Investment Performance Review Period Ending March 31, 2018

# Miami Springs Police & Fire Retirement System



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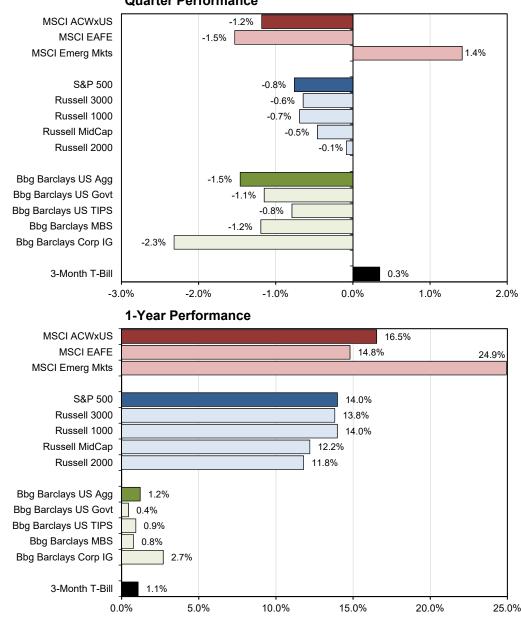
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**1st Quarter 2018 Market Environment** 

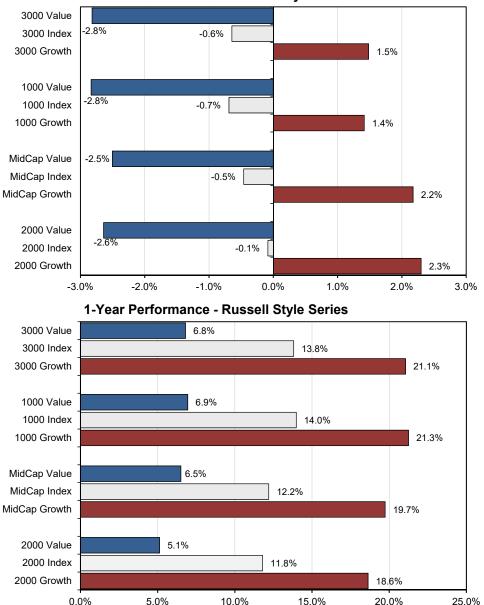


- Market returns were broadly negative across major equity and fixed income indices as we finished a highly volatile 1<sup>st</sup> quarter of 2018. Broad domestic and international equity markets pulled back modestly following a very strong 2017. Fixed income indices also posted negative results, producing returns in-line with those of equities during the quarter. However, when viewed over the past 1-year period, returns remain positive for major indices as improving macroeconomic data and robust corporate earnings worldwide outweighed the near-term market uncertainty. The US stock market represented by the Russell 3000 Index returned -0.6% and 13.8% for the quarter and 1-year period respectively. While the Russell 3000 outperformed the international MSCI ACWI ex US Index during the 1<sup>st</sup> quarter, international stocks have performed better over the last 12 months. While the US economy continues to show signs of expansion, investors focused on the future path of Federal Reserve (Fed) monetary policy and the emergence of new protectionist trade policies from the Trump administration during the quarter.
- International equity market benchmarks were mixed with developed markets posting modestly negative returns and emerging markets earning a slightly positive result. This is a continuation of the 2017 trend of emerging market outperformance relative to developed market equities. Emerging market stocks returned 1.4% and 24.9% over the quarter and 1-year period respectively. While the developed market MSCI EAFE Index lost ground through the 1<sup>st</sup> quarter, returning -1.5%, it still posted solid gains over the 1-year period returning 14.8%, narrowly outpacing major US indices. The strength in fundamentals abroad, ongoing US Dollar (USD) weakness and relatively accommodative global central bank policies continue to act as a tailwind to international markets relative to their US counterparts. Consequently, as the global recovery continues to take hold, international central banks have started to telegraph a greater likelihood of reduced stimulus in the future. Many international markets also saw their returns influenced, both positively and negatively, by ongoing political developments throughout the quarter.
- Interest rates on the US Treasury Yield Curve ended the 1<sup>st</sup> quarter of 2018 higher across all maturities. The movement in rates was considerable during the quarter as markets reacted to the greater likelihood of increasing inflation and a more restrictive than expected US monetary policy going forward. The Fed followed suit by increasing short-term interest rates by 25 basis points at their March meeting, the third increase in the last 12 months. The rising interest rate environment negatively impacted fixed income market returns for the quarter. The Bloomberg Barclays US Aggregate Index fell -1.5% for the quarter, but managed a positive 1.2% return for the 1-year period. Corporate credit reversed its 2017 trend of outperformance relative to other investment grade sectors returning -2.3% during the 1<sup>st</sup> quarter as credit spreads began to widen.



#### **Quarter Performance**

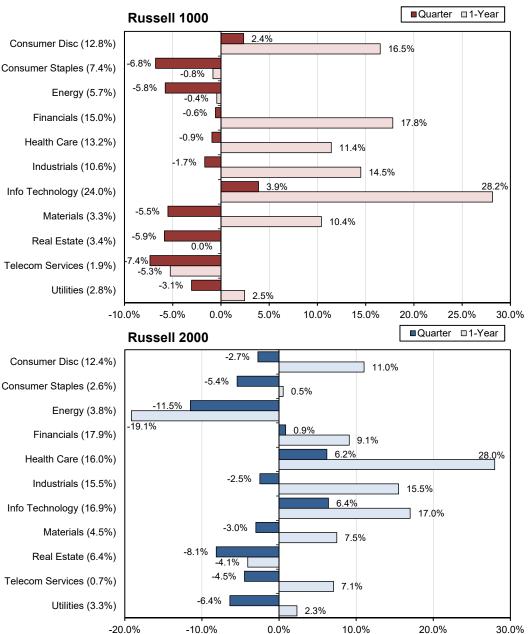
- US equity index returns were mixed across the style and capitalization spectrum to start 2018 with growth indices being the best performers. Markets were highly volatile throughout the guarter. Investors initially cheered the passage of the republican party tax reforms containing reductions to both individual and corporate income tax rates, increasing expectations for consumer spending and corporate earnings going forward. However, high US wage growth in January raised investor concerns that inflation could be picking up more quickly than the market expected, and would therefore require increased Fed action to prevent overheating of the economy. Market volatility rose and the S&P 500 Index had its first correction since 2015, falling over 10%. The market began a recovery from its February low as later economic releases made it appear that fears over inflation had likely been overstated. However, volatility returned in March when the Trump administration announced a series of protectionist tariff policies, with emphasis placed on China, increasing the potential for a global trade war. Despite the considerable market volatility, most US economic data was positive during the guarter and congress passed a new federal budget deal that will increase government spending by about \$300 billion over the next two years which can be used to stimulate the economy over the short-term.
- During the quarter, small cap stocks outperformed mid and large cap equities. The small cap Russell 2000 Index returned -0.1% during the period, while the large cap Russell 1000 Index returned -0.7%. The opposite was true over the 1-year period as large cap names were the best performers. The Russell 1000 returned 14.0% over the trailing year while the Russell 2000 posted a return of 11.8%. This large cap outperformance can be partially explained by their greater exposure to foreign markets relative to small cap companies. This can be especially beneficial during periods of USD weakness, such as that experienced over the last year. Large cap companies generate more revenue outside of the US which can expose them to faster growing markets, foreign tax benefits or strengthening foreign currencies.
- Growth indices outperformed value indices across the market cap spectrum for the fifth straight quarter and were all able to post a positive return for the 1<sup>st</sup> quarter of 2018. Performance for growth indices more than doubled value index performance for each respective cap segment for the year. Growth benchmarks benefitted from larger exposures to more cyclical names within the information technology, consumer discretionary, health care and industrials sectors. They also benefitted from underweights to more defensive "bond proxy" sectors such as REITs, utilities and telecom. Lower exposure to the energy sector also acted as tailwind to growth benchmarks.



Quarter Performance - Russell Style Series



- . Sector performance was largely negative across large cap sectors for the 1<sup>st</sup> quarter of 2018. Only two of eleven sectors had positive returns for the quarter and only three of eleven economic sectors outpaced the Russell 1000 Index return. Cyclical sectors tended to do well through the guarter with the higher vielding bond proxy sectors lagging on a relative basis as interest rates rose sharply during the period. Technology stocks continued their 2017 gains over the guarter, gaining 3.9% and consumer discretionary stocks performed well on the back of a strong holiday season earning a 2.4% return. The largest detractors for the guarter were the more defensive telecom services. consumer staples and real estate sectors which returned -7.4%, -6.8% and -5.9% respectively. Over the trailing 1-year period, technology was the best performing sector by a relatively wide margin returning an impressive 28.2%. Consumer discretionary and financials also returned greater than 15%. Seven of eleven large cap economic sectors posted positive returns for the 1-year period with six posting double digit returns. Telecom services was the largest underperformer losing -5.3%. The three other sectors with negative returns for the trailing year (real estate, energy and consumer staples) fell by less than 1.0%.
- Small cap sector results were mixed relative to their large capitalization counterparts. Only three of eleven economic sectors outpaced the Russell 2000 Index return for the guarter and posted positive results for the period. Like the large cap index sector performance, higher dividend yielding sectors also tended to trail more economically sensitive sectors. Technology was the best performing sector returning 6.4%. However, there were several notable differences, particularly in consumer discretionary and energy where there was significant underperformance relative to their large cap counterparts. Small Consumer Staples (2.6%) cap sectors trailed large cap sectors in those two categorizations by over 5.0% during the guarter. Similarly, the small cap health care sector had much stronger performance than the large cap health care sector posting a 6.2% gain for the guarter. Over the 1-year period, nine of eleven sectors have posted gains with four of eleven sectors having returns greater than 10%. Health care stocks were the best performers within the Russell 2000 for the year returning a solid 28.0%. Energy and real estate were the only Russell 2000 sectors to post a negative return, falling -19.1% and -4.1% respectively.
- Using S&P 500 sector valuations as a proxy for the market, forward P/E ratios for eight of the GICS sectors were higher than their long-term averages at quarter-end. Using these historical P/E measures, the utilities, materials and energy sectors appear the most extended. In contrast the telecommunications, Te technology and health care sectors were trading at a discount to their long-term average P/E ratios.





Top 10 Weighted Stocks					
Russell 1000 Weight Weight Return Return Return					
Apple Inc	3.41%	-0.5%	18.6%	Information Technology	
Microsoft Corp	2.74%	7.2%	41.5%	Information Technology	
Amazon.com Inc	2.33%	23.8%	63.3%	Consumer Discretionary	
Berkshire Hathaway Inc B	1.54%	0.6%	19.7%	Financials	
JPMorgan Chase & Co	1.52%	3.4%	28.0%	Financials	
Facebook Inc A	1.51%	-9.4%	12.5%	Information Technology	
Johnson & Johnson	1.38%	-7.7%	5.5%	Health Care	
Exxon Mobil Corp	1.27%	-9.9%	-5.5%	Energy	
Alphabet Inc C	1.25%	-1.4%	24.4%	Information Technology	
Alphabet Inc A	1.24%	-1.5%	22.3%	Information Technology	

Top 10 Performing Stocks (by Quarter)						
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector		
XL Group Ltd	0.06%	57.8%	41.6%	Financials		
Abiomed Inc	0.05%	55.3%	132.4%	Health Care		
Netflix Inc	0.48%	53.9%	99.8%	Consumer Discretionary		
Validus Holdings Ltd	0.02%	44.6%	23.1%	Financials		
Herbalife Ltd	0.02%	43.9%	67.6%	Consumer Staples		
Agios Pharmaceuticals Inc	0.02%	43.0%	40.0%	Health Care		
Match Group Inc	0.01%	41.9%	172.1%	Information Technology		
Square Inc A	0.05%	41.9%	184.7%	Information Technology		
CSRA Inc	0.03%	38.6%	43.0%	Information Technology		
DST Systems Inc	0.02%	34.8%	37.9%	Information Technology		

Top 10 Weighted Stocks					
Russell 2000	Sector				
bluebird bio Inc	0.52%	-4.1%	87.8%	Health Care	
MGIC Investment Corp	0.49%	-7.9%	28.3%	Financials	
Sterling Bancorp	0.49%	-8.1%	-3.7%	Financials	
Wintrust Financial Corp	0.49%	4.7%	25.5%	Financials	
Umpqua Holdings Corp	0.48%	3.9%	25.1%	Financials	
Idacorp Inc	0.45%	-2.7%	9.2%	Utilities	
Hancock Holding Co	0.44%	4.9%	15.8%	Financials	
LivaNova PLC	0.44%	10.7%	80.6%	Health Care	
WGL Holdings Inc	0.44%	-2.0%	3.8%	Utilities	
Radian Group Inc	0.42%	-7.6%	6.1%	Financials	

Top 10 Performing Stocks (by Quarter)						
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector		
Atara Biotherapeutics Inc	0.13%	115.5%	89.8%	Health Care		
Iovance Biotherapeutics Inc	0.12%	111.3%	126.8%	Health Care		
Cambium Learning Group Inc	0.01%	97.2%	128.6%	Consumer Discretionary		
G1 Therapeutics Inc	0.01%	86.7%	N/A	Health Care		
Arsanis Inc	0.00%	79.4%	N/A	Health Care		
Eastman Kodak Co	0.00%	72.6%	-53.5%	Information Technology		
American Public Education Inc	0.07%	71.7%	87.8%	Consumer Discretionary		
Infinera Corp	0.16%	71.6%	6.2%	Information Technology		
Novavax Inc	0.04%	69.4%	64.1%	Health Care		
WMIH Corp	0.03%	67.2%	-2.1%	Financials		

Sector

Health Care

Industrials

Health Care

Real Estate

Health Care

Energy

Energy Health Care

Consumer Discretionary

Information Technology

Bot	ttom 10 Perforn	ning Stocks (	Bottom 10	0 Perform	ing Stocks (	by Quarter)			
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector	Russell 2000	Weight	1-Qtr Return	1-Year Return	
olony NorthStar Inc A	0.01%	-49.8%	-52.7%	Real Estate	Dermira Inc	0.01%	-71.3%	-76.6%	Τ
Veatherford International PLC	0.01%	-45.1%	-65.6%	Energy	Ascent Capital Group Inc A	0.00%	-68.0%	-74.0%	Ţ
korn Inc	0.01%	-41.9%	-22.3%	Health Care	Roadrunner Transportation Systems Inc	0.01%	-67.1%	-63.0%	1
Iniversal Display Corp	0.02%	-41.5%	17.4%	Information Technology	Tintri Inc	0.00%	-66.5%	N/A	
lacquarie Infrastructure Corp	0.01%	-40.3%	-49.7%	Industrials	Westmoreland Coal Co	0.00%	-66.1%	-97.2%	1
atterson Companies Inc	0.01%	-38.0%	-49.6%	Health Care	Protagonist Therapeutics Inc	0.01%	-58.7%	-32.9%	
Aallinckrodt PLC	0.01%	-35.8%	-67.5%	Health Care	RAIT Financial Trust	0.00%	-56.9%	-94.5%	1
Brands Inc	0.04%	-35.8%	-14.5%	Consumer Discretionary	Ultra Petroleum Corp	0.08%	-54.0%	-67.4%	
OPKO Health Inc	0.00%	-35.3%	-60.4%	Health Care	Melinta Therapeutics Inc	0.01%	-53.2%	-60.5%	1
Coherent Inc	0.02%	-33.6%	-8.9%	Information Technology	Tetraphase Pharmaceuticals Inc	0.02%	-51.3%	-66.6%	1



Index were 24.9% in USD terms and 22.0% in terms of local currency.

economic data, focusing their attention on US monetary policy uncertainty and the outlook for global trade relations. There were several newsworthy political events during the guarter. In Europe, Italian elections resulted in a hung parliament with the populist Five Star Movement winning the largest number of seats. There is currently no clear path for a coalition government to be formed and it is possible elections may need to be re-held. In contrast, German Chancellor Merkel succeeded in forming a "grand coalition" government during March. In the UK, continued progress was made on "Brexit" as the UK and European Union were able to agree to initial terms on a transition period following the UK's separation that should allow for an orderly withdrawal. In Japan, Prime Minister Abe was engulfed in a scandal regarding a discounted land sale to a school operator with ties to his wife and its subsequent coverup. The MSCI EAFE Index returned 14.8% and 5.3% for the last twelve months in USD and local currency terms respectively. The MSCI Emerging Market Index outperformed developed markets for the 1st guarter, posting a narrow gain of 1.4% and 0.7% in USD and local currency terms respectively. While emerging markets were also affected by the rise in alobal market volatility, strong GDP and corporate earnings growth combined with USD weakness helped them to finish the guarter ahead. China modestly outperformed despite late quarter trade tensions with the US. Brazil was the index's strongest performer, returning 12.4% in USD terms, after former President Lula da Silva had a corruption and money laundering conviction

upheld, likely preventing him from running for office again and opening the

door for future economic reforms. Russian equities also performed well after

Standard & Poor's raised the countries credit rating to investment grade for the

first time in over a decade citing prudent policy responses to sanctions and

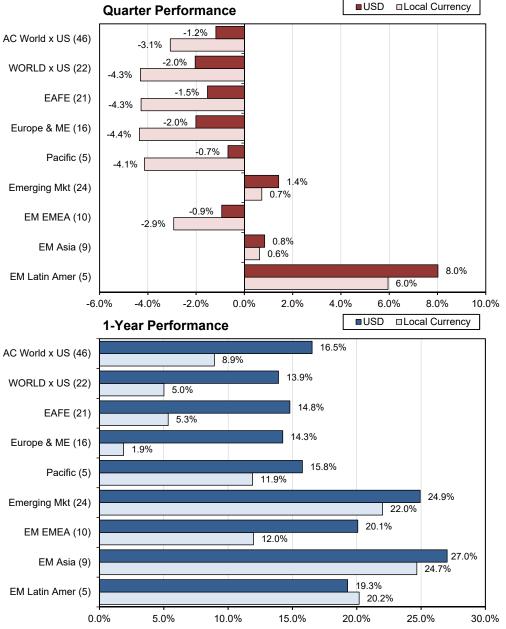
falling commodity prices. Indian stocks underperformed after fraud allegations

emerged at a state-run bank. One year returns for the MSCI Emerging Market

positive. US investors in international markets had a currency effect tailwind as the USD continued its 2017 fall, weakening against most other currencies during the 1st quarter. The MSCI ACWI ex US Index lost -1.2% in USD terms and -3.1% in local currency terms. Emerging markets were a bright spot for the guarter with the MSCI Emerging Markets Index finishing with a slight gain. The returns over the 1-year period are substantially better with MSCI ACWI ex US returning 16.5% in USD terms and 8.9% in local currency terms. Results for developed market international indices were negative to start 2018 in both USD and local currency terms with the MSCI EAFE Index returning -

Similar to domestic equities, broad international equity returns pulled back during the 1<sup>st</sup> guarter. Performance was largely driven by the same catalysts

- as the US equity markets, as global macroeconomic data remained generally AC World x US (46) WORLD x US (22) -4.3% EAFE (21) -4.3% Europe & ME (16)
- -0.7% Pacific (5) -4.1% 1.5% and -4.3% respectively. Investors ignored broadly positive global Emerging Mkt (24) -0.9% EM EMEA (10) -2.9% EM Asia (9) EM Latin Amer (5) -4 0% -2.0% -6.0% 0.0% **1-Year Performance** AC World x US (46) 8.9% WORLD x US (22) 5.0% EAFE (21) 5.3% Europe & ME (16) 1.9%





	The Market Environment
<b>US Dollar International Index A</b>	ttribution & Country Detail
	As of March 31, 2018

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Consumer Discretionary	12.6%	0.7%	19.2%
Consumer Staples	11.1%	-3.0%	10.4%
Energy	5.3%	-2.0%	21.4%
Financials	21.1%	-2.2%	13.6%
Health Care	10.2%	-0.9%	7.0%
Industrials	14.6%	-1.5%	17.4%
Information Technology	6.6%	1.1%	26.2%
Materials	8.0%	-3.8%	19.8%
Real Estate	3.5%	-1.5%	13.1%
Telecommunication Services	3.8%	-3.9%	3.1%
Utilities	3.3%	1.3%	12.1%
Total	100.0%	-1.5%	14.8%
MSCI - ACWIXUS	Sector Weight	Quarter Return	1-Year Return
Consumer Discretionary	11.4%	-1.0%	18.6%
Consumer Staples	9.5%	-2.8%	11.0%
Energy	6.7%	-1.8%	15.4%
Financials	23.1%	-1.1%	15.9%
Health Care	7.7%	-0.3%	9.1%
Industrials	11.8%	-1.6%	16.3%
Information Technology	11.8%	1.8%	34.3%

Consumer Staples	9.5%	-2.8%	11.0%
Energy	6.7%	-1.8%	15.4%
Financials	23.1%	-1.1%	15.9%
Health Care	7.7%	-0.3%	9.1%
Industrials	11.8%	-1.6%	16.3%
Information Technology	11.8%	1.8%	34.3%
Materials	8.0%	-2.9%	18.4%
Real Estate	3.2%	-1.7%	16.5%
Telecommunication Services	3.9%	-4.1%	3.6%
Utilities	3.0%	1.2%	10.9%
Total	100.0%	-1.2%	16.5%

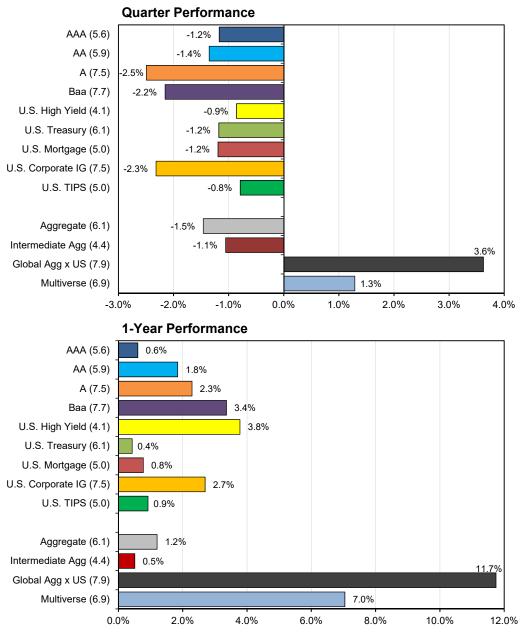
MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Consumer Discretionary	9.5%	-6.1%	16.5%
Consumer Staples	6.4%	-0.8%	15.8%
Energy	7.2%	7.5%	24.7%
Financials	24.0%	4.2%	25.6%
Health Care	2.8%	7.0%	34.6%
Industrials	5.2%	-0.8%	10.1%
Information Technology	27.8%	2.1%	40.1%
Materials	7.3%	0.7%	20.0%
Real Estate	2.8%	-2.1%	32.5%
Telecommunication Services	4.6%	-3.7%	4.5%
Utilities	2.4%	3.0%	9.2%
Total	100.0%	1.4%	24.9%

	MSCI-EAFE	MSCI-ACWIXUS	Quarter	1- Year
Country	Weight	Weight	Return	Return
Japan	24.6%	16.8%	0.8%	19.6%
United Kingdom	17.3%	11.8%	-3.9%	11.9%
France	10.9%	7.5%	0.3%	20.4%
Germany	9.7%	6.6%	-3.6%	13.6%
Switzerland	7.8%	5.3%	-4.3%	8.2%
Australia	6.6%	4.5%	-6.2%	1.4%
Netherlands	3.7%	2.5%	1.0%	19.9%
Hong Kong	3.6%	2.5%	-1.4%	18.4%
Spain	3.2%	2.2%	-1.7%	8.8%
Sweden	2.7%	1.8%	-2.4%	7.6%
Italy	2.5%	1.7%	5.4%	27.5%
Denmark	1.8%	1.2%	-1.5%	25.1%
Singapore	1.4%	0.9%	2.8%	22.8%
Belgium	1.1%	0.8%	0.5%	13.3%
Finland	1.0%	0.7%	8.2%	23.5%
Norway	0.7%	0.5%	2.3%	29.3%
Ireland	0.5%	0.3%	-5.9%	7.2%
Israel	0.5%	0.3%	-5.3%	-8.4%
Austria	0.3%	0.2%	2.2%	48.5%
New Zealand	0.2%	0.1%	-5.1%	4.0%
Portugal	0.2%	0.1%	3.1%	17.9%
Total EAFE Countries	100.0%	68.3%	-1.5%	14.8%
Canada		6.2%	-7.4%	4.9%
Total Developed Countries		74.5%	-2.0%	13.9%
China		7.6%	1.8%	38.9%
Korea		3.9%	-0.5%	25.4%
Taiwan		3.0%	5.7%	20.6%
India		2.1%	-7.0%	10.2%
Brazil		1.9%	12.4%	26.4%
South Africa		1.7%	-4.2%	25.0%
Russia		0.9%	9.4%	20.6%
Mexico		0.7%	0.9%	0.9%
Malaysia		0.6%	8.5%	25.3%
Thailand		0.6%	9.0%	35.0%
Indonesia		0.5%	-7.2%	7.8%
Chile		0.3%	1.5%	24.5%
Poland		0.3%	-8.2%	20.7%
Philippines		0.3%	-11.6%	3.8%
Turkey		0.3%	-5.0%	18.6%
United Arab Emirates		0.2%	-1.0%	-0.4%
Qatar		0.1%	2.5%	-11.0%
Colombia		0.1%	4.9%	15.4%
Peru		0.1%	10.3%	44.7%
Greece		0.1%	-6.8%	24.3%
Hungary		0.1%	-1.0%	38.6%
Czech Republic		0.1%	6.4%	36.4%
Egypt		0.0%	10.9%	14.5%
Pakistan		0.0%	11.4%	-14.0%
Total Emerging Countries		25.5%	1.4%	24.9%
Total ACWIxUS Countries		100.0%	-1.2%	16.5%

Source: MSCI Global Index Monitor (Returns are Net in USD)

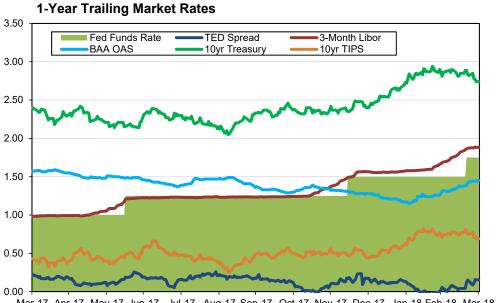
#### The Market Environment Domestic Bond Sector & Broad/Global Bond Market Performance (Duration) As of March 31, 2018

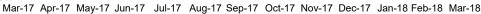
- Broad fixed income benchmarks were mostly negative during the 1<sup>st</sup> quarter, with international bonds being the exception. Early in the guarter, particularly strong January wage growth report caused investors to speculate that inflation was guickly increasing and that the Fed would need to tighten monetary policy to a greater degree than originally planned. This sent a shock through financial markets and caused interest rates to rise considerably. Economic releases later in the guarter showed that the fear of inflation was most likely overstated. Later in the guarter, the Federal Open Market Committee (FOMC), led by new Fed Chair Jerome Powell, decided to increase short-term interest rates by 25 basis points. The current Fed Funds Rate target sits at 1.50% - 1.75%. This rate increase was expected by the market and, importantly, the Fed did not change its plan for further rate increases for 2018. Concerns over new Treasury issuance needed to finance plans for increased fiscal spending also could have contributed to the rise in interest rates. The yield curve flattened through the quarter as short-term yields rose at a greater rate than longer-term yields. The Bloomberg Barclays US Aggregate Index fell -1.5% the quarter, but managed a positive 1.2% return for the trailing year.
- Within investment grade credit, higher quality corporate issues generally outperformed lower quality issues for the quarter as credit spreads widened and investors looked for safety amid increased financial market volatility. AAA rated credit was the best performing investment grade credit quality segment returning -1.2% for the quarter. Interestingly, high yield debt outperformed relative to investment grade credit, returning -0.9%, as spreads widened to a lesser degree for these issues and the index benefitted from a lower duration. Part of the reason for the increased spread widening for investment grade issues relative to high yield issues was selling pressure from companies repatriating foreign cash reserves in response to the new tax code. When viewed over the 1-year period, lower quality issues have advanced to a greater degree, partly due to the continued strength in the global economy. High yield debt returned 3.8% over the period whereas AAA rated issues returned 0.6%.
- US Treasury securities were the best performing investment grade sector through the quarter, narrowly outperforming US mortgage backed securities (MBS). This reversed the trend of corporate credit outperformance that was witnessed through 2017 as investors reacted to market volatility and moved into higher quality government issues. The Bloomberg Barclays US Corporate IG Index returned -2.3% for the quarter as widening credit spreads and a higher duration acted as headwinds to these issues. US Treasury and US MBS both posted a -1.2%. However, over the trailing year, Treasury securities were the worst performing investment grade sector returning 0.4%, while US investment grade corporate bonds were the best performing investment grade sector gaining 2.7%.

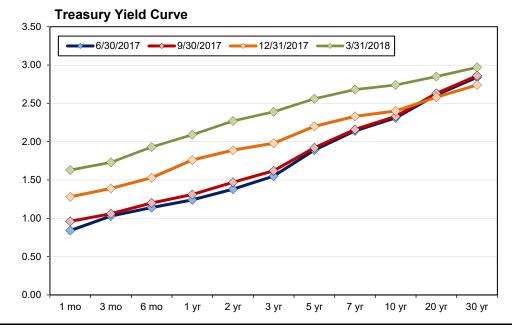




- In contrast to their domestic counterparts, global fixed income indices posted gains for the guarter. Global benchmarks are impacted by the same local yield and duration factors as domestic benchmarks. While these indices have relatively high durations, which would have acted as a headwind in the current guarter as interest rates increased, the returns of these indices are also significantly influenced by fluctuations in their currency denomination relative to the USD. This currency effect can add additional return to foreign issues as it did during calendar year 2017, or it can further exacerbate negative performance as it did in 2016. Global bonds outperformed domestic issues during the guarter and 1-year period partially due to a currency effect tailwind caused by a weakening USD. Returns on global bonds represented by the Bloomberg Barclays Global Aggregate ex US Index were 3.6% and 11.7% for the 1<sup>st</sup> guarter and trailing twelve months respectively. As the global economy continues to recover, several international central banks have started to move toward a less accommodative posture. Notably, the ECB, has extended its current quantitative easing program well into 2018, but has reduced the amount of monthly asset purchases from 60 billion euro per month to 30 billion euro per month. They also signaled that they would end the program entirely if the eurozone recovery continues to flourish. Similarly, the Bank of Japan (BoJ) inferred that they could end their quantitative easing program sometime in 2019 if target metrics were met. Lastly, the BoE voted to raise interest rates for the first time in a decade during the 4<sup>th</sup> guarter of 2017 and indicated rates may rise again more quickly than expected.
- 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 vield (green line) rose significantly during the 1<sup>st</sup> guarter, rising from 2.40%, to a peak of 2.94%, before falling to 2.74% to end the period. 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 steady decline in credit spreads throughout 2017. However, the trend begins to reverse in early February. This increase is equivalent to an interest rate increase on corporate bonds, which produces a headwind for corporate bond index returns. These credit spreads have widened by about 17 basis points over the last 3-months. The green shading at the bottom of the graph illustrates the gradual increase in the Federal Funds Rate due to a less accommodative US monetary policy.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four calendar quarters. As mentioned, the yield curve continues to flatten as yields on shorter-term maturities have risen more than interest rates on the long end of the curve. The significant upward shift in interest rates that occurred in the 1<sup>st</sup> guarter is clearly visible.









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 (Net) 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.	•	

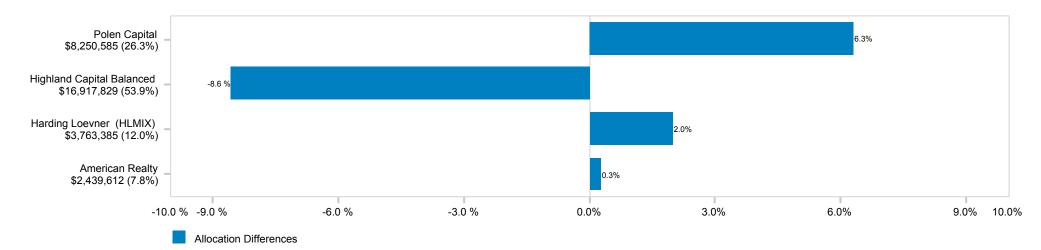


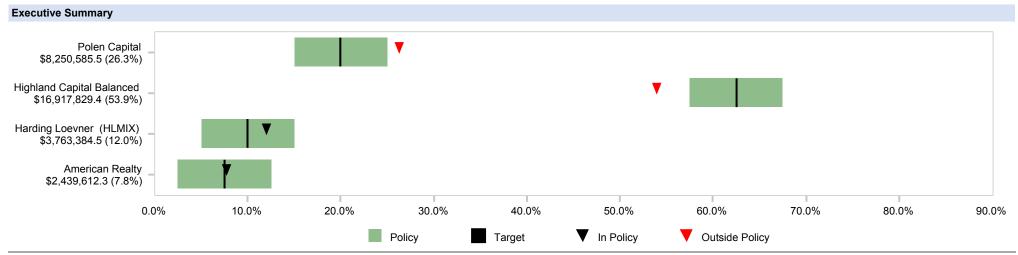
**Asset Allocation Compliance** 

Miami Springs Police and Firefighters Retirement System Total Fund Composite

As of March 31, 2018

Asset Allocation Compliance					
	Asset Allocation \$	Current Allocation (%)	Target Allocation (%)	Differences (%)	Target Rebal. (\$000)
Total Fund Composite	31,371,412	100.0	100.0	0.0	-
Polen Capital	8,250,585	26.3	20.0	6.3	-1,976,303
Highland Capital Balanced	16,917,829	53.9	62.5	-8.6	2,689,303
Harding Loevner (HLMIX)	3,763,385	12.0	10.0	2.0	-626,243
American Realty	2,439,612	7.8	7.5	0.3	-86,756

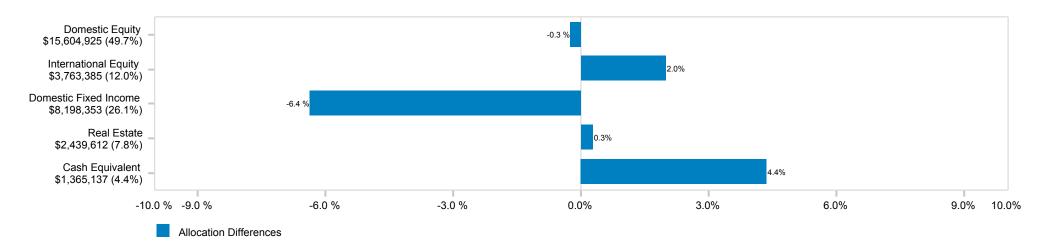


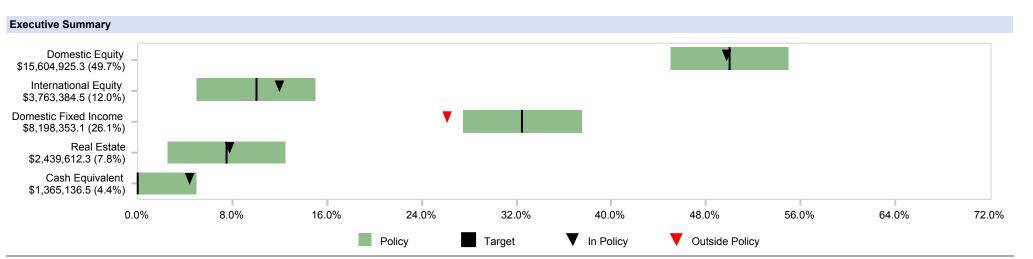




Asset Allocation Compliance Miami Springs Police and Firefighters Retirement System Segment Based As of March 31, 2018

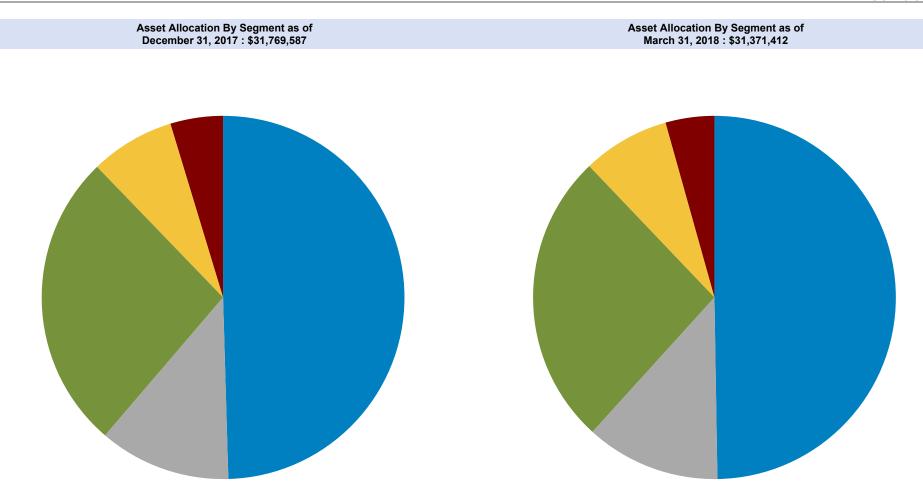
	Asset				
	ASSET Allocation \$	Current Allocation (%)	Target Allocation (%)	Differences (%)	Target Rebal. (\$000)
Domestic Equity	15,604,925	49.7	50.0	-0.3	80,781
International Equity	3,763,385	12.0	10.0	2.0	-626,243
Domestic Fixed Income	8,198,353	26.1	32.5	-6.4	1,997,356
Real Estate	2,439,612	7.8	7.5	0.3	-86,756
Cash Equivalent	1,365,137	4.4	0.0	4.4	-1,365,137
Total Fund	31,371,412	100.0	100.0	0.0	-







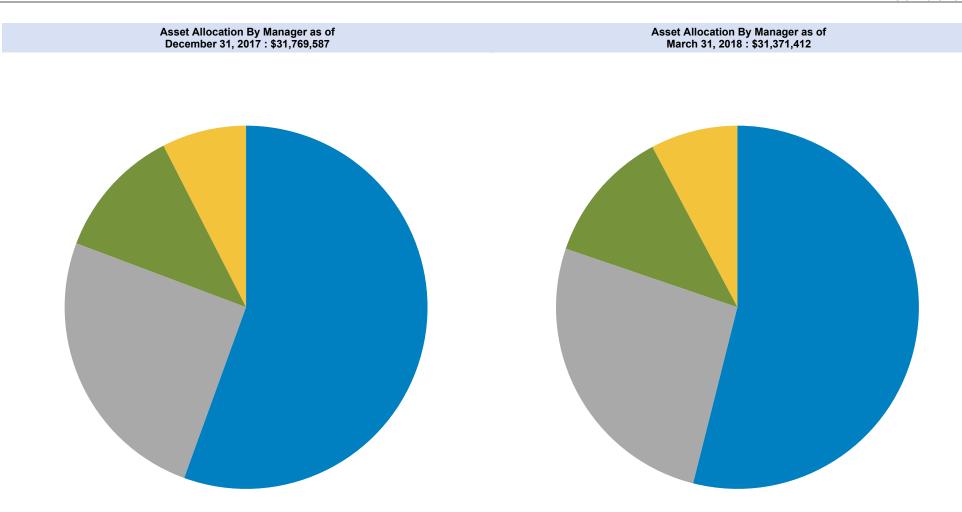
Asset Allocation Summary Total Fund Composite As of March 31, 2018



location			Allocation		
Segments	Market Value	Allocation	Segments	Market Value	Allocation
Domestic Equity	15,738,172	49.5	Domestic Equity	15,604,925	49.7
International Equity	3,729,008	11.7	International Equity	3,763,385	12.0
Domestic Fixed Income	8,418,546	26.5	Domestic Fixed Income	8,198,353	26.1
Real Estate	2,392,936	7.5	Real Estate	2,439,612	7.8
Cash Equivalent	1,490,924	4.7	Cash Equivalent	1,365,137	4.4



Asset Allocation Summary Total Fund Composite As of March 31, 2018



Allocation			Allocation		
	Market Value	Allocation		Market Value	Allocation
Highland Capital Balanced	17,645,721	55.5	Highland Capital Balanced	16,917,829	53.9
Polen Capital	8,001,922	25.2	Polen Capital	8,250,585	26.3
Harding Loevner (HLMIX)	3,729,008	11.7	Harding Loevner (HLMIX)	3,763,385	12.0
American Realty	2,392,936	7.5	American Realty	2,439,612	7.8



Asset Allocation & Performance												
	Al	location					Perform	ance(%)				
	Value \$	%	Q	TR	F	YTD	1	YR	3	YR	5	YR
Total Fund Composite	31,371,412	100.0	0.06	(23)	4.08	(22)	11.27	(24)	8.23	(3)	9.36	(7)
Total Policy Index All Public Plans-Total Fund Median			-0.44 -0.31	(60)	3.85 3.47	(32)	10.87 10.19	(35)	7.60 6.28	(9)	9.21 7.93	(9)
Balanced Fund												
Highland Capital Balanced	16,917,829	53.9	-1.94	(81)	1.57	(70)	5.83	(80)	5.29	(73)	6.63	(75)
Highland Policy Index			-1.11	(51)	2.27	(62)	7.37	(59)	5.86	(56)	7.97	(53)
IM U.S. Balanced (SA+CF) Median			-1.09	. ,	2.93		7.88		6.03		8.04	
Total Equity Composite	19,368,310	61.7	0.76		6.72		16.73		11.56		14.09	
Total Equity Index			-0.14		6.50		16.61		10.71		13.44	
Highland Equity	7,637,176	24.3	-1.94	(77)	5.11	(67)	11.31	(72)	9.80	(56)	12.95	(57)
S&P 500 Index			-0.76	(55)	5.84	(53)	13.99	(50)	10.78	(37)	13.31	(47)
IM U.S. Large Cap Equity (SA+CF) Median			-0.67		5.88		13.98		10.19		13.19	
Polen Capital	8,250,585	26.3	3.38	(32)	8.75	(60)	20.98	(49)	14.53	(12)	16.29	(26)
Russell 1000 Growth Index			1.42	(64)	9.39	(51)	21.25	(47)	12.90	(31)	15.53	(40)
IM U.S. Large Cap Growth Equity (SA+CF) Median			2.11		9.42		20.92		11.70		15.07	
Harding Loevner (HLMIX)	3,763,385	12.0	0.92	(34)	5.48	(49)	19.20	(53)	8.89	(46)	N/A	
MSCI EAFE Index			-1.41	(77)	2.80	(79)	15.32	(76)	6.05	(81)	6.98	(66)
IM International Equity (SA+CF) Median			-0.09		5.29		19.68		8.44		7.99	
Total Fixed Income												
Highland Fixed Income	8,198,353	26.1	-2.09	(100)	-1.49	(100)	1.21	(86)	1.77	(41)	1.71	(97)
Blmbg. Barc. U.S. Gov't/Credit			-1.58	(75)	-1.10	(90)	1.38	(84)	1.22	(97)	1.84	(90)
IM U.S. Broad Market Gov./Corp. (SA+CF) Median			-1.44		-0.87		1.71		1.69		2.19	
Total Real Estate Composite												
American Realty	2,439,612	7.8	2.23	(30)	4.00	(70)	8.05	(72)	9.34	(70)	N/A	
Real Estate Policy			2.19	(44)	4.30	(48)	8.06	(70)	9.99	(61)	11.42	(54)
IM U.S. Open End Private Real Estate (SA+CF) Media	n		2.14		4.28		8.42		10.18		11.70	

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Asset Allocation & Performance	e						
		location			Performance(%)		
	Market Value \$	%	QTR	FYTD	1 YR	3 YR	5 YR
Total Fund Composite	31,371,412	100.0	-0.10	3.82	10.72	7.67	8.81
Total Policy Index			-0.44	3.85	10.87	7.60	9.21
Balanced Fund							
Highland Capital Balanced	16,917,829	53.9	-2.06	1.32	5.30	4.75	6.10
Highland Policy Index			-1.11	2.27	7.37	5.86	7.97
Total Equity Composite	19,368,310	61.7	0.76	6.72	16.73	11.56	14.09
Total Equity Index			-0.14	6.50	16.61	10.71	13.44
Highland Equity	7,637,176	24.3	-1.94	5.11	11.31	9.80	12.95
S&P 500 Index			-0.76	5.84	13.99	10.78	13.31
Polen Capital	8,250,585	26.3	3.11	8.46	20.34	13.90	15.69
Russell 1000 Growth Index			1.42	9.39	21.25	12.90	15.53
Harding Loevner (HLMIX)	3,763,385	12.0	0.92	5.48	19.20	8.89	N/A
MSCI EAFE Index			-1.41	2.80	15.32	6.05	6.98
Total Fixed Income							
Highland Fixed Income	8,198,353	26.1	-2.09	-1.49	1.21	1.77	1.71
Blmbg. Barc. U.S. Gov't/Credit			-1.58	-1.10	1.38	1.22	1.84
Total Real Estate Composite							
American Realty	2,439,612	7.8	1.95	3.43	6.86	8.18	N/A
Real Estate Policy			2.19	4.30	8.06	9.99	11.42



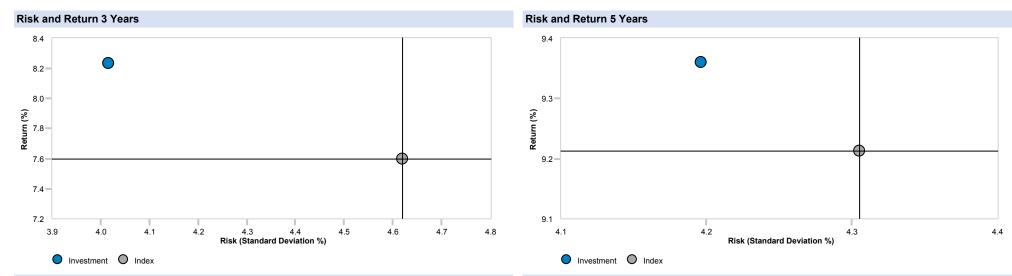
Asset Allocation & Performance																		
	Alle	ocation							P	Perform	nance(%	)						
	Market Value \$	%	FY	TD	Т	2016 o 2017	Т	2015 o -2016	Т	2014 o 2015	Т	2013 o 2014	٦	-2012 Го -2013	Т	2011 o 2012	Т	-2010 Го -2011
Total Fund Composite	31,371,412	100.0	4.08	(22)	12.53	(43)	10.73	(17)	4.90	(1)	12.33	(8)	12.16	(57)	19.53	(19)	-3.10	(99)
Total Policy Index All Public Plans-Total Fund Median			3.85 3.47	(32)	12.25 12.20	(48)	10.78 9.68	(16)	1.66 -0.47	(12)	13.20 10.20	(3)	10.70 12.51	(80)	20.11 17.96	(11)	3.02 0.29	(7)
Balanced Fund																		
Highland Capital Balanced Highland Policy Index IM U.S. Balanced (SA+CF) Median	16,917,829	53.9	1.57 2.27 2.93	(70) (62)	8.48 8.62 11.81	(79) (78)	9.81 10.57 9.72	(49) (42)	2.01 1.29 -2.15	(10) (14)	9.82 13.33 11.25	(69) (27)	12.39 10.46 12.46	• •	19.53 20.11 19.56	(51) (41)	-3.10 3.02 0.67	( )
Total Equity Composite	19.368.310	61.7	6.72		19.81		13.46		5.41		18.42		23.23		28.76		-8.10	
Total Equity Index	-,,		6.50		19.94		13.47		-0.66		19.50		19.80		30.20		1.14	
Highland Equity S&P 500 Index IM U.S. Large Cap Equity (SA+CF) Median	7,637,176	24.3	5.11 5.84 5.88	(67) (53)	18.59 18.61 18.85	(57) <mark>(56</mark> )	14.71 15.43 13.20	(35) (24)	1.04 -0.61 -0.34	(38) (57)	17.46 19.73 18.78	(66) (37)	28.23 19.34 21.09	• •	28.76 30.20 29.15	(54) (38)	-8.10 1.14 0.75	(98) (45)
Polen Capital Russell 1000 Growth Index IM U.S. Large Cap Growth Equity (SA+CF) Median	8,250,585	26.3		(60) (51)	20.81 21.94 20.81	(50) (36)	10.63 13.76 11.64	(63) (22)	18.10 3.17 3.60	(1) (55)	18.82 19.15 18.09	(42) (39)	N/A 19.27 20.25	(64)	N/A 29.19 27.63	(38)	N/A 3.78 1.37	(30)
Harding Loevner (HLMIX) MSCI EAFE Index IM International Equity (SA+CF) Median	3,763,385	12.0	5.48 2.80 5.29	(49) (79)	18.66 19.65 21.02	(69) (61)	17.62 7.06 11.49	(22) (76)	-9.04 -8.27 -8.28	(54) (50)	N/A 4.70 5.79	(62)	N/A 24.29 20.15	(33)	N/A 14.33 17.31	(72)	N/A -8.94 -9.58	(45)
Total Fixed Income																		
Highland Fixed Income BImbg. Barc. U.S. Gov't/Credit IM U.S. Broad Market Gov./Corp. (SA+CF) Median	8,198,353	26.1		(100) (90)	0.62 -0.01 0.45	(35) (94)	6.73 5.86 5.91	(20) (58)	2.80 2.73 3.13	(72) (77)	3.62 4.08 4.26	(80) (68)	-3.82 -1.96 -1.36	(100) (86)	7.21 5.66 6.28	(26) (81)	5.01 5.14 5.17	(57) (52)
Total Real Estate Composite																		
American Realty Real Estate Policy IM U.S. Open End Private Real Estate (SA+CF) Mediar	2,439,612	7.8		(70) (48)	7.52 7.66 8.29	(67) (62)	9.05 10.08 11.32	(97) (80)	13.97 14.93 15.45	(69) (61)	12.43 12.40 12.78	(67) (68)	N/A 13.04 13.18	(53)	N/A 11.61 12.90	(67)	N/A 18.27 16.62	(40)



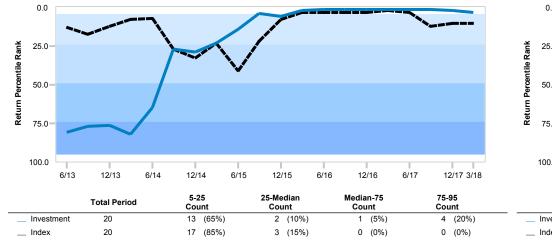
	Allo	ocation				Perforr	nance(%)			
	Market Value \$	%	FYTD	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013	Oct-2011 To Sep-2012	Oct-2010 To Sep-2011
Total Fund Composite	31,371,412	100.0	3.82	11.94	10.05	4.53	11.70	11.64	18.93	-3.58
Total Policy Index			3.85	12.25	10.78	1.66	13.20	10.70	20.11	3.02
Balanced Fund										
Highland Capital Balanced	16,917,829	53.9	1.32	7.90	9.10	1.76	9.28	11.73	18.93	-3.58
Highland Policy Index			2.27	8.62	10.57	1.29	13.33	10.46	20.11	3.02
Total Equity Composite	19,368,310	61.7	6.72	19.81	13.46	5.41	18.42	23.23	28.76	-8.10
Total Equity Index			6.50	19.94	13.47	-0.66	19.50	19.80	30.20	1.14
Highland Equity	7,637,176	24.3	5.11	18.59	14.71	1.04	17.46	28.23	28.76	-8.10
S&P 500 Index			5.84	18.61	15.43	-0.61	19.73	19.34	30.20	1.14
Polen Capital	8,250,585	26.3	8.46	20.17	10.01	17.47	18.01	N/A	N/A	N/A
Russell 1000 Growth Index			9.39	21.94	13.76	3.17	19.15	19.27	29.19	3.78
Harding Loevner (HLMIX)	3,763,385	12.0	5.48	18.66	17.62	-9.04	N/A	N/A	N/A	N/A
MSCI EAFE Index			2.80	19.65	7.06	-8.27	4.70	24.29	14.33	-8.94
Total Fixed Income										
Highland Fixed Income	8,198,353	26.1	-1.49	0.62	6.73	2.80	3.62	-3.82	7.21	5.01
Blmbg. Barc. U.S. Gov't/Cred	lit		-1.10	-0.01	5.86	2.73	4.08	-1.96	5.66	5.14
Total Real Estate Composite										
American Realty	2,439,612	7.8	3.43	6.34	7.92	12.83	11.36	N/A	N/A	N/A
Real Estate Policy			4.30	7.66	10.08	14.93	12.40	13.04	11.61	18.27



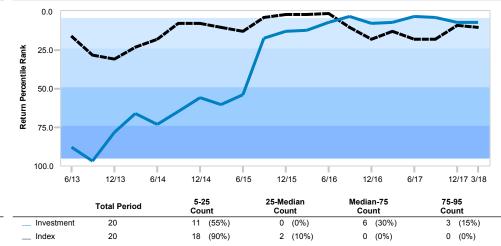
Historical Statistic	s 3 Years							Historical Statis	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters		Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	8.23	4.02	1.91	99.66	11	54.43	1	Investment	9.36	4.20	2.10	97.65	18	54.43	2
Index	7.60	4.62	1.53	100.00	9	100.00	3	Index	9.21	4.31	2.02	100.00	17	100.00	3







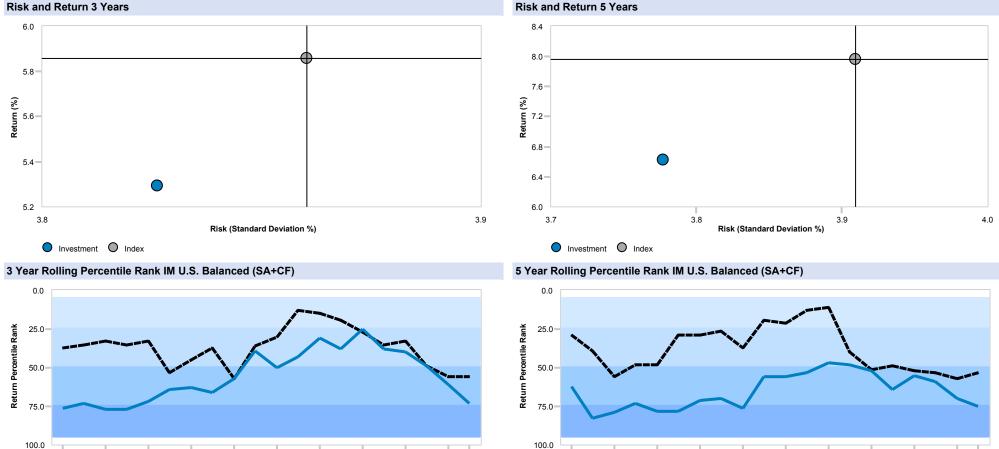
5 Year Rolling Percentile Rank All Public Plans-Total Fund







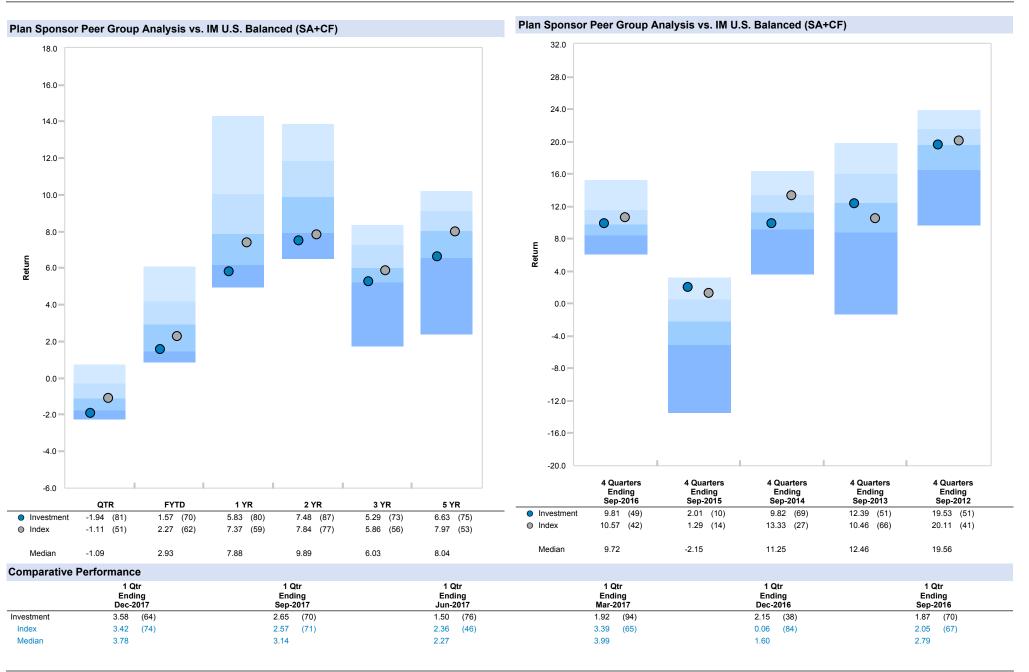
Historical Statistics 3 Years							Historical Statis	stics 5 Years							
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters		Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	5.29	3.83	1.25	96.81	9	120.52	3	Investment	6.63	3.78	1.64	87.52	15	120.52	5
Index	5.86	3.86	1.38	100.00	9	100.00	3	Index	7.97	3.91	1.91	100.00	17	100.00	3



#### 6/14 6/15 12/17 3/18 12/15 12/17 3/18 6/13 12/13 12/14 12/15 6/16 12/16 6/17 6/13 12/13 6/14 12/14 6/15 6/16 12/16 6/17 5-25 25-Median Median-75 75-95 5-25 25-Median Median-75 75-95 Total Period **Total Period** Count Count Count Count Count Count Count Count 1 (5%) 20 5 (25%) Investment 20 8 (40%) 8 (40%) 3 (15%) Investment 0 (0%) 2 (10%) 13 (65%) 20 0 (0%) 3 (15%) 13 (65%) 4 (20%) 0 (0%) 20 4 (20%) 10 (50%) 6 (30%) \_\_ Index \_\_ Index

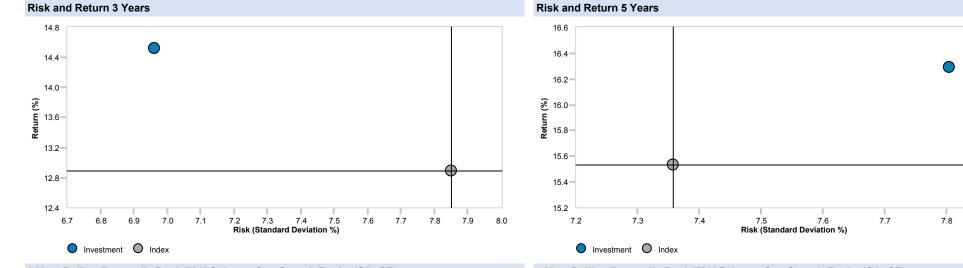


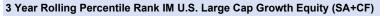
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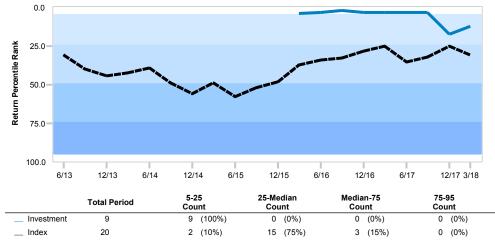




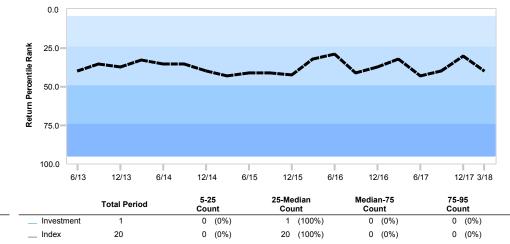
Historical Statistics 3 Years							Historical Statis	stics 5 Years							
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters		Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	14.53	6.96	1.96	95.34	10	-18.15	2	Investment	16.29	7.80	1.97	96.62	17	-18.15	3
Index	12.90	7.85	1.56	100.00	11	100.00	1	Index	15.53	7.36	2.00	100.00	19	100.00	1





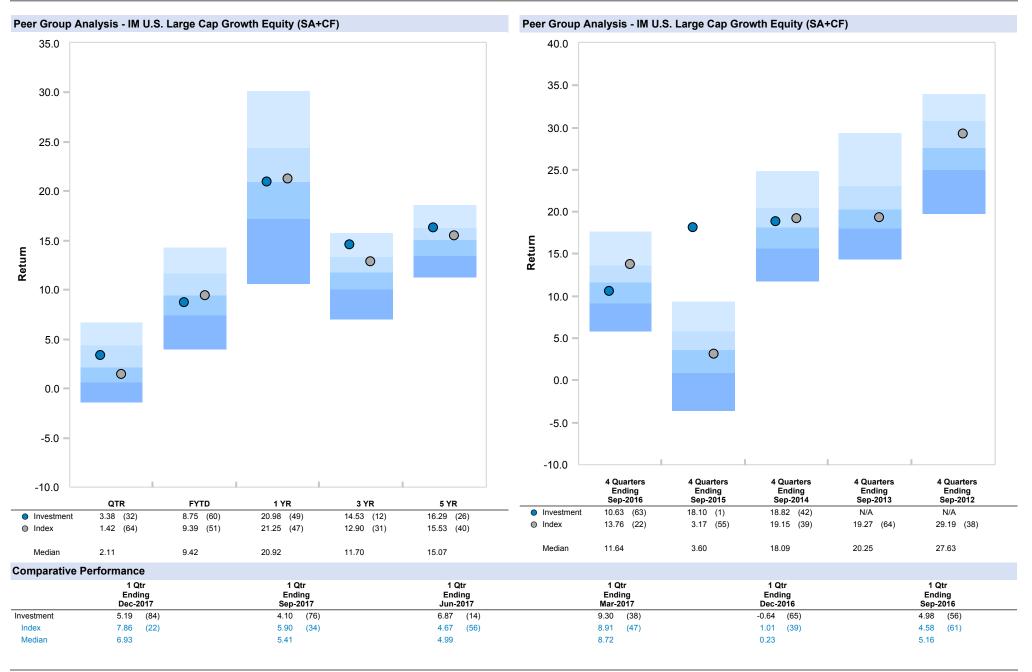


5 Year Rolling Percentile Rank IM U.S. Large Cap Growth Equity (SA+CF)



7.9

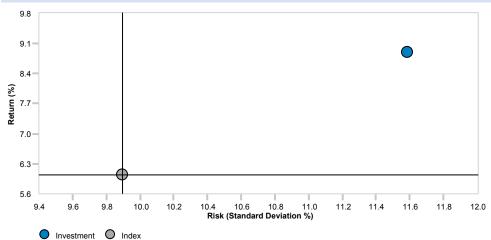
### Strategy Review Polen Capital | Russell 1000 Growth Index As of March 31, 2018



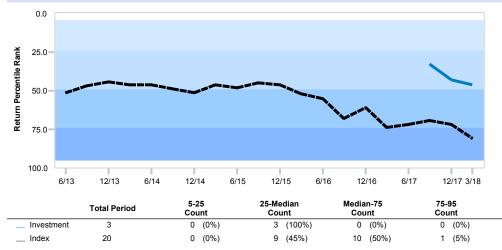


Historical Statistics 3 Years							Historical Statistics 5 Years								
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters		Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	8.89	11.59	0.76	113.07	10	75.46	2	Investment	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Index	6.05	9.90	0.60	100.00	7	100.00	5	Index	6.98	10.17	0.69	100.00	12	100.00	8

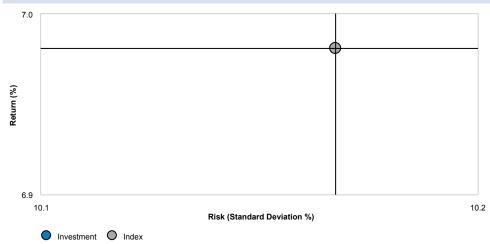
#### **Risk and Return 3 Years**

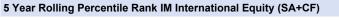


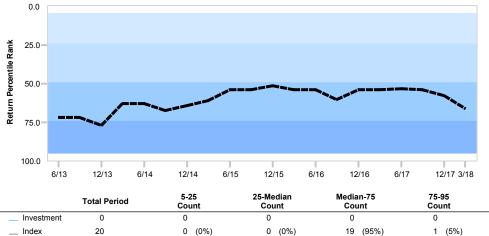
#### 3 Year Rolling Percentile Rank IM International Equity (SA+CF)



#### **Risk and Return 5 Years**

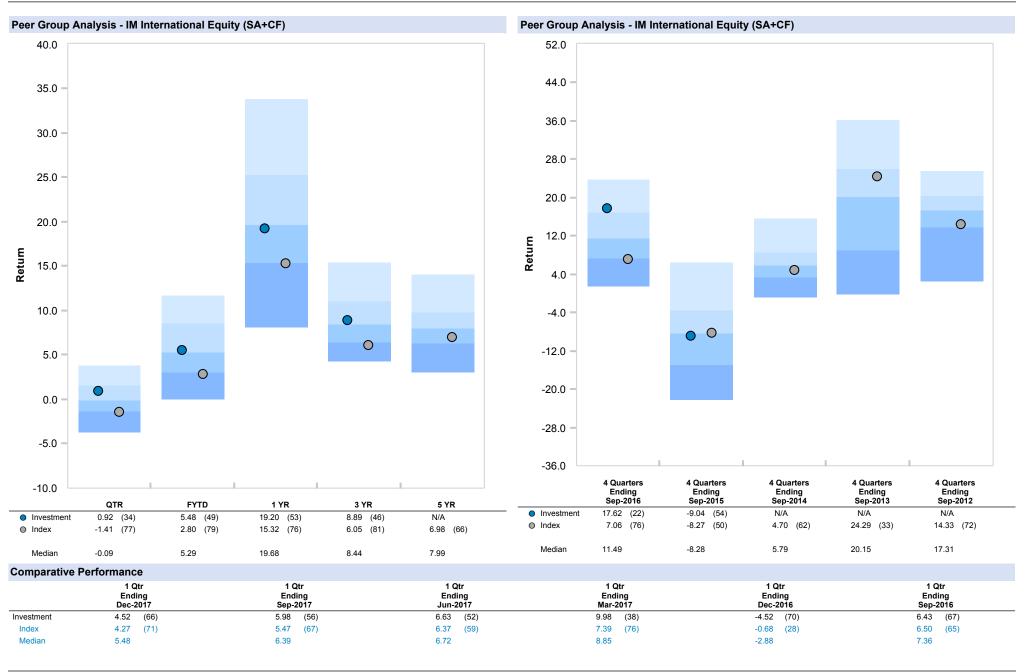






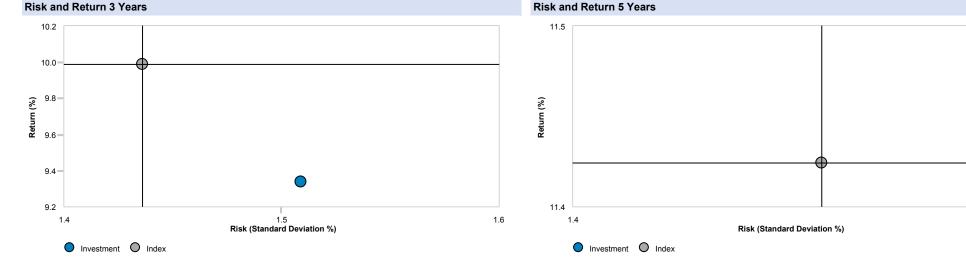


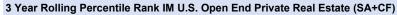
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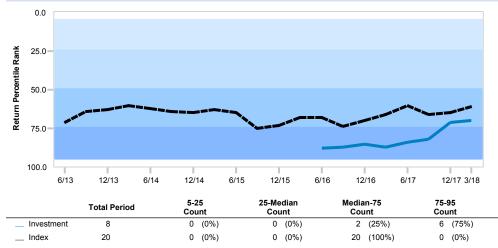


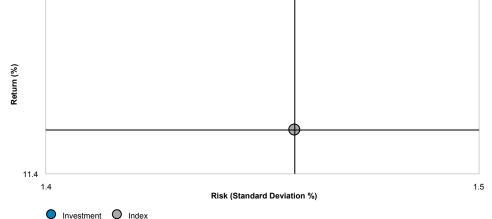


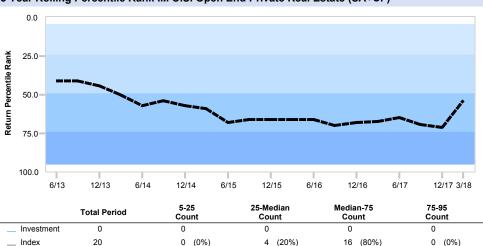
Historical Statistic	s 3 Years							Historical Statis	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters		Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	9.34	1.51	5.29	93.71	12	N/A	N/A	Investment	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Index	9.99	1.44	5.79	100.00	12	N/A	N/A	Index	11.42	1.46	6.64	100.00	20	N/A	N/A

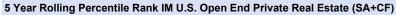


















Total Fund Historical Hybrid Composition		Total Equity Historical Hybrid Composition				
Allocation Mandate	Weight (%)	Allocation Mandate	Weight (%)			
Jan-1973		Jan-1996				
Blmbg. Barc. U.S. Gov't/Credit	50.00	S&P 500 Index	100.00			
S&P 500 Index	50.00					
		Jan-2013				
Jan-2007		S&P 500 Index	58.00			
Blmbg. Barc. U.S. Gov't/Credit	40.00	Russell 1000 Growth Index	42.00			
S&P 500 Index	60.00					
		Oct-2014				
Jan-2013		S&P 500 Index	50.00			
Blmbg. Barc. U.S. Gov't/Credit	40.00	Russell 1000 Growth Index	33.30			
S&P 500 Index	35.00	MSCI EAFE Index	16.70			
Russell 1000 Growth Index	25.00					
Oct-2014						
Blmbg. Barc. U.S. Gov't/Credit	32.50					
S&P 500 Index	30.00					
Russell 1000 Growth Index	20.00					
MSCI EAFE Index	10.00					
NCREIF Fund Index-ODCE (VW)	7.50					

Highland Capital Historical Hybrid Composition						
Allocation Mandate	Weight (%)					
Jan-1996						
Blmbg. Barc. U.S. Gov't/Credit	50.00					
S&P 500 Index	50.00					
Jan-2007						
Blmbg. Barc. U.S. Gov't/Credit	40.00					
S&P 500 Index	60.00					
Oct-2014						
Blmbg. Barc. U.S. Gov't/Credit	52.00					
S&P 500 Index	48.00					

Active Return	- 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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AndCo uses time-weighted calculations which are founded on standards recommended by the CFA Institute. The calculations and values shown are based on information that is received from custodians. AndCo analyzes transactions as indicated on the custodian statements and reviews the custodial market values of the portfolio. As a result, this provides AndCo with a reasonable basis that the investment information presented is free from material misstatement. This methodology of evaluating and measuring performance provides AndCo with a practical foundation for our observations and recommendations. Nothing came to our attention that would cause AndCo to believe that the information presented is significantly misstated.

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