Investment Performance Review Period Ending June 30, 2020

# Delray Beach Firefighters' Retirement System



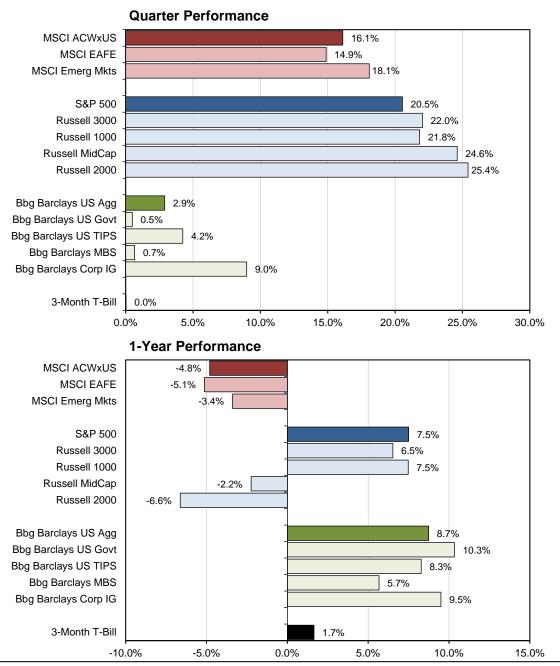
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2nd Quarter 2020 Market Environment



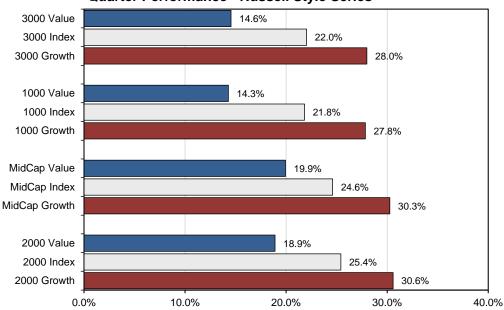
# The Market Environment Major Market Index Performance As of June 30, 2020

- Broad asset class returns rebounded sharply in the 2nd guarter following their harsh drawdown during the 1st guarter. The US government and Federal Reserve Bank (Fed) implemented a myriad of programs designed to provide the economy with liquidity while also mitigating the affects from the shelter-inplace response to the COVID-19 (Coronavirus) pandemic. Despite having officially entered a recession in February, US economic data began to show improvement in May with regards to manufacturing, housing and employment as many States began the process of re-opening. Geopolitical tensions rose during the quarter following the vote by China to impose security measures in Hong Kong. Despite these risks, markets reacted positively to continued monetary easing from the Fed which supported markets directly through bond purchases and a variety of lending facilities. Within domestic equity markets, higher beta small cap stocks outperformed large cap stocks during the quarter with the Russell 2000 Index returning 25.4% versus a 20.5% return for the S&P 500 Index. US stocks also outperformed international stocks during the period. US equity results over the trailing 1-year period tell a different story with large cap stocks, returning 7.5% while mid- and small cap stocks were negative, returning -2.2% and -6.6%, respectively.
- Broad international equity markets posted positive returns for the 2nd quarter. Similar to US markets, international markets benefited from coordinated central bank policies which provided liquidity following the onset of the pandemic and subsequent re-opening of local economies. International returns also benefited from a weakening US dollar (USD) which declined against both the Euro and British pound during the period. Emerging markets outperformed relative to developed markets during the period with the MSCI Emerging Market Index returning 18.1% compared to 14.9% for the MSCI EAFE Index. Both developed and emerging market indices were negative over the 1-year period with the developed market index returning -5.1% and the emerging market index returning -3.4%.
- Fixed income returns remained strong during the 2nd quarter as investors benefited from declining interest rates globally. The broad market Bloomberg Barclays (BB) Aggregate Index gained 2.9% for the quarter as the Fed ramped up its purchases of US Treasury and Agency securities to boost market liquidity. In addition, the Fed announced that it would begin purchasing US corporate bonds to keep borrowing costs low and further support liquidity. For the quarter, the BB Corporate Investment Grade Index returned 9.0% as investors continued to seek out higher yielding assets. Over the trailing 1-year period, the bond market outperformed stocks with the BB Aggregate posting a solid return of 8.7%, while corporate bonds posted a higher 9.5%. US TIPS, which have been a laggard for some time, posted a respectable 8.3% over the trailing 1-year period despite low expectations for inflation.

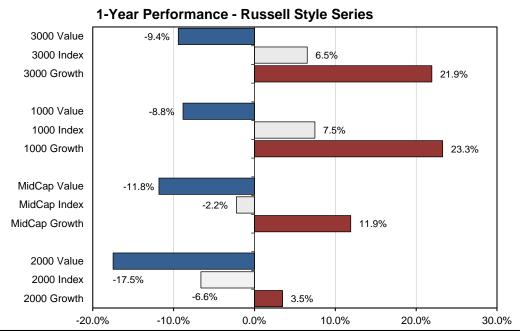




- US equity returns were strongly positive during the 2nd quarter, but results varied considerably across the style and capitalization spectrum. Following one of the sharpest drawdowns in history during the previous quarter, various capitalization and style indices experienced their strongest quarterly performance in over 20-years. The US labor market showed dramatic improvement in May and June with more than 7 million jobs added for the period. However, the unemployment rate remained high at 11.1% in June with more than 14.7 million people unemployed. While States have taken steps to re-open by loosening stay-at-home orders, several States such as Florida, Texas, and Arizona, have experienced significant increases in Coronavirus cases since the orders were eased causing many States to consider rollbacks. Several potential treatments and vaccines are in various stages of development that will hopefully prove effective in treating the virus.
- During the quarter, small capitalization (cap) stocks broadly outperformed large cap stocks across the style spectrum. The small cap Russell 2000 Index gained a stellar 25.4% for the quarter versus a return of 21.8% for the large cap Russell 1000 Index. Investors were attracted to potentially faster growing small cap stocks which were disproportionately sold during the 1st quarter's drawdown. Small cap stocks have historically outperformed when the market enters a recovery phase. When viewed over the most recent 1-year period the trend has reversed with large cap stocks far outpacing their small cap counterparts. The Russell 1000 posted a return of 7.5% over the trailing 1-year relative to a negative return of -6.6% for the Russell 2000.
- Value stocks continued their recent trend of underperformance relative to growth stocks during the 2nd quarter recovery as investors gravitated toward companies perceived to have the potential to grow revenue and earnings faster. Within large cap, growth significantly outperformed value due to favorable weightings to the strong-performing technology and consumer discretionary sectors. The small cap Russell 2000 Growth Index was the best performing style index for the quarter, returning an outsized 30.6%. At the other extreme, the large cap value index posted the quarter's weakest relative style performance with a still solid 14.3% return. Results over the 1-year period also reflect the strength of the "growth over value" trend with value benchmarks posting negative results across the capitalization spectrum with a range of relative underperformance to growth of greater than 20% at each level.



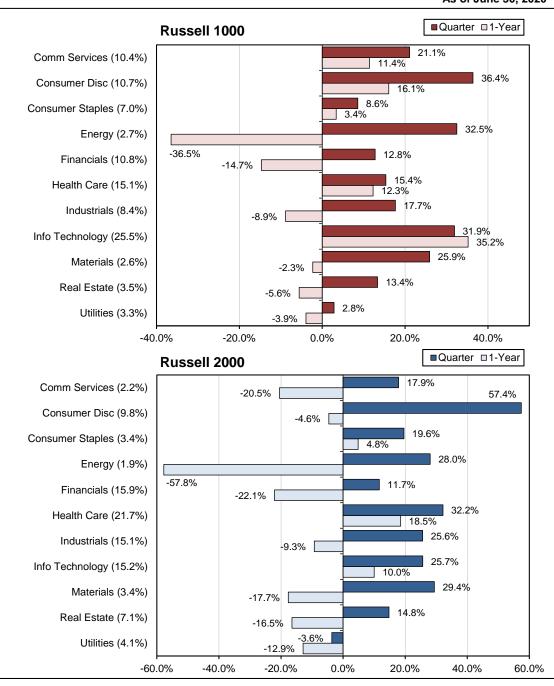
# **Quarter Performance - Russell Style Series**





# The Market Environment GICS Sector Performance & (Sector Weight) As of June 30, 2020

- All eleven economic sectors within the large cap Russell 1000 Index were positive for the 2nd quarter with four sectors outpacing the return of the broad index. Growth-oriented sectors such as consumer discretionary and technology were some of the best performers for the quarter returning 36.4% and 32.5%, respectively. The energy sector, which had lagged considerably during the 1st quarter sell-off, also posted a strong return of 32.5% for the quarter as oil prices recovered on expectations of future economic growth. Defensive sectors such as consumer staples and utilities were the lowest performers during the period, but still posted positive returns of 8.6% and 2.8%, respectively. Traditional growth sectors also showed their dominance in the trailing 1-year period. The technology, consumer discretionary, health care and communication services sectors returned 35.2%, 16.1%, 15.4% and 11.4%, respectively, versus the core Russell 1000 index return of 7.5%. In contrast, traditional value sectors such as energy and financials, posted returns of -36.5% and -14.7%, respectively, for the trailing 1-year period.
- Ten of eleven small cap sectors posted results of greater than 10% for the 2nd guarter with only the utilities sector falling into negative territory with a return of -3.6%. In addition, seven of eleven economic sectors in the small cap index outpaced their respective large cap sector performance. While ten small cap sectors posting returns of more than 10% would be impressive in any period, six of them managed to exceed the 25.4% return of the broad Russell 2000 index. Like large caps, sectors sensitive to the consumer and economic growth were the strongest performers as investors gravitated toward those companies with the highest growth potential. Performance in consumer discretionary and health care sectors was particularly impressive with returns of 57.4% and 32.2% respectively for the quarter. Within the health care sector, many biotechnology stocks rose on hopes and speculation regarding potentially viable treatments or vaccines for the Coronavirus. Over the trailing 1-year period, the majority of small cap sector returns were negative with only three sectors contributing positive absolute performance. The traditional growth sectors also led the small cap index's performance over the trailing 1-year period with health care posting 18.5% and the technology sector returning 10%. On the opposite end of the spectrum, while the energy sector's 28.0% return for the guarter is certainly an impressive recovery, the sector led the 1year trailing sector performance declines with the return of -57.8%.





The Market Environment Top 10 Index Weights & Quarterly Performance for the Russell 1000 & 2000 As of June 30, 2020

Top 10 Weighted Stocks							
Russell 1000 Weight 1-Qtr 1-Year Return Return Return							
Microsoft Corp	5.30%	29.4%	53.8%	Information Technology			
Apple Inc	5.19%	43.8%	86.5%	Information Technology			
Amazon.com Inc	4.07%	41.5%	45.7%	Consumer Discretionary			
Facebook Inc A	1.90%	36.1%	17.7%	Communication Services			
Alphabet Inc A	1.48%	22.0%	31.0%	Communication Services			
Alphabet Inc Class C	1.46%	21.6%	30.8%	Communication Services			
Johnson & Johnson	1.29%	8.0%	3.8%	Health Care			
Berkshire Hathaway Inc Class B	1.21%	-2.4%	-16.3%	Financials			
Visa Inc Class A	1.13%	20.1%	12.0%	Information Technology			
Procter & Gamble Co	1.01%	9.4%	11.8%	Consumer Staples			

Top 10 Performing Stocks (by Quarter)						
Russell 1000 Weight Weight 1-Qtr Return Return Return						
Fastly Inc	0.02%	348.5%	319.8%	Information Technology		
Wayfair Inc Class A	0.05%	269.8%	35.3%	Consumer Discretionary		
Apache Corp	0.02%	223.9%	-51.9%	Energy		
Targa Resources Corp	0.02%	192.7%	-44.7%	Energy		
Etsy Inc	0.04%	176.4%	73.1%	Consumer Discretionary		
Bill.com Holdings Inc Ordinary Shares	0.01%	163.8%	N/A	Information Technology		
Livongo Health Inc	0.01%	163.5%	N/A	Health Care		
Immunomedics Inc	0.03%	162.9%	155.5%	Health Care		
Antero Midstream Corp	0.01%	159.5%	-45.7%	Energy		
Thor Industries Inc	0.02%	156.2%	87.0%	Consumer Discretionary		

Top 10 Weighted Stocks							
Russell 2000	Sector						
Deckers Outdoor Corp	0.31%	46.6%	11.6%	Consumer Discretionary			
LHC Group Inc	0.30%	24.3%	45.8%	Health Care			
BJ's Wholesale Club Holdings Inc	0.29%	46.3%	41.2%	Consumer Staples			
Churchill Downs Inc	0.29%	29.3%	16.2%	Consumer Discretionary			
Novavax Inc	0.27%	513.8%	1322.4%	Health Care			
MyoKardia Inc	0.27%	106.1%	92.7%	Health Care			
Helen Of Troy Ltd	0.27%	30.9%	44.4%	Consumer Discretionary			
SiteOne Landscape Supply Inc	0.27%	54.8%	64.5%	Industrials			
EastGroup Properties Inc	0.26%	14.3%	4.9%	Real Estate			
Ultragenyx Pharmaceutical Inc	0.25%	76.1%	23.2%	Health Care			

Top 10 Performing Stocks (by Quarter)						
Russell 2000 Weight Height Return Return Return Return						
Workhorse Group Inc	0.06%	860.8%	491.5%	Consumer Discretionary		
Veritone Inc	0.02%	537.8%	77.8%	Information Technology		
Novavax Inc	0.27%	513.8%	1322.4%	Health Care		
Overstock.com Inc	0.06%	469.7%	109.0%	Consumer Discretionary		
Vaxart Inc	0.02%	400.0%	1220.7%	Health Care		
U.S. Auto Parts Network Inc	0.01%	394.9%	592.8%	Consumer Discretionary		
Camping World Holdings Inc Class A	0.05%	380.5%	131.4%	Consumer Discretionary		
Macrogenics Inc	0.08%	379.7%	64.5%	Health Care		
Aspira Womens Health Inc	0.01%	361.3%	331.5%	Health Care		
Retractable Technologies Inc	0.01%	350.0%	868.9%	Health Care		

Bottor	n 10 Perform	ning Stocks (			
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector	Russell 2000
Empire State Realty Trust Inc Class A	0.00%	-20.7%	-50.8%	Real Estate	Chesapeake Energy Corp
Xerox Holdings Corp	0.01%	-18.0%	-54.8%	Information Technology	Hertz Global Holdings Inc
Hawaiian Electric Industries Inc	0.01%	-15.5%	-14.7%	Utilities	SeaChange International Inc
Biogen Inc	0.15%	-15.4%	14.4%	Health Care	CorEnergy Infrastructure Trust
Cincinnati Financial Corp	0.03%	-14.3%	-36.6%	Financials	Evofem Biosciences Inc
General Electric Co	0.21%	-13.8%	-34.7%	Industrials	Recro Pharma Inc
Coty Inc Class A	0.00%	-13.4%	-65.5%	Consumer Staples	NextCure Inc
EchoStar Corp	0.00%	-12.5%	-24.3%	Information Technology	NeuroBo Pharmaceuticals Inc
NovoCure Ltd	0.02%	-11.9%	-6.2%	Health Care	LendingClub Corp
Molson Coors Beverage Co B	0.02%	-11.9%	-36.5%	Consumer Staples	ProAssurance Corp

Bottom 10 Performing Stocks (by Quarter)						
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector		
Chesapeake Energy Corp	0.00%	-85.8%	-98.7%	Energy		
Hertz Global Holdings Inc	0.01%	-77.2%	-91.2%	Industrials		
SeaChange International Inc	0.00%	-59.4%	5.6%	Information Technology		
CorEnergy Infrastructure Trust Inc	0.01%	-50.0%	-75.6%	Real Estate		
Evofem Biosciences Inc	0.01%	-46.8%	-57.4%	Health Care		
Recro Pharma Inc	0.00%	-44.3%	-48.6%	Health Care		
NextCure Inc	0.02%	-42.2%	43.1%	Health Care		
NeuroBo Pharmaceuticals Inc	0.00%	-42.1%	-60.2%	Health Care		
LendingClub Corp	0.02%	-42.0%	-72.3%	Financials		
ProAssurance Corp	0.04%	-41.9%	-58.6%	Financials		

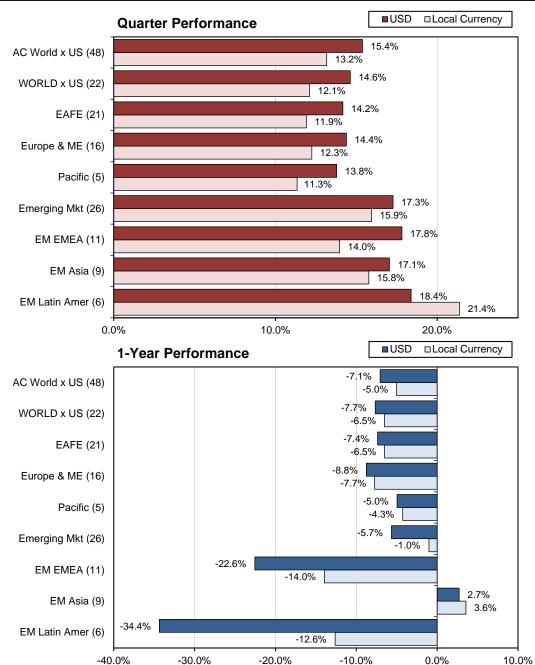


- Broad international equity index returns were positive in US dollar (USD) and local currency terms for the 2nd quarter as international markets rebounded following the meaningful drawdown during the previous period. USD denominated international equity index performance also benefited from a weakening USD which fell against most major currencies during the period. The MSCI ACWI ex US Index posted a return of 15.4% in USD and a slightly lower 13.2% in local currency terms. Like US equity market performance, international equity benchmarks also benefited from a strong monetary policy response from central banks in reaction to the Coronavirus. Since the virus ravaged Asia and Europe earlier than the US, many countries also began the process of re-opening their respective economies earlier than the US, resulting in improving economic datapoints. Both the ECB and Bank of Japan committed to significant lending programs designed to provide the capital markets with
- Results for developed market international indices were strongly positive in both USD and local currency terms during the 2nd quarter. The MSCI EAFE Index returned 14.2% in USD and 11.0% in local currency terms. The spread of the pandemic slowed in Europe during the quarter allowing countries like Austria and Italy to begin the process of re-opening. ECB President Christine Lagarde announced that the bank was expanding its bond purchase program to \$1.5 trillion, and in the UK, the Bank of England increased its bond purchasing program by roughly \$125 billion. Both measures were targeted at providing the capital markets with liquidity.

liquidity while continuing to purchase bonds under their existing economic

- Emerging markets outperformed developed markets by just over 3% during the 2nd quarter. The MSCI Emerging Markets Index rose by 17.3% in USD terms and 15.9% in local currency. Emerging markets benefited relative to developed markets during the quarter as global economic activity increased despite increased geopolitical tensions from China's new security measures in Hong Kong. The rebound in commodity prices in anticipation of future economic growth was particularly beneficial to the emerging countries dependent on export demand.
- In contrast to the strong 2nd quarter returns, the 1-year trailing performance of international equity indices was broadly negative with only the Emerging Market Asia Index posting a positive return of 2.7% in USD for the period. The 1-year trailing currency impact on international index performance also contrasts with the 2nd quarter's USD weakness. Persistent strength of the USD over the 1-year period was a drag on the results realized by domestic holders of international equities for each of the indices tracked in the graph. This USD strength is particularly visible in the Emerging Market Middle East & Africa (EMEA) Index and Emerging Market Latin America Index.

### The Market Environment International and Regional Market Index Performance (Country Count) As June 30, 2020





	The Market Environment
<b>US Dollar International Index</b>	Attribution & Country Detail
	As of June 30, 2020

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	5.4%	12.3%	-6.5%
Consumer Discretionary	11.3%	17.6%	-6.9%
Consumer Staples	12.0%	8.5%	-3.8%
Energy	3.4%	-1.5%	-41.3%
Financials	16.1%	12.6%	-20.4%
Health Care	14.5%	13.8%	17.6%
Industrials	14.5%	17.5%	-8.0%
Information Technology	8.3%	23.0%	12.4%
Materials	7.3%	22.7%	-8.6%
Real Estate	3.2%	7.9%	-21.4%
Utilities	4.0%	11.4%	2.4%
Total	100.0%	14.2%	-7.4%

MSCI - ACWIXUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	7.6%	16.9%	2.6%
Consumer Discretionary	12.6%	19.8%	-0.6%
Consumer Staples	10.0%	9.4%	-4.8%
Energy	4.8%	8.5%	-34.5%
Financials	18.1%	10.3%	-22.4%
Health Care	10.7%	16.0%	18.3%
Industrials	11.4%	17.1%	-8.9%
Information Technology	11.0%	24.1%	19.2%
Materials	7.6%	24.6%	-8.7%
Real Estate	2.8%	6.8%	-21.4%
Utilities	3.5%	10.3%	-3.2%
Total	100.0%	15.4%	-7.1%

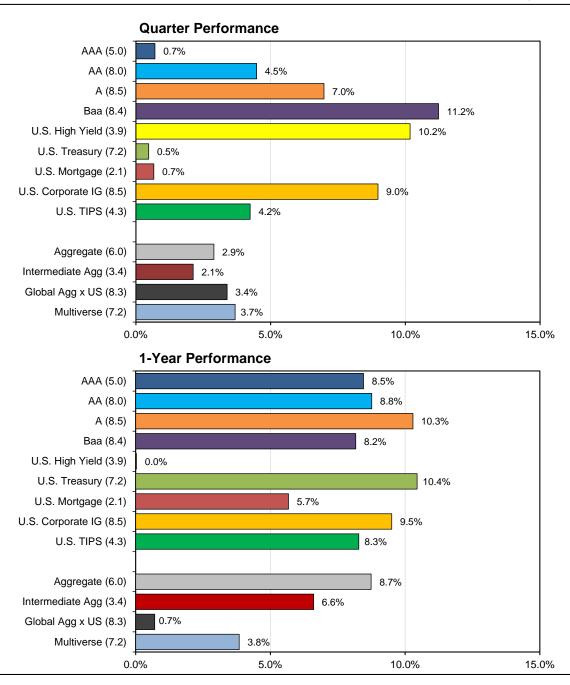
MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	13.5%	22.6%	14.2%
Consumer Discretionary	17.4%	22.1%	12.7%
Consumer Staples	6.5%	12.6%	-9.1%
Energy	6.0%	21.6%	-25.3%
Financials	19.1%	6.6%	-27.4%
Health Care	4.3%	37.1%	33.5%
Industrials	4.7%	16.0%	-15.9%
Information Technology	16.9%	19.9%	21.3%
Materials	6.9%	23.3%	-16.2%
Real Estate	2.6%	3.6%	-20.3%
Utilities	2.3%	9.2%	-20.3%
Total	100.0%	17.3%	-5.7%

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	MSCI-EAFE	MSCI-ACWIxUS	Quarter	1- Year
Country	Weight	Weight	Return	Return
Japan	25.4%	16.5%	11.5%	0.9%
United Kingdom	14.1%	9.1%	7.4%	-20.8%
France	10.9%	7.1%	15.3%	-11.4%
Switzerland	10.3%	6.7%	9.7%	3.8%
Germany	9.3%	6.0%	24.5%	-4.4%
Australia	6.7%	4.4%	28.6%	-14.6%
Netherlands	4.3%	2.8%	24.0%	7.1%
Hong Kong	3.4%	2.2%	7.7%	-17.4%
Sweden	3.1%	2.0%	19.5%	0.8%
Spain	2.4%	1.6%	9.6%	-22.5%
Denmark	2.3%	1.5%	18.8%	20.7%
Italy	2.3%	1.5%	15.0%	-13.1%
Singapore	1.1%	0.7%	7.3%	-23.8%
Finland	1.0%	0.7%	18.6%	-3.6%
Belgium	0.9%	0.6%	11.9%	-23.3%
Ireland	0.9%	0.4%	19.6%	3.6%
Israel	0.6%	0.4%	20.0%	0.8%
Norway	0.5%	0.4%	13.2%	-25.1%
Norway New Zealand	0.3%	0.3%	28.0%	-25.1%
Austria	0.3%	0.1%	28.0%	-28.2%
Portugal	0.2%	0.1%	9.2%	-28.2%
Portugal Total EAFE Countries	100.0%	0.1% 64.9%	9.2%	,*
	100.0%			-7.4%
Canada		6.5%	19.4%	-10.5%
Total Developed Countries		71.4%	14.6%	-7.7%
China		11.7%	14.2%	11.2%
Taiwan		3.5%	20.8%	17.8%
Korea		3.3%	19.3%	-1.4%
India		2.3%	20.4%	-18.2%
Brazil		1.5%	22.6%	-35.3%
South Africa		1.1%	25.8%	-26.9%
Russia		0.9%	17.6%	-17.7%
Saudi Arabia		0.8%	12.2%	-22.7%
Thailand		0.7%	22.4%	-25.8%
Malaysia		0.5%	12.6%	-14.8%
Mexico		0.5%	10.6%	-26.8%
Indonesia		0.4%	22.4%	-26.0%
Philippines		0.2%	19.3%	-21.4%
Qatar		0.2%	6.7%	-13.1%
Poland		0.2%	20.8%	-31.2%
Chile		0.2%	13.5%	-36.9%
United Arab Emirates		0.2%	14.4%	-21.7%
Turkey		0.1%	18.3%	-8.5%
Peru		0.1%	5.5%	-35.7%
Hungary		0.1%	14.1%	-18.3%
Colombia		0.1%	7.2%	-43.6%
Argentina		0.0%	43.7%	-47.0%
Greece		0.0%	9.6%	-35.1%
Czech Republic		0.0%	24.1%	-26.8%
Egypt		0.0%	4.9%	-13.7%
Pakistan		0.0%	11.7%	-17.3%
Total Emerging Countries		28.6%	17.3%	-5.7%
Total ACWIxUS Countries		100.0%	15.4%	-7.1%



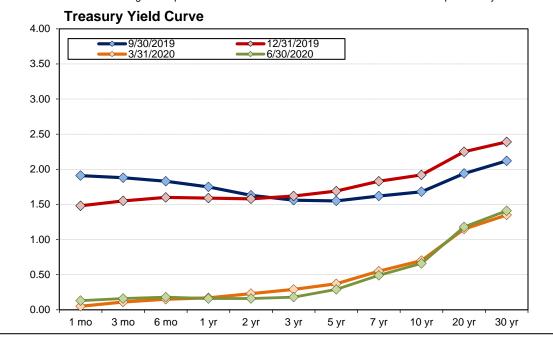
- Broad fixed income benchmarks rose sharply in the 2nd quarter as interest rates fell globally in response to the economic implications of the pandemic. The Fed continued purchasing bonds under programs announced during the first quarter to support capital markets and mitigate the damage to the economy. With US interest rates already near zero, the Fed announced several additional lending facilities to bridge the gap until economic activity picks up. These combined programs swelled the Fed's balance sheet to \$7.0 trillion, an increase of more than \$3 trillion since the beginning of the year. Late in the guarter the Fed commented that the economy faces a number of future challenges and expects interest rates to remain low for a prolonged period of time. Last August, the US Treasury yield curve inverted with the 2year yield briefly surpassing the 10-year yield. Historically, a 2-10 inversion in the yield curve has preceded a US recession within the next 6-24 months. Recently, the National Bureau of Economic Research reported that the US economy entered a recession in February. While long-term US interest rates have moved lower recently, the Treasury yield curve has actually steepened which historically portends better economic growth.
- During the quarter, the Bloomberg Barclays (BB) US Aggregate Index returned 2.9%. Within the broad BB US Aggregate index, the US Treasury and mortgage-backed segments dramatically underperformed the corporate bond sector during the 2nd quarter. Investment grade corporate credit returned a strong 9.0% due to narrowing credit spreads and a high demand for yield. In contrast, over the 1-year period, US Treasuries outpaced both corporate and mortgage-backed issues with US Treasuries posting 10.4% versus returns of 9.5% and 5.7% for corporate and mortgage bonds, respectively. Outside of domestic markets, the BB Global Aggregate ex US Index increased by 3.4% for the quarter and 0.7% for the year.
- Within investment grade credit, lower quality issues outperformed higher quality issues during the 2nd quarter. Lower quality issues benefitted from both spread compression and investors seeking out higher yields when compared to US Treasury or mortgage bonds. On an absolute basis without adjusting for the duration differences in the sub-indices, Baa rated credit was the best performing investment grade (IG) segment, returning 11.2% for the quarter. AAA issues were the worst performing IG credit segment, returning just 0.7%. Despite a much lower duration, the high yield index returned 10.2% for the quarter. These issues benefited from credit spreads narrowing significantly following the drawdown in the first quarter. Outside of high yield performance, which was flat on the year, credit returns were all impressive with each segment returning greater than 8% for the period.





- Much of the index performance detailed in the bar graphs on the previous page is visible on a time series basis by reviewing the yield graph to the right. The '1-Year Trailing Market Rates' chart illustrates that over the last year, the 10-year Treasury yield (green line) fell from yields of greater than 2.0%, to a low of roughly 0.5% before ending the quarter at 0.66%. A decrease in yields provides a boost to bond performance. 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 investment grade issues. This line illustrates an abrupt increase in credit spreads beginning in early 2020 as investors moved to higher quality assets during the quarter's risk-off environment. Spreads increased dramatically in February following the US onset of the pandemic, reaching a high of 4.88% on March 23rd. Since then, spreads have steadily declined as markets stabilized following the aggressive actions taken by the Treasury and Fed. During the guarter, the BAA OAS spread fell by 1.98%. Similar to Treasury yield declines, spread tightening in corporate bonds is equivalent to an interest rate decrease, which causes bond prices to rise. This compression produces an additional tailwind for corporate bond index returns. The green band across the graph illustrates the decrease in the Fed Funds Rate range due to the recent US monetary policy easing. The Fed began the year with a rate range of 1.50%-1.75%, which it aggressively cut to a range of 0.00%-0.25% during the 1st guarter, where it remained at the end of the quarter.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four calendar quarters. The higher yields and curve inversion experienced in the 2nd half of 2019 have given way to 2020's extremely low interest rate environment. The curve continued to flatten during the 2nd quarter, particularly between the 1- and 5-year maturities. On the longer end of the curve, rates rose slightly during the period as the US Treasury issued longer-dated bonds to lock in low borrowing costs. An increase in Treasury supply, in conjunction with concerns about the potential for rising inflation, resulted in slightly higher yields during the quarter.

# **1-Year Trailing Market Rates** 5.00 Fed Funds Rate TED Spread 4.50 3-Month Libor BAA OAS 10vr TIPS 10vr Treasurv 4.00 3.50 3.00 2.50 2.00 1.50 1.00 0.50 0.00 -0.50 -1.00 Jun-19 Jul-19 Aug-19 Sep-19 Oct-19 Nov-19 Dec-19 Jan-20 Feb-20 Mar-20 Apr-20 May-20 Jun-20



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### Delray Beach Fire Pension Plan Compliance Checklist

As of June 30, 2020

Total Fund Compliance:	Yes	No	N/A		
1. The Total Plan return equaled or exceeded the 7.25% actuarial earnings assumption over the trailing three and five year periods.					
2. The Total Plan return equaled or exceeded the total plan benchmark over the trailing three and five year periods.					
3. The Total Plan return ranked within the top 40th percentile of its peer group over the trailing three and five year periods.					

\* Based off gross of fees and public plan peer group.

Total Equity Compliance:	Yes	No	N/A
1. Total equity returns meet or exceed the benchmark over the trailing three and five year periods.		•	
2. Total equity returns ranked within the top 40th percentile of its peer group over the trailing three and five year periods.			•
3. The total equity allocation was less than 70% of the total plan assets at market.	•		
4. Total foreign equity was less than 25% of the total plan assets at market.	•		

Total Fixed Income Compliance:	Yes	No	N/A
1. Total fixed income returns meet or exceed the benchmark over the trailing three and five year periods.		•	
2. Total fixed income returns ranked within the top 40th percentile of its peer group over the trailing three and five year periods.		•	
3. No more than 15% of the fixed income portfolio was rated below BBB/Baa.	•		

	VG To	tal Stoc	k Mkt		Boston	I	G	reat Lake	s
	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
1. Manager outperformed the index over the trailing three and five year periods.*			•			•			•
2. Manager ranked within the top 40th percentile over trailing three and five year periods.*			•			٠			•
3. Less than four consecutive quarters of under performance relative to the benchmark.			•	•					•
4. Three and five-year down-market capture ratio less than the index.*			•			٠			•
5. Manager reports compliance with PFIA.			•			•	•		

	Rhum	bline R1	000G	P	Polen LC	G	V	G Mid-Ca	р
	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
1. Manager outperformed the index over the trailing three and five year periods.*			•			•			•
2. Manager ranked within the top 40th percentile over trailing three and five year periods.*			•			•			•
3. Less than four consecutive quarters of under performance relative to the benchmark.			•	•					•
4. Three and five-year down-market capture ratio less than the index.*			•			•			•
5. Manager reports compliance with PFIA.			•	•					•



\*3 years used when 5 years unavailable

# Delray Beach Fire Pension Plan Compliance Checklist

As of June 30, 2020

	H.L.	Intl Equ	iity		GHA		Tem	pleton Gl	obal
	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
1. Manager outperformed the index over the trailing three and five year periods.*	٠					•		•	
2. Manager ranked within the top 40th percentile over trailing three and five year periods.*	٠					•		•	
3. Less than four consecutive quarters of under performance relative to the benchmark.	٠			•			•		
4. Three and five-year down-market capture ratio less than the index.*	٠					•	•		
5. Manager reports compliance with PFIA.			•	•					•

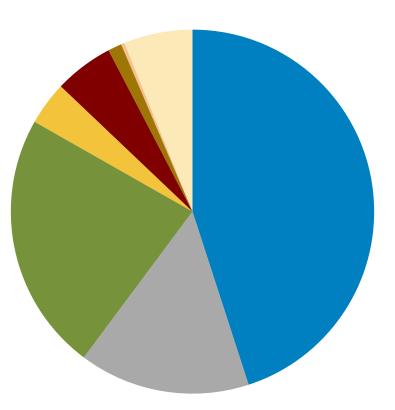
	Ame	rican Re	alty						
	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
1. Manager outperformed the index over the trailing three and five year periods.*		•							
2. Manager ranked within the top 40th percentile over trailing three and five year periods.*		٠							
3. Less than four consecutive quarters of under performance relative to the benchmark.	•								
4. Three and five-year down-market capture ratio less than the index.*			٠						
5. Manager reports compliance with PFIA.			•						

\*3 years used when 5 years unavailable



June 30, 2020 : \$113,386,862

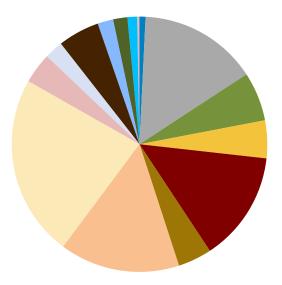
March 31, 2020 : \$100,240,669



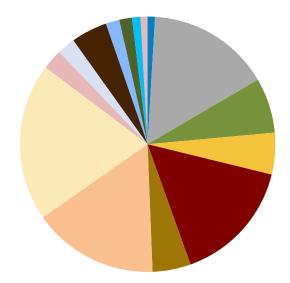
Allocation			Allocation		
	Market Value	Allocation		Market Value	Allocation
US Equity	45,109,737	45.0	US Equity	55,986,651	49.4
International Equity	15,238,850	15.2	International Equity	18,018,213	15.9
US Fixed Income	23,067,015	23.0	US Fixed Income	22,688,467	20.0
Global Fixed Income	3,879,206	3.9	Global Fixed Income	2,905,670	2.6
US Private Real Estate	5,270,848	5.3	US Private Real Estate	5,191,633	4.6
US Real Return	1,223,786	1.2	US Real Return	1,223,786	1.1
Cash	302,388	0.3	Cash	1,008,264	0.9
US Private Equity	6,148,839	6.1	US Private Equity	6,364,177	5.6



# March 31, 2020 : \$100,240,669



June 30, 2020 : \$113,386,862

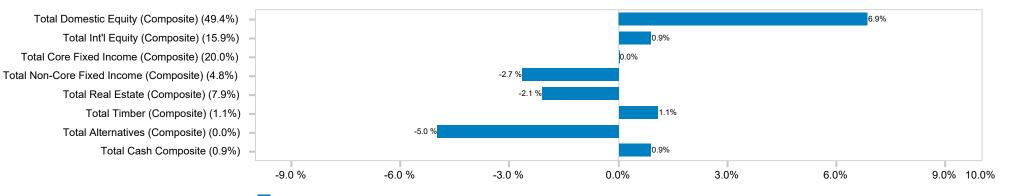


Allocation			Allocation		
	Market Value	Allocation		Market Value	Allocation
Vanguard Total Stock Mkt (VTSAX)	762,653	0.8	Vanguard Total Stock Mkt (VTSAX)	1,060,551	0.9
Boston LCV	15,049,927	15.0	Boston LCV	17,731,408	15.6
Great Lakes SMid Cap	6,229,802	6.2	Great Lakes SMid Cap	7,897,023	7.0
Vanguard Mid-Cap Index (VIMAX)	4,792,554	4.8	Vanguard Mid-Cap Index (VIMAX)	5,988,579	5.3
Polen Capital LCG	13,986,922	14.0	Polen Capital LCG	17,830,616	15.7
Rhumbline R1000G	4,287,879	4.3	Rhumbline R1000G	5,478,474	4.8
Harding Loevner Intl Equity (HLIZX)	15,238,850	15.2	Harding Loevner Intl Equity (HLIZX)	18,018,213	15.9
Garcia Hamilton Fixed Income	23,067,015	23.0	Garcia Hamilton Fixed Income	22,688,467	20.0
Templeton Global Total Return (FTTRX)	3,879,206	3.9	Templeton Global Total Return (FTTRX)	2,905,670	2.6
Crescent Direct Lending Levered Fund	2,356,748	2.4	Crescent Direct Lending Levered Fund	2,592,699	2.3
American Core Realty	5,270,848	5.3	American Core Realty	5,191,633	4.6
Angelo Gordon Net Lease Realty Fund III, L.P.	1,978,364	2.0	Angelo Gordon Net Lease Realty Fund III, L.P.	1,957,751	1.7
Dune Real Estate Fund III	1,813,727	1.8	Dune Real Estate Fund III	1,813,727	1.6
Molpus Woodlands Timber	1,223,786	1.2	Molpus Woodlands Timber	1,223,786	1.1
Mutual Fund Cash	3,337	0.0	Mutual Fund Cash	3,337	0.0
R&D	299,051	0.3	R&D	1,004,928	0.9

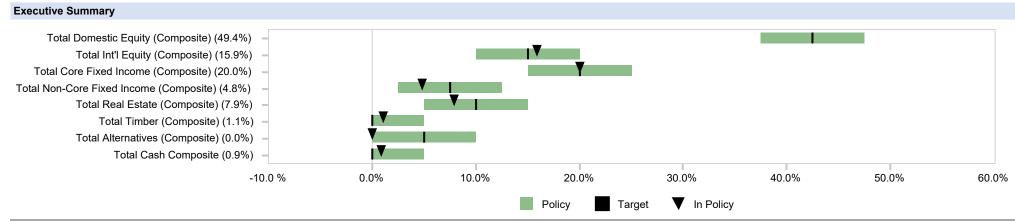


Asset Allocation Compliance Delray Beach Firefighters' Retirement System Total Fund (Composite)

Asset Allocation Compliance					
	Asset Allocation \$	Current Allocation (%)	Target Allocation (%)	Differences (%)	Target Rebal. (\$000)
Total Fund (Composite)	113,386,862	100.00	100.00	0.00	-
Total Domestic Equity (Composite)	55,986,651	49.38	42.50	6.88	-7,797,235
Total Int'l Equity (Composite)	18,018,213	15.89	15.00	0.89	-1,010,183
Total Core Fixed Income (Composite)	22,688,467	20.01	20.00	0.01	-11,095
Total Non-Core Fixed Income (Composite)	5,498,369	4.85	7.50	-2.65	3,005,646
Total Real Estate (Composite)	8,963,111	7.90	10.00	-2.10	2,375,575
Total Timber (Composite)	1,223,786	1.08	0.00	1.08	-1,223,786
Total Alternatives (Composite)	-	0.00	5.00	-5.00	5,669,343
Total Cash Composite	1,008,264	0.89	0.00	0.89	-1,008,264



Allocation Differences





Comparative Performance																	
	Q	TR	Y	D	FY	TD	1`	ŕR	2 `	YR	3 \	YR	5	YR	Ince	otion	Inception Date
Total Fund (Net)	14.53	(19)	-2.77	(54)	3.07	(36)	3.80	(35)	5.58	(22)	6.36	(14)	6.05	(15)	5.28	(47)	10/01/2005
Total Fund Policy	13.09	(37)	-0.75	(25)	4.71	(16)	5.70	(16)	6.68	(14)	7.28	(9)	7.22	(6)	6.33	(11)	
Difference	1.44		-2.02		-1.64		-1.90		-1.10		-0.92		-1.17		-1.05		
IM Mixed-Asset Target Alloc Moderate (MF) Median	11.94		-2.55		1.67		2.69		4.04		4.52		4.74		5.21		
Total Fund (Gross)	14.61	(14)	-2.62	(49)	3.29	(33)	4.11	(36)	5.91	(19)	6.71	(21)	6.46	(23)	5.74	(74)	10/01/2005
Total Fund Policy	13.09	(33)	-0.75	(18)	4.71	(13)	5.70	(13)	6.68	(9)	7.28	(9)	7.22	(6)	6.33	(37)	
Difference	1.52		-1.87		-1.42		-1.59		-0.77		-0.57		-0.76		-0.59		
All Public Plans-Total Fund Median	12.23		-2.71		2.44		3.26		4.86		5.70		5.90		6.17		
Total Equity	22.49		-5.47		3.16		3.72		5.77		8.04		7.46		6.69		10/01/2005
Total Equity Policy	21.06		-4.94		3.53		3.65		5.27		7.79		7.79		6.30		
Difference	1.43		-0.53		-0.37		0.07		0.50		0.25		-0.33		0.39		
Total Domestic Equity	23.94	(36)	-5.71	(53)	2.60	(51)	4.13	(51)	7.32	(45)	9.39	(48)	8.52	(52)	7.61	(69)	10/01/2005
Total Domestic Equity Policy	22.69	(43)	-2.88	(40)	5.75	(39)	6.54	(41)	7.65	(43)	10.02	(43)	9.94	(41)	8.60	(49)	
Difference	1.25		-2.83		-3.15		-2.41		-0.33		-0.63		-1.42		-0.99		
IM U.S. All Cap Equity (SA+CF+MF) Median	22.01		-4.67		2.82		4.37		5.85		8.79		8.79		8.51		
Total Int'l Equity	18.24	(30)	-4.62	(16)	5.06	(15)	2.56	(17)	1.62	(23)	4.44	(20)	4.29	(25)	3.94	(12)	05/01/2007
Total Int'l Policy	16.12	(64)	-11.00	(61)	-3.06	(56)	-4.80	(65)	-1.80	(56)	1.13	(59)	2.26	(59)	0.75	(96)	
Difference	2.12		6.38		8.12		7.36		3.42		3.31		2.03		3.19		
IM International Large Cap Core Equity (SA+CF) Median	16.81		-10.26		-2.19		-3.28		-1.38		1.99		2.69		2.54		
Total Fixed Income	3.83	(84)	3.95	(66)	4.42	(68)	6.06	(71)	6.40	(78)	4.70	(75)	4.60	(65)	5.24	(53)	10/01/2005
Total Fixed Policy	2.90	(94)	6.14	(32)	6.33	(37)	8.74	(40)	8.30	(50)	5.32	(58)	4.30	(80)	4.55	(90)	
Difference	0.93		-2.19		-1.91		-2.68		-1.90		-0.62		0.30		0.69		
IM U.S. Broad Market Fixed Income (SA+CF+MF) Median	5.75		5.32		5.84		8.21		8.28		5.47		4.78		5.27		
Fotal Real Estate	-0.72	(44)	0.07	(46)	1.21	(55)	1.41	(71)	5.01	(57)	6.48	(57)	7.73	(62)	4.33	(100)	07/01/2007
NCREIF ODCE	-1.27	(67)	-0.37	(50)	1.16	(55)	2.56	(63)	4.71	(61)	5.99	(66)		(63)	5.28	(72)	
Difference	0.55		0.44		0.05		-1.15		0.30		0.49		0.10		-0.95		
IM U.S. Open End Private Real Estate (SA+CF) Median	-1.14		-0.48		1.76		2.78		5.30		6.54		8.15		5.70		
Total Timber	0.00		-0.11		-4.38		-4.03		0.66		-2.89		-0.42		2.35		07/01/2007
NCREIF Timberland Index	0.08		0.19		0.15		0.34		1.64		2.28		2.71		4.78		
Difference	-0.08		-0.30		-4.53		-4.37		-0.98		-5.17		-3.13		-2.43		



# Comparative Performance Total Fund Trailing Returns

	Q	ſR	YTD	FYTI	D	1 YF	R	2 `	YR	3 \	(R	5`	ŕR	Ince	otion	Inception Date
Fotal Domestic Equity (Composite)	23.94		-5.71	2.60		4.13		7.32		9.39		8.52		7.61		10/01/2005
/anguard Total Stock Mkt (VTSAX)	22.08	(47)	-3.40 (37)	5.30 (	(34)	6.45	(32)	N/A		N/A		N/A		8.55	(33)	04/01/2019
CRSP U.S. Total Market TR Index	22.09	(47)	-3.40 (37)	5.30 (	(34)	6.47	(32)	7.72	(32)	10.04	(31)	10.03	(26)	8.56	(33)	
Difference	-0.01		0.00	0.00		-0.02		N/A		N/A		N/A		-0.01		
IM U.S. Equity (MF) Median	21.49		-8.59	-2.53		-1.77		2.00		4.80		5.91		0.93		
Boston LCV	17.93	(38)	-18.84 (85)	-12.10 (	(82)	-9.66	(72)	-1.77	(65)	N/A		N/A		-1.46	(63)	01/01/2018
Russell 1000 Value Index	14.29	(79)	-16.26 (66)	-10.06 (	(68)	-8.84	(67)	-0.56	(56)	1.82	(64)	4.64	(62)	-1.13	(59)	
Difference	3.64		-2.58	-2.04		-0.82		-1.21		N/A		N/A		-0.33		
IM U.S. Large Cap Value Equity (SA+CF) Median	16.98		-14.65	-7.95		-6.61		-0.26		3.16		5.32		-0.23		
Great Lakes SMid Cap	26.91	(27)	-14.30 (73)	-9.00 (	(83)	N/A		N/A		N/A		N/A		-9.89	(86)	08/01/2019
Russell 2500 Index	26.56	(33)	-11.05 (55)	-3.46 (	(48)	-4.70	(56)	-1.52	(67)	4.08	(55)	5.41	(67)	-5.68	(51)	
Difference	0.35		-3.25	-5.54		N/A		N/A		N/A		N/A		-4.21		
IM U.S. SMID Cap Core Equity (SA+CF) Median	23.64		-11.04	-4.33		-3.90		-0.60		5.74		6.75		-5.65		
Fotal Growth	27.68	(50)	10.99 (44)	22.96 (	(36)	24.30	(25)	21.97	(5)	20.01	(36)	14.40	(66)	7.95	(97)	07/01/2007
Russell 1000 Growth Index	27.84	(49)	9.81 (57)	21.48 (	(49)	23.28	(37)	17.27	(44)	18.99	(50)	15.89	(39)	11.16	(50)	
Difference	-0.16		1.18	1.48		1.02		4.70		1.02		-1.49		-3.21		
IM U.S. Large Cap Growth Equity (SA+CF+MF) Median	27.68		10.55	21.41		21.67		16.75		18.95		15.40		11.15		
Rhumbline R1000G	27.78	(37)	9.85 (44)	21.49 (	(37)	23.30	(29)	17.27	(36)	N/A		N/A		16.82	(41)	01/01/2018
Russell 1000 Growth Index	27.84	(37)	9.81 (44)	21.48 (	(37)	23.28	(29)	17.27	(36)	18.99	(37)	15.89	(29)	16.82	(41)	
Difference	-0.06		0.04	0.01		0.02		0.00		N/A		N/A		0.00		
IM U.S. Large Cap Growth Equity (SA+CF) Median	26.58		8.79	19.50		19.56		15.65		17.42		14.27		15.66		
Polen Capital LCG	27.66	(39)	11.31 (31)	23.38 (	(25)	24.57	(20)	N/A		N/A		N/A		33.97	(20)	01/01/2019
Russell 1000 Growth Index	27.84	(37)	9.81 (44)	21.48 (	(37)	23.28	(29)	17.27	(36)	18.99	(37)	15.89	(29)	30.91	(37)	
Difference	-0.18		1.50	1.90		1.29		N/A		N/A		N/A		3.06		
IM U.S. Large Cap Growth Equity (SA+CF) Median	26.58		8.79	19.50		19.56		15.65		17.42		14.27		28.06		
/anguard Mid-Cap Index (VIMAX)	24.96	(22)	-7.18 (15)	-0.80 (	(15)	-0.20	(16)	3.74	(13)	6.45	(12)	6.98	(13)	6.98	(13)	07/01/2015
CRSP U.S. Mid Cap TR Index	24.97	(21)	-7.20 (15)	-0.82 (	(15)	-0.20	(16)	3.75	(12)	6.47	(11)	7.01	(11)	7.01	(11)	
Difference	-0.01		0.02	0.02		0.00		-0.01		-0.02		-0.03		-0.03		
IM U.S. Mid Cap Core Equity (MF) Median	20.77		-12.42	-6.38		-6.15		-1.29		2.34		3.60		3.60		
Fotal Int'l Equity (Composite)	18.24		-4.62	5.06		2.56		1.62		4.44		4.29		3.94		05/01/2007
Harding Loevner Intl Equity (HLIZX)	18.24	(54)	-4.62 (25)	5.00 (	(26)	2.48	(27)	1.58	(28)	4.42	(23)	N/A		6.65	(27)	09/01/2016
MSCI AC World ex USA (Net)	16.12	· · /	-11.00 (60)	-3.06 (		-4.80			(51)	1.13		2.26	(51)	4.41	(48)	
Difference	2.12		6.38	8.06		7.28		3.38		3.29		N/A		2.24		
IM International Equity (MF) Median	18.60		-9.65	-0.98		-3.02		-1.72		0.98		2.30		4.23		



# Comparative Performance Total Fund Trailing Returns

As of June 30, 2020

	QT	R	۲۲	D	FY	TD	1 ۱	(R	2	YR	3 \	ŕR	5	YR	Ince	ption	Inception Date
Total Core Fixed Income	4.79		6.56		6.53		9.06		7.52		5.08		4.44		4.56		10/01/2005
Core Fixed Policy	2.90		6.14		6.33		8.74		8.30		5.32		4.30		4.50		
Difference	1.89		0.42		0.20		0.32		-0.78		-0.24		0.14		0.06		
Garcia Hamilton Fixed Income	4.79	(37)	6.56	(39)	6.53	(47)	9.06	(46)	7.52	(92)	N/A		N/A		5.94	(74)	01/01/2018
Blmbg. Barc. U.S. Aggregate Index	2.90	(90)	6.14	(60)	6.33	(65)	8.74	(68)	8.30	(75)	5.32	(84)	4.30	(90)	5.90	(76)	
Difference	1.89		0.42		0.20		0.32		-0.78		N/A		N/A		0.04		
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	4.42		6.24		6.47		8.93		8.54		5.57		4.70		6.13		
Total Non-Core Fixed Income	0.22		-5.06		-3.10		-3.97		1.97		2.59		4.00		6.84		07/01/2010
Bloomberg Barclays Global Aggregate	3.32		2.98		3.48		4.22		5.03		3.79		3.56		2.81		
Difference	-3.10		-8.04		-6.58		-8.19		-3.06		-1.20		0.44		4.03		
Templeton Global Total Return (FTTRX)	0.36	(100)	-5.82	(100)	-4.04	(100)	-7.01	(100)	-0.14	(100)	-0.71	(100)	0.99	(100)	2.32	(53)	07/01/2011
Blmbg. Barc. Global Multiverse	3.68	(90)	2.53	(29)	3.19	(31)	3.84	(33)	4.92	(50)	3.72	(37)	3.63	(36)	2.13	(59)	
Difference	-3.32		-8.35		-7.23		-10.85		-5.06		-4.43		-2.64		0.19		
IM Global Fixed Income (MF) Median	5.56		1.89		2.11		3.18		4.92		3.43		3.32		2.36		
Total Real Estate (Composite)	-0.72		0.07		1.21		1.41		5.01		6.48		7.73		4.33		07/01/2007
American Core Realty	-1.23	(62)	0.29	(39)	1.76	(50)	3.22	(45)	5.39	(39)	6.31	(61)	7.39	(65)	5.36	(69)	07/01/2007
NCREIF ODCE	-1.27	(67)	-0.37	(50)	1.16	(55)	2.56	(63)	4.71	(61)	5.99	(66)	7.63	(63)	5.28	(72)	
Difference	0.04		0.66		0.60		0.66		0.68		0.32		-0.24		0.08		
IM U.S. Open End Private Real Estate (SA+CF) Median	-1.14		-0.48		1.76		2.78		5.30		6.54		8.15		5.70		
Total Timber (Composite)	0.00		-0.11		-4.38		-4.03		0.66		-2.89		-0.42		2.35		07/01/2007
Molpus Woodlands Timber	0.00		-0.11		-4.38		-4.03		0.83		-0.44		1.17		2.13		06/01/2008
NCREIF Timberland Index	0.08		0.19		0.15		0.34		1.64		2.28		2.71		3.62		
Difference	-0.08		-0.30		-4.53		-4.37		-0.81		-2.72		-1.54		-1.49		

^ Some products shown on IRR page.



# **Comparative Performance - IRR**

Inception	Inception Date
1.95	06/24/2008
6.55	03/10/2014
10.24	11/06/2014
7.06	10/09/2014
	1.95 6.55 10.24



Comparative Performance Total Fund Trailing Returns As of June 30, 2020

Comparative Performance																		
	FYTD	Oct- T Sep-	0	Oct-2 To Sep-2	0	Oct-2 T Sep-2	0	Oct-2 To Sep-2	0	Oct-2 T Sep-2	0	Oct-2 T Sep-2	0	т	2012 o 2013	Oct-2011 To Sep-2012	Oct-2 T Sep-2	0
Total Fund (Net)	3.07 (36)	4.54	(44)	8.29	(13)	11.09	(29)	8.82	(51)	-1.22	(28)	10.01	(29)	10.96	(41)	16.79 (51)	1.26	(20)
Total Fund Policy	4.71 (16)	5.02	(34)	8.59	(12)	11.90	(17)	10.34	(19)	0.55	(5)	10.23	(26)	10.24	(52)	15.21 (75)	2.15	(12)
Difference	-1.64	-0.48		-0.30		-0.81		-1.52		-1.77		-0.22		0.72		1.58	-0.89	
IM Mixed-Asset Target Alloc Moderate (MF) Median	1.67	4.00		5.09		10.04		8.82		-2.35		8.37		10.34		16.89	-0.53	
Total Fund (Gross)	3.29 (33)	4.89	(31)	8.66	(23)	11.49	(58)	9.41	(60)	-0.72	(49)	10.58	(38)	11.52	(59)	17.35 (53)	1.61	(34)
Total Fund Policy	4.71 (13)	5.02	(29)	8.59	(24)	11.90	(50)	10.34	(33)	0.55	(21)	10.23	(46)	10.24	(71)	15.21 (77)	2.15	(24)
Difference	-1.42	-0.13		0.07		-0.41		-0.93		-1.27		0.35		1.28		2.14	-0.54	
All Public Plans-Total Fund Median	2.44	4.31		7.14		11.84		9.74		-0.78		9.93		12.05		17.58	0.68	
Total Equity	3.16	3.19		13.13		16.40		11.59		-3.61		13.96		21.06		25.94	-0.85	
Total Equity Policy	3.53	1.49		13.60		18.94		13.34		-6.20		11.73		19.62		22.72	-4.71	
Difference	-0.37	1.70		-0.47		-2.54		-1.75		2.59		2.23		1.44		3.22	3.86	
Total Domestic Equity	2.60 (51)	5.47	(24)	16.10	(50)	14.99	(86)	12.80	(48)	-1.73	(61)	17.23	(48)	22.56	(64)	27.44 (57)	3.01	(22)
Total Domestic Equity Policy	5.75 (39)	2.36	(46)	17.73	(41)	18.62	(56)	14.77	(26)	-1.18	(56)	17.67	(42)	22.03	(68)	29.64 (39)	0.48	(39)
Difference	-3.15	3.11		-1.63		-3.63		-1.97		-0.55		-0.44		0.53		-2.20	2.53	
IM U.S. All Cap Equity (SA+CF+MF) Median	2.82	1.90		15.95		19.06		12.57		-0.54		17.08		24.68		28.32	-0.56	
Total Int'l Equity	5.06 (15)	-3.33	(74)	5.85	(14)	18.68	(69)	7.98	(50)	-8.63	(65)	6.07	(51)	16.67	(89)	21.58 (5)	-10.95	(70)
Total Int'l Policy	-3.06 (56)	-1.23	(47)	1.76	(60)	19.61	(59)	9.26	(33)	-12.16	(90)	4.77	(64)	16.48	(90)	14.49 (82)	-10.81	(69)
Difference	8.12	-2.10		4.09		-0.93		-1.28		3.53		1.30		0.19		7.09	-0.14	
IM International Large Cap Core Equity (SA+CF) Median	-2.19	-1.56		2.53		20.30		7.91		-7.16		6.10		22.60		17.31	-9.40	
Total Fixed Income	4.42 (68)	7.91	(83)	0.99	(20)	3.93	(24)	5.81	(64)	2.09	(62)	6.00	(34)	2.81	(12)	11.79 (18)	3.12	(83)
Total Fixed Policy	6.33 (37)	10.30	(52)	-1.22	(90)	0.07	(93)	5.19	(84)	2.94	(30)	3.96	(86)	-2.35	(97)	5.75 (89)	5.96	(14)
Difference	-1.91	-2.39		2.21		3.86		0.62		-0.85		2.04		5.16		6.04	-2.84	
IM U.S. Broad Market Fixed Income (SA+CF+MF) Median	5.84	10.33		-0.45		1.86		6.28		2.52		5.35		-0.41		8.34	4.99	
Total Real Estate	1.21 (55)	5.87	(74)	10.10	(29)	9.82	(29)	9.06	(94)	14.70	(61)	12.33	(68)	8.10	(100)	13.00 (47)	14.11	(88)
NCREIF ODCE	1.16 (55)	6.17	(72)	8.82	(59)	7.81	(56)	10.62	(68)	14.71	(61)	12.39	(67)	12.47	(69)	11.77 (64)	18.03	(43)
Difference	0.05	-0.30		1.28		2.01		-1.56		-0.01		-0.06		-4.37		1.23	-3.92	
IM U.S. Open End Private Real Estate (SA+CF) Median	1.76	6.89		9.04		8.05		11.32		15.45		12.78		13.28		12.89	16.62	
Total Timber	-4.38	5.58		-9.38		0.28		6.48		6.70		9.49		4.51		-5.86	3.87	
NCREIF Timberland Index	0.15	2.10		4.00		3.28		3.28		9.26		10.38		9.68		2.25	0.26	
Difference	-4.53	3.48		-13.38		-3.00		3.20		-2.56		-0.89		-5.17		-8.11	3.61	
Total Alternatives	N/A	N/A		4.94		8.16		9.11		-3.68		6.84		-9.88		-8.55	-0.85	
Alternatives Policy	6.58	7.72		8.07		9.04		10.41		1.09		7.56		-3.91		-2.59	1.58	
Difference	N/A	N/A		-3.13		-0.88		-1.30		-4.77		-0.72		-5.97		-5.96	-2.43	



Comparative Performance

**Total Fund Trailing Returns** 

	FYTD	Oct-2 T Sep-2	0	Oct-2017 To Sep-2018	Sep	-2016 To -2017	Sep-	2015 o 2016	Oct-20 To Sep-20		Oct-2 To Sep-2	)	Oct-20 To Sep-20		Oct-2011 To Sep-2012	Oct-2010 To Sep-2011
Total Domestic Equity (Composite)	2.60	5.47		16.10	14.99		12.80		-1.73		17.23		22.56		27.44	3.01
Vanguard Total Stock Mkt (VTSAX)	5.30 (34)	N/A		N/A	N/A	۱.	N/A		N/A		N/A		N/A		N/A	N/A
CRSP U.S. Total Market TR Index	5.30 (34)	2.92	(34)	17.62 (31	) 18.64	40)	14.99	(27)	-0.55 (	(47)	17.77	(23)	21.59 (5	55)	29.96 (29)	0.46 (32)
Difference	0.00	N/A		N/A	N/A	λ	N/A		N/A		N/A		N/A		N/A	N/A
IM U.S. Equity (MF) Median	-2.53	0.12		13.30	17.48	3	12.13		-0.92		13.75		22.53		27.33	-1.87
Macquarie (Delaware Value)	N/A	N/A		N/A	12.49	) (89)	19.29	(10)	-3.67 (	(57)	21.59	(17)	24.74 (4	40)	29.80 (34)	6.36 (8)
Russell 1000 Value Index	-10.06 (68)	4.00	(39)	9.45 (78	) 15.12	2 (76)	16.19	(26)	-4.42 (	(65)	18.89	(42)	22.30 (6	60)	30.92 (26)	-1.89 (62)
Difference	N/A	N/A		N/A	-2.63	3	3.10		0.75		2.70		2.44		-1.12	8.25
IM U.S. Large Cap Value Equity (SA+CF) Median	-7.95	2.45		11.80	17.92	2	13.30		-3.29		18.36		23.68		28.16	-0.98
Boston LCV	-12.10 (82)	3.47	(43)	N/A	N/A	<b>\</b>	N/A		N/A		N/A		N/A		N/A	N/A
Russell 1000 Value Index	-10.06 (68)	4.00	(39)	9.45 (78	) 15.12	2 (76)	16.19	(26)	-4.42 (	(65)	18.89	(42)	22.30 (6	60)	30.92 (26)	-1.89 (62)
Difference	-2.04	-0.53		N/A	N/A	<b>x</b>	N/A		N/A		N/A		N/A		N/A	N/A
IM U.S. Large Cap Value Equity (SA+CF) Median	-7.95	2.45		11.80	17.92	2	13.30		-3.29		18.36		23.68		28.16	-0.98
Great Lakes SMid Cap	-9.00 (83)	N/A		N/A	N/A	<b>\</b>	N/A		N/A		N/A		N/A		N/A	N/A
Russell 2500 Index	-3.46 (48)	-4.04	(66)	16.19 (55	) 17.79	) (70)	14.44	(33)	0.38 (	(73)	8.97	(72)	29.79 (5	57)	30.93 (40)	-2.22 (71)
Difference	-5.54	N/A		N/A	N/A	λ	N/A		N/A		N/A		N/A		N/A	N/A
IM U.S. SMID Cap Core Equity (SA+CF) Median	-4.33	-2.33		16.26	18.86	6	12.55		2.31		11.35		30.27		30.22	-0.83
Total Growth	22.96 (36)	11.18	(6)	22.19 (79	) 14.70	(97)	7.63	(92)	4.20	(42)	18.19	(51)	18.74 (7	70)	29.37 (43)	8.43 (3)
Russell 1000 Growth Index	21.48 (49)	3.71	(49)	26.30 (45	) 21.94	(40)	13.76	(25)	3.17 (	(59)	19.15	(38)	19.27 (6	64)	29.19 (44)	3.78 (27)
Difference	1.48	7.47		-4.11	-7.24	ŧ.	-6.13		1.03		-0.96		-0.53		0.18	4.65
IM U.S. Large Cap Growth Equity (SA+CF+MF) Median	21.41	3.60		25.67	21.29	)	12.10		3.85		18.22		20.68		28.45	1.68
Rhumbline R1000G	21.49 (37)	3.70	(53)	N/A	N/A	۱	N/A		N/A		N/A		N/A		N/A	N/A
Russell 1000 Growth Index	21.48 (37)	3.71	(53)	26.30 (37	) 21.94	(38)	13.76	(23)	3.17 (	(54)	19.15	(40)	19.27 (6	64)	29.19 (39)	3.78 (30)
Difference	0.01	-0.01		N/A	N/A	λ	N/A		N/A		N/A		N/A		N/A	N/A
IM U.S. Large Cap Growth Equity (SA+CF) Median	19.50	3.84		24.41	20.83	3	11.69		3.50		18.20		20.26		27.71	1.40
Sawgrass Large Cap Growth	N/A	N/A		21.72 (65	) 14.70	) (92)	7.63	(87)	4.20 (	(40)	18.19	(51)	18.74 (6	69)	29.37 (38)	N/A
Russell 1000 Growth Index	21.48 (37)	3.71	(53)	26.30 (37	) 21.94	(38)	13.76	(23)	3.17 (	(54)	19.15	(40)	19.27 (6	64)	29.19 (39)	3.78 (30)
Difference	N/A	N/A		-4.58	-7.24	ļ.	-6.13		1.03		-0.96		-0.53		0.18	N/A
IM U.S. Large Cap Growth Equity (SA+CF) Median	19.50	3.84		24.41	20.83	3	11.69		3.50		18.20		20.26		27.71	1.40
Polen Capital LCG	23.38 (25)	N/A		N/A	N/A	<b>\</b>	N/A		N/A		N/A		N/A		N/A	N/A
Russell 1000 Growth Index	21.48 (37)	3.71	(53)	26.30 (37	) 21.94	(38)	13.76	(23)	3.17 (	(54)	19.15	(40)	19.27 (6	64)	29.19 (39)	3.78 (30)
Difference	1.90	N/A		N/A	N/A	ι	N/A		N/A		N/A		N/A		N/A	N/A
IM U.S. Large Cap Growth Equity (SA+CF) Median	19.50	3.84		24.41	20.83	3	11.69		3.50		18.20		20.26		27.71	1.40



# Comparative Performance Total Fund Trailing Returns

	FYTD	Oct-2018 To Sep-2019	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013	Oct-2011 To Sep-2012	Oct-2010 To Sep-2011
Lazard SMid Cap Core	N/A	N/A	13.70 (66)	20.53 (25)	10.26 (88)	4.02 (41)	11.99 (37)	31.12 (34)	30.14 (51)	-9.00 (96)
Russell 2500 Index	-3.46 (48)	-4.04 (66)	16.19 (55)	17.79 (70)	14.44 (33)	0.38 (73)	8.97 (72)	29.79 (57)	30.93 (40)	-2.22 (71)
Difference	N/A	N/A	-2.49	2.74	-4.18	3.64	3.02	1.33	-0.79	-6.78
IM U.S. SMID Cap Core Equity (SA+CF) Median	-4.33	-2.33	16.26	18.86	12.55	2.31	11.35	30.27	30.22	-0.83
Vanguard Mid-Cap Index (VIMAX)	-0.80 (15)	3.65 (24)	13.42 (30)	15.30 (49)	12.63 (40)	N/A	N/A	N/A	N/A	N/A
CRSP U.S. Mid Cap TR Index	-0.82 (15)	3.70 (22)	13.44 (30)	15.33 (47)	12.68 (39)	1.76 (22)	15.94 (13)	28.08 (41)	26.23 (50)	-0.18 (22)
Difference	0.02	-0.05	-0.02	-0.03	-0.05	N/A	N/A	N/A	N/A	N/A
IM U.S. Mid Cap Core Equity (MF) Median	-6.38	1.09	10.84	15.25	11.87	-1.05	12.32	27.52	26.17	-3.68
Total Int'l Equity (Composite)	5.06	-3.33	5.85	18.68	7.98	-8.63	6.07	16.67	21.58	-10.95
Harding Loevner Intl Equity (HLIZX)	5.00 (26)	-3.34 (62)	5.85 (10)	18.65 (58)	N/A	N/A	N/A	N/A	N/A	N/A
MSCI AC World ex USA (Net)	-3.06 (60)	-1.23 (44)	1.76 (34)	19.61 (48)	9.26 (51)	-12.16 (64)	4.77 (43)	16.48 (56)	14.49 (65)	-10.81 (38)
Difference	8.06	-2.11	4.09	-0.96	N/A	N/A	N/A	N/A	N/A	N/A
IM International Equity (MF) Median	-0.98	-1.94	0.08	19.36	9.32	-8.75	4.26	17.81	16.20	-12.08



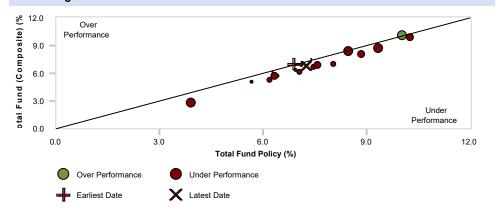
Comparative Performance Total Fund Trailing Returns

	FYTD	Oct-2018 To	То	Oct-2		Oct-2		Oct-2014 To	Oct-2 To		Oct-2012 To	Oct-2011 To	Oct-2010 To
		Sep-201	Sep-2018	Sep-	2017	Sep-	2016	Sep-2015	Sep-2	2014	Sep-2013	Sep-2012	Sep-2011
Total Core Fixed Income	6.53	8.74	-0.67	0.82		5.78		3.88	4.40		-1.26	7.71	4.42
Core Fixed Policy	6.33	10.30	-1.22	0.07		5.19		2.94	3.96		-1.68	5.16	5.26
Difference	0.20	-1.56	0.55	0.75		0.59		0.94	0.44		0.42	2.55	-0.84
Garcia Hamilton Fixed Income	6.53 (47)	8.74 (96	) N/A	N/A		N/A		N/A	N/A		N/A	N/A	N/A
Blmbg. Barc. U.S. Aggregate Index	6.33 (65)	10.30 (70	) -1.22 (87)	0.07	(84)	5.19	(80)	2.94 (62)	3.96	(81)	-1.68 (78)	5.16 (89)	5.26 (50)
Difference	0.20	-1.56	N/A	N/A		N/A		N/A	N/A		N/A	N/A	N/A
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	6.47	10.44	-0.75	0.61		5.66		3.02	4.49		-1.27	6.60	5.26
Mutual of America Core Fixed	N/A	N/A	N/A	0.82	(39)	5.78	(43)	3.88 (7)	4.43	(52)	-1.01 (38)	7.24 (37)	N/A
Blmbg. Barc. U.S. Aggregate Index	6.33 (65)	10.30 (70	) -1.22 (87	0.07	• •	5.19	(80)	2.94 (62)	3.96	(81)	-1.68 (78)	5.16 (89)	5.26 (50)
Difference	N/A	N/A	Ń/A	0.75	· · /	0.59	· · ·	0.94	0.47	· · ·	0.67	2.08	N/A
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	6.47	10.44	-0.75	0.61		5.66		3.02	4.49		-1.27	6.60	5.26
Total Non-Core Fixed Income	-3.10	5.13	4.97	11.18		6.07		-2.56	9.33		11.74	24.76	-3.22
Bloomberg Barclays Global Aggregate	3.48	7.60	-1.31	-1.26		8.83		-3.26	1.19		-2.64	5.07	4.00
Difference	-6.58	-2.47	6.28	12.44		-2.76		0.70	8.14		14.38	19.69	-7.22
Templeton Global Total Return (FTTRX)	-4.04 (100)	2.50 (99	) -1.90 (66	13.82	(1)	2.64	(94)	-8.23 (95)	5.71	(22)	5.29 (2)	15.90 (3)	N/A
Blmbg. Barc. Global Multiverse	3.19 (31)	7.54 (5	) -1.32 (51)			9.23	(25)	-3.56 (42)	1.40	(79)	-2.22 (56)	5.57 (81)	3.85 (11)
Difference	-7.23	-5.04	-0.58	14.38		-6.59		-4.67	4.31		7.51	10.33	N/A
IM Global Fixed Income (MF) Median	2.11	7.65	-1.29	1.02		7.42		-3.85	3.37		-1.81	7.17	1.74
Total Real Estate (Composite)	1.21	5.87	10.10	9.82		9.06		14.70	12.33		8.10	13.00	14.11
American Core Realty	1.76 (50)	6.81 (52	) 8.50 (65)	7.52	(63)	9.04	(94)	13.98 (68)	12.49	(64)	12.27 (72)	11.56 (66)	16.11 (63)
NCREIF ODCE	1.16 (55)	6.17 (72	) 8.82 (59	7.81	(56)	10.62	(68)	14.71 (61)	12.39	(67)	12.47 (69)	11.77 (64)	18.03 (43)
Difference	0.60	0.64	-0.32	-0.29		-1.58		-0.73	0.10		-0.20	-0.21	-1.92
IM U.S. Open End Private Real Estate (SA+CF) Median	1.76	6.89	9.04	8.05		11.32		15.45	12.78		13.28	12.89	16.62
Total Timber (Composite)	-4.38	5.58	-9.38	0.28		6.48		6.70	9.49		4.51	-5.86	3.87
Amsouth Timber Fund	N/A	N/A	-15.26	-0.52		6.12		11.73	7.98		3.85	-1.33	2.00
NCREIF Timberland Index	0.15	2.10	4.00	3.28		3.28		9.26	10.38		9.68	2.25	0.26
Difference	N/A	N/A	-19.26	-3.80		2.84		2.47	-2.40		-5.83	-3.58	1.74
Molpus Woodlands Timber	-4.38	5.90	-2.66	1.18		6.08		1.64	10.96		5.25	-10.32	5.68
NCREIF Timberland Index	0.15	2.10	4.00	3.28		3.28		9.26	10.38		9.68	2.25	0.26
Difference	-4.53	3.80	-6.66	-2.10		2.80		-7.62	0.58		-4.43	-12.57	5.42
Alternatives													
Westwood Income Opportunity Fund (WHGIX)	N/A	N/A	4.94 (36)	8.14	(60)	9.20	(40)	-3.83 (46)	N/A		N/A	N/A	N/A
Alternatives Policy	6.58 (8)	7.72 (1	) 8.07 (18	9.04	(50)	10.41	(24)	1.09 (11)	7.56	(55)	-3.91 (95)	-2.59 (100)	1.58 (24)
Difference	N/A	N/A	-3.13	-0.90		-1.21		-4.92	N/A		N/A	N/A	N/A
IM Flexible Portfolio (MF) Median	-1.57	2.59	3.38	9.02		8.55		-4.22	7.99		8.17	15.66	-0.87



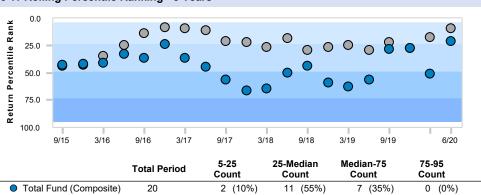






#### 3 Yr Rolling Under/Over Performance - 5 Years

3 Yr Rolling Percentile Ranking - 5 Years



12 (60%)

8 (40%)

0 (0%)

0 (0%)

Peer Group Scattergram - 3 Years



#### Peer Group Scattergram - 5 Years

20

Total Fund Policy



	Return	Standard Deviation		Return	Standard Deviation
<ul> <li>Total Fund (Composite)</li> </ul>	6.71	11.02	<ul> <li>Total Fund (Composite)</li> </ul>	6.46	11.69
Total Fund Policy	7.28	10.08	Total Fund Policy	7.22	10.40
Median	5.70	10.08	Median	5.90	10.61

**Historical Statistics - 3 Years** 

Total Fund (Composite)

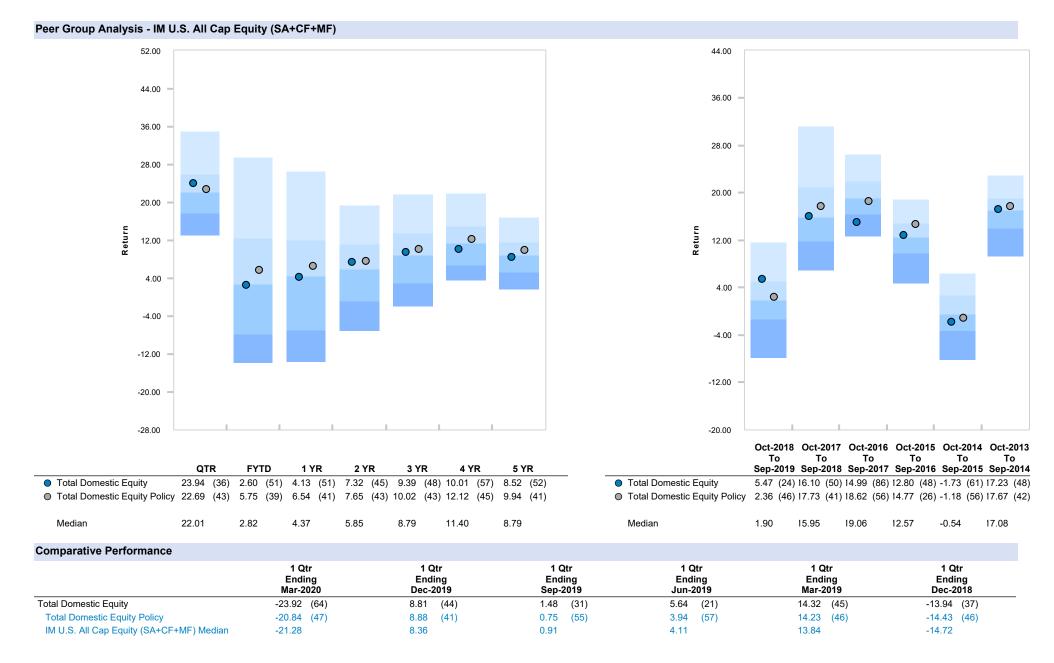
**Total Fund Policy** 

1.73

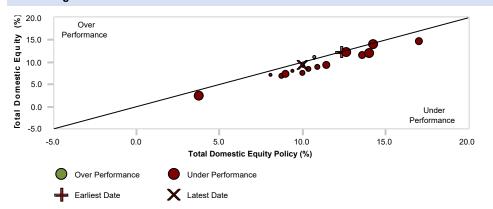
0.00

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Total Fund (Composite)	1.68	103.41	110.53	-1.06	-0.26	0.48	1.08	8.05
Total Fund Policy	0.00	100.00	100.00	0.00	N/A	0.57	1.00	7.03
istorical Statistics - 5	Years							
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk

Capture	Capture			1000		
101.48	115.60	-1.46	-0.33	0.49	1.12	7.94
100.00	100.00	0.00	N/A	0.61	1.00	6.69

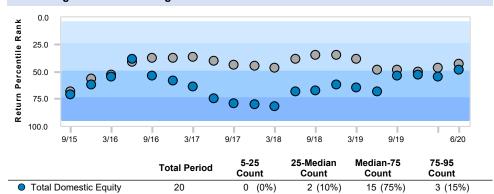


# 8

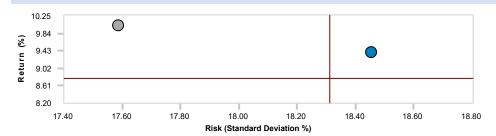


#### 3 Yr Rolling Under/Over Performance - 5 Years

#### 3 Yr Rolling Percentile Ranking - 5 Years



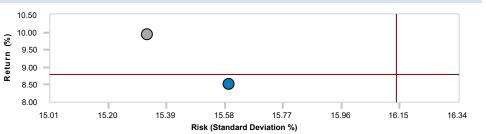
#### Peer Group Scattergram - 3 Years



#### Peer Group Scattergram - 5 Years

20

Total Domestic Equity Policy



0 (0%)

17 (85%)

3 (15%)

Standard Deviation 15.60

> 15.33 16.14

0 (0%)

	Return	Standard Deviation		Return	
Total Domestic Equity	9.39	18.45	Total Domestic Equity	8.52	
Total Domestic Equity Policy	10.02	17.59	Total Domestic Equity Policy	9.94	
Median	8.79	18.31	Median	8.79	

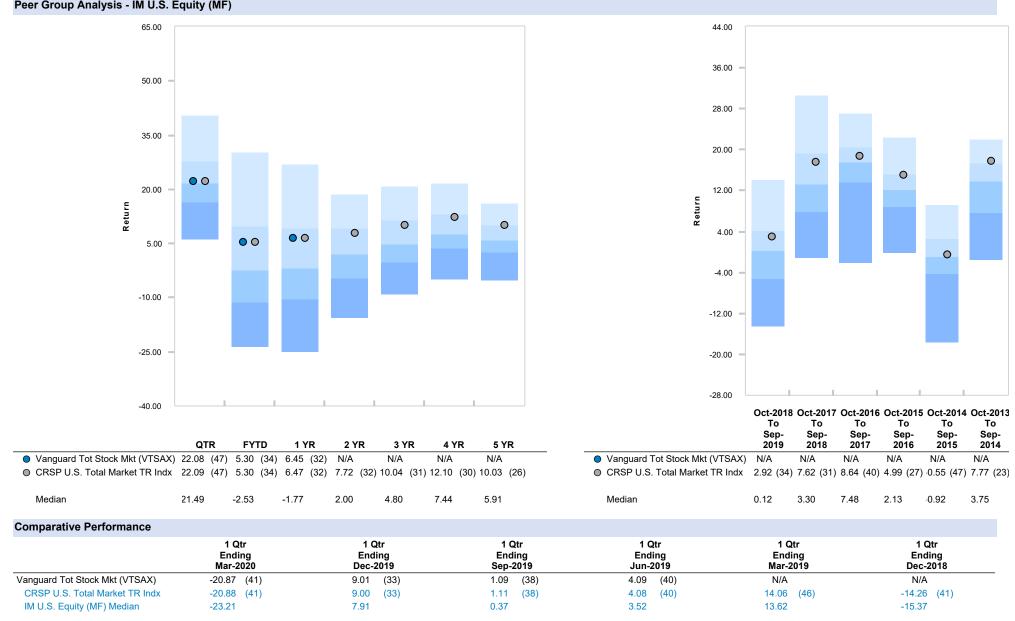
#### **Historical Statistics - 3 Years**

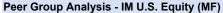
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Total Domestic Equity	2.28	101.19	104.17	-0.86	-0.17	0.49	1.04	13.44
Total Domestic Equity Policy	0.00	100.00	100.00	0.00	N/A	0.53	1.00	12.45

#### **Historical Statistics - 5 Years**

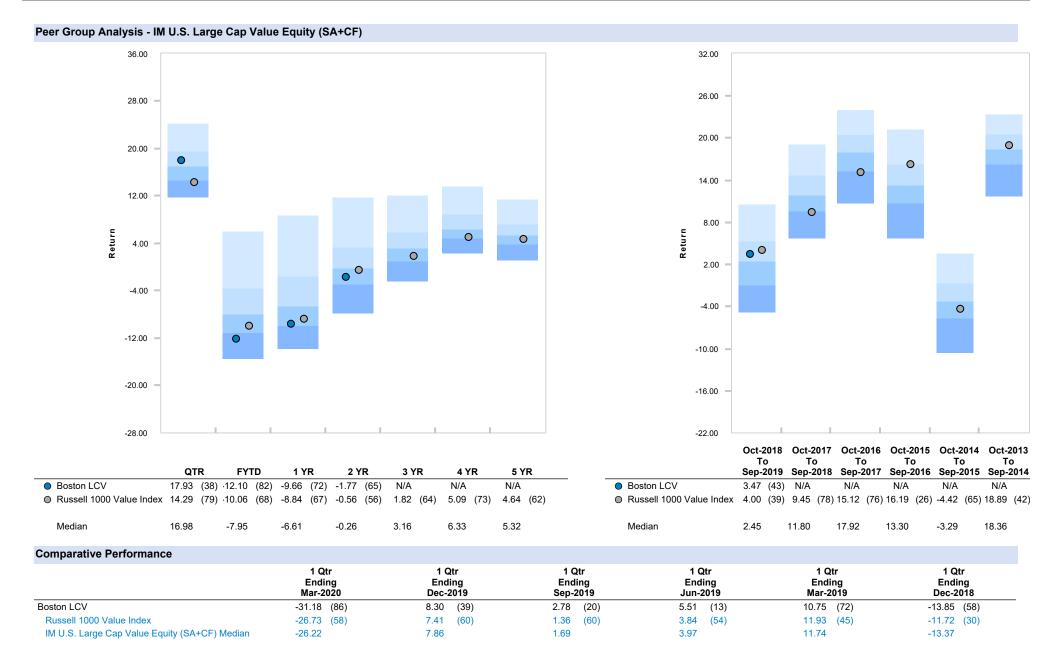
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Total Domestic Equity	2.34	95.16	100.28	-1.31	-0.54	0.53	1.01	11.07
Total Domestic Equity Policy	0.00	100.00	100.00	0.00	N/A	0.62	1.00	10.51





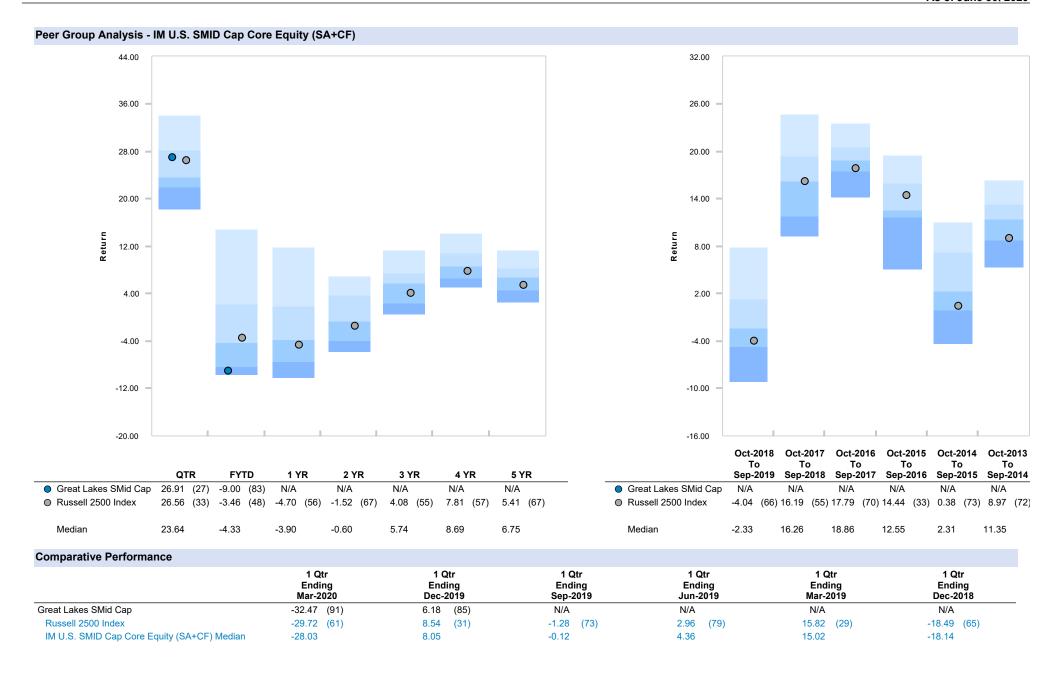




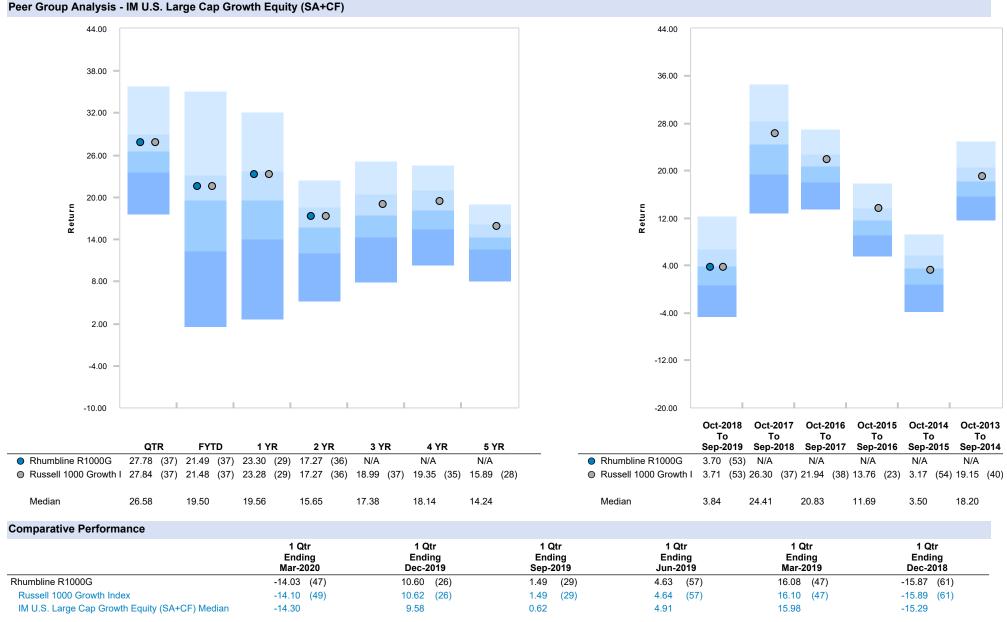




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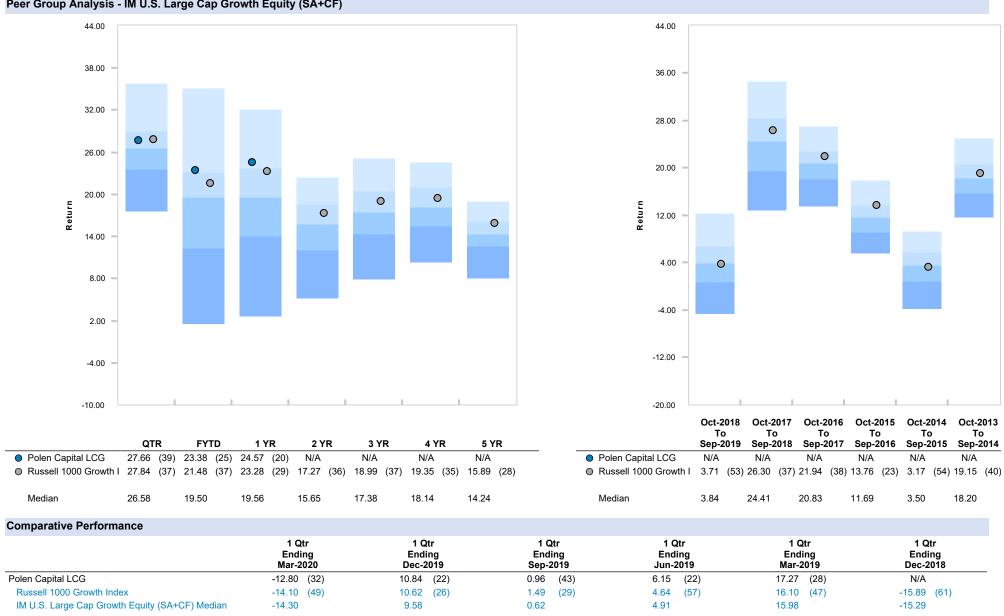






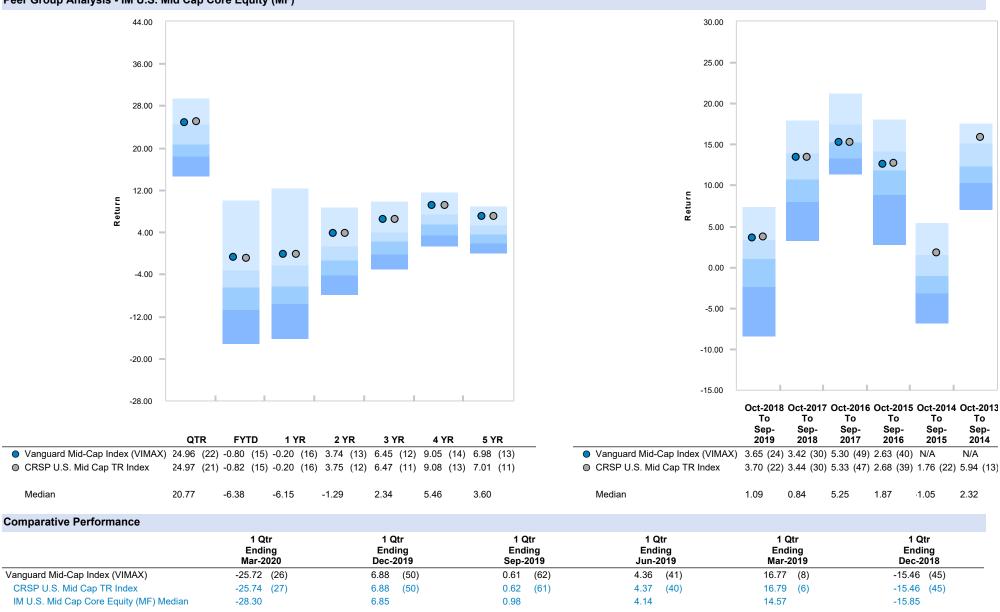
#### Peer Group Analysis - IM U.S. Large Cap Growth Equity (SA+CF)

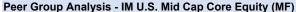




#### Peer Group Analysis - IM U.S. Large Cap Growth Equity (SA+CF)

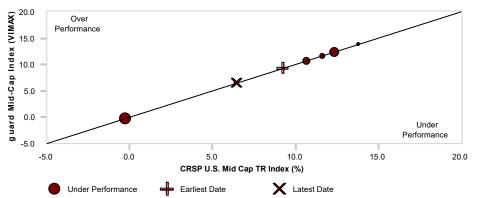






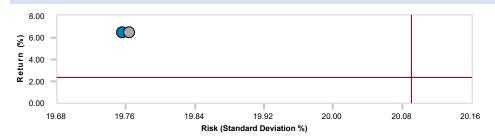


# **Performance Review** Vanguard Mid-Cap Index (VIMAX) As of June 30, 2020



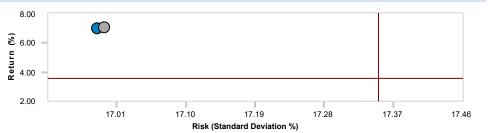
3 Yr Rolling Percentile Ranking - 5 Years 0.0 Return Percentile Rank 0000 0 0  $\bigcirc$ 0 0  $\bigcirc$ 25.0 00 50.0 75.0 100.0 3/17 9/17 3/18 9/18 3/19 9/19 6/20 3/16 9/16 9/15 5-25 25-Median Median-75 75-95 **Total Period** Count Count Count Count Vanguard Mid-Cap Index (VIMAX) 9 6 (67%) 3 (33%) 0 (0%) 0 (0%) CRSP U.S. Mid Cap TR Index 20 15 (75%) 5 (25%) 0 (0%) 0 (0%)

#### Peer Group Scattergram - 3 Years



	Return	Standard Deviation
Vanguard Mid-Cap Index (VIMAX)	6.45	19.76
CRSP U.S. Mid Cap TR Index	6.47	19.76
Median	2.34	20.09

# Peer Group Scattergram - 5 Years



	Return	Standard Deviation
Vanguard Mid-Cap Index (VIMAX)	6.98	16.99
CRSP U.S. Mid Cap TR Index	7.01	16.99
Median	3.60	17.35

**Historical Statistics - 3 Years** 

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Mid-Cap Index (VIMAX)	0.03	99.97	100.05	-0.01	-0.63	0.33	1.00	14.65
CRSP U.S. Mid Cap TR Index	0.00	100.00	100.00	0.00	N/A	0.33	1.00	14.66

#### **Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Mid-Cap Index (VIMAX)	0.03	99.90	100.03	-0.02	-1.01	0.42	1.00	12.29
CRSP U.S. Mid Cap TR Index	0.00	100.00	100.00	0.00	N/A	0.42	1.00	12.30



3 Yr Rolling Under/Over Performance - 5 Years

#### Fund Information

Fund Name :Vanguard Index Funds: Vanguard Mid-Cap Index Fund; Admiral SharesFund Family :Vanguard Group IncTicker :VIMAXInception Date :11/12/2001Fund Assets :\$42,844 MillionPortfolio Turnover :15%

Portfolio Assets :	\$110,409 Million
Portfolio Manager :	Butler/Johnson
PM Tenure :	20012016
Fund Style :	IM U.S. Mid Cap Core Equity (MF)
Style Benchmark :	CRSP U.S. Mid Cap TR Index

#### Portfolio Characteristics As of 05/31/2020

Sector Weights As of 05/31/2020

**Communication Services** 

Consumer Discretionary Consumer Staples

Information Technology

Other

Energy Financials

Health Care Industrials

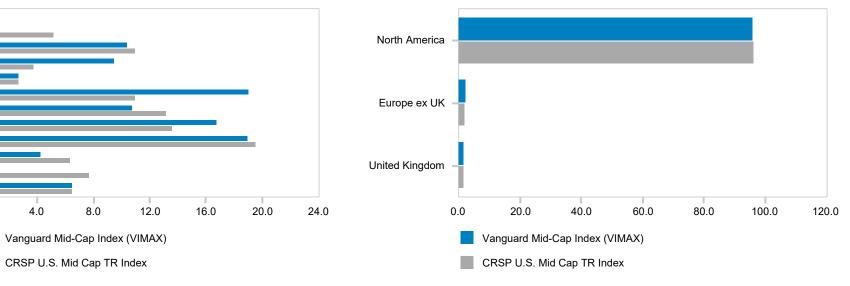
Materials

Real Estate Utilities

	Portfolio	Benchmark
Total Securities	347	339
Avg. Market Cap (\$)	18,418,736,327	11,935,561,100
Price/Earnings (P/E)	31.49	21.23
Price/Book (P/B)	6.89	3.42
Dividend Yield	2.65	1.57
Annual EPS	18.31	4.96
5 Yr EPS	13.59	12.81
3 Yr EPS Growth	20.85	N/A
Beta (5 Years, Monthly)	1.00	1.00

1.2 %
1.0 %
0.9 %
0.9 %
0.9 %
0.8 %
0.8 %
0.7 %
0.7 %
0.7 %





Statistics provided by Lipper. Most recent available data shown.

0.0

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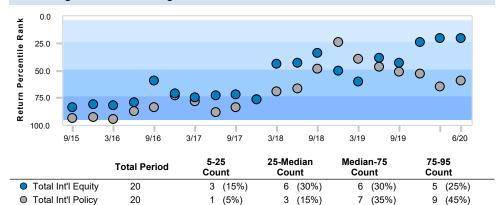




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#### 15.0 Over Total Int'l Equity (%) 0.0 0.01 (%) 8 Performance X. + 00 0 $\bigcirc$ Under Performance -5.0 -5.0 0.0 5.0 10.0 15.0 Total Int'l Policy (%) $\bigcirc$ Over Performance Under Performance ╉ X Latest Date Earliest Date

#### 3 Yr Rolling Percentile Ranking - 5 Years

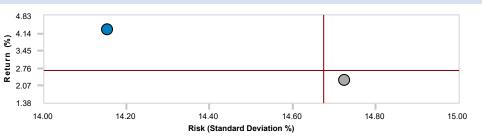


#### Peer Group Scattergram - 3 Years

3 Yr Rolling Under/Over Performance - 5 Years



#### Peer Group Scattergram - 5 Years

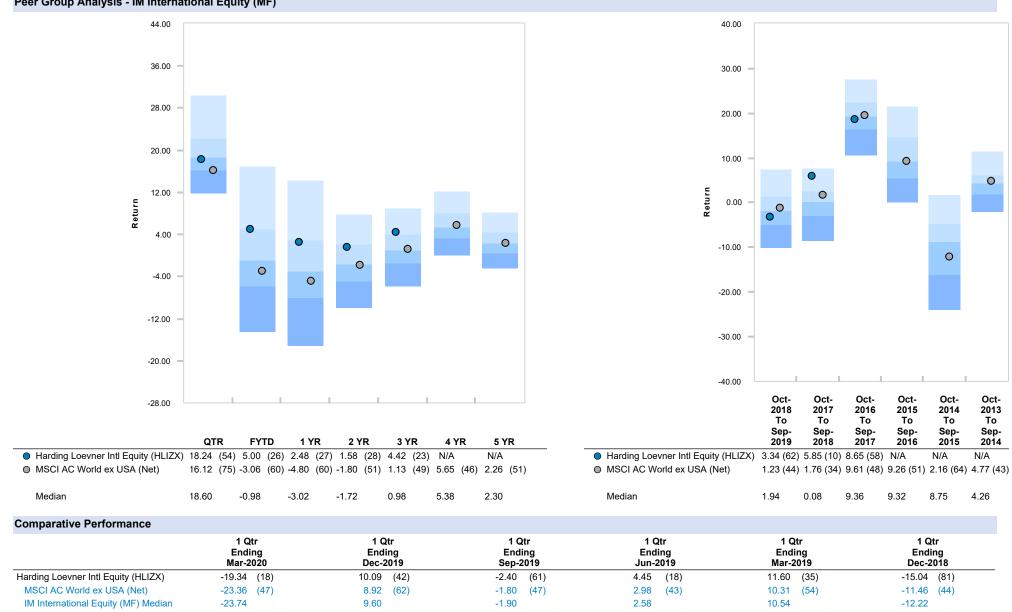


	Return	Standard Deviation		Return	Standard Deviation
Total Int'l Equity	4.44	15.17	Total Int'l Equity	4.29	14.15
Total Int'l Policy	1.13	15.72	Total Int'l Policy	2.26	14.73
Median	1.99	15.89	Median	2.69	14.68

#### **Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Total Int'l Equity	3.76	103.71	88.55	3.33	0.83	0.25	0.94	11.19
Total Int'l Policy	0.00	100.00	100.00	0.00	N/A	0.04	1.00	12.17
Historical Statistics	s - 5 Years							
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Total Int'l Equity	4.07	100.61	90.45	2.16	0.46	0.29	0.92	10.09
Total Int'l Policy	0.00	100.00	100.00	0.00	N/A	0.15	1.00	10.88

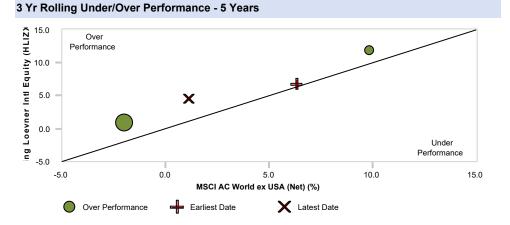




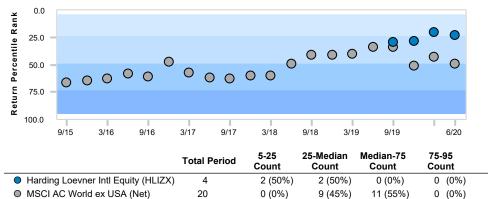




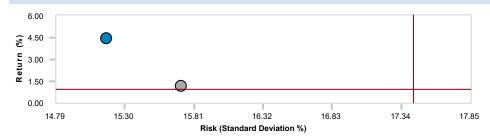
## Performance Review Harding Loevner Intl Equity (HLIZX) As of June 30, 2020



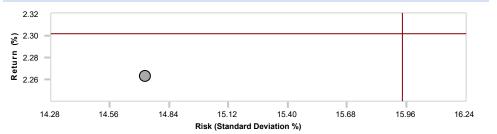
#### 3 Yr Rolling Percentile Ranking - 5 Years



#### Peer Group Scattergram - 3 Years



#### Peer Group Scattergram - 5 Years



	Return	Standard Deviation		Return	Standard Deviation
Harding Loevner Intl Equity (HLIZX)	4.42	15.17	Harding Loevner Intl Equity (HLIZX)	N/A	N/A
MSCI AC World ex USA (Net)	1.13	15.72	MSCI AC World ex USA (Net)	2.26	14.73
Median	0.98	17.43	Median	2.30	15.94

**Historical Statistics - 3 Years** 

•

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Harding Loevner Intl Equity (HLIZX)	3.76	103.61	88.57	3.30	0.82	0.25	0.94	11.19
MSCI AC World ex USA (Net)	0.00	100.00	100.00	0.00	N/A	0.04	1.00	12.17

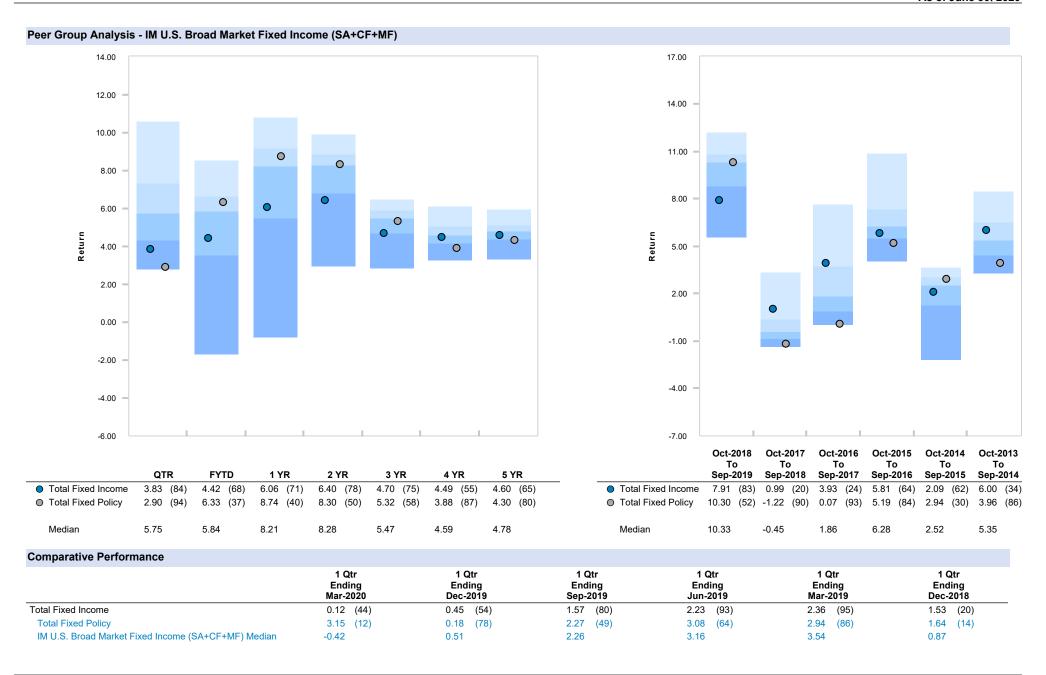
#### **Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Harding Loevner Intl Equity (HLIZX)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI AC World ex USA (Net)	0.00	100.00	100.00	0.00	N/A	0.15	1.00	10.88

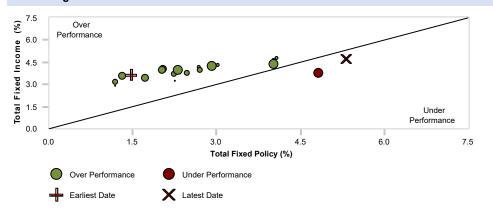


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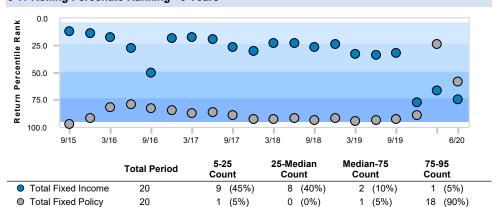




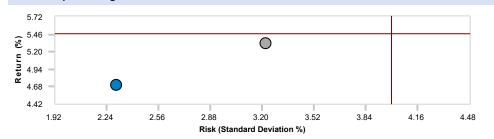


#### 3 Yr Rolling Under/Over Performance - 5 Years

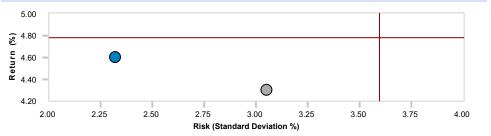
3 Yr Rolling Percentile Ranking - 5 Years



Peer Group Scattergram - 3 Years



#### Peer Group Scattergram - 5 Years

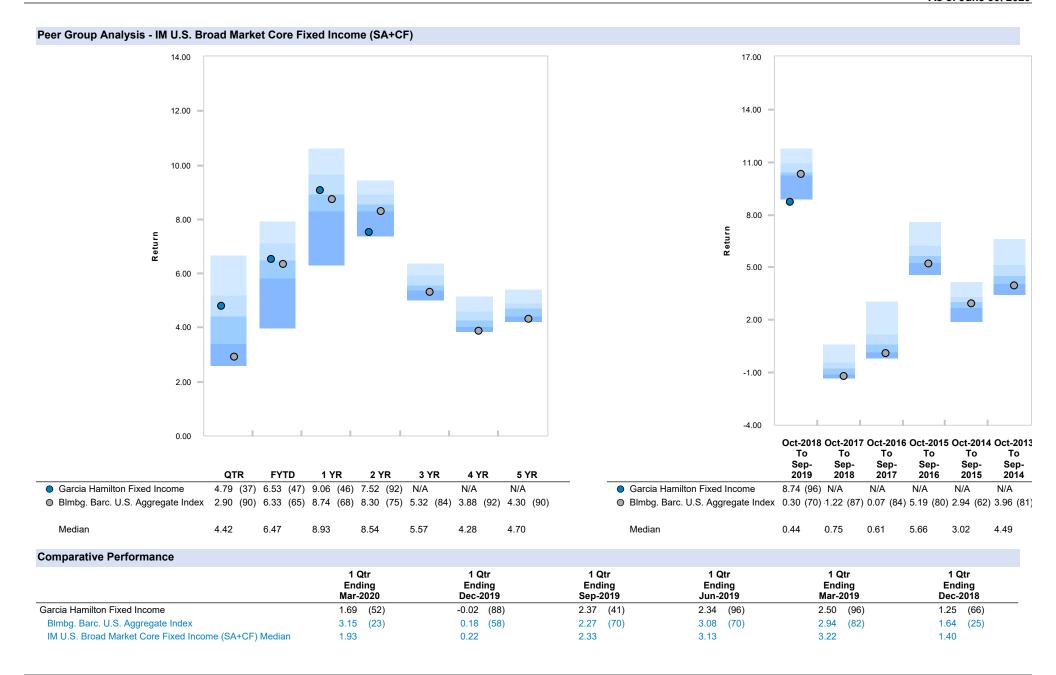


	Return	Standard Deviation		Return	Standard Deviation
Total Fixed Income	4.70	2.30	Total Fixed Income	4.60	2.32
Total Fixed Policy	5.32	3.23	Total Fixed Policy	4.30	3.05
Median	5.47	4.00	Median	4.78	3.60

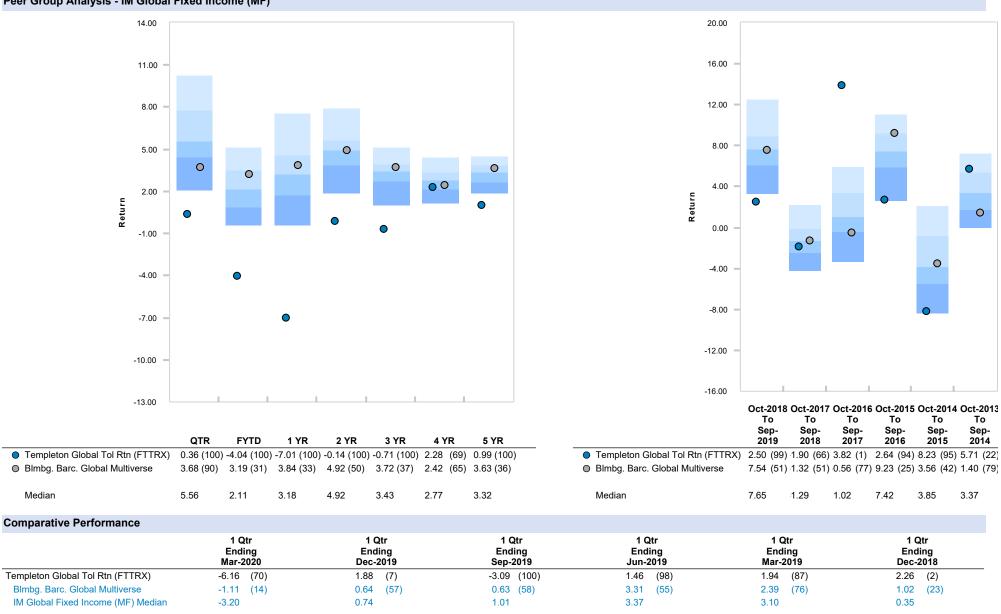
**Historical Statistics - 3 Years** 

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Total Fixed Income	2.01	73.27	35.87	1.70	-0.31	1.22	0.56	1.20
Total Fixed Policy	0.00	100.00	100.00	0.00	N/A	1.09	1.00	1.25
Historical Statistics	- 5 Years							
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Total Fixed Income	2.01	79.77	25.91	2.11	0.13	1.43	0.57	1.19
Total Fixed Policy	0.00	100.00	100.00	0.00	N/A	1.03	1.00	1.49





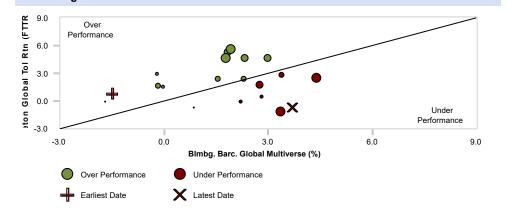






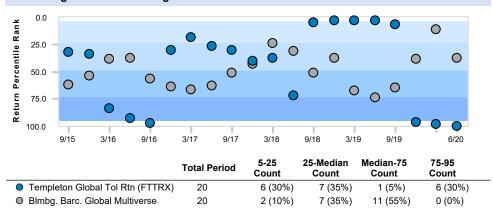


## Performance Review Templeton Global Tol Rtn (FTTRX) As of June 30, 2020

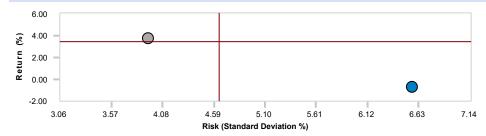


#### 3 Yr Rolling Under/Over Performance - 5 Years

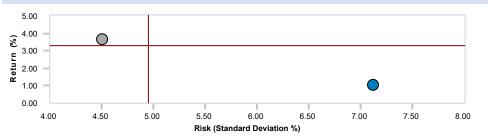
#### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



#### Peer Group Scattergram - 5 Years



	Return	Standard Deviation		Return	Standard Deviation
Templeton Global Tol Rtn (FTTRX)	-0.71	6.56	Templeton Global Tol Rtn (FTTRX)	0.99	7.13
Blmbg. Barc. Global Multiverse	3.72	3.94	Blmbg. Barc. Global Multiverse	3.63	4.51
Median	3.43	4.65	Median	3.32	4.95

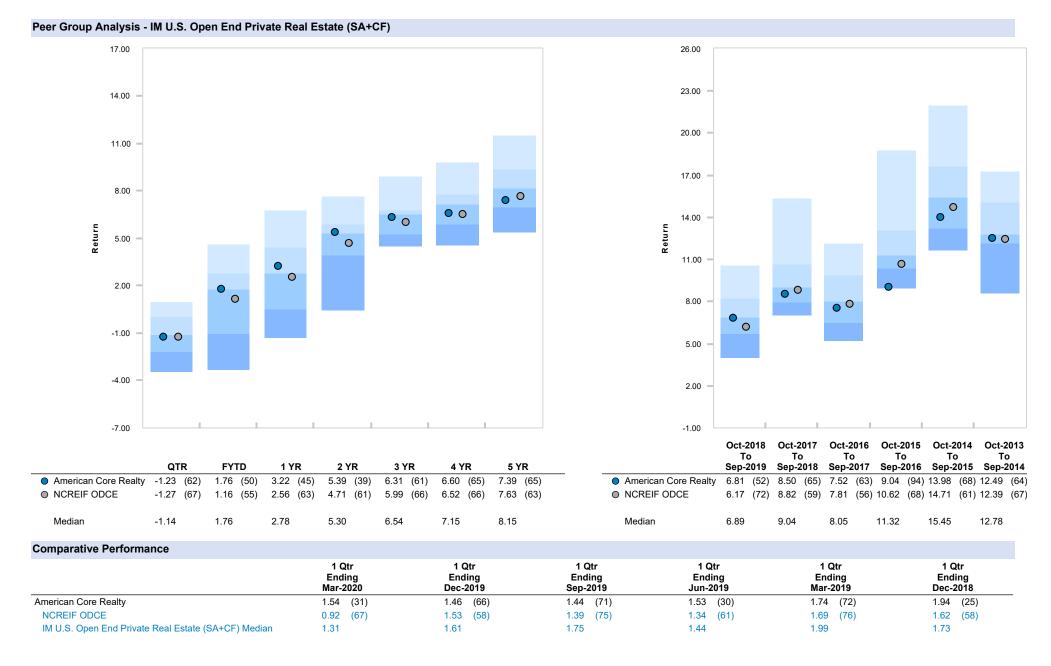
#### **Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Templeton Global Tol Rtn (FTTRX)	7.36	-5.85	0.78	-1.02	-0.57	-0.34	0.14	5.24
Blmbg. Barc. Global Multiverse	0.00	100.00	100.00	0.00	N/A	0.50	1.00	2.33

#### **Historical Statistics - 5 Years**

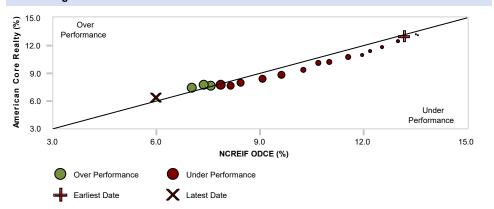
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Templeton Global Tol Rtn (FTTRX)	8.58	-11.74	-49.00	1.47	-0.28	0.01	-0.06	5.01
Blmbg. Barc. Global Multiverse	0.00	100.00	100.00	0.00	N/A	0.55	1.00	2.93





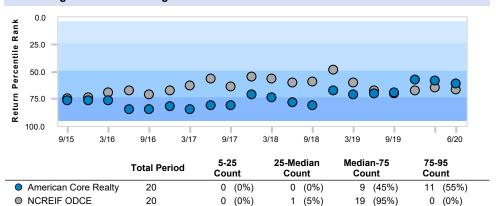


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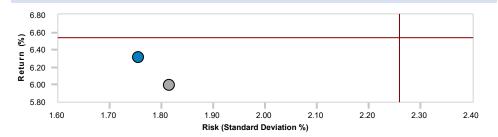


#### 3 Yr Rolling Under/Over Performance - 5 Years

#### 3 Yr Rolling Percentile Ranking - 5 Years



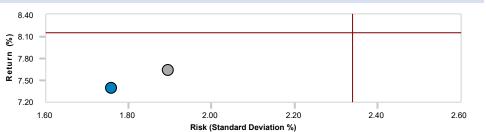
#### Peer Group Scattergram - 3 Years



96.92

100.00

### Peer Group Scattergram - 5 Years



	Return	Standard Deviation		Return	Standard Deviation
American Core Realty	6.31	1.76	American Core Realty	7.39	1.76
NCREIF ODCE	5.99	1.82	NCREIF ODCE	7.63	1.90
Median	6.54	2.26	Median	8.15	2.34

#### **Historical Statistics - 3 Years**

American Core Realty

NCREIF ODCE

0.80

0.00

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
American Core Realty	0.49	104.55	96.65	0.25	0.62	1.47	1.01	0.71
NCREIF ODCE	0.00	100.00	100.00	0.00	N/A	1.39	1.00	0.74
Historical Statistics -	5 Years							
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk



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	Market Value	Uncalled Capital Commitment	QTD IRR	Inception IRR	Inception Date	Expected Termination
*Angelo Gordon Net Lease Realty Fund III, L.P.	\$1,957,751.00	\$84,111	0	6.5	3/10/2014	4/1/2027
*Crescent Direct Lending Levered Fund	\$2,592,699.00	\$432,746	0	7.1	10/9/2014	12/1/2022
*Dune Real Estate Fund III	\$1,813,727	\$100,569	0	10.24	11/6/2014	12/1/2024
*Molpus Woodlands Timber	\$1,223,786.00	\$0	0	1.95	6/24/2008	5/2018-5/2022

\* Market Value as of 3-31-2020

Market Value includes contributions & distributions since end of period.



Allocation Mandate	Weight (%)	Allocation Mandate	Weight (%)	
Jan-1978		Oct-2013		
S&P 500 Index	65.00	Wilshire 5000 Total Market Index (full-cap) Index	35.00	
Blmbg. Barc. U.S. Gov't/Credit	30.00	MSCI AC World ex USA (Net)	15.00	
FTSE 3 Month T-Bill	5.00	Blmbg. Barc. U.S. Aggregate Index	27.50	
		NCREIF ODCE	5.00	
Apr-2007		Quadrant Custom Policy	5.00	
Blmbg. Barc. U.S. Gov't/Credit	30.00	NCREIF Timberland Index	5.00	
Blmbg. Barc. U.S. TIPS 1-10 Year	5.00	CPI+5%	7.50	
S&P 500 Index	60.00			
MSCI EAFE (Net) Index	5.00	May-2014		
0 ( 0007		Wilshire 5000 Total Market Index (full-cap) Index	35.00	
Oct-2007	10.00	MSCI AC World ex USA (Net)	15.00	
MSCI EAFE (Net) Index	10.00	Blmbg. Barc. U.S. Aggregate Index	27.50	
Bloomberg Barclays Intermed Aggregate Index	30.00	NCREIF ODCE	10.00	
Blmbg. Barc. U.S. TIPS 1-10 Year	5.00	NCREIF Timberland Index	5.00	
Russell 3000 Index	50.00	CPI+5%	7.50	
NCREIF Property Index	5.00			
Jan-2010		Jul-2015	05.00	
MSCI AC World ex USA (Net)	15.00	Wilshire 5000 Total Market Index (full-cap) Index	35.00	
Blmbg. Barc. U.S. Aggregate Index	30.00	MSCI AC World ex USA (Net)	15.00	
Bloomberg Barclays U.S. TIPS Index	5.00	Blmbg. Barc. U.S. Aggregate Index	27.50	
Russell 3000 Index	45.00	NCREIF ODCE	10.00	
NCREIF Property Index	5.00	NCREIF Timberland Index	5.00	
NCKEIF Property index	5.00	Alternatives Policy	7.50	
Jul-2010		Nov-2015		
Wilshire 5000 Total Market Index (full-cap) Index	35.00	Wilshire 5000 Total Market Index (full-cap) Index	42.50	
MSCI AC World ex USA (Net)	15.00	MSCI AC World ex USA (Net)	15.00	
Blmbg. Barc. U.S. Aggregate Index	25.00	Blmbg. Barc. U.S. Aggregate Index	27.50	
Bloomberg Barclays U.S. TIPS Index	5.00	NCREIF ODCE	10.00	
NCREIF ODCE	5.00	Alternatives Policy	5.00	
Barclay BTOP 50	5.00	, actual voor oney	0.00	
Quadrant Custom Policy	5.00			
NCREIF Timberland Index	5.00			



Total Equity Policy	
Allocation Mandate	Weight (%)
Oct-2005	
S&P 500 Index	95.00
FTSE 3 Month T-Bill	5.00
Apr-2007	
FTSE 3 Month T-Bill	5.00
S&P 500 Index	85.00
MSCI EAFE (Net) Index	10.00
Oct-2007	
MSCI EAFE (Net) Index	15.00
Russell 3000 Index	85.00
Jan-2010	
MSCI AC World ex USA (Net)	25.00
Russell 3000 Index	75.00
Jul-2010	
MSCI AC World ex USA (Net)	45.00
Wilshire 5000 Total Market Index (full-cap) Index	55.00
Nov-2015	
MSCI AC World ex USA (Net)	25.00
Wilshire 5000 Total Market Index (full-cap) Index	75.00
wishing 5000 Total Market index (Juli-Cap) Index	75.00

Domestic Equity Policy			
Allocation Mandate	Weight (%)		
Oct-2005			
S&P 500 Index	100.00		
Oct-2007			
Russell 3000 Index	100.00		
Jul-2010			
Wilshire 5000 Total Market Index (full-cap) Index	100.00		

Total Int'l Policy	
Allocation Mandate	Weight (%)
Jan-1970	
MSCI EAFE (Net) Index	100.00
Jan-2010	
MSCI AC World ex USA (Net)	100.00
Alternatives Policy	
Allocation Mandate	Weight (%)
Aug-2010 Barclay BTOP 50	100.00
Barclay BTOP 50	100.00
Nov-2013	
CPI+5%	100.00
Jul-2015	
S&P 500 Index	50.00
Blmbg. Barc. U.S. Aggregate Index	50.00
5 - 55 5	
Total Fixed Policy	
Allocation Mandate	Weight (%)
Oct-2005	
Blmbg. Barc. U.S. Gov't/Credit	95.00
FTSE 3 Month T-Bill	5.00
Jan-2007	
Blmbg. Barc. U.S. Gov't/Credit	85.00
Blmbg. Barc. U.S. TIPS 1-10 Year	15.00
Oct-2007	15.00
Blmbg. Barc. U.S. TIPS 1-10 Year Bloomberg Barclays Intermed Aggregate Index	15.00 85.00
biomberg bardays intermed Aggregate index	03.00
Jan-2010	
Bloomberg Barclays U.S. TIPS Index	15.00
Blmbg. Barc. U.S. Aggregate Index	85.00
Oct-2013	
Blmbg. Barc. U.S. Aggregate Index	100.00

## Delray Beach Firefighters' Retirement System Fee Analysis As of June 30, 2020

	Market Value (\$)	Estimated Annual Fee (\$)	Estimated Annual Fee (%)	Fee Schedule
Vanguard Total Stock Mkt (VTSAX)	1,060,551	424	0.04	0.04 % of Assets
Boston LCV	17,731,408	97,523	0.55	0.55 % of First \$25 M 0.45 % of Next \$25 M 0.35 % of Next \$50 M 0.25 % Thereafter
Great Lakes SMid Cap	7,897,023	-		
Rhumbline R1000G	5,478,474	2,191	0.04	0.04 % of Assets
Polen Capital LCG	17,830,616	106,984	0.60	0.60 % of Assets
Vanguard Mid-Cap Index (VIMAX)	5,988,579	4,791	0.08	0.08 % of Assets
Harding Loevner Intl Equity (HLIZX)	18,018,213	151,353	0.84	0.84 % of Assets
Garcia Hamilton Fixed Income	22,688,467	56,721	0.25	0.25 % of Assets
Templeton Global Total Return (FTTRX)	2,905,670	19,468	0.67	0.67 % of Assets
American Core Realty	5,191,633	57,108	1.10	1.10 % of Assets
Total Fund (Composite)	113,386,862	496,563	0.44	



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.



AndCo compiled this report for the sole use of the client for which it was prepared. AndCo is responsible for evaluating the performance results of the Total Fund along with the investment advisors by comparing their performance with indices and other related peer universe data that is deemed appropriate. AndCo uses the results from this evaluation to make observations and recommendations to the client.

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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