)	2.47 (33)	8.23 (33)	9.99 (38)	8.19 (39)
Median	-0.92	-9.88	-9.88	1.25	7.03	8.76	7.40

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

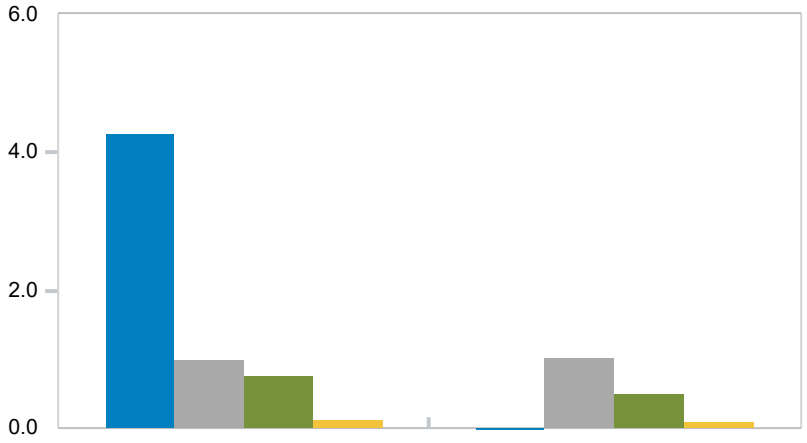


	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014
Investment	-1.69 (3)	13.92 (35)	25.41 (10)	15.81 (32)	3.35 (24)	10.15 (6)
Index	-8.89 (35)	15.24 (25)	20.74 (33)	15.47 (35)	1.25 (41)	3.93 (65)
Median	-9.88	11.79	19.59	13.84	0.21	4.81

Comparative Performance

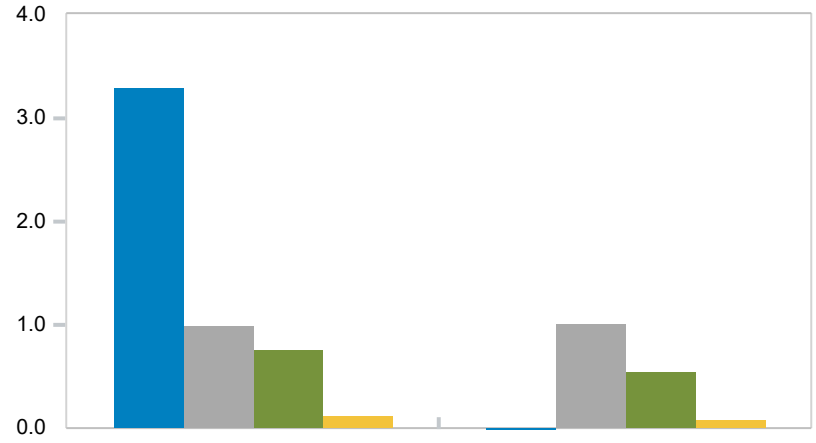
	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	4.45 (7)	17.60 (3)	-18.37 (25)	3.83 (27)	6.65 (56)	-0.93 (60)
Index	2.10 (27)	14.58 (13)	-20.20 (56)	3.58 (29)	7.75 (44)	-0.08 (30)
Median	1.61	11.56	-20.13	2.73	7.57	-0.55

Risk / Reward Historical Statistics 3 Years Ending September 30, 2019



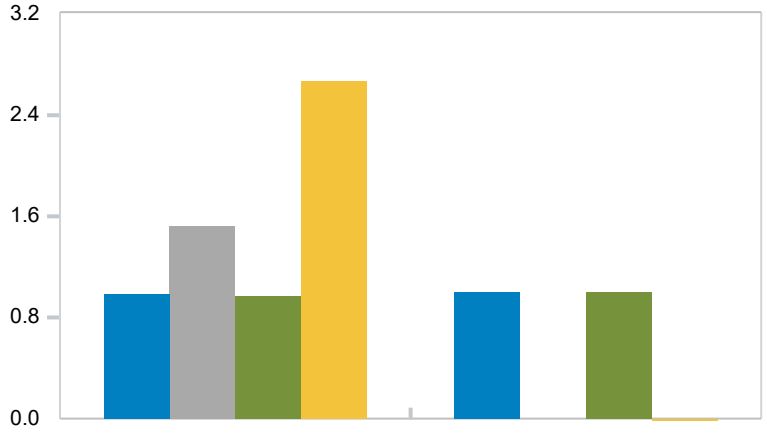
	Wellington	Russell 2000 Index
Alpha	4.28	0.00
Beta	0.98	1.00
Sharpe Ratio	0.74	0.49
Treynor Ratio	0.12	0.08

Risk / Reward Historical Statistics 5 Years Ending September 30, 2019



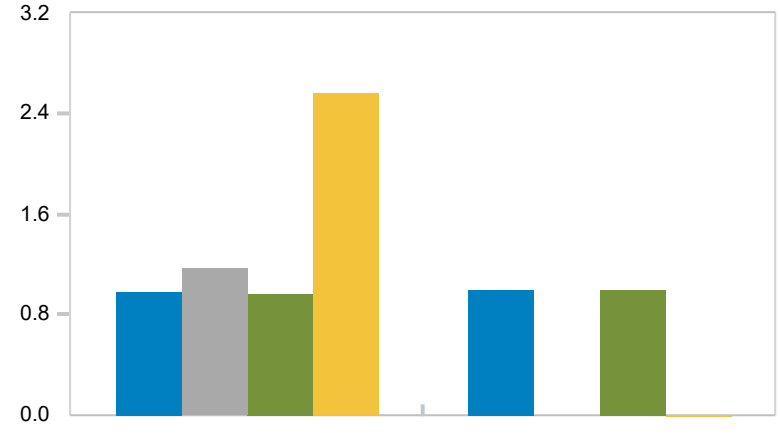
	Wellington	Russell 2000 Index
Alpha	3.28	0.00
Beta	0.98	1.00
Sharpe Ratio	0.76	0.55
Treynor Ratio	0.11	0.08

Benchmark Relative Historical Statistics 3 Years Ending September 30, 2019



	Wellington	Russell 2000 Index
Actual Correlation	0.99	1.00
Information Ratio	1.53	N/A
R-Squared	0.97	1.00
Tracking Error	2.66	0.00

Benchmark Relative Historical Statistics 5 Years Ending September 30, 2019



	Wellington	Russell 2000 Index
Actual Correlation	0.98	1.00
Information Ratio	1.18	N/A
R-Squared	0.97	1.00
Tracking Error	2.57	0.00

Benchmark: Russell 2000 Index

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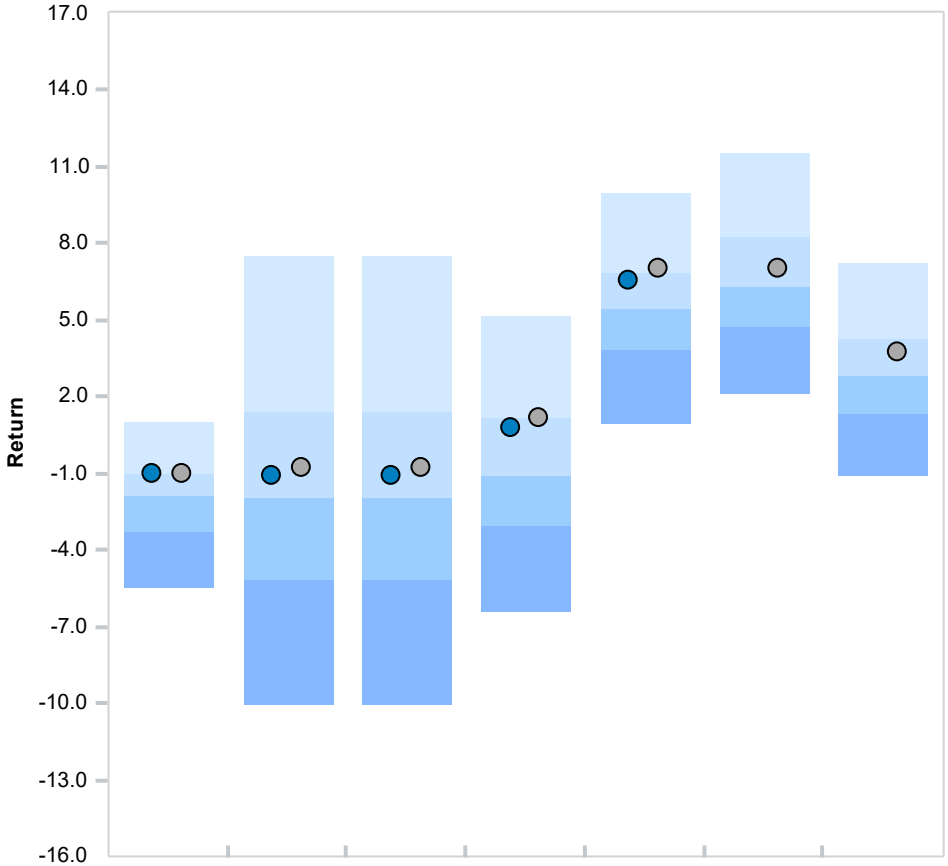
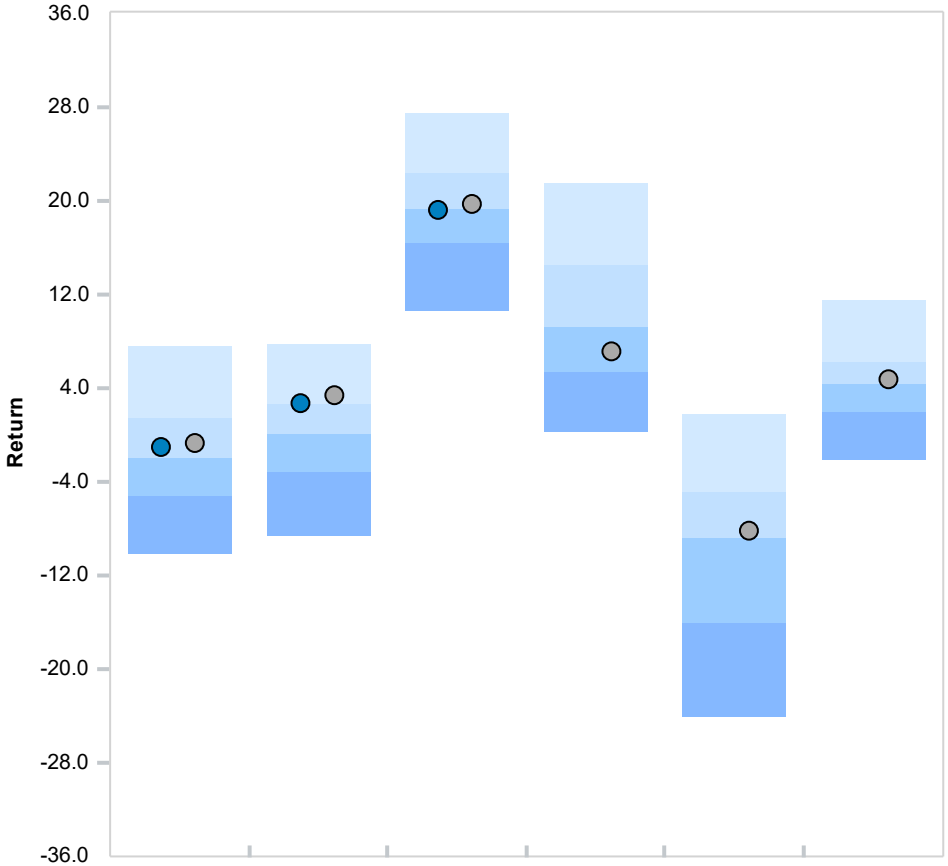
Peer Group Analysis - IM International Equity (MF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	-1.05 (27)	-1.11 (43)	-1.11 (43)	0.77 (30)	6.57 (30)	N/A	N/A
Index	-1.00 (25)	-0.82 (41)	-0.82 (41)	1.20 (25)	7.01 (24)	7.02 (40)	3.77 (32)
Median	-1.90	-1.94	-1.94	-1.10	5.44	6.35	2.81

Peer Group Analysis - IM International Equity (MF)



	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014
Investment	-1.11 (43)	2.69 (25)	19.18 (53)	N/A	N/A	N/A
Index	-0.82 (41)	3.25 (21)	19.65 (48)	7.06 (65)	-8.27 (47)	4.70 (44)
Median	-1.94	0.08	19.36	9.32	-8.75	4.26

Comparative Performance

	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	3.79 (28)	10.08 (60)	-12.52 (54)	1.36 (19)	-0.94 (18)	-1.60 (83)
Index	3.97 (25)	10.13 (59)	-12.50 (53)	1.42 (17)	-0.97 (18)	-1.41 (81)
Median	2.58	10.54	-12.22	-0.27	-3.33	-0.07

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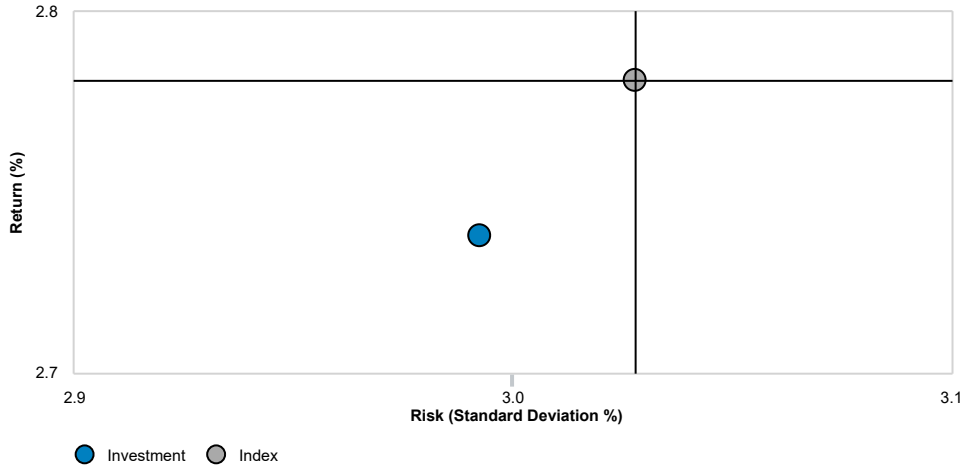
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.74	2.99	0.43	96.39	9	94.19	3
Index	2.78	3.03	0.43	100.00	9	100.00	3

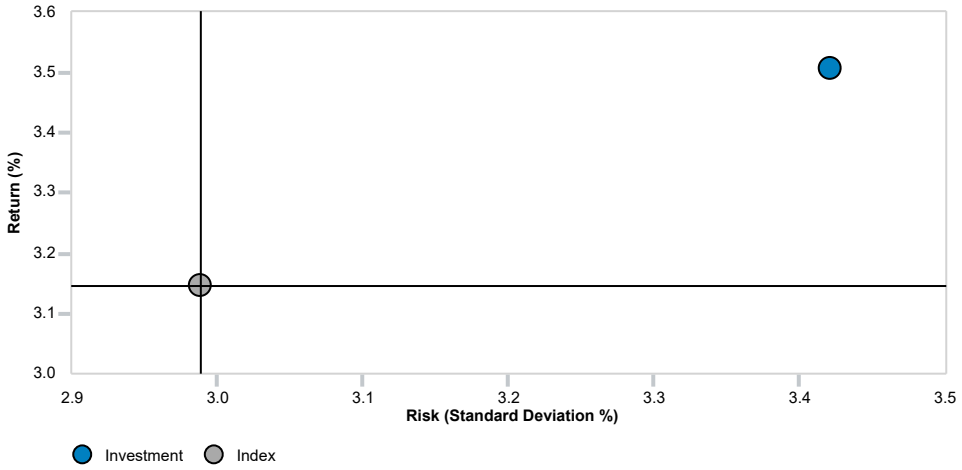
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	3.51	3.42	0.77	109.05	15	102.58	5
Index	3.14	2.99	0.76	100.00	15	100.00	5

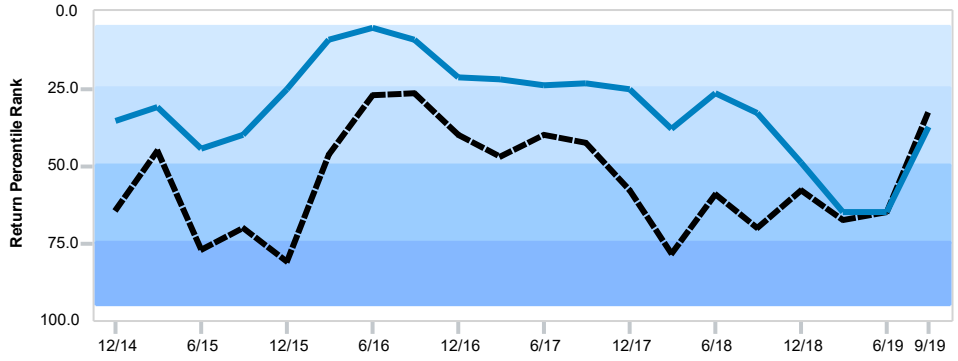
Risk and Return 3 Years



Risk and Return 5 Years

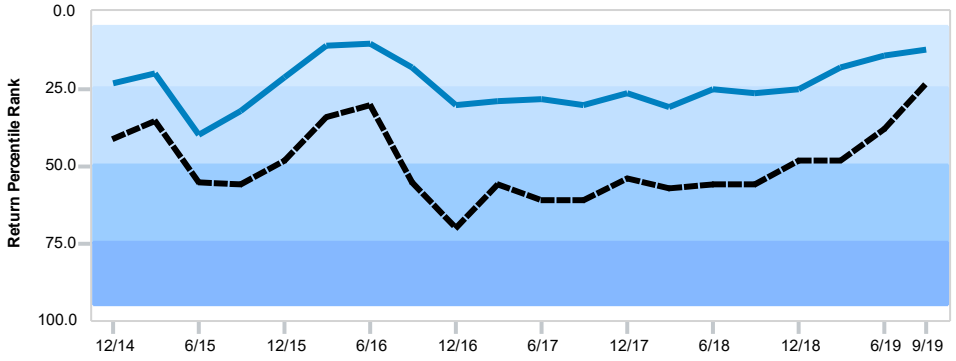


3 Year Rolling Percentile Rank IM U.S. Intermediate Duration (SA+CF)



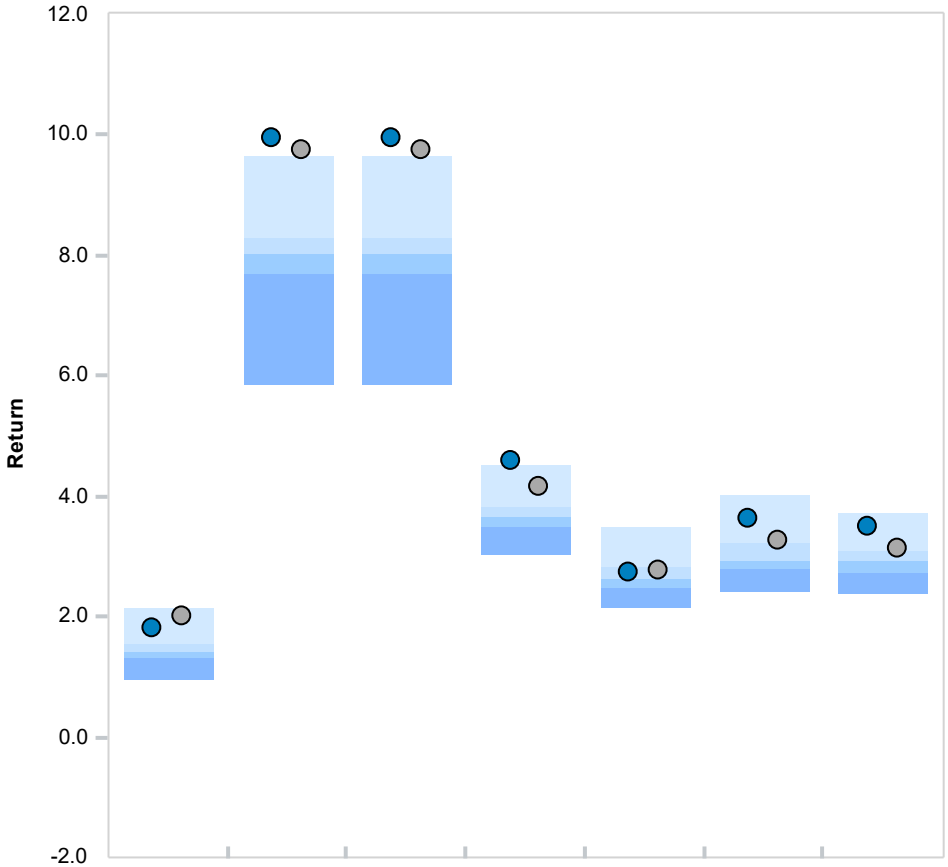
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	9 (45%)	9 (45%)	2 (10%)	0 (0%)
Index	20	0 (0%)	9 (45%)	8 (40%)	3 (15%)

5 Year Rolling Percentile Rank IM U.S. Intermediate Duration (SA+CF)



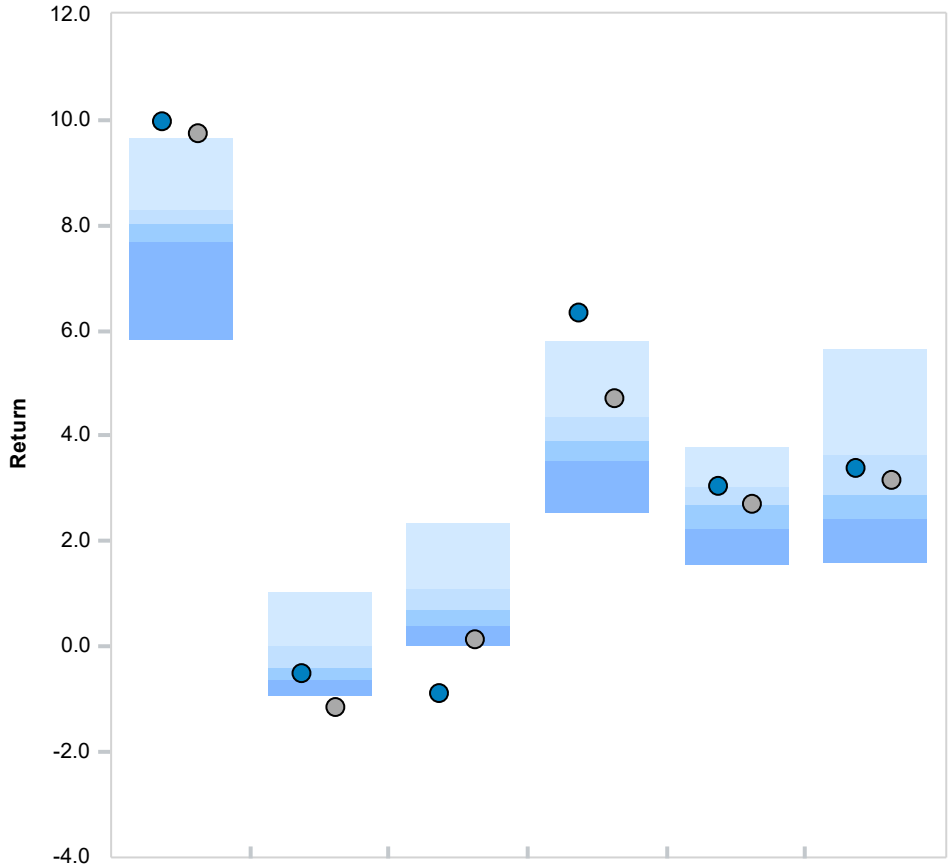
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	11 (55%)	9 (45%)	0 (0%)	0 (0%)
Index	20	1 (5%)	8 (40%)	11 (55%)	0 (0%)

Peer Group Analysis - IM U.S. Intermediate Duration (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	1.80 (8)	9.96 (5)	9.96 (5)	4.60 (5)	2.74 (37)	3.62 (11)	3.51 (12)
Index	2.00 (7)	9.74 (5)	9.74 (5)	4.14 (12)	2.78 (32)	3.25 (25)	3.14 (23)
Median	1.42	8.04	8.04	3.67	2.63	2.94	2.92

Peer Group Analysis - IM U.S. Intermediate Duration (SA+CF)

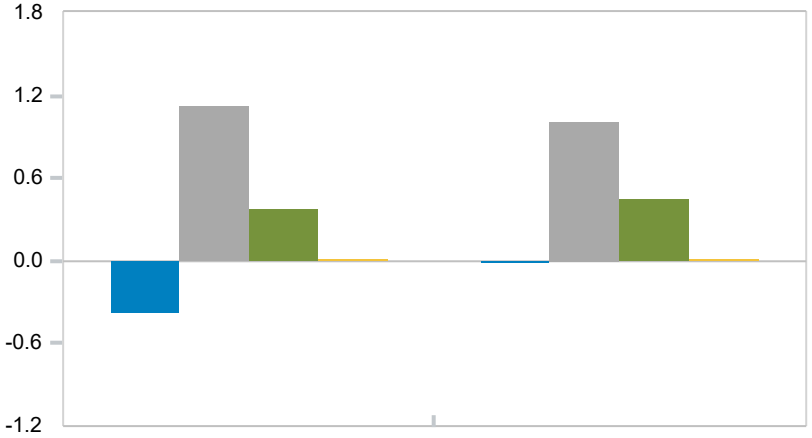


	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014
Investment	9.96 (5)	-0.50 (61)	-0.89 (100)	6.33 (4)	3.03 (26)	3.36 (30)
Index	9.74 (5)	-1.16 (97)	0.11 (93)	4.68 (17)	2.71 (49)	3.13 (38)
Median	8.04	-0.39	0.69	3.90	2.70	2.88

Comparative Performance

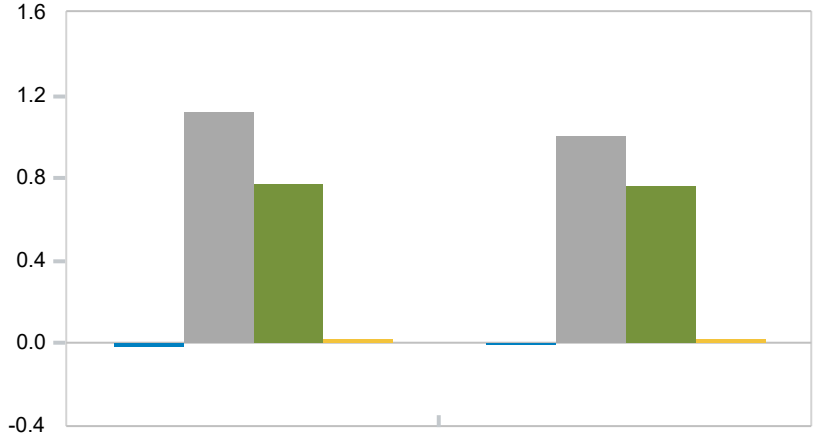
	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	3.20 (2)	3.52 (2)	1.11 (71)	0.55 (16)	-0.01 (88)	-1.19 (95)
Index	3.06 (4)	2.79 (16)	1.56 (28)	0.14 (94)	-0.16 (97)	-1.28 (97)
Median	2.51	2.45	1.38	0.37	0.12	-0.90

Risk / Reward Historical Statistics 3 Years Ending September 30, 2019



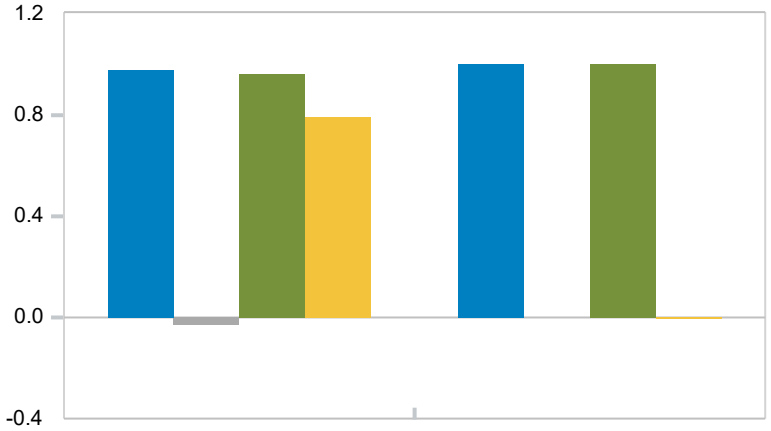
	Inverness Balanced	Inverness Fixed Income Index
Alpha	-0.38	0.00
Beta	1.13	1.00
Sharpe Ratio	0.37	0.44
Treynor Ratio	0.01	0.01

Risk / Reward Historical Statistics 5 Years Ending September 30, 2019



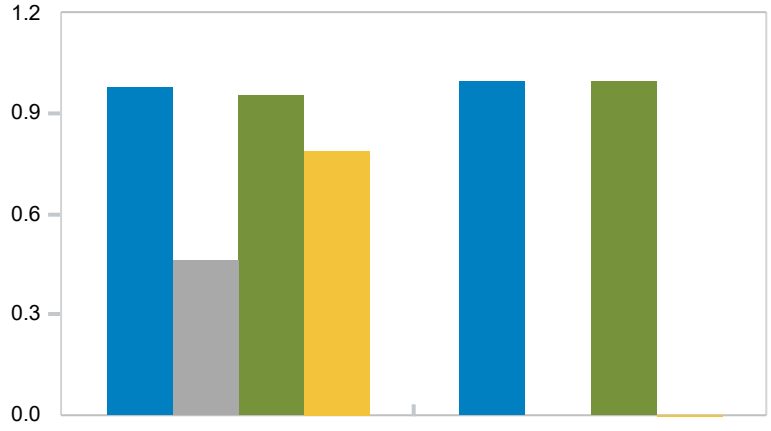
	Inverness Balanced	Inverness Fixed Income Index
Alpha	-0.01	0.00
Beta	1.12	1.00
Sharpe Ratio	0.77	0.76
Treynor Ratio	0.02	0.02

Benchmark Relative Historical Statistics 3 Years Ending September 30, 2019



	Inverness Balanced	Inverness Fixed Income Index
Actual Correlation	0.98	1.00
Information Ratio	-0.03	N/A
R-Squared	0.96	1.00
Tracking Error	0.80	0.00

Benchmark Relative Historical Statistics 5 Years Ending September 30, 2019



	Inverness Balanced	Inverness Fixed Income Index
Actual Correlation	0.98	1.00
Information Ratio	0.46	N/A
R-Squared	0.96	1.00
Tracking Error	0.79	0.00

Benchmark: Inverness Fixed Income Index

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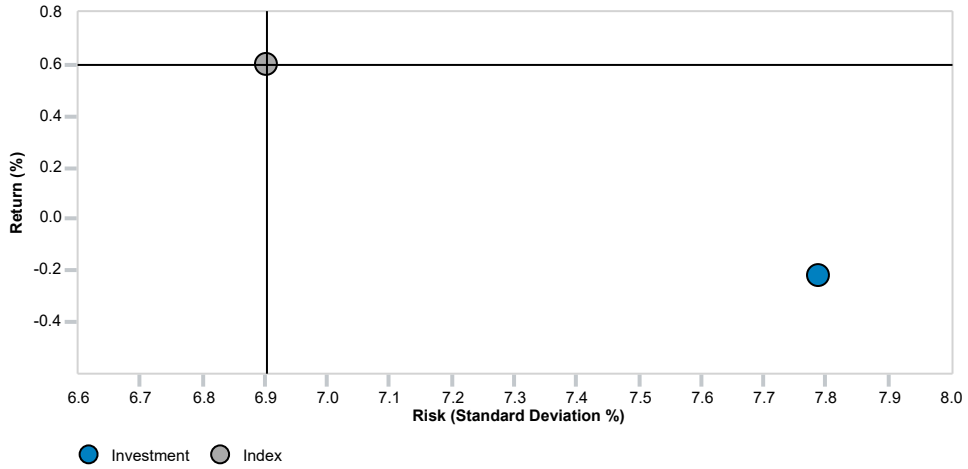
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	-0.22	7.79	-0.19	103.63	8	112.20	4
Index	0.60	6.90	-0.10	100.00	8	100.00	4

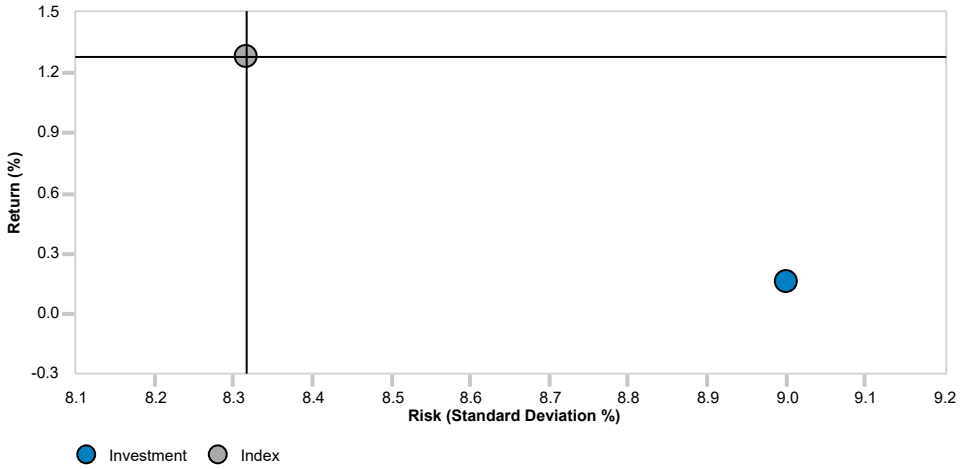
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	0.16	9.00	-0.04	99.37	12	117.74	8
Index	1.28	8.32	0.08	100.00	12	100.00	8

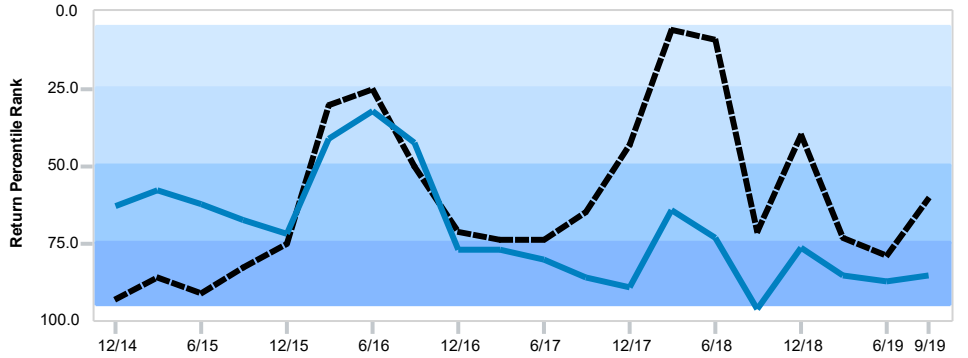
Risk and Return 3 Years



Risk and Return 5 Years

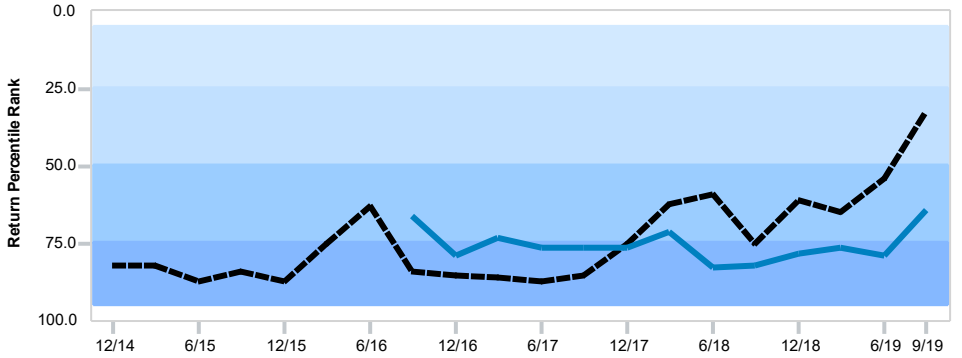


3 Year Rolling Percentile Rank IM International Fixed Income (MF)



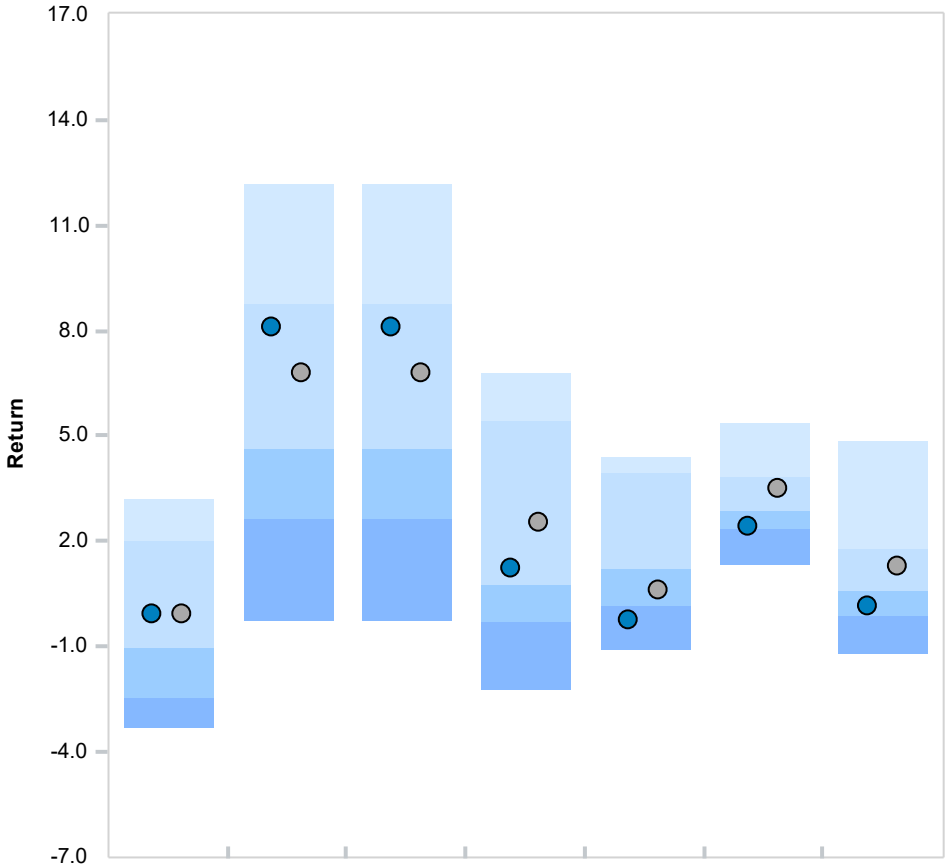
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	3 (15%)	7 (35%)	10 (50%)
Index	20	3 (15%)	4 (20%)	8 (40%)	5 (25%)

5 Year Rolling Percentile Rank IM International Fixed Income (MF)



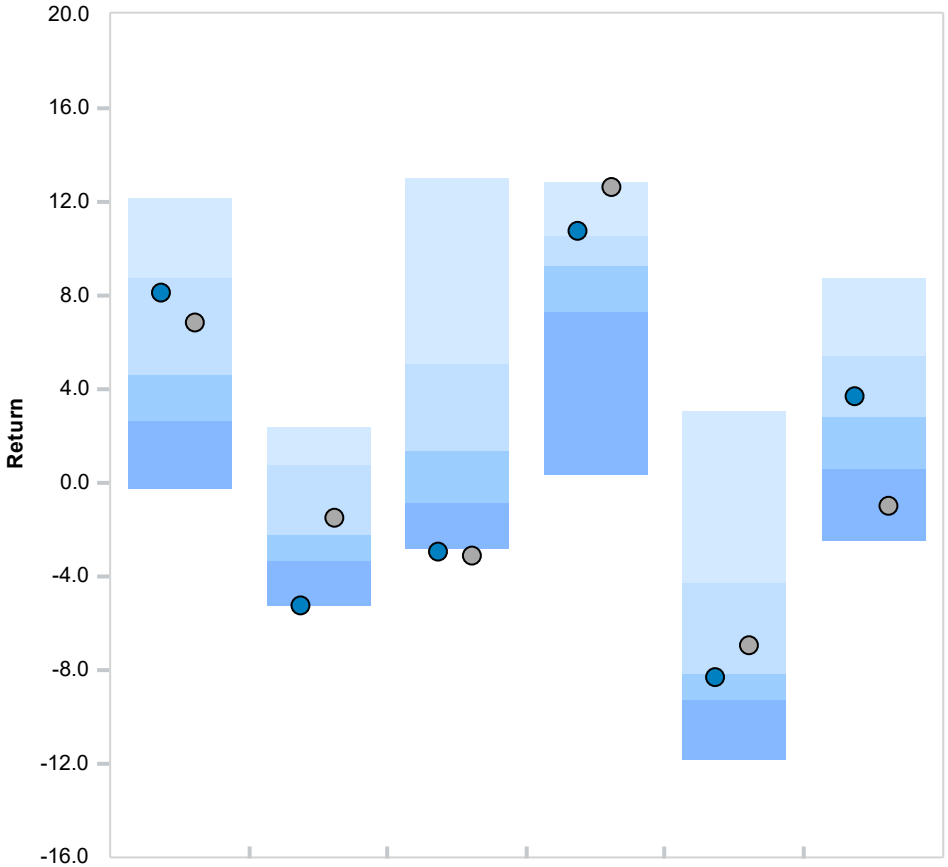
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	13	0 (0%)	0 (0%)	4 (31%)	9 (69%)
Index	20	0 (0%)	1 (5%)	9 (45%)	10 (50%)

Peer Group Analysis - IM International Fixed Income (MF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	-0.08 (36)	8.09 (33)	8.09 (33)	1.21 (41)	-0.22 (85)	2.41 (71)	0.16 (64)
Index	-0.11 (36)	6.78 (40)	6.78 (40)	2.52 (34)	0.60 (60)	3.47 (37)	1.28 (32)
Median	-1.06	4.60	4.60	0.77	1.24	2.86	0.58

Peer Group Analysis - IM International Fixed Income (MF)

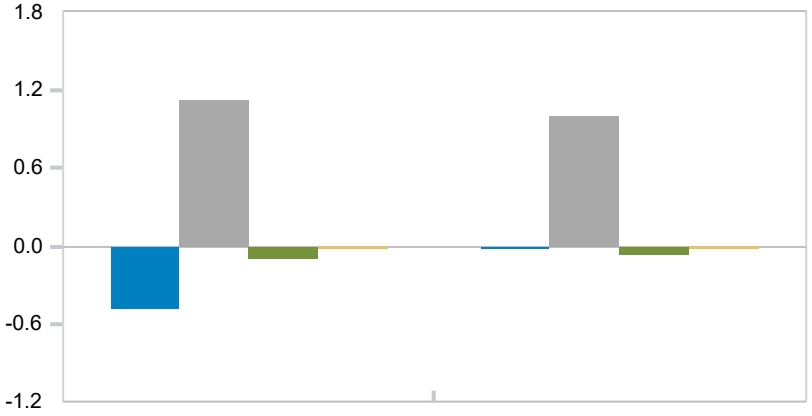


	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014
Investment	8.09 (33)	-5.24 (95)	-3.01 (97)	10.71 (24)	-8.35 (55)	3.67 (41)
Index	6.78 (40)	-1.57 (34)	-3.14 (98)	12.61 (8)	-7.01 (38)	-0.99 (85)
Median	4.60	-2.20	1.37	9.26	-8.21	2.83

Comparative Performance

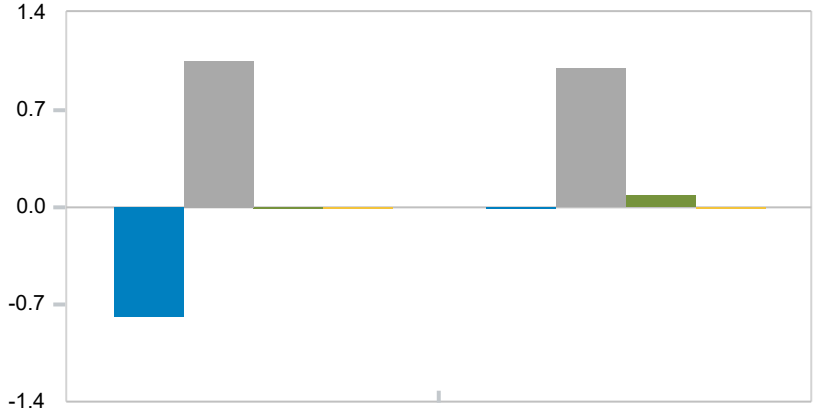
	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	3.96 (14)	2.13 (52)	1.89 (19)	-1.74 (84)	-7.15 (87)	3.63 (17)
Index	3.93 (14)	1.52 (94)	1.31 (38)	-2.19 (96)	-5.11 (59)	4.42 (2)
Median	2.96	2.16	0.78	-0.63	-4.61	1.55

Risk / Reward Historical Statistics 3 Years Ending September 30, 2019



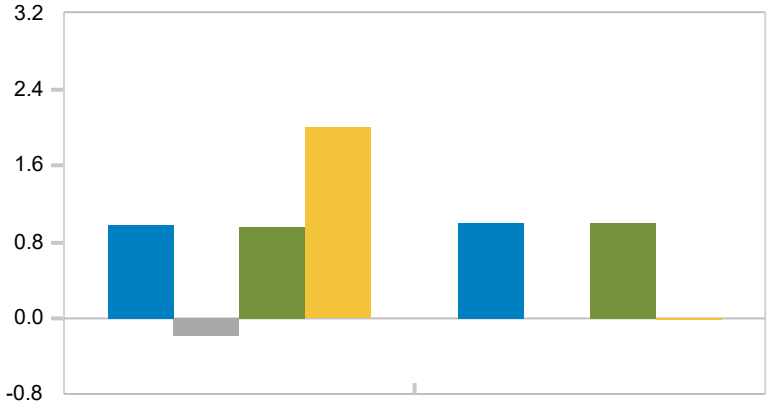
	Wells Capital Fixed	FTSE Non-U.S. World Government Bond
Alpha	-0.48	0.00
Beta	1.12	1.00
Sharpe Ratio	-0.10	-0.07
Treynor Ratio	-0.01	-0.01

Risk / Reward Historical Statistics 5 Years Ending September 30, 2019



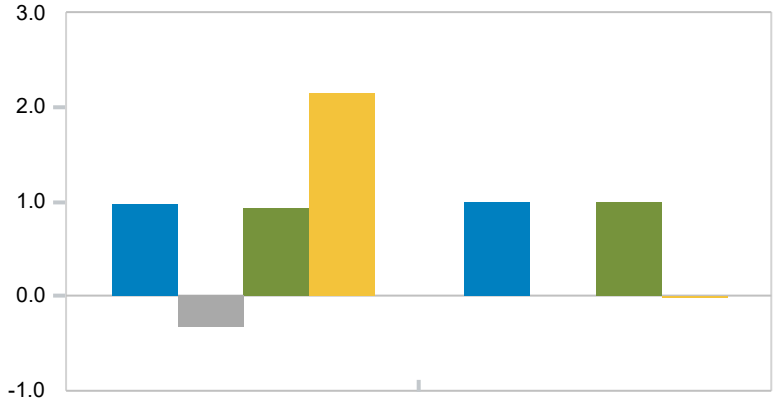
	Wells Capital Fixed	FTSE Non-U.S. World Government Bond
Alpha	-0.79	0.00
Beta	1.05	1.00
Sharpe Ratio	0.00	0.08
Treynor Ratio	0.00	0.01

Benchmark Relative Historical Statistics 3 Years Ending September 30, 2019



	Wells Capital Fixed	FTSE Non-U.S. World Government Bond
Actual Correlation	0.98	1.00
Information Ratio	-0.18	N/A
R-Squared	0.97	1.00
Tracking Error	2.01	0.00

Benchmark Relative Historical Statistics 5 Years Ending September 30, 2019



	Wells Capital Fixed	FTSE Non-U.S. World Government Bond
Actual Correlation	0.97	1.00
Information Ratio	-0.33	N/A
R-Squared	0.94	1.00
Tracking Error	2.17	0.00

Benchmark: FTSE Non-U.S. World Government Bond

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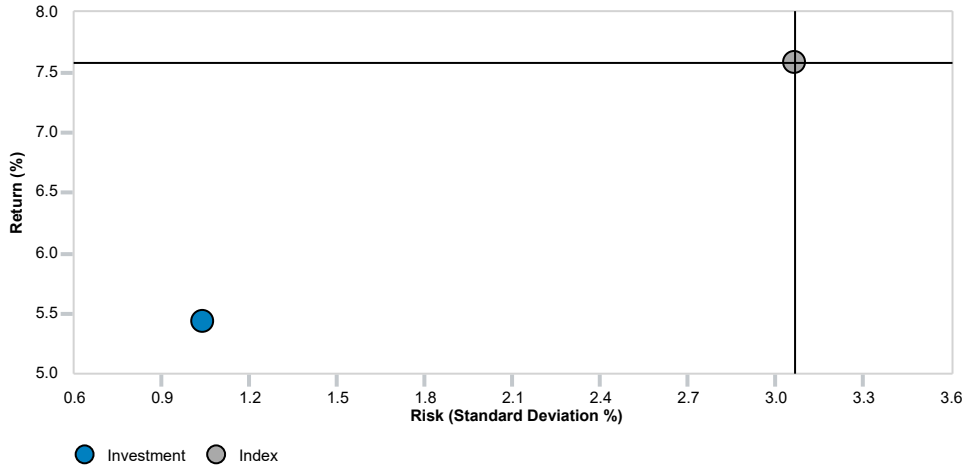
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	5.43	1.04	3.28	71.79	12	N/A	N/A
Index	7.59	3.07	1.91	100.00	12	N/A	N/A

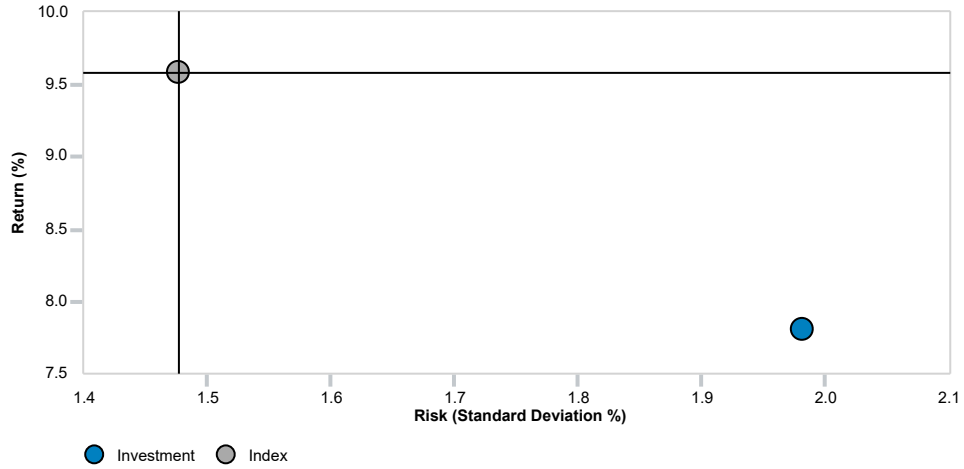
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	7.81	1.98	2.84	82.09	20	N/A	N/A
Index	9.59	1.48	4.52	100.00	20	N/A	N/A

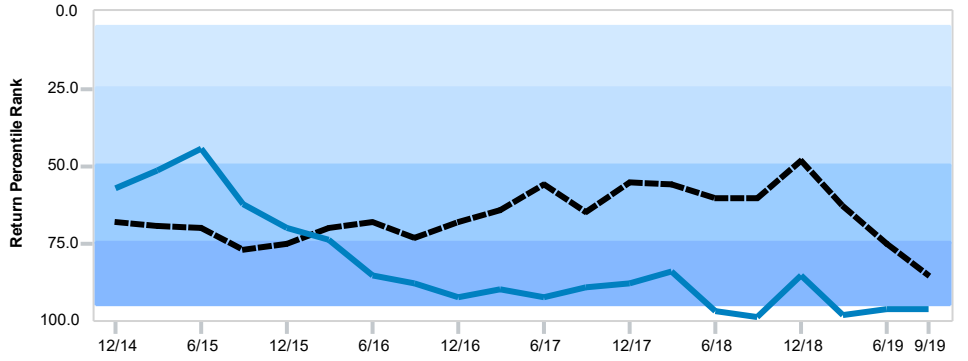
Risk and Return 3 Years



Risk and Return 5 Years

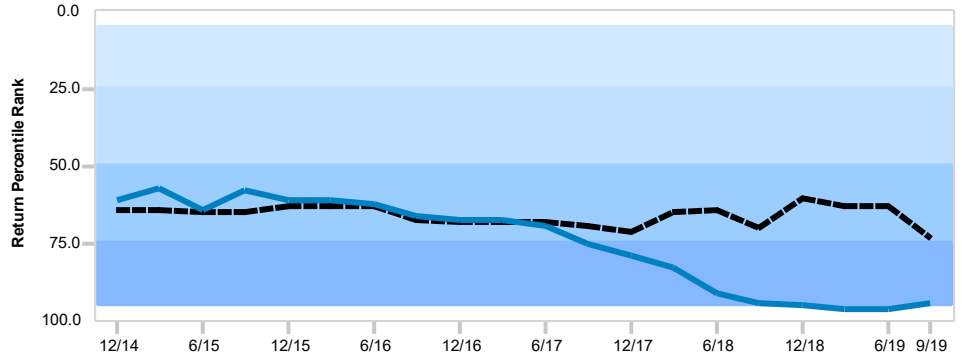


3 Year Rolling Percentile Rank IM U.S. Open End Private Real Estate (SA+CF)



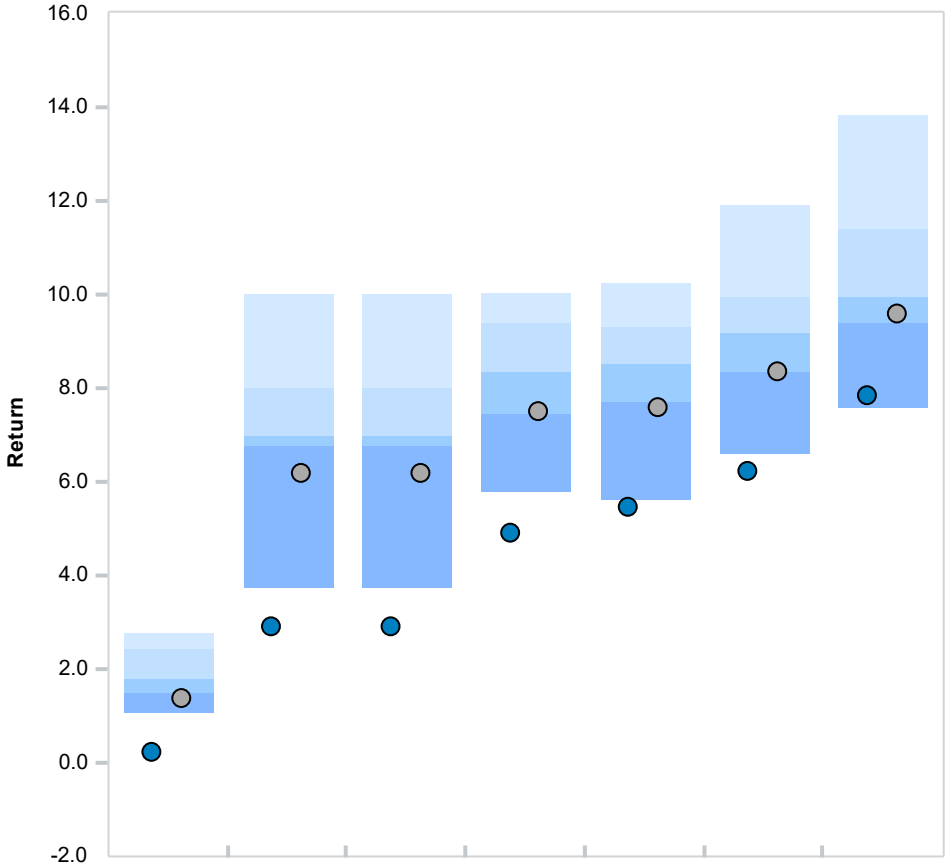
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	1 (5%)	5 (25%)	14 (70%)
Index	20	0 (0%)	1 (5%)	17 (85%)	2 (10%)

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



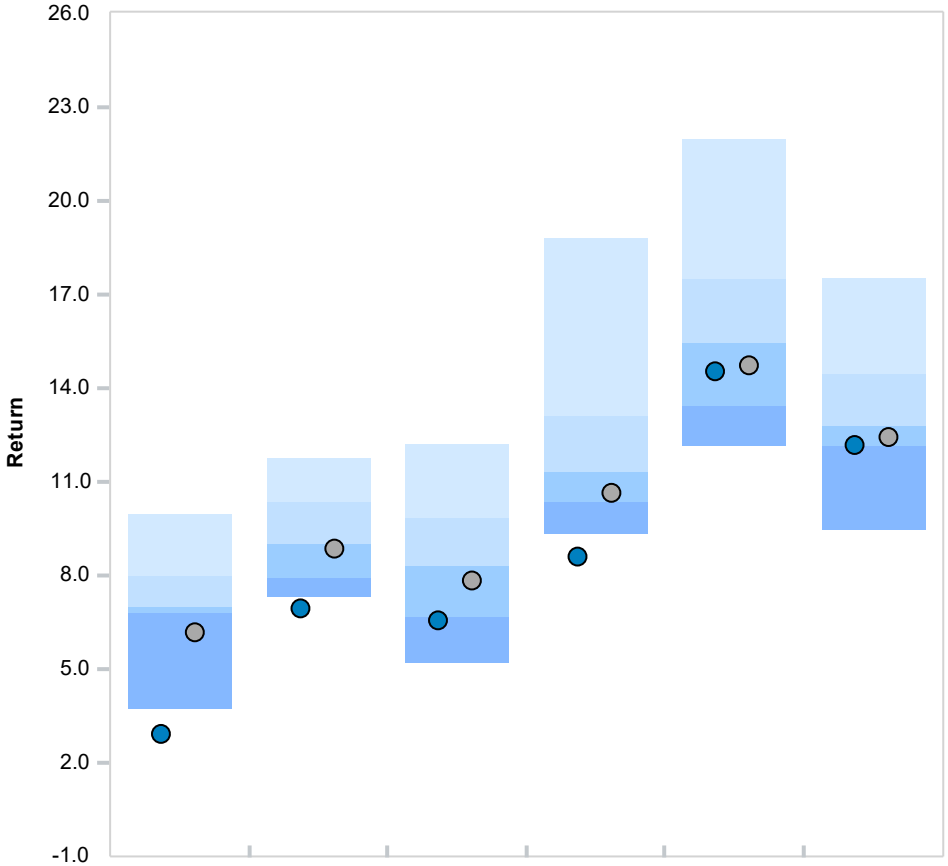
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	0 (0%)	12 (60%)	8 (40%)
Index	20	0 (0%)	0 (0%)	20 (100%)	0 (0%)

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



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	0.20 (100)	2.88 (97)	2.88 (97)	4.89 (97)	5.43 (96)	6.20 (97)	7.81 (94)
Index	1.38 (86)	6.16 (90)	6.16 (90)	7.48 (75)	7.59 (85)	8.34 (75)	9.59 (73)
Median	1.79	6.96	6.96	8.35	8.49	9.20	9.97

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



	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014
Investment	2.88 (97)	6.94 (100)	6.51 (77)	8.56 (100)	14.48 (66)	12.13 (79)
Index	6.16 (90)	8.82 (59)	7.81 (60)	10.62 (69)	14.71 (62)	12.39 (68)
Median	6.96	9.04	8.29	11.32	15.45	12.78

Comparative Performance

	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	0.90 (92)	0.20 (100)	1.57 (64)	1.57 (91)	1.70 (100)	1.95 (71)
Index	1.34 (66)	1.69 (81)	1.62 (62)	2.09 (54)	2.13 (61)	2.17 (55)
Median	1.46	1.99	1.76	2.10	2.22	2.21

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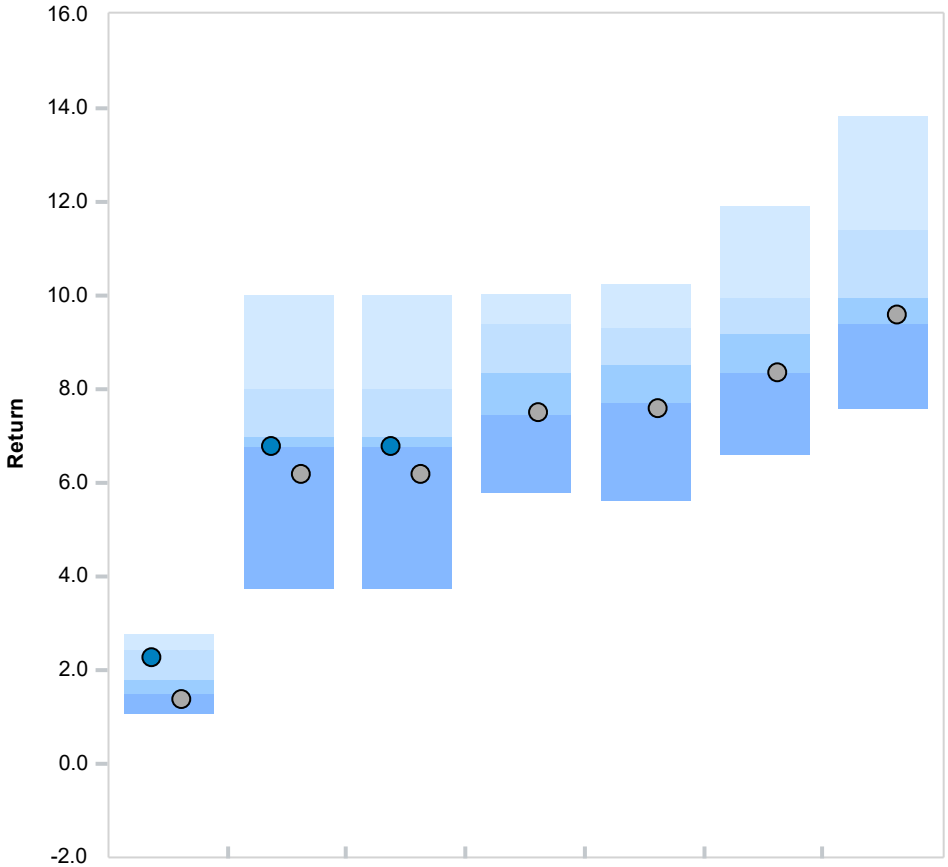
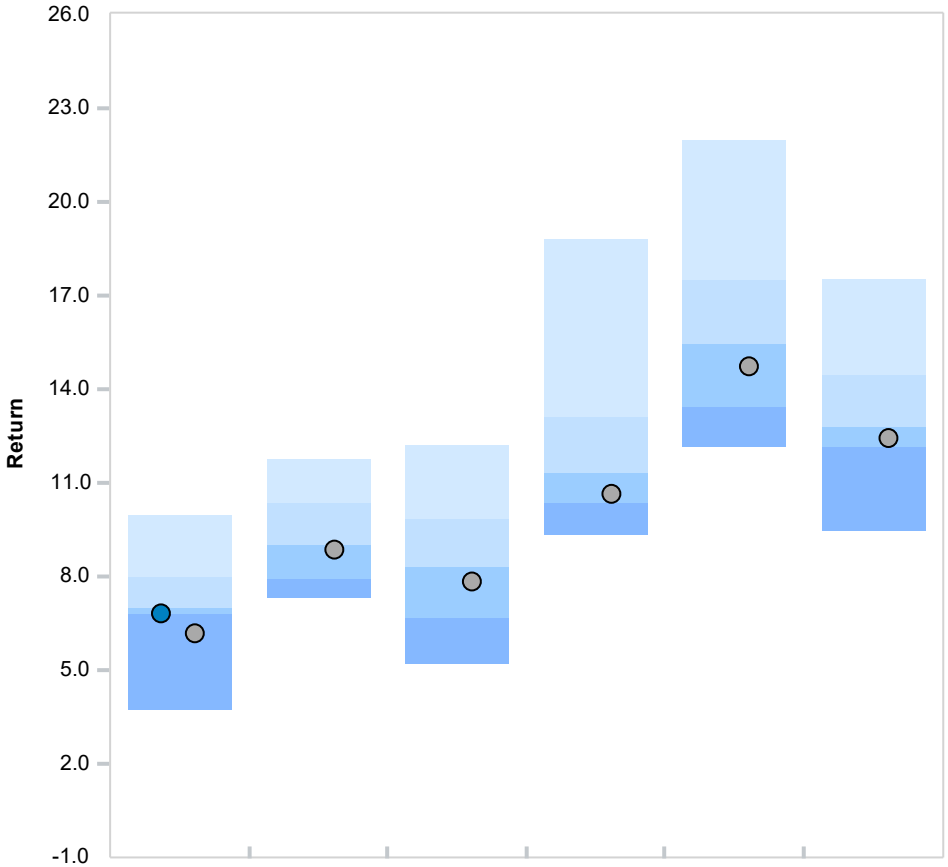
Peer Group Analysis - IM U.S. Open End Private Real Estate (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
Investment	2.27 (30)	6.76 (77)	6.76 (77)	N/A	N/A	N/A	N/A
Index	1.38 (86)	6.16 (90)	6.16 (90)	7.48 (75)	7.59 (85)	8.34 (75)	9.59 (73)
Median	1.79	6.96	6.96	8.35	8.49	9.20	9.97

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



	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014
Investment	6.76 (77)	N/A	N/A	N/A	N/A	N/A
Index	6.16 (90)	8.82 (59)	7.81 (60)	10.62 (69)	14.71 (62)	12.39 (68)
Median	6.96	9.04	8.29	11.32	15.45	12.78

Comparative Performance

	1 Qtr Ending Jun-2019	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018
Investment	1.21 (71)	1.74 (76)	1.38 (76)	2.24 (45)	2.75 (30)	N/A
Index	1.34 (66)	1.69 (81)	1.62 (62)	2.09 (54)	2.13 (61)	2.17 (55)
Median	1.46	1.99	1.76	2.10	2.22	2.21

	Estimated Annual Fee (%)	Market Value ($)	Estimated Annual Fee ($)	Fee Schedule
Rhumbline LCV	0.05	56,512,551	28,256	0.05 % of Assets
Inverness Balanced	0.35	459,289,139	1,607,512	0.35 % of Assets
Logan Equity	0.60	54,984,729	329,908	0.60 % of Assets
Rhumbline S&P MidCap 400	0.05	73,693,771	36,847	0.05 % of Assets
Wellington	0.60	96,061,138	576,367	0.60 % of Assets
Wells Capital Fixed	0.36	35,055,094	126,198	0.36 % of Assets
Rhumbline Intl Equity	0.05	49,769,632	24,885	0.05 % of Assets
JP Morgan RE	1.00	45,328,043	453,280	1.00 % of Assets
Intercontinental RE	1.00	44,861,638	448,616	1.00 % of Assets
Total Fund Composite	**0.40**	**915,555,736**	**3,631,870**	

Total Policy Historical Hybrid Composition

Allocation Mandate	Weight (%)
Jan-1978	
S&P 500 Index	49.00
Blmbg. Barc. U.S. Gov't/Credit	23.00
Bloomberg Barclays Intermediate US Govt/Credit Idx	23.00
FTSE 3 Month T-Bill	5.00
Apr-2003	
S&P 500 Index	46.00
Blmbg. Barc. U.S. Gov't/Credit	23.00
Bloomberg Barclays Intermediate US Govt/Credit Idx	23.00
FTSE 3 Month T-Bill	3.00
MSCI EAFE Index	5.00
Apr-2007	
S&P 500 Index	23.00
Blmbg. Barc. U.S. Gov't/Credit	23.00
Bloomberg Barclays Intermediate US Govt/Credit Idx	23.00
FTSE 3 Month T-Bill	5.00
MSCI EAFE Index	5.00
Russell 2000 Index	8.00
S&P MidCap 400 Index	7.00
Russell 1000 Value Index	3.00
Russell 1000 Growth Index	3.00
Jul-2007	
S&P 500 Index	30.00
Blmbg. Barc. U.S. Gov't/Credit	17.50
Bloomberg Barclays Intermediate US Govt/Credit Idx	17.50
FTSE 3 Month T-Bill	5.00
MSCI EAFE Index	5.00
Russell 2000 Index	8.00
S&P MidCap 400 Index	7.00
Russell 1000 Value Index	3.00
Russell 1000 Growth Index	3.00
NCREIF Property Index	4.00

Allocation Mandate	Weight (%)
Oct-2011	
S&P 500 Index	30.00
Blmbg. Barc. U.S. Gov't/Credit	15.00
Bloomberg Barclays Intermediate US Govt/Credit Idx	15.00
FTSE 3 Month T-Bill	5.00
MSCI EAFE Index	5.00
Russell 2000 Index	8.00
S&P MidCap 400 Index	7.00
Russell 1000 Value Index	3.00
Russell 1000 Growth Index	3.00
NCREIF Property Index	4.00
FTSE Non-U.S. World Government Bond	5.00
Oct-2013	
S&P 500 Index	24.00
Blmbg. Barc. U.S. Gov't/Credit	15.00
Bloomberg Barclays Intermediate US Govt/Credit Idx	15.00
FTSE 3 Month T-Bill	5.00
MSCI EAFE Index	5.00
Russell 2000 Index	8.00
S&P MidCap 400 Index	8.00
Russell 1000 Value Index	5.00
Russell 1000 Growth Index	5.00
NCREIF Property Index	5.00
FTSE Non-U.S. World Government Bond	5.00
Apr-2018	
S&P 500 Index	24.00
Blmbg. Barc. U.S. Gov't/Credit	12.50
Bloomberg Barclays Intermediate US Govt/Credit Idx	12.50
FTSE 3 Month T-Bill	5.00
MSCI EAFE Index	5.00
Russell 2000 Index	8.00
S&P MidCap 400 Index	8.00
Russell 1000 Value Index	5.00
Russell 1000 Growth Index	5.00
NCREIF Fund Index-Open End Diversified Core (EW)	10.00
FTSE Non-U.S. World Government Bond	5.00

Total Equity Historical Hybrid Composition

Allocation Mandate	Weight (%)
Oct-1990	
S&P 500 Index	100.00
Apr-2003	
S&P 500 Index	93.50
MSCI EAFE Index	6.50
Apr-2007	
S&P 500 Index	47.00
MSCI EAFE Index	10.00
Russell 2000 Index	16.00
S&P MidCap 400 Index	15.00
Russell 1000 Value Index	6.00
Russell 1000 Growth Index	6.00
Jul-2007	
S&P 500 Index	50.00
MSCI EAFE Index	8.00
Russell 2000 Index	13.00
S&P MidCap 400 Index	12.00
Russell 1000 Value Index	5.00
Russell 1000 Growth Index	5.00
NCREIF Property Index	7.00
Oct-2013	
S&P 500 Index	44.00
MSCI EAFE Index	9.00
Russell 2000 Index	14.50
S&P MidCap 400 Index	14.50
Russell 1000 Value Index	9.00
Russell 1000 Growth Index	9.00

Inverness Fixed Income Historical Hybrid Composition

Allocation Mandate	Weight (%)
Oct-1990	
Bloomberg Barclays Intermediate US Govt/Credit Idx	50.00
Blmbg. Barc. U.S. Gov't/Credit	50.00

Inverness Balanced Historical Hybrid Composition

Allocation Mandate	Weight (%)
Jan-2000	
S&P 500 Index	47.50
Blmbg. Barc. U.S. Gov't/Credit	23.80
Bloomberg Barclays Intermediate US Govt/Credit Idx	23.70
FTSE 3 Month T-Bill	5.00
Apr-2007	
S&P 500 Index	32.00
Blmbg. Barc. U.S. Gov't/Credit	31.00
Bloomberg Barclays Intermediate US Govt/Credit Idx	31.00
FTSE 3 Month T-Bill	6.00
Jul-2007	
S&P 500 Index	43.00
Blmbg. Barc. U.S. Gov't/Credit	25.00
Bloomberg Barclays Intermediate US Govt/Credit Idx	25.00
FTSE 3 Month T-Bill	7.00
Oct-2013	
S&P 500 Index	41.00
Blmbg. Barc. U.S. Gov't/Credit	25.00
Bloomberg Barclays Intermediate US Govt/Credit Idx	25.00
FTSE 3 Month T-Bill	9.00

Total Fixed Income Historical Hybrid Composition

Allocation Mandate	Weight (%)
Jan-1973	
Bloomberg Barclays Intermediate US Govt/Credit Idx	50.00
Blmbg. Barc. U.S. Gov't/Credit	50.00
Oct-2011	
Bloomberg Barclays Intermediate US Govt/Credit Idx	43.00
Blmbg. Barc. U.S. Gov't/Credit	43.00
FTSE Non-U.S. World Government Bond	14.00
Apr-2018	
Bloomberg Barclays Intermediate US Govt/Credit Idx	41.50
Blmbg. Barc. U.S. Gov't/Credit	41.50
FTSE Non-U.S. World Government Bond	17.00

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