Investment Performance Review Period Ending March 31, 2019

# Miami Springs Police & Fire Retirement System



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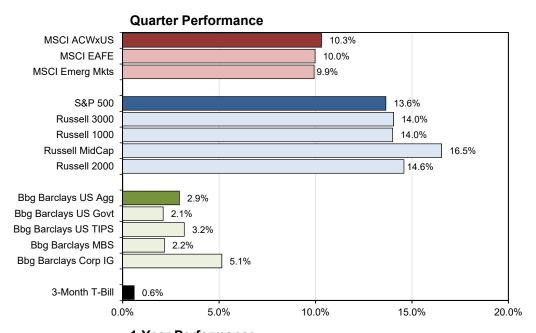
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**1st Quarter 2019 Market Environment** 



- After a difficult end to 2018, markets rebounded strongly during the 1st quarter of 2019 with higher risk assets posting the greatest returns. Broad international and domestic equity markets had double-digit gains during the period as investors overlooked signs of weakening global growth in favor of increased accommodation in global monetary policy and progress in global trade negotiations. While muted relative to equities, fixed income returns were also positive during the quarter. Within equities, domestic stocks outperformed international markets. US markets pushed higher as the US Federal Reserve (Fed) shifted their stance on monetary policy toward a more accommodative posture, the US and China moved closer to a resolution of their ongoing trade dispute and the partial government shutdown that began in December came to an end. The large cap S&P 500 Index returned 13.6% during the quarter while the small cap Russell 2000 Index gained 14.6% for the period. US equity returns over the 1-year period are positive with the S&P 500 appreciating 9.5% while the Russell 2000 posted a more modest gain of 2.0%.
- Similar to US markets, international equity investors were encouraged by a general easing in central bank monetary policy, including new stimulus measures in Europe and China, as well as the de-escalation of trade tensions with the US. Despite the continued softening in global macroeconomic data and the lack of certainty around Brexit, international equity index returns finished the quarter in positive territory with the MSCI ACWI ex US Index returning 10.3%. The developed market MSCI EAFE Index and the MSCI Emerging Markets Index had similar performance during the 1st quarter returning 10.0% and 9.9% respectively. Despite the strong quarter, returns over the 1-year period remain negative with developed markets falling -3.7%, outperforming emerging markets which fell -7.4%.
- Fixed income securities underperformed equities to start 2019 with the broad market Bloomberg Barclays Aggregate Index returning 2.9%. Interest rates fell for all maturities across the US Treasury Yield Curve as Fed guidance signaled a pause in monetary policy tightening through 2019. Interest rates in the middle of the curve saw the greatest declines causing the curve to invert with shorter-term maturities paying higher interest rates than those in the middle of the curve. This has historically preceded a recession by 6-24 months. Investment grade corporate issues were the best performing securities this quarter, outperforming Treasury and securitized issues. The Bloomberg Barclays Corporate IG Index returned 5.1% for the period, as corporate credit had tailwinds due to its greater interest rate sensitivity, higher yields and tightening credit spreads. Corporate issues also outperformed the other major fixed income sectors over the 1-year period, returning 4.9% versus a 4.5% return for the Bloomberg Barclays Aggregate Index.

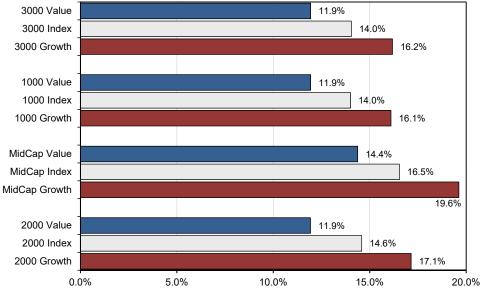


#### 1-Year Performance MSCI ACWxUS -4.2% MSCI EAFE -3.7% MSCI Emerg Mkts -7.4% 9.5% S&P 500 Russell 3000 8.8% Russell 1000 9.3% Russell MidCap 6.5% Russell 2000 2.0% Bbg Barclays US Agg 4.5% Bbg Barclays US Govt 4.2% 2.7% Bbg Barclays US TIPS Bbg Barclays MBS Bbg Barclays Corp IG 4.9% 3-Month T-Bill 2.1% 0.0% 5.0% -10.0% -5.0% 10.0%

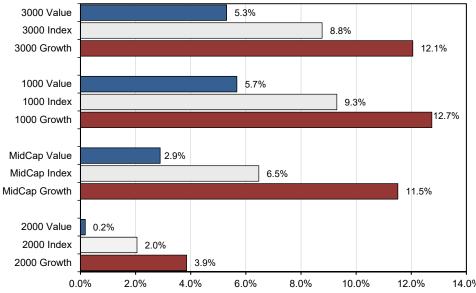


- US equity index returns were strongly positive across the style and capitalization spectrum to start the year with all indices posting double digit returns. Macroeconomic data released during the quarter was mixed with disappointing data released late in the quarter for GDP and employment being particularly notable. Even though earnings reported during the period were viewed favorably, many companies provided negative forward earnings guidance due to slowing global growth, trade concerns and the fading effects of US tax reform. However, investor concerns over the economy were overshadowed by positive developments in trade negotiations with China and an accommodative shift in Fed monetary policy. With regards to trade, President Trump delayed the implementation of new Chinese tariffs scheduled for March 1st citing substantial progress in ongoing discussions. Stocks also rallied on Fed guidance to put further monetary policy tightening on hold as they lowered projections for growth and inflation. Lastly, we saw the end of the partial government shutdown that began in December due to a partisan disagreement over funds for the construction of a border wall with Mexico. While the spending bill that passed did not budget for the wall, President Trump declared a national state of emergency later in the quarter in order to secure the needed funding.
- During the quarter, mid cap stocks were the best performers while small cap stocks outperformed large cap equities across growth, value and core indices. The Russell MidCap Index gained 16.5% during the period versus a 14.6% return for the small cap Russell 2000 Index and a 14.0% gain on the large cap Russell 1000 Index. Part of the reason for strength in small cap names is the projected hold on interest rate increases that occurred over 2018 as small and mid-cap companies typically maintain higher percentages of debt than their large cap peers. Small and mid-cap companies are usually more domestically focused which will serve as a tailwind in periods where the US economy is on stronger footing than international markets. It is also not unusual for smaller market cap stocks to outperform in risk-on market environments. When viewed over the most recent 1-year period, large cap stocks outperformed relative to small cap stocks. The Russell 1000 returned 9.3% for the year while the Russell 2000 gained only 2.0%.
- Growth indices outperformed value indices across the market cap spectrum during the 1<sup>st</sup> quarter. Growth stocks have outperformed value in all but one quarter over the last two years. The Russell MidCap Growth Index was the best performing style index for the period, returning 19.6% for the quarter. The large cap and small cap value indices had the lowest relative returns, both gaining 11.9%. The trend of growth outperformance is also visible over the 1-year period as growth indices have benefitted from larger exposures to technology which has been a large driver of index performance over the last year, as well as a meaningful underweight to financials which has been a relative detractor.



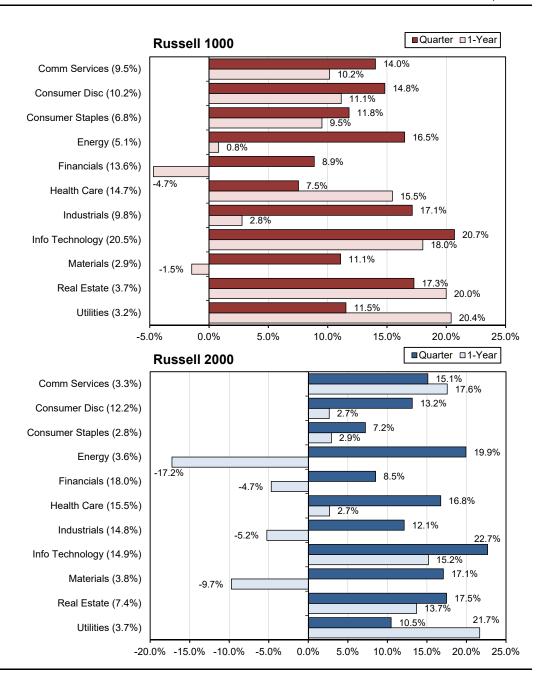


## 1-Year Performance - Russell Style Series





- Sector performance was broadly positive across large cap sectors for the 1st quarter. There were strong gains for all sectors within the Russell 1000 Index during for the period with five sectors outpacing the return of the index. While the rally was broad with nine of eleven sectors posting double digit returns, cyclical sectors such as technology, industrials and energy were some of the best performers through the guarter returning 20.7%, 17.1% and 16.5% respectively. Technology stocks rose on strong earnings and attractive valuations following their 4th quarter 2018 sell off. Energy companies benefitted from a large rebound in oil prices which increased by over 30% during the quarter following an OPEC led supply cut and US sanctions against Iran and Venezuela. Industrial stocks, among others, gained on hopes that trade tensions between the US and China would continue to abate. REITs also had a particularly strong guarter, returning 17.3% as the prospect of lower interest rates acted as a tailwind. Financials and health care stocks were the worst performers during the period returning 8.9% and 7.5% respectively. Health care stocks faced uncertainty around the potential for future regulation following congressional hearings on drug pricing while the prospect of lower earnings due to a muted interest rate environment weighed on financial stocks. Returns over the 1-year period were positive with nine out of eleven sectors posting gains, six of which were over 10%. Utilities, REITs and information technology were the best performers returning 20.4%, 20.0% and 18.0% respectively. Financials and materials posted negative results at -4.7% and -1.5% while energy was only slightly positive at 0.8%.
- Quarterly results for small cap sectors were mixed relative to their large capitalization counterparts with six of eleven sectors outperforming their corresponding large cap equivalents. Like large caps, all eleven sectors produced gains during the period with six of eleven economic sectors outpacing the Russell 2000 Index return for the quarter and nine returning over 10.0%. Similar to large caps, cyclical sectors performed well with technology, energy and materials returning 22.7%, 19.9% and 17.1% respectively. Real estate also did well returning 17.5%. The largest detractors over the period were consumer staples, financials and utilities which still produced gains of 7.2%, 8.5% and 10.5%. Over the trailing 1-year period, returns varied significantly with four sectors posting double digit gains and four losing value. Despite a very strong quarter, energy stocks were the worst performers over the 1-year period, falling a considerable -17.2%, while the defensive utilities sector produced the greatest gains, appreciating 21.7%.





Top 10 Weighted Stocks					
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector	
Apple Inc	3.42%	20.9%	14.9%	Information Technology	
Microsoft Corp	3.39%	16.6%	30.8%	Information Technology	
Amazon.com Inc	2.78%	18.6%	23.0%	Consumer Discretionary	
Facebook Inc A	1.50%	27.2%	4.3%	Communication Services	
Berkshire Hathaway Inc B	1.48%	-1.6%	0.7%	Financials	
Johnson & Johnson	1.42%	9.0%	12.1%	Health Care	
Alphabet Inc C	1.36%	13.3%	13.7%	Communication Services	
Alphabet Inc A	1.33%	12.6%	13.5%	Communication Services	
Exxon Mobil Corp	1.30%	19.8%	12.9%	Energy	
JPMorgan Chase & Co	1.27%	4.6%	-5.6%	Financials	

	Top 10 Weighted Stocks				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector	
Etsy Inc	0.40%	41.3%	139.6%	Consumer Discretionary	
Five Below Inc	0.33%	21.4%	69.4%	Consumer Discretionary	
The Trade Desk Inc A	0.32%	70.6%	298.9%	Information Technology	
Integrated Device Technology Inc	0.31%	1.2%	60.3%	Information Technology	
HubSpot Inc	0.30%	32.2%	53.5%	Information Technology	
Planet Fitness Inc A	0.30%	28.2%	81.9%	Consumer Discretionary	
Cree Inc	0.29%	33.8%	41.9%	Information Technology	
Ciena Corp	0.26%	10.1%	44.2%	Information Technology	
Primerica Inc	0.26%	25.4%	27.7%	Financials	
Array BioPharma Inc	0.25%	71.1%	49.4%	Health Care	

Тор	Top 10 Performing Stocks (by Quarter)					
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector		
Versum Materials Inc	0.02%	81.9%	34.7%	Information Technology		
Coty Inc Class A	0.02%	77.3%	-34.3%	Consumer Staples		
Nabors Industries Ltd	0.00%	72.5%	-48.7%	Energy		
Sage Therapeutics Inc	0.03%	66.0%	-1.3%	Health Care		
Wayfair Inc Class A	0.03%	64.8%	119.8%	Consumer Discretionary		
Chipotle Mexican Grill Inc Class A	0.07%	64.5%	119.8%	Consumer Discretionary		
Universal Display Corp	0.02%	63.5%	51.7%	Information Technology		
Xerox Corp	0.02%	63.1%	15.7%	Information Technology		
Floor & Decor Holdings Inc	0.01%	59.2%	-20.9%	Consumer Discretionary		
bluebird bio Inc	0.03%	58.6%	-7.9%	Health Care		

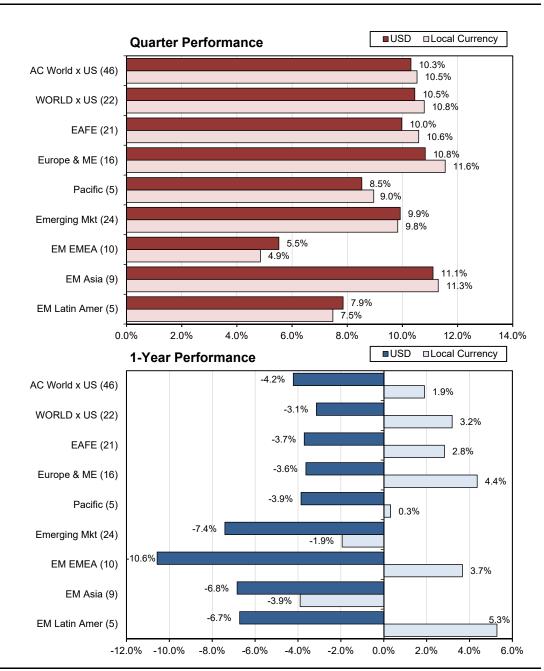
Тор	Top 10 Performing Stocks (by Quarter)					
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector		
Immune Design Corp	0.01%	350.0%	77.3%	Health Care		
Diebold Nixdorf Inc	0.04%	344.6%	-28.1%	Information Technology		
Constellation Pharmaceuticals Inc	0.01%	237.9%	N/A	Health Care		
Flotek Industries Inc	0.01%	197.2%	-46.9%	Materials		
Spark Therapeutics Inc	0.18%	191.0%	71.0%	Health Care		
Magenta Therapeutics Inc	0.01%	188.9%	N/A	Health Care		
ION Geophysical Corp	0.01%	178.8%	-46.7%	Energy		
Catalyst Pharmaceuticals Inc	0.02%	165.6%	113.4%	Health Care		
VirnetX Holding Corp	0.02%	163.8%	60.3%	Information Technology		
Rockwell Medical Inc	0.01%	151.8%	9.2%	Health Care		

Bottom 10 Performing Stocks (by Quarter)					
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector	
Uniti Group Inc	0.01%	-27.8%	-23.8%	Real Estate	
PG&E Corp	0.03%	-25.1%	-59.5%	Utilities	
The Kraft Heinz Co	0.07%	-23.2%	-45.1%	Consumer Staples	
Realogy Holdings Corp	0.01%	-21.8%	-57.3%	Real Estate	
Nu Skin Enterprises Inc Class A	0.01%	-21.5%	-33.7%	Consumer Staples	
Biogen Inc	0.18%	-21.4%	-13.7%	Health Care	
Centennial Resource Development A	0.01%	-20.2%	-52.1%	Energy	
CenturyLink Inc	0.04%	-19.3%	-19.0%	Communication Services	
Qurate Retail Inc Class A	0.03%	-18.1%	-36.5%	Consumer Discretionary	
Macy's Inc	0.03%	-18.0%	-15.2%	Consumer Discretionary	

Bottom 10 Performing Stocks (by Quarter)					
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector	
Zomedica Pharmaceuticals Corp	0.00%	-77.0%	-84.2%	Health Care	
Aptinyx Inc	0.00%	-75.5%	N/A	Health Care	
Alta Mesa Resources Inc Class A	0.00%	-73.5%	-96.7%	Energy	
Novavax Inc	0.01%	-70.1%	-73.8%	Health Care	
Maxar Technologies Inc	0.01%	-66.3%	-91.0%	Industrials	
Solid Biosciences Inc	0.01%	-65.7%	22.7%	Health Care	
Achaogen Inc	0.00%	-62.9%	-96.5%	Health Care	
EP Energy Corp A	0.00%	-62.9%	-80.6%	Energy	
Proteostasis Therapeutics Inc	0.00%	-61.1%	-73.5%	Health Care	
Approach Resources Inc	0.00%	-59.4%	-86.4%	Energy	



- Broad international equity returns were positive for the quarter in both local currency and USD terms. The MSCI ACWI ex US Index gained 10.5% in local currency terms and 10.3% in USD terms during the 1st quarter. Similar to US markets, international equity investors were encouraged by central bank responses to slowing global growth as they shifted towards more accommodative policies and the improvement in dialogue around global trade. Returns in local currency typically outperformed USD returns in the developed markets, as the USD continued to strengthen against most major developed currencies. While the currency effect was detrimental in developed markets, it acted as a slight tailwind in emerging markets. The USD strength is particularly noticeable over the 1-year period where local currency returns on the MSCI ACWI ex US Index were 1.9%, but after accounting for foreign exchange, translated to a loss of -4.2% for a USD investor.
- Fourth quarter results for developed market international indices were positive in both local currency and USD terms with the MSCI EAFE Index returning 10.6% and 10.0% respectively. Ongoing weakness in global economic reporting pushed major central banks to move toward less restrictive postures around monetary policy. In Europe, the European Central Bank (ECB) announced plans for additional stimulus while putting any future interest rate increases on hold until 2020. The Bank of England (BoE) left policy unchanged as uncertainties around Brexit coincided with a slowing economy. Prime Minister Theresa May held two votes on her withdrawal plan, both of which failed, forcing her to request an extension to the March 29th withdrawal deadline. Data from Japan drew concerns that the country's economy is contracting as corporate earnings, exports, manufacturing, retail sales and inflation all hinted at an economic slowdown. The MSCI EAFE Index returned 2.8% and -3.7% for the last twelve months in local currency and USD terms respectively.
- Emerging markets slightly underperformed relative to developed markets for the 1<sup>st</sup> quarter, but still appreciated in both local currency and USD terms with the MSCI Emerging Markets Index returning 9.8% and 9.9% respectively. A major tailwind for equity markets was the improvement in trade relations between the US and China. As Chinese economic data appeared to be slowing, the Chinese government also announced continued stimulus in the form of tax cuts, infrastructure investment and lowered the reserve requirement for banks in order to encourage lending. We also saw commodity prices rise over the quarter which is generally beneficial to emerging market countries with rising oil prices helping Russian and Colombian equity returns. In Brazil, President Jair Bolsonaro officially took office. Bolsonaro announced his plan to reform the country's debt laden pension system and promised market friendly economic reforms. One year returns for the MSCI Emerging Market Index were -1.9% in local currency terms and -7.4% in USD terms.



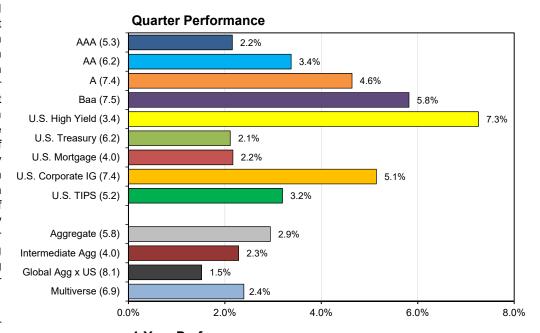


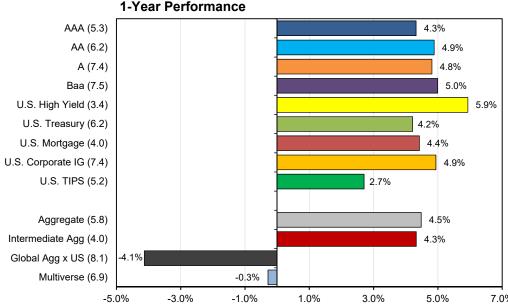
MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	5.4%	4.3%	-4.5%
Consumer Discretionary	11.0%	7.5%	-10.4%
Consumer Staples	11.8%	12.4%	3.3%
Energy	5.9%	10.4%	4.6%
Financials	18.9%	6.9%	-12.7%
Health Care	11.3%	11.2%	7.4%
Industrials	14.4%	10.6%	-5.4%
Information Technology	6.3%	15.3%	-3.8%
Materials	7.5%	13.2%	-3.0%
Real Estate	3.9%	14.0%	4.2%
Utilities	3.7%	9.0%	8.7%
Total	100.0%	10.0%	-3.7%
MSCI - ACWIXUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	7.1%	6.9%	-1.8%
Consumer Discretionary	11.1%	11.2%	-10.3%
Consumer Staples	9.9%	11.2%	1.6%
Energy	7.4%	12.4%	5.2%
Financials	21.6%	7.7%	-9.4%
Health Care	8.4%	11.0%	4.4%
Industrials	11.7%	10.2%	-4.9%
Information Technology	8.4%	14.7%	-7.3%
Materials	7.6%	11.3%	-3.6%
Real Estate	3.5%	14.4%	2.8%
Utilities	3.3%	8.2%	6.1%
Total	100.0%	10.3%	-4.2%
MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	12.3%	9.5%	-3.3%
Consumer Discretionary	13.4%	20.8%	-13.2%
Consumer Staples	6.4%	5.3%	-8.4%
Energy	8.1%	12.2%	9.4%
Financials	24.2%	7.2%	-6.0%
Health Care	2.6%	3.6%	-23.4%
Industrials	5.4%	4.8%	-7.6%
Information Technology	14.6%	12.8%	-10.8%
Materials	7.4%	6.9%	-6.2%
Real Estate	3.2%	15.6%	-2.1%
Utilities	2.5%	4.2%	-2.7%
Total	100.0%	9.9%	-7.4%

	MSCI-EAFE	MSCI-ACWIXUS	Quarter	1- Year
Country	Weight	Weight	Return	Return
Japan	24.0%	16.1%	6.7%	-7.8%
United Kingdom	17.1%	11.5%	11.9%	-0.1%
France	11.3%	7.6%	10.7%	-3.7%
Switzerland	8.9%	6.0%	13.1%	7.5%
Germany	8.6%	5.8%	6.9%	-13.7%
Australia	6.9%	4.7%	11.4%	4.5%
Hong Kong	4.1%	2.8%	15.6%	8.0%
Netherlands	3.6%	2.4%	13.6%	-2.3%
Spain	3.0%	2.0%	7.0%	-8.8%
Sweden	2.6%	1.8%	7.4%	-5.1%
Italy	2.4%	1.6%	14.6%	-10.6%
Denmark	1.8%	1.2%	12.8%	-3.2%
Singapore	1.3%	0.9%	6.2%	-6.4%
Finland	1.0%	0.7%	8.0%	-3.6%
Belgium	1.0%	0.7%	16.2%	-15.5%
Norway	0.7%	0.5%	7.0%	-4.4%
Ireland	0.5%	0.4%	11.4%	-11.6%
Israel	0.5%	0.4%	10.1%	9.9%
Austria	0.2%	0.2%	8.4%	-23.0%
New Zealand	0.2%	0.2%	16.7%	18.1%
Portugal	0.2%	0.1%	10.2%	-4.9%
Total EAFE Countries	100.0%	67.1%	10.0%	-3.7%
Canada		6.8%	15.4%	3.1%
<b>Total Developed Countries</b>		73.9%	10.5%	-3.1%
China		8.6%	17.7%	-6.2%
Korea		3.4%	4.9%	-16.7%
Taiwan		3.0%	9.0%	-6.1%
India		2.4%	7.2%	6.8%
Brazil		1.9%	8.1%	-4.2%
South Africa		1.5%	4.4%	-18.0%
Russia		1.0%	12.2%	2.2%
Mexico		0.7%	5.5%	-11.7%
Thailand		0.6%	7.4%	-6.9%
Indonesia		0.6%	4.3%	2.0%
Malaysia		0.6%	0.3%	-13.1%
Poland		0.3%	-0.6%	-5.7%
Philippines		0.3%	7.9%	1.8%
Chile		0.3%	4.1%	-17.5%
Qatar		0.2%	-3.5%	22.2%
United Arab Emirates		0.2%	8.7%	1.3%
Turkev		0.1%	-3.2%	-40.3%
Colombia		0.1%	24.8%	5.3%
Peru		0.1%	11.0%	2.2%
Hungary		0.1%	6.0%	0.5%
Greece		0.1%	12.8%	-23.6%
Czech Republic		0.0%	3.8%	-6.8%
Egypt		0.0%	15.8%	-10.2%
		0.0%	8.3%	-36.6%
Pakisian				
Pakistan Total Emerging Countries		26.1%	9.9%	-7.4%



- Broad fixed income benchmarks were positive to start 2019. Following the late 2018 market volatility, the Federal Open Market Committee (FOMC) issued dovish guidance after their January meeting stating that they would be patient in determining future interest rate adjustments. The FOMC also commented on the ongoing balance sheet reduction program, stating that they would be open to changes to the program if market conditions warranted them. Later in March, Fed Chair Jerome Powell communicated that the FOMC is no longer projecting any further interest rate increases through 2019. He also stated that they would begin tapering the roll off from the balance sheet reduction program in May with a plan to halt the program entirely in September. The stoppage of the balance sheet reduction program represents an easing of monetary policy. Interest rates fell across all maturities on the US Treasury Yield Curve with the greatest declines occurring in the mid- and long-term issues. This caused continued inversion in the yield curve with short-term maturities paying higher interest rates than issues in the mid- to long-end of the curve. The difference in yields between the 2-year and 10-year Treasury now sits at just 0.14% with the 30-day T-Bill yielding more than the 10-year bond by 0.02%. Historically, an inverted yield curve has been a leading indicator of a recession in the next 6-24 months. The bellwether Bloomberg Barclays US Aggregate Index posted positive returns for both the 1st guarter and the 1-year period, returning 2.9% and 4.5% respectively.
- Within investment grade credit, lower quality issues outperformed higher quality issues as investors gravitated toward higher risk securities during the quarter. Lower quality issues also benefitted from their higher durations. 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 5.8% for the quarter, while AAA was the worst performing, returning 2.2%. Despite their relatively low durations, high yield securities posted very strong returns for the quarter, gaining 7.3%, as spreads tightened by 135 basis points on these issues. When viewed over the 1-year period, returns for the various quality segments generally show lower quality securities outperforming higher quality issues by a small margin.
- During the 1<sup>st</sup> quarter, investment grade corporates outperformed the more defensive Treasury and mortgage backed sectors of the Bloomberg Barclays US Aggregate Index's three broad sectors. Investment grade corporate credit returned 5.1%, as the drop in interest rates benefitted these securities to a greater degree and credit spreads tightened considerably since the end of 2018. This quarter's performance carried through to the 1-year period as corporate credit outperformed both Treasuries and mortgage backed securities. Corporate issues returned 4.9% versus a 4.4% return for mortgages and 4.2% gain on Treasury securities.

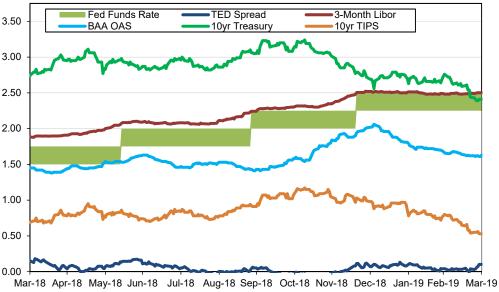


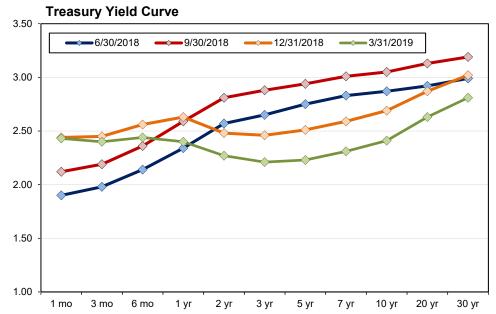




- Global fixed income indices continue to struggle relative to their domestic counterparts, underperforming during the 1st guarter. These indices have lower, or in some cases (Germany, Japan), negative yields and the returns of these indices are also significantly influenced by fluctuations in their currency denomination relative to the USD. The USD has appreciated against most other developed currencies, negatively impacting the returns on global bond indices. The return on global bonds, as represented by the Bloomberg Barclays Global Aggregate ex US Index, was 1.5% and -4.1% for the guarter and 1-year period respectively. As global growth has shown signs of stalling, several international central banks have started to step back from more restrictive postures. Notably, the ECB announced a program to extend loans to European banks in an effort to increase lending and pledged to keep interest rates steady through the end of 2019. China also announced new stimulus to help spur its economy. 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 the 10-year Treasury yield (green line) fell from recent high's greater than 3.0%, to yields below 2.5% to end the first guarter. 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 a relatively tight range in credit spreads throughout most of 2018, but highlights an abrupt increase during the 4th quarter of 2018 as investors moved to higher quality assets during the quarter's risk-off environment. Subsequently, spreads dropped steadily over the 1st quarter of 2019. This spread tightening is equivalent to an interest rate decrease on corporate bonds, which produces an additional tailwind for corporate bond index returns. These credit spreads have tightened by about 34 basis points over the last three months. The green band across the graph illustrates the gradual increase in the Federal Funds Rate due to the tightening of US monetary policy during 2018. As mentioned, the Fed's current guidance is for zero rate increases in 2019.
- 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 of 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 shorterterm maturities fell less than interest rates in the middle- to long-end of the curve.

## 1-Year Trailing Market Rates



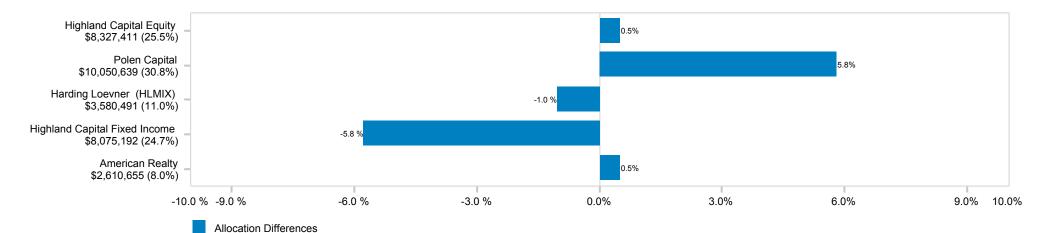




Total Fund Compliance:	Yes	No
The total plan (Net) return equaled or exceeded the total plan benchmark over the trailing five year period.	•	
The three year return ranks in the top 40% of its peers.	•	
The three year standard deviation is less than the total fund benchmark's standard deviation.	•	
Equity Compliance:	Yes	No
The equity (Net) return equaled or exceeded the benchmark over the trailing five year period.	•	
The amount invested in each issuing company is less than or equal to 5% of the Fund's equity portfolio at market.	•	
The aggregate investment in any one company is less than or equal to 5% of the outstanding shares of the company.	•	
The amount invested in common stocks and convertible bonds is less than or equal to 70% of the total fund market value.	•	
Fixed Income Compliance:	Yes	No
Total fixed income (Grosst) return equaled or exceed the benchmark over the trailing five year period.	•	
The three year return ranks in the top 40% of its peers.		•
All fixed income securities ranked at least BBB by Standard & Poors or Baa by Moody's.	•	



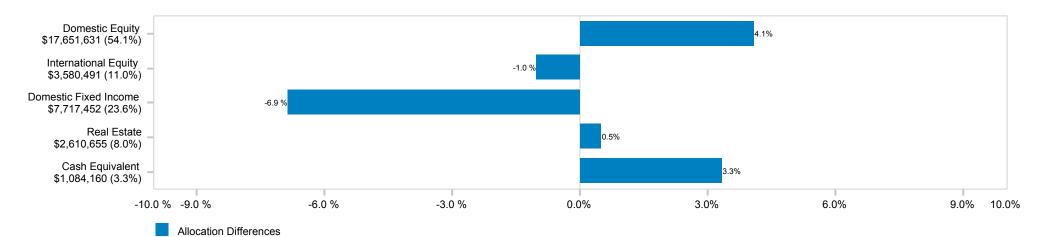
	Asset Allocation \$	Current Allocation (%)	Target Allocation (%)	Differences (%)	Target Rebal (\$000)
Total Fund Composite	32,644,387	100.0	100.0	0.0	-
Highland Capital Equity	8,327,411	25.5	25.0	0.5	-166,314
Polen Capital	10,050,639	30.8	25.0	5.8	-1,889,542
Harding Loevner (HLMIX)	3,580,491	11.0	12.0	-1.0	336,836
Highland Capital Fixed Income	8,075,192	24.7	30.5	-5.8	1,881,347
American Realty	2,610,655	8.0	7.5	0.5	-162,326

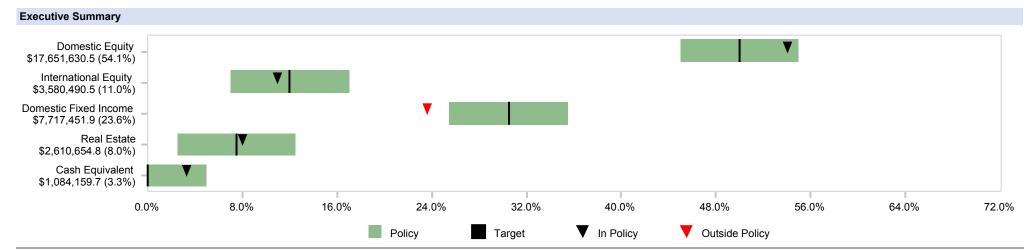






	Asset Allocation \$	Current Allocation (%)	Target Allocation (%)	Differences (%)	Target Rebal. (\$000)
Domestic Equity	17,651,631	54.1	50.0	4.1	-1,329,437
International Equity	3,580,491	11.0	12.0	-1.0	336,836
Domestic Fixed Income	7,717,452	23.6	30.5	-6.9	2,239,086
Real Estate	2,610,655	8.0	7.5	0.5	-162,326
Cash Equivalent	1,084,160	3.3	0.0	3.3	-1,084,160
Total Fund	32,644,387	100.0	100.0	0.0	-

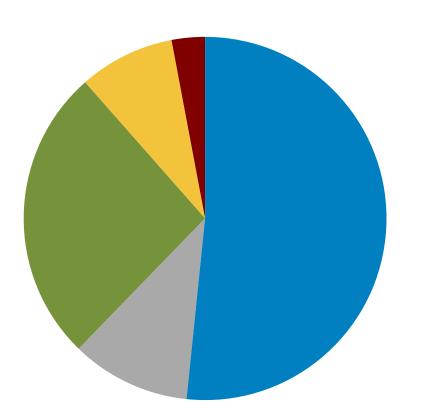


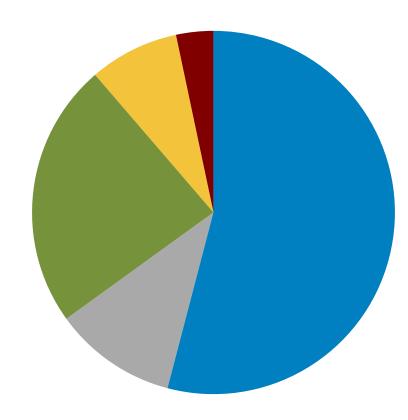




Asset Allocation By Segment as of December 31, 2018 : \$30,150,466

Asset Allocation By Segment as of March 31, 2019 : \$32,644,387



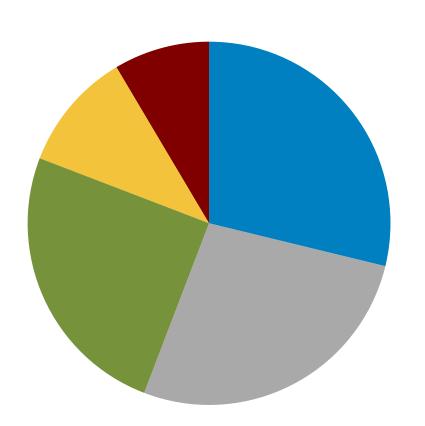


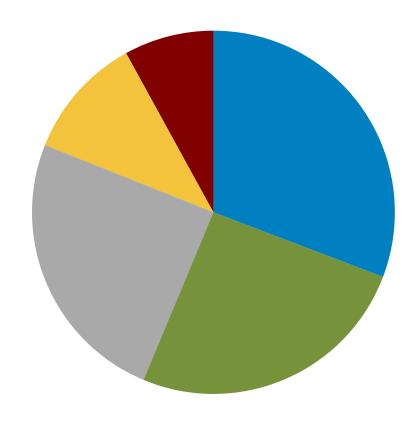
ocation						
Segments	Market Value	Allocation	Segments	Market Value	Allocation	
■ Domestic Equity	15,567,063	51.6	■ Domestic Equity	17,651,631	54.1	
International Equity	3,208,319	10.6	International Equity	3,580,491	11.0	
Domestic Fixed Income	7,905,459	26.2	Domestic Fixed Income	7,717,452	23.6	
Real Estate	2,573,148	8.5	Real Estate	2,610,655	8.0	
Cash Equivalent	896,477	3.0	Cash Equivalent	1,084,160	3.3	



Asset Allocation By Manager as of December 31, 2018 : \$30,150,466

Asset Allocation By Manager as of March 31, 2019 : \$32,644,387





cation			Allocation		
	Market Value	Allocation		Market Value	Allocation
Polen Capital	8,681,049	28.8	Polen Capital	10,050,639	30.8
■ Highland Capital Fixed Income	8,150,977	27.0	Highland Capital Equity	8,327,411	25.5
■ Highland Capital Equity	7,536,972	25.0	Highland Capital Fixed Income	8,075,192	24.7
Harding Loevner (HLMIX)	3,208,319	10.6	Harding Loevner (HLMIX)	3,580,491	11.0
■ American Realty	2,573,148	8.5	American Realty	2,610,655	8.0



Asset Allocation & Performance												
		ocation					Perform	ance(%)				
	Market Value \$	%	Q	TR	FY	TD.	1	YR	3	YR	5	YR
Total Fund Composite	32,644,387	100.0	9.84	(22)	0.83	(29)	8.75	(1)	10.01	(5)	8.97	(1)
Total Policy Index All Public Plans-Total Fund Median			9.75 9.25	(26)	0.67 0.22	(34)	7.51 4.55	(2)	9.52 8.38	(11)	8.14 5.90	(1)
Total Equity Composite	21,232,121	65.0	14.15		-0.90		10.73		14.23		12.16	
Total Equity Index			13.94		-2.32		8.23		13.53		10.67	
Highland Capital Equity S&P 500 Index Russell 1000 Value Index IM U.S. Large Cap Equity (SA+CF) Median	8,327,411	25.5	10.61 13.65 11.93 13.25	(88) (44) (70)	-2.77 -1.72 -1.19 -2.29	(59) (39) (31)	4.22 9.50 5.67 7.82	(76) (35) (65)	11.48 13.51 10.45 12.83	(69) (39) (82)	9.36 10.91 7.72 10.27	(63) (38) (81)
Polen Capital Russell 1000 Growth Index IM U.S. Large Cap Growth Equity (SA+CF) Median	10,050,639	30.8	17.17 16.10 15.89	(30) (46)	2.49 -2.34 -1.59	(12) (61)	23.63 12.75 12.41	(2) (47)	18.40 16.53 16.24	(22) (45)	17.57 13.50 12.74	(3) (38)
Harding Loevner (HLMIX)  MSCI EAFE Index  IM International Equity (SA+CF) Median	3,580,491	11.0	11.60 10.13 10.61	(35) (58)	-5.19 -3.64 -2.38	(73) (61)	-4.86 -3.22 -5.78	(41) (28)	9.26 7.80 8.58	(41) (62)	N/A 2.81 3.92	(72)
Total Fixed Income												
Highland Capital Fixed Income Blmbg. Barc. U.S. Gov't/Credit IM U.S. Broad Market Gov./Corp. (SA+CF) Median	8,075,192	24.7	3.13 3.26 3.31	(69) (66)	4.38 4.76 4.57	(76) (35)	4.89 4.48 4.57	(16) (70)	2.51 2.12 2.36	(42) (97)	3.06 2.78 3.10	(56) (90)
Total Real Estate Composite												
American Realty Real Estate Policy IM U.S. Open End Private Real Estate (SA+CF) Media	2,610,655	8.0	1.74 1.42 1.93	(70) (76)	3.71 3.20 3.68	(47) (82)	8.20 7.52 8.23	(54) (76)	7.65 7.97 8.47	(84) (76)	9.82 10.17 10.49	(83) (69)



	All	ocation		Performance(%)								
	Market Value \$	%	QTR	FYTD	1 YR	3 YR	5 YR					
Total Fund Composite	32,644,387	100.0	9.66	0.57	8.20	9.45	8.42					
Total Policy Index			9.75	0.67	7.51	9.52	8.14					
Total Equity Composite	21,232,121	65.0	14.15	-0.90	10.73	14.23	12.16					
Total Equity Index			13.94	-2.32	8.23	13.53	10.67					
Highland Capital Equity	8,327,411	25.5	10.49	-3.00	N/A	N/A	N/A					
S&P 500 Index			13.65	-1.72	9.50	13.51	10.91					
Russell 1000 Value Index			11.93	-1.19	5.67	10.45	7.72					
Polen Capital	10,050,639	30.8	16.84	2.20	22.96	17.77	16.93					
Russell 1000 Growth Index			16.10	-2.34	12.75	16.53	13.50					
Harding Loevner (HLMIX)	3,580,491	11.0	11.60	-5.19	-4.86	9.26	N/A					
MSCI EAFE Index			10.13	-3.64	-3.22	7.80	2.81					
Total Fixed Income												
Highland Capital Fixed Income	8,075,192	24.7	3.00	4.12	N/A	N/A	N/A					
Blmbg. Barc. U.S. Gov't/Credit			3.26	4.76	4.48	2.12	2.78					
Total Real Estate Composite												
American Realty	2,610,655	8.0	1.46	3.14	7.01	6.47	8.66					
Real Estate Policy			1.42	3.20	7.52	7.97	10.17					



Asset Allocation & Performance																		
	Alle	ocation					Performance(%)											
	Market Value \$	%	FY	TD	Oct-20 To Sep-20		Т	2016 o 2017	Т	2015 o 2016	Т	2014 o -2015	Т	2013 o -2014	Т	2012 o 2013	Т	-2011 Го -2012
Total Fund Composite	32,644,387	100.0	0.83	(29)	12.25 (2		12.53	(41)	10.73	(17)	4.90	(1)	12.33	(6)	12.16	(56)	19.53	(15
Total Policy Index			0.67	(34)	10.91 (4	1)	12.25	(47)	10.78	(17)	1.66	(8)	13.20	(3)	10.70	(76)	20.11	(9)
All Public Plans-Total Fund Median			0.22		7.58		12.02		9.71		-0.78		9.86		12.45		17.43	
Balanced Fund																		
Highland Capital Balanced	-	0.0	N/A		N/A		8.48	(78)	9.81	(51)	2.01	(10)	9.82	(69)	12.39	(52)	19.53	(51)
Highland Policy Index			2.08	(13)	7.36 (5	58)	8.62	(78)	10.57	(44)	1.29	(15)	13.33	(27)	10.46	(66)	20.11	(41)
IM U.S. Balanced (SA+CF) Median			-0.52		7.80		11.73		9.87		-1.92		11.25		12.57		19.56	
Total Equity Composite	21,232,121	65.0	-0.90		19.25		19.81		13.46		5.41		18.42		23.23		28.76	
Total Equity Index			-2.32		18.00		19.94		13.47		-0.66		19.50		19.80		30.20	
Highland Capital Equity	8,327,411	25.5	-2.77	(59)	12.66 (7	75)	18.59	(56)	14.71	(35)	1.04	(38)	17.46	(66)	28.23	(10)	28.76	(53)
S&P 500 Index			-1.72	(39)	17.91 (4	<del>1</del> 0)	18.61	(55)	15.43	(24)	-0.61	(57)	19.73	(37)	19.34	(70)	30.20	(38)
Russell 1000 Value Index			-1.19	(31)	9.45 (9	90)	15.12	(84)	16.19	(17)	-4.42	(84)	18.89	(49)	22.30	(38)	30.92	(28)
IM U.S. Large Cap Equity (SA+CF) Median			-2.29		17.02		18.83		13.22		-0.32		18.79		21.10		29.11	
Polen Capital	10,050,639	30.8	2.49	(12)	31.18 (1	13)	20.81	(51)	10.63	(64)	18.10	(1)	18.82	(43)	N/A		N/A	
Russell 1000 Growth Index			-2.34	(61)	26.30 (3	36)	21.94	(37)	13.76	(23)	3.17	(55)	19.15	(40)	19.27	(63)	29.19	(39)
IM U.S. Large Cap Growth Equity (SA+CF) Median			-1.59		24.38		20.82		11.64		3.61		18.18		20.25		27.65	
Harding Loevner (HLMIX)	3,580,491	11.0	-5.19	(73)	5.85 (1	19)	18.66	(69)	17.62	(22)	-9.04	(54)	N/A		N/A		N/A	
MSCI EAFE Index			-3.64	(61)	3.25 (3	34)	19.65	(61)	7.06	(76)	-8.27	(50)	4.70	(63)	24.29	(33)	14.33	(72)
IM International Equity (SA+CF) Median			-2.38		1.44		21.01		11.50		-8.31		5.82		20.27		17.28	
Total Fixed Income																		
Highland Capital Fixed Income	8,075,192	24.7	4.38	(76)	-1.01 (7	75)	0.62	(39)	6.73	(21)	2.80	(70)	3.62	(79)	-3.82	` '	7.21	(27)
Blmbg. Barc. U.S. Gov't/Credit			4.76	(35)	•	100)	-0.01	(94)	5.86	(60)	2.73	(75)	4.08	(71)	-1.96	(85)	5.66	(80)
IM U.S. Broad Market Gov./Corp. (SA+CF) Median			4.57		-0.87		0.46		5.92		3.11		4.28		-1.36		6.28	
Total Real Estate Composite																		
American Realty	2,610,655	8.0	3.71	(47)	`	36)	7.52	(67)	9.05	(97)	13.97	(69)	12.43	(67)	N/A		N/A	
Real Estate Policy			3.20	(82)	•	53)	7.66	(62)	10.08	(83)	14.93	(61)	12.40	(68)	13.04	(53)	11.61	(64)
IM U.S. Open End Private Real Estate (SA+CF) Media	an		3.68		9.04		8.29		11.32		15.45		12.78		13.18		12.87	





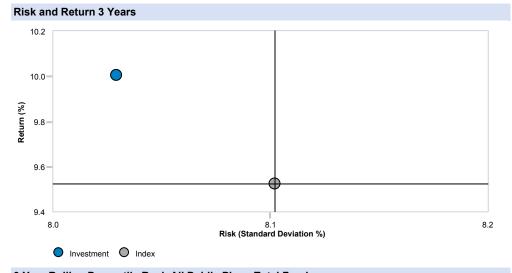
Historical returns prior to 07/01/2018 for Highland Capital Equity and Fixed Income do not include cash.

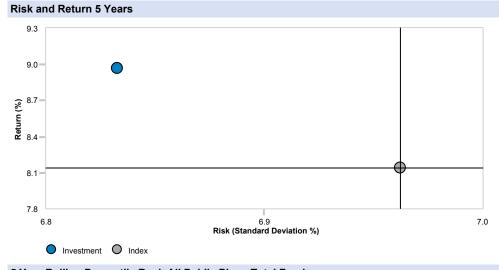
Asset Allocation & Performan	ice									
	Allo	ocation				Perfori	mance(%)			
	Market Value \$	%	FYTD	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013	Oct-2011 To Sep-2012
Total Fund Composite	32,644,387	100.0	0.57	11.70	11.94	10.05	4.53	11.70	11.64	18.93
Total Policy Index			0.67	10.91	12.25	10.78	1.66	13.20	10.70	20.11
Balanced Fund										
Highland Capital Balanced	-	0.0	N/A	N/A	7.90	9.10	1.76	9.28	11.73	18.93
Highland Policy Index			2.08	7.36	8.62	10.57	1.29	13.33	10.46	20.11
Total Equity Composite	21,232,121	65.0	-0.90	19.25	19.81	13.46	5.41	18.42	23.23	28.76
Total Equity Index			-2.32	18.00	19.94	13.47	-0.66	19.50	19.80	30.20
Highland Capital Equity	8,327,411	25.5	-3.00	N/A						
S&P 500 Index			-1.72	17.91	18.61	15.43	-0.61	19.73	19.34	30.20
Russell 1000 Value Index			-1.19	9.45	15.12	16.19	-4.42	18.89	22.30	30.92
Polen Capital	10,050,639	30.8	2.20	30.48	20.17	10.01	17.47	18.01	N/A	N/A
Russell 1000 Growth Index			-2.34	26.30	21.94	13.76	3.17	19.15	19.27	29.19
Harding Loevner (HLMIX)	3,580,491	11.0	-5.19	5.85	18.66	17.62	-9.04	N/A	N/A	N/A
MSCI EAFE Index			-3.64	3.25	19.65	7.06	-8.27	4.70	24.29	14.33
Total Fixed Income										
Highland Capital Fixed Income	8,075,192	24.7	4.12	N/A						
Blmbg. Barc. U.S. Gov't/Cred	lit		4.76	-1.37	-0.01	5.86	2.73	4.08	-1.96	5.66
Total Real Estate Composite										
American Realty	2,610,655	8.0	3.14	7.31	6.34	7.92	12.83	11.36	N/A	N/A
Real Estate Policy			3.20	8.68	7.66	10.08	14.93	12.40	13.04	11.61

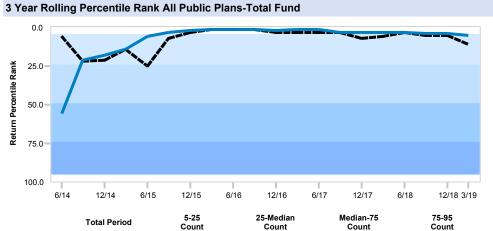


Historical Stati	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	10.01	8.03	1.09	102.05	11	93.50	1
Index	9.52	8.10	1.03	100.00	10	100.00	2

<b>Historical Statis</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	8.97	6.83	1.20	103.72	18	84.64	2
Index	8.14	6.96	1.07	100.00	16	100.00	4







0 (0%)

0 (0%)

1 (5%)

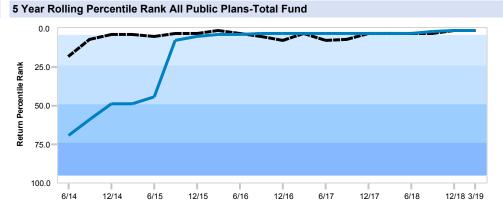
0 (0%)

0 (0%)

0 (0%)

19 (95%)

20 (100%)



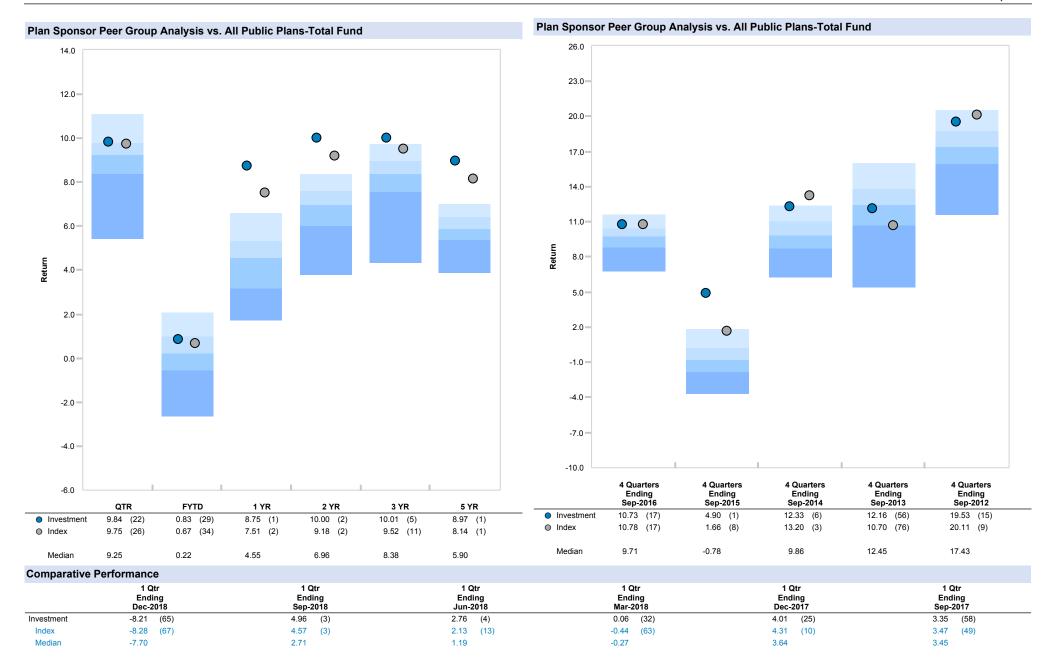
	Total Period	Count	Count	Count	Count
Investment	20	15 (75%)	3 (15%)	2 (10%)	0 (0%)
Index	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)



Investment

\_\_ Index

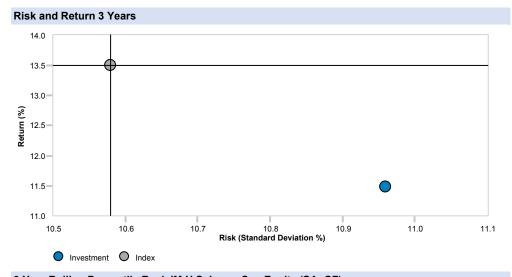
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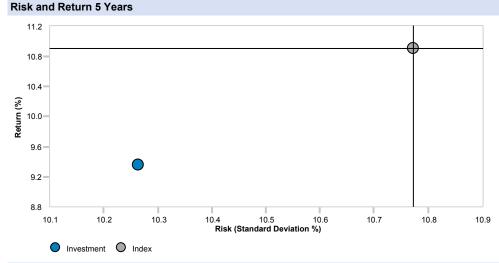


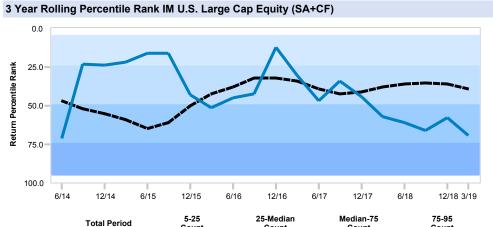


<b>Historical Stati</b>	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	11.48	10.96	0.94	89.09	10	93.25	2
Index	13.51	10.58	1.15	100.00	10	100.00	2

<b>Historical Statis</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	9.36	10.26	0.86	90.58	15	101.47	5
Index	10.91	10.77	0.96	100.00	17	100.00	3







Count

7 (35%)

15 (75%)

Count

7 (35%)

5 (25%)

Count

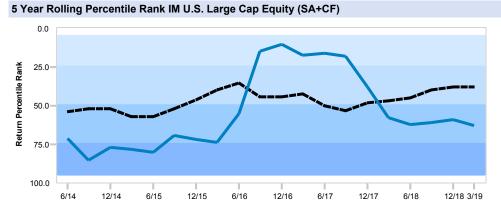
0 (0%)

0 (0%)

Count

6 (30%)

0 (0%)



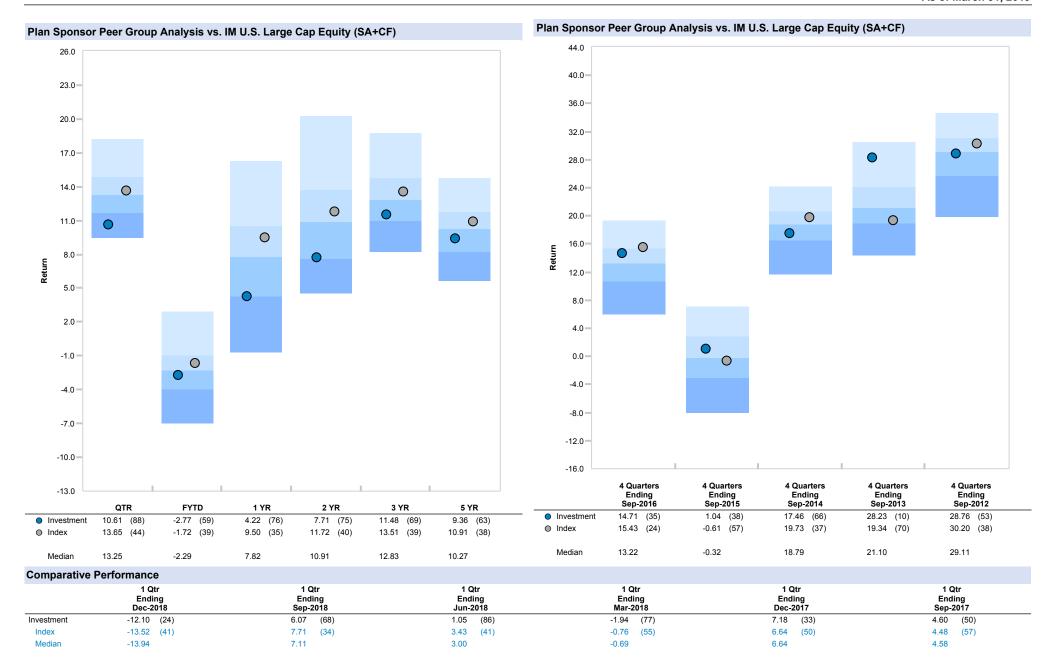
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count	
Investment	20	5 (25%)	1 (5%)	10 (50%)	4 (20%)	
Index	20	0 (0%)	13 (65%)	7 (35%)	0 (0%)	



Investment

\_\_ Index

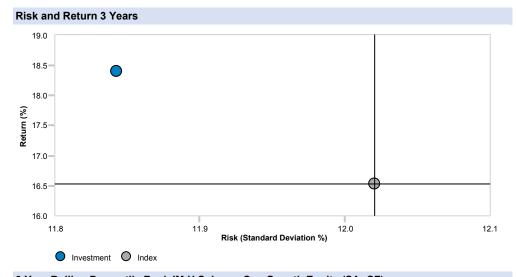
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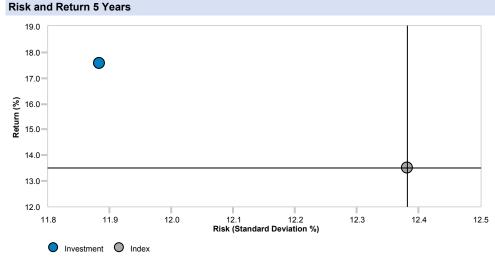


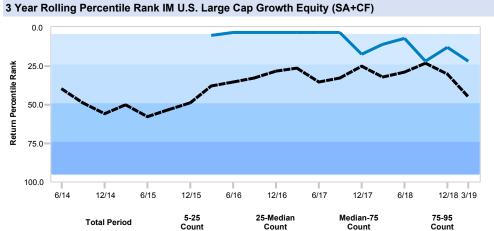


Historical Stati	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	18.40	11.84	1.40	104.04	9	93.78	3
Index	16.53	12.02	1.24	100.00	11	100.00	1

<b>Historical Statis</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	17.57	11.88	1.39	109.20	17	54.63	3
Index	13.50	12.38	1.05	100.00	18	100.00	2







0 (0%)

15 (75%)

0 (0%)

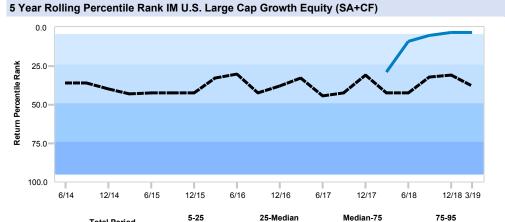
3 (15%)

0 (0%)

0 (0%)

13 (100%)

2 (10%)

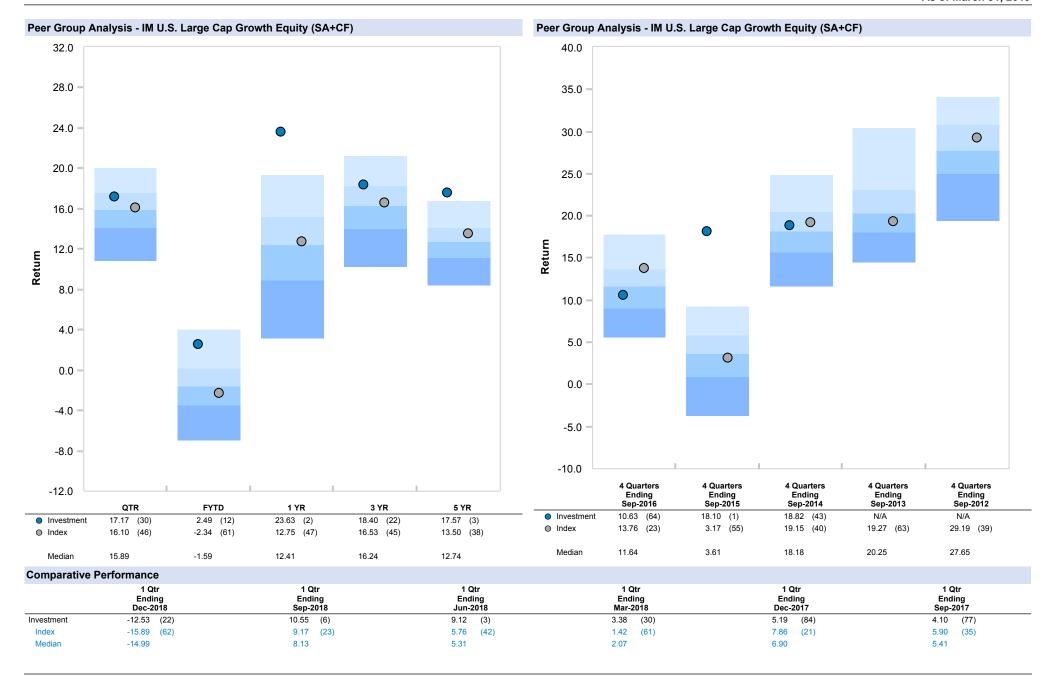




Investment

\_\_ Index

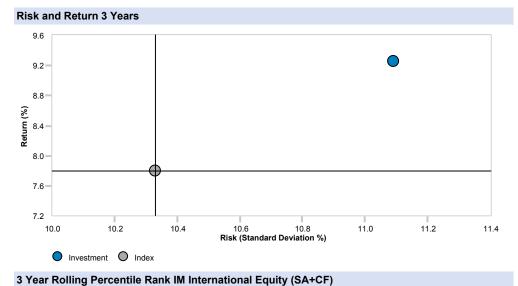
13





Historical Statis	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	9.26	11.09	0.75	99.81	9	86.42	3
Index	7.80	10.33	0.67	100.00	7	100.00	5

<b>Historical Stati</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Index	2.81	11.50	0.24	100.00	11	100.00	9







6 (86%)

6 (30%)

0 (0%)

13 (65%)

0 (0%)

1 (5%)

1 (14%)

0 (0%)

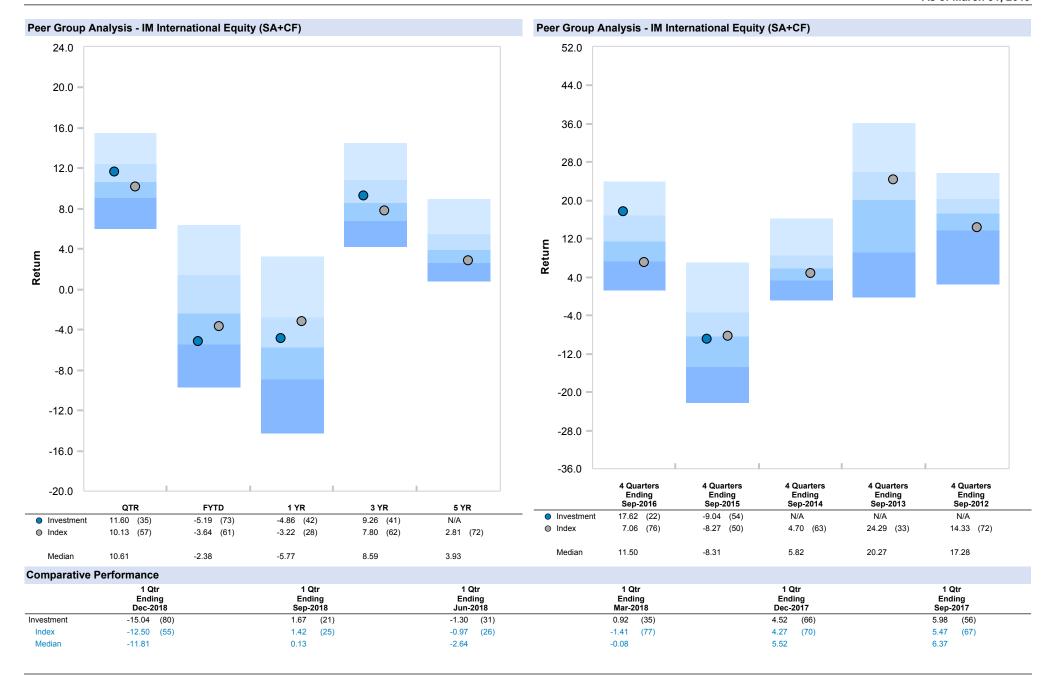


	Total Period	Count	Count	Count	Count	
Investment	0	0	0	0	0	
Index	20	0 (0%)	0 (0%)	20 (100%)	0 (0%)	



Investment

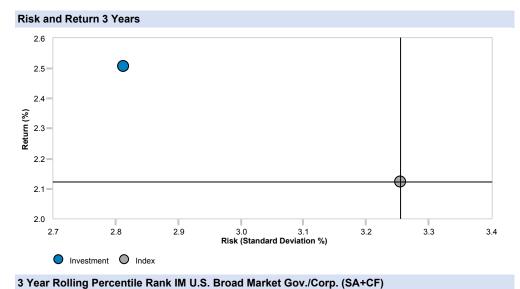
\_\_ Index

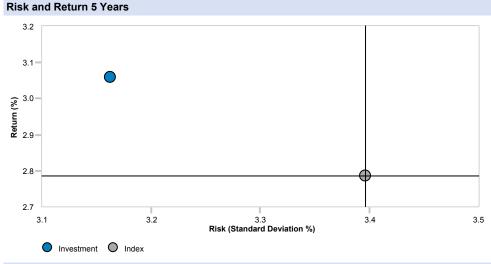




Historical Statis	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.51	2.81	0.49	91.98	10	75.41	2
Index	2.12	3.26	0.31	100.00	9	100.00	3

<b>Historical Statis</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	3.06	3.16	0.74	99.06	16	81.38	4
Index	2.78	3.40	0.62	100.00	15	100.00	5







9 (45%)

0 (0%)

1 (5%)

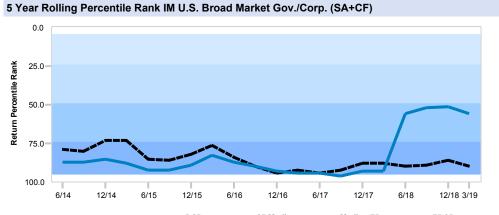
0 (0%)

9 (45%)

20 (100%)

1 (5%)

0 (0%)



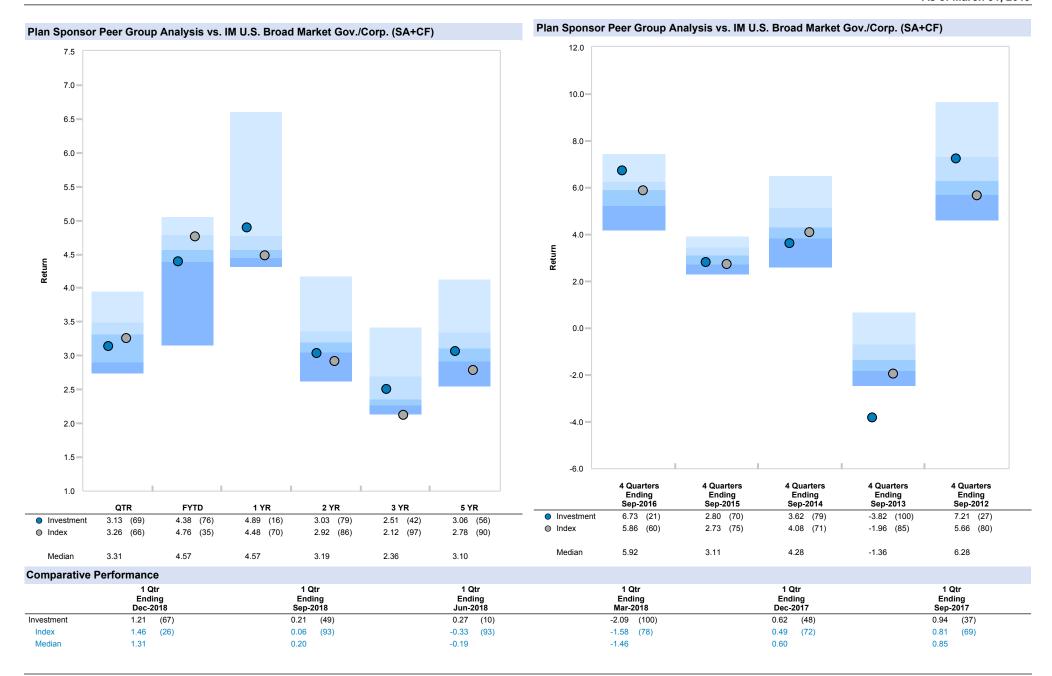
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	0 (0%)	4 (20%)	16 (80%)
Index	20	0 (0%)	0 (0%)	2 (10%)	18 (90%)



Investment

\_\_ Index

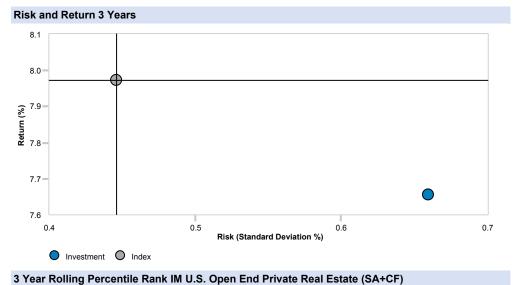
20

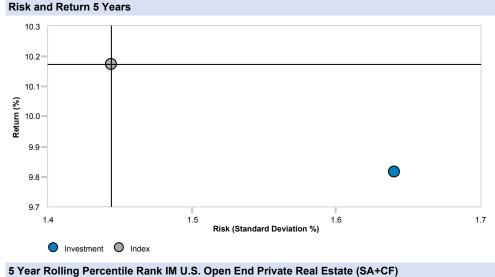


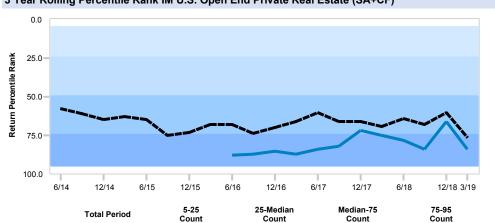


Historical Stati	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	7.65	0.66	10.32	96.12	12	N/A	N/A
Index	7.97	0.45	9.48	100.00	12	N/A	N/A

<b>Historical Statis</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	9.82	1.64	4.74	96.63	20	N/A	N/A
Index	10.17	1.44	5.22	100.00	20	N/A	N/A







0 (0%)

0 (0%)

3 (25%)

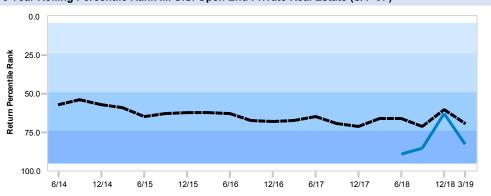
19 (95%)

9 (75%)

1 (5%)

0 (0%)

0 (0%)



25-Median

Count

0 (0%)

0 (0%)

Median-75

Count

1 (25%)

20 (100%)

5-25

Count

0 (0%)

0 (0%)

**Total Period** 

4

20

Investment

\_\_ Index

75-95

Count

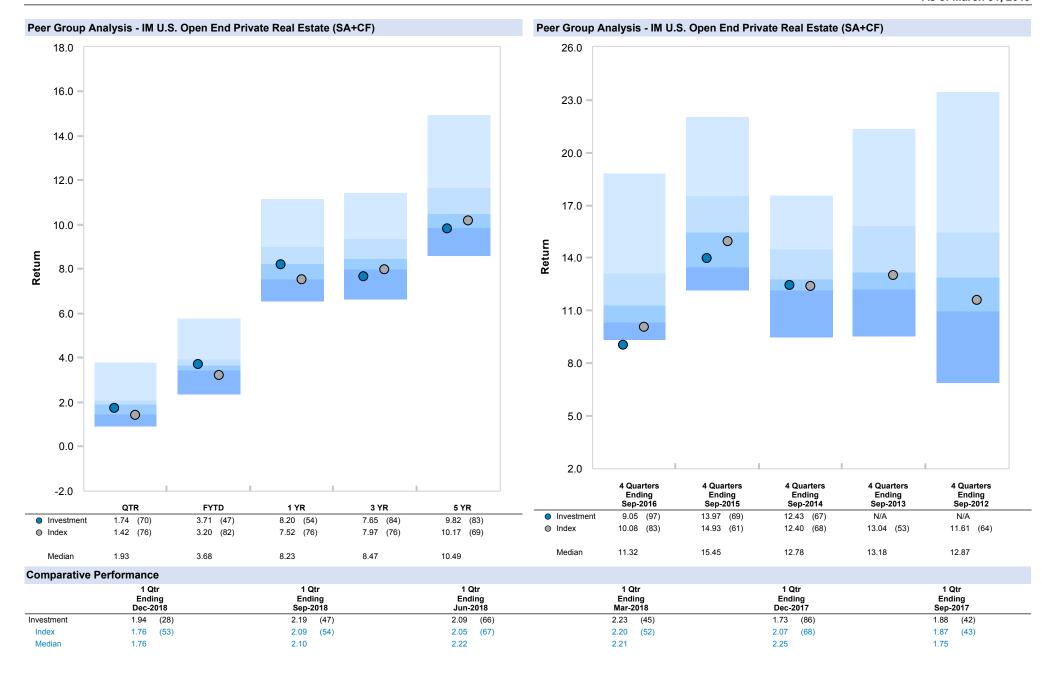
3 (75%)

0 (0%)

Investment

\_\_ Index

12





# Miami Springs Police and Fire Fee Analysis As of March 31, 2019

	Estimated Annual Fee (%)	Market Value (\$)	Estimated Annual Fee (\$)	Fee Schedule
Total Fund Composite	0.60	32,644,387	195,011	
Highland Capital Equity	0.50	8,327,411	41,637	0.50 % of Assets
Polen Capital	0.55	10,050,639	55,279	0.55 % of Assets
Harding Loevner (HLMIX)	0.81	3,580,491	29,002	0.81 % of Assets
Highland Capital Fixed Income	0.50	8,075,192	40,376	0.50 % of Assets
American Realty	1.10	2,610,655	28,717	1.10 % of Assets



Total Fund Historical Hybrid Comp	osition
Allocation Mandate	Weight (%)
Jan-1973	
S&P 500 Index	50.00
Blmbg. Barc. U.S. Gov't/Credit	50.00
Jan-2007	
S&P 500 Index	60.00
Blmbg. Barc. U.S. Gov't/Credit	40.00
Billing. Barc. O.O. Gov Poredit	40.00
Jan-2013	
S&P 500 Index	35.00
Russell 1000 Growth Index	25.00
Blmbg. Barc. U.S. Gov't/Credit	40.00
0-4-2044	
Oct-2014	20.00
S&P 500 Index Russell 1000 Growth Index	30.00 20.00
MSCI EAFE Index	10.00
Blmbg. Barc. U.S. Gov't/Credit	32.50
NCREIF Fund Index-ODCE (VW)	7.50
,	
Jul-2018	
S&P 500 Index	25.00
Russell 1000 Growth Index	25.00
MSCI EAFE Index	12.00
Dimba Dara II C CavitiCradit	20 50

<b>Highland Capital Historical Hybrid Compos</b>	Highland Capital Historical Hybrid Composition	
Allocation Mandate	Weight (%)	
Jan-1973		
S&P 500 Index	50.00	
Blmbg. Barc. U.S. Gov't/Credit	50.00	
Jan-2007		
S&P 500 Index	60.00	
Blmbg. Barc. U.S. Gov't/Credit	40.00	
Oct-2014		
S&P 500 Index	48.00	
Blmbg. Barc. U.S. Gov't/Credit	52.00	
Jul-2018		
S&P 500 Index	45.00	
Blmbg_Barc_U.S_Gov't/Credit	55.00	



Active I	Rei	turi	n
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- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.

#### Alpha

- A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.

#### Beta

- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.

#### Consistency

- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.

#### Distributed to Paid In (DPI)

- The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.

#### **Down Market Capture**

- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance

#### **Downside Risk**

- A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.

#### **Excess Return**

- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.

#### Excess Risk

- A measure of the standard deviation of a portfolio's performance relative to the risk free return.

#### Information Ratio

- This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.

#### **Public Market Equivalent (PME)**

- Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.

#### R-Squared

- The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.

#### Return

- Compounded rate of return for the period.

#### Sharpe Ratio

- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.

#### **Standard Deviation**

- A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.

#### Total Value to Paid In (TVPI)

- The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life

#### **Tracking Error**

- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.

#### **Treynor Ratio**

- Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.

#### **Up Market Capture**

- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.



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