



# WILSHIRE ASSOCIATES

Wilshire Consulting



Retirement Board of Allegheny County

Quarterly Executive Summary

*September 30, 2020*

## Table Of Contents

1	Total Fund	36
2	US Equity Composite	61
3	Non US Equity Composite	99
4	Global Equity	120
5	Core Fixed Composite	128
6	High Yield Fixed Composite	149
7	TIPS Fixed Composite	163
8	ERECT Composite	170
9	Real Estate Composite	174
10	MLP Composite	182
11	Hedge Fund Composite	194



# Market Environment

# MARKET COMMENTARY

## U.S. Equity

The U.S. stock market was up 9.1% for the third quarter of 2020. Economic news from the quarter was mixed, with a focus on employment conditions remaining a key element of the recovery. Temporary job losses continues to fall while permanent losses rise. Both initial jobless claims and continuing claims are falling from reported highs during the second quarter.

Although the U.S. has experienced an overnight rate near zero before, this year is the first time that the bellwether 10-year Treasury has been below 1%. Interest rates have a natural floor, and as rates approach a bottom, yield (and price) changes can become asymmetrical. Rates either go up (and prices go down) or stay relatively steady. One consequence of this pattern is that fixed income returns tend to become less volatile. The history of Japan during the past 20 years serves as an example.

## Non-U.S. Equity

The U.K. suffered a contraction of nearly -20% during the second quarter. The government's furlough program, where they support a majority of employees' wages, has kept the unemployment rate to just 4%. Euro zone manufacturing activity is on the rise, led by particular strength in Germany. The Chinese economy actually grew during the second quarter after more than half of the country was shut down in February.

## Fixed Income

The 10-year Treasury yield ended the quarter at 0.69%, up just 3 basis points from June. The FOMC met three times during the quarter, as scheduled, with no change to their overnight rate. In a meaningful step, the Committee addressed a revised policy that allows inflation to move above the 2% target before increasing interest rates, adopting specific language to emphasize this goal.

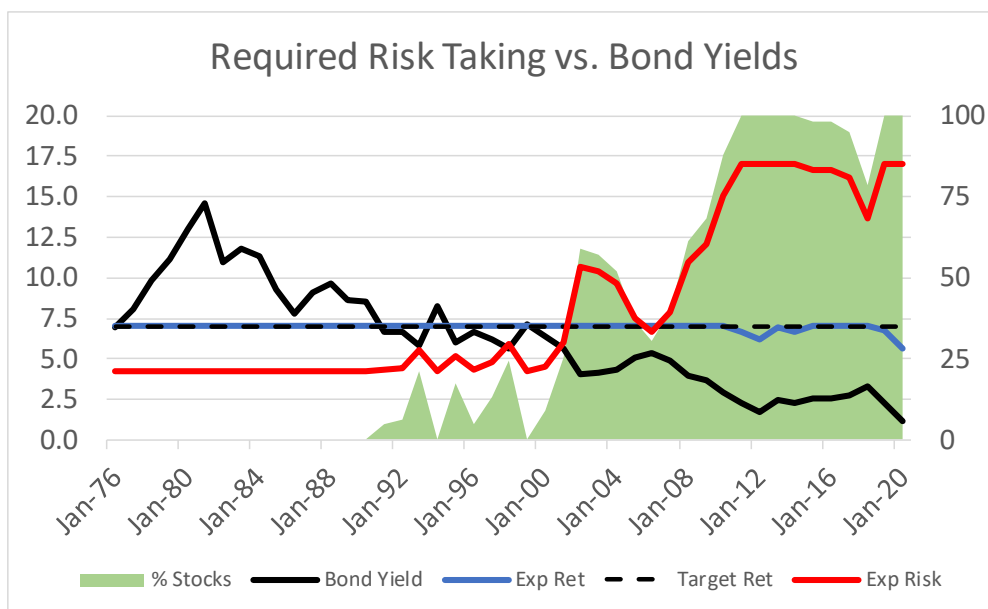
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# SEPTEMBER 2020 ASSET CLASS ASSUMPTIONS

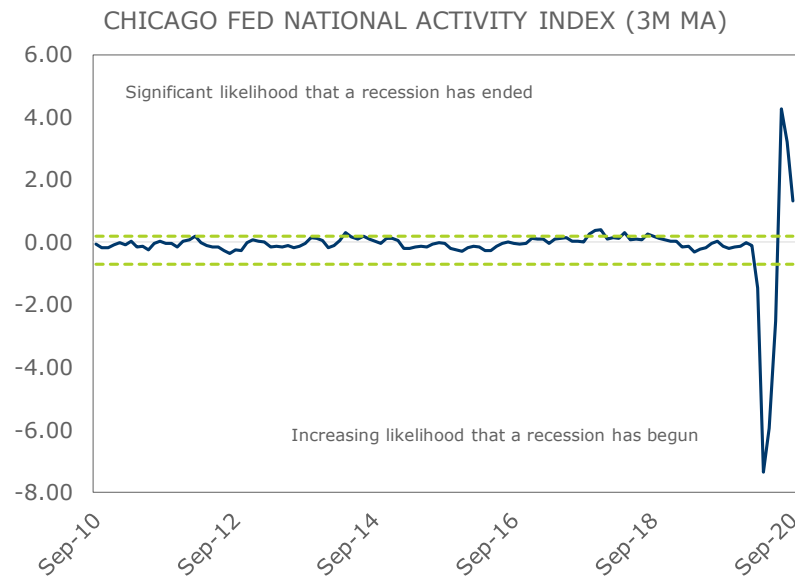
	EQUITY						FIXED INCOME						REAL ASSETS					
	US Stock	Dev ex-US Stock	Emg Stock	Global ex-US Stock	Global Stock	Private Equity	Cash	Core Bond	LT Core Bond	TIPS	High Yield	Dev ex-US Bond (Hdg)	Real Estate			Cmnty	Real Assets	US CPI
													US RES	Global RES	Private RE			
COMPOUND RETURN (%)	5.50	6.00	6.00	6.25	5.95	7.45	0.55	1.05	1.75	0.40	3.45	0.25	5.20	5.40	6.65	2.35	5.35	1.80
ARITHMETIC RETURN (%)	6.85	7.50	9.00	7.90	7.30	10.85	0.55	1.15	2.15	0.60	3.95	0.35	6.55	6.55	7.55	3.40	5.70	1.80
EXPECTED RISK (%)	17.00	18.00	26.00	18.95	17.10	28.00	0.75	4.25	8.90	6.00	10.00	4.25	17.00	15.80	14.00	15.00	8.75	1.75
CASH YIELD (%)	1.75	2.50	2.25	2.45	2.05	0.00	0.55	1.85	2.70	1.15	6.80	1.10	3.85	3.85	2.50	0.55	2.05	0.00
GROWTH EXPOSURE	8.00	8.00	8.00	8.00	8.00	13.50	0.00	-0.90	-2.30	-3.00	4.00	-1.00	6.00	6.00	3.50	0.00	1.60	0.00
INFLATION EXPOSURE	-3.00	0.00	5.00	1.35	-1.10	-3.80	0.00	-2.50	-6.70	2.50	-1.00	-3.00	1.00	2.00	1.00	12.00	4.40	1.00
<b>CORRELATIONS</b>																		
US Stock	1.00																	
Dev ex-US Stock (USD)	0.81	1.00																
Emerging Mkt Stock	0.74	0.74	1.00															
Global ex-US Stock	0.83	0.96	0.87	1.00														
Global Stock	0.95	0.92	0.83	0.94	1.00													
Private Equity	0.74	0.64	0.62	0.67	0.74	1.00												
Cash Equivalents	-0.05	-0.09	-0.05	-0.08	-0.07	0.00	1.00											
Core Bond	0.28	0.13	0.00	0.09	0.20	0.31	0.19	1.00										
LT Core Bond	0.31	0.16	0.01	0.12	0.23	0.32	0.11	0.93	1.00									
TIPS	-0.05	0.00	0.15	0.05	0.00	-0.03	0.20	0.60	0.47	1.00								
High Yield Bond	0.54	0.39	0.49	0.45	0.51	0.34	-0.10	0.25	0.32	0.05	1.00							
Dev ex-US Bond (Hdg)	0.16	0.25	-0.01	0.18	0.18	0.26	0.10	0.67	0.66	0.39	0.26	1.00						
US RE Securities	0.59	0.47	0.44	0.49	0.56	0.50	-0.05	0.17	0.23	0.10	0.56	0.05	1.00					
Global RE Securities	0.65	0.59	0.56	0.62	0.66	0.58	-0.05	0.17	0.22	0.11	0.62	0.03	0.94	1.00				
Private Real Estate	0.54	0.44	0.44	0.47	0.52	0.51	-0.05	0.19	0.25	0.09	0.57	0.05	0.78	0.76	1.00			
Commodities	0.25	0.34	0.39	0.38	0.32	0.27	0.00	-0.02	-0.02	0.25	0.29	-0.10	0.25	0.28	0.25	1.00		
Real Assets	0.42	0.43	0.50	0.48	0.47	0.43	0.01	0.24	0.25	0.41	0.53	0.06	0.65	0.69	0.69	0.59	1.00	
Inflation (CPI)	-0.10	-0.15	-0.13	-0.15	-0.13	-0.10	0.10	-0.12	-0.12	0.15	-0.08	-0.08	0.05	0.03	0.05	0.44	0.26	1.00

# TARGET RETURNS

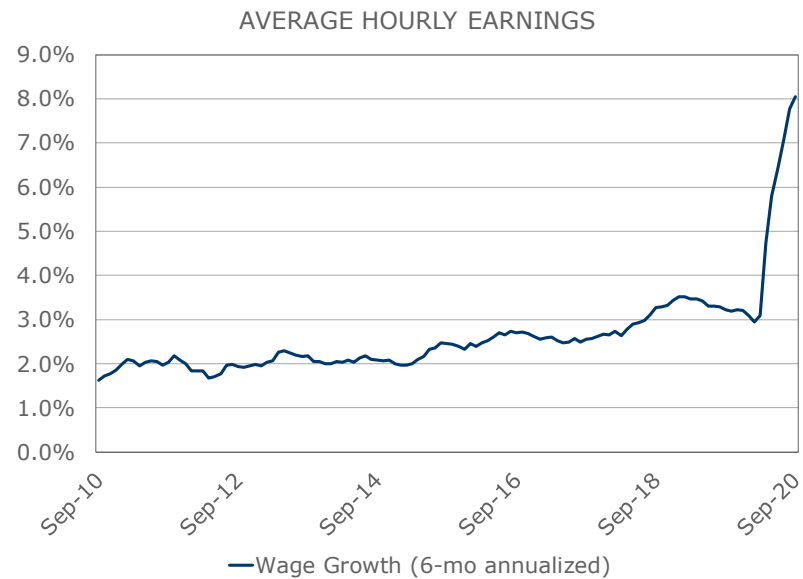
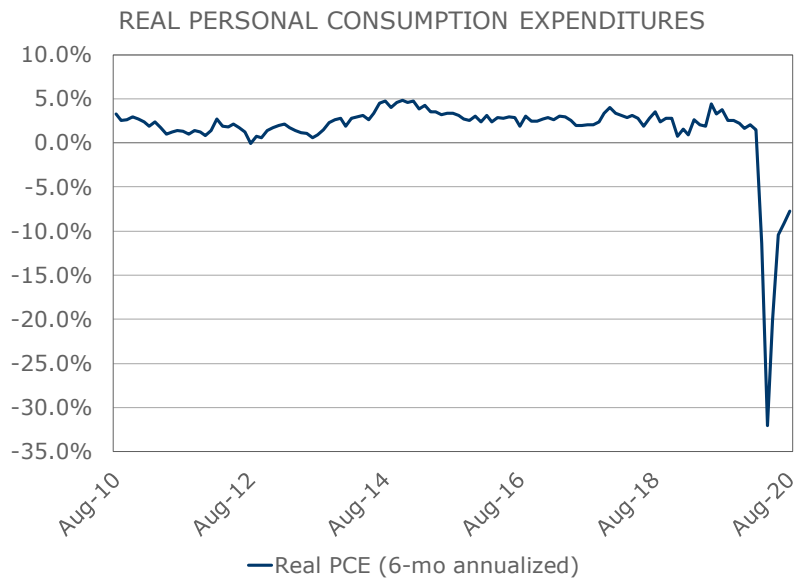
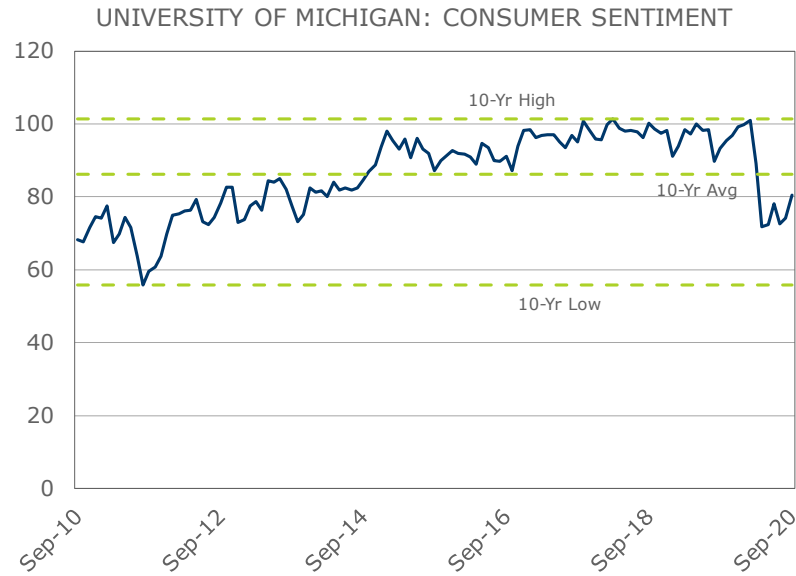
- Current low rate environment imposes significant challenges, through lower expected returns, and related pressure to take on greater levels of risk
- Exhibit below demonstrates how much risk taking is required within a stock/bond portfolio to meet a 7% return target – assuming the U.S. Stock and Core Bond assumptions on the previous slide
- Note that the current equity risk premium (of nearly 4.5%) is larger than the historical average (3.5%) – implying that the expected return line (in blue) would push lower at similar yield levels



# ECONOMIC GROWTH



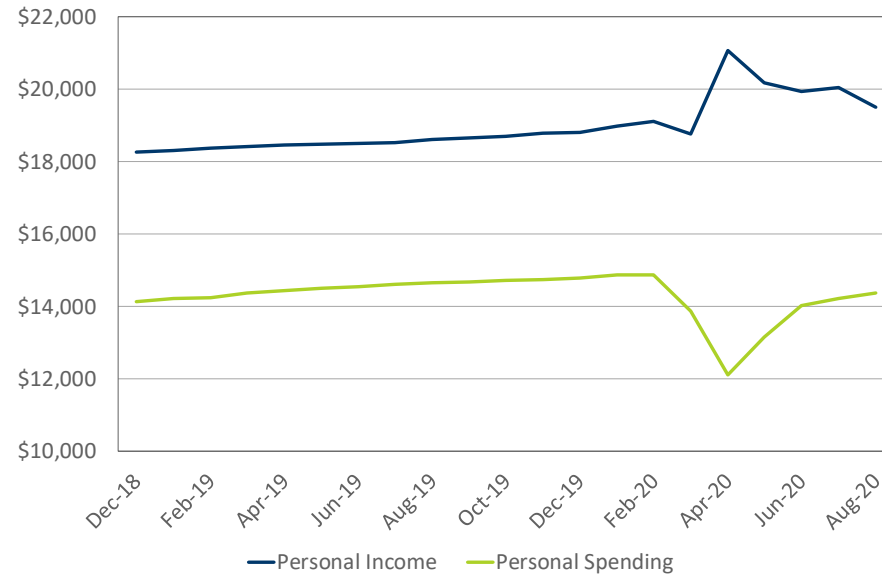
# CONSUMER ACTIVITY



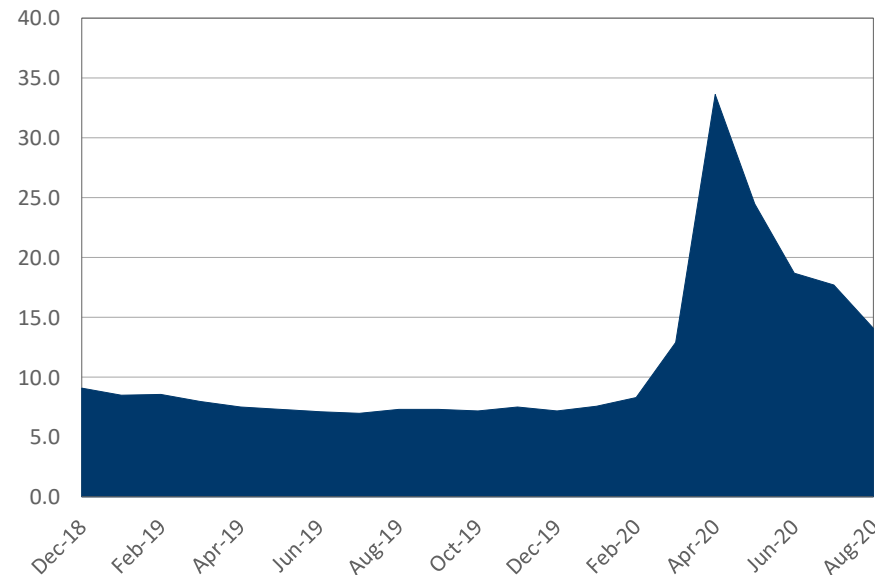


# IMPACT OF FISCAL STIMULUS

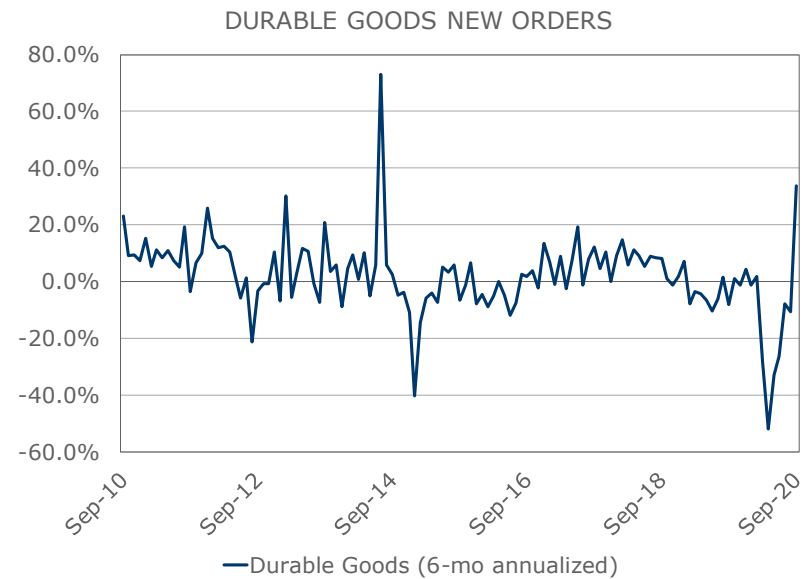
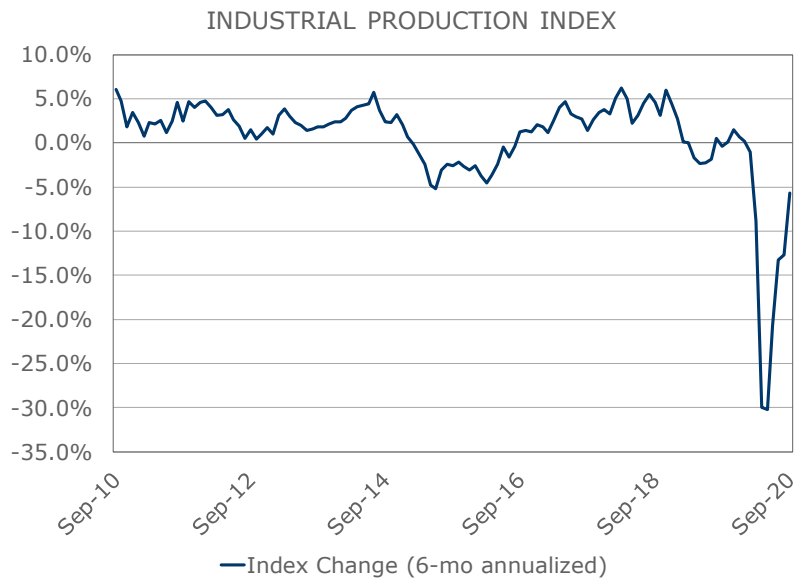
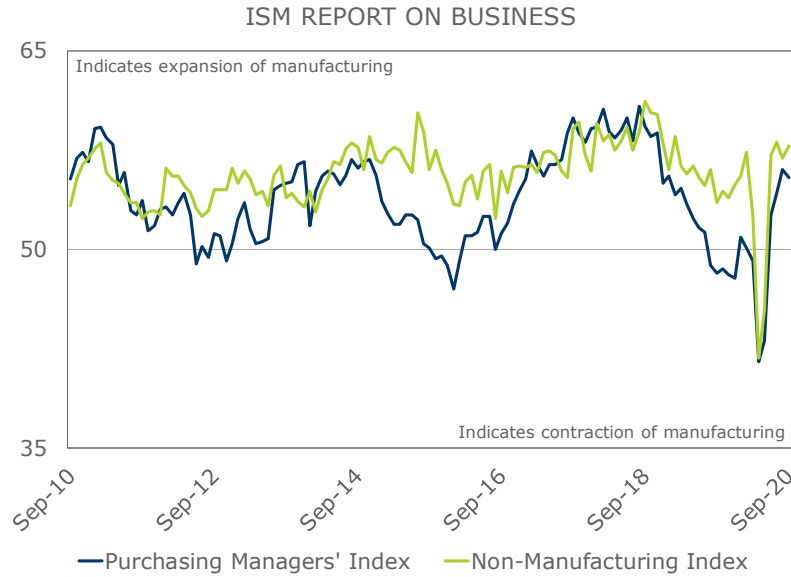
INCOME VS. SPENDING (\$BIL)



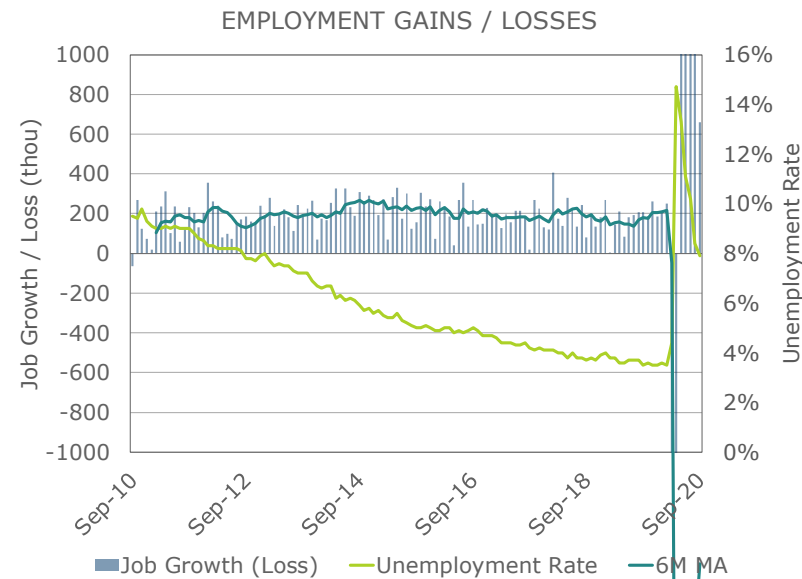
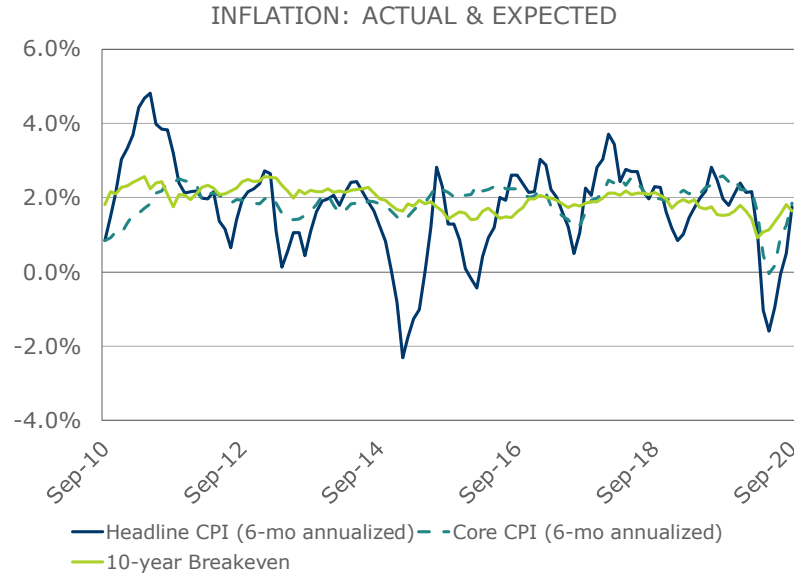
PERSONAL SAVINGS RATE (%)



# BUSINESS ACTIVITY



# INFLATION AND EMPLOYMENT

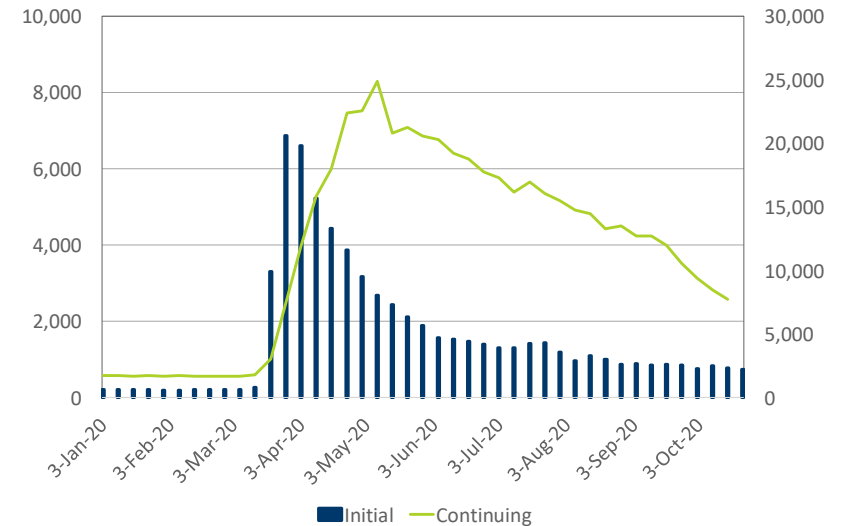


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## U.S. EMPLOYMENT

- Employment conditions have been volatile this year with massive gains and losses, as seen on the previous page
- Unemployment claims have been declining with continued claims currently at 8 million
- Employment as a percent of the civilian, non-institutional population dropped to nearly 50%
- The ratio has never been that low in the post-WWII history

UNEMPLOYMENT CLAIMS (000)



EMPLOYED PERSONS / CIVILIAN POPULATION

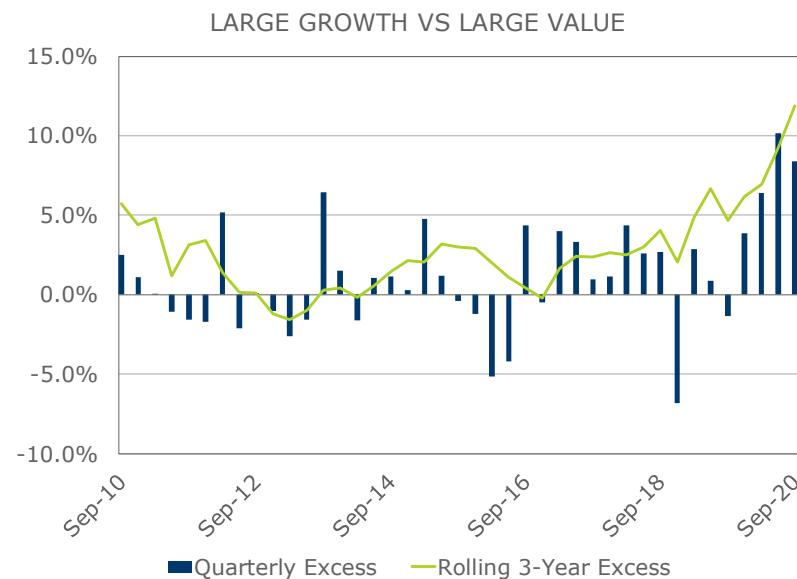
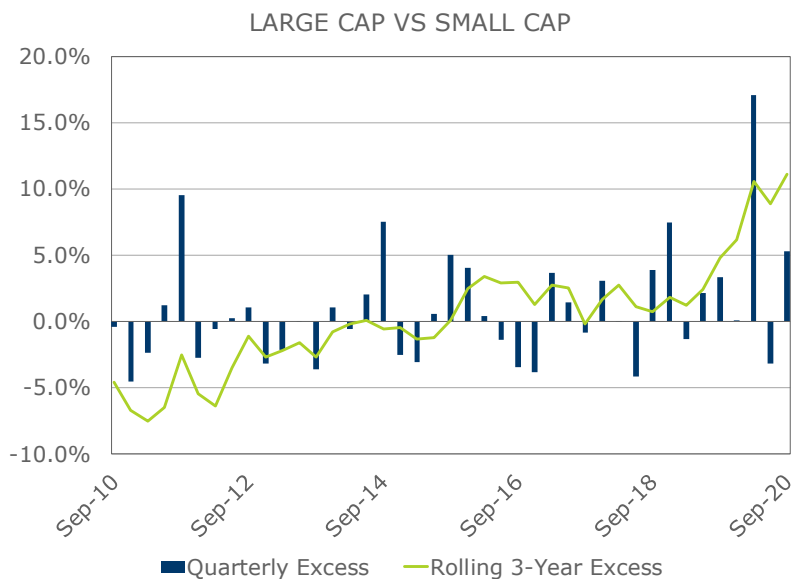
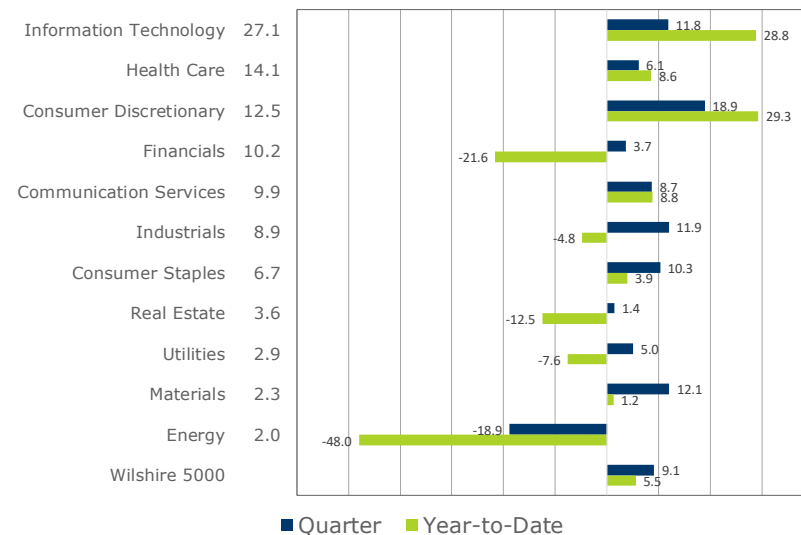


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## U.S. EQUITY MARKET

AS OF 9/30/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
WILSHIRE 5000 INDEX	9.1	5.5	15.1	11.7	13.8	13.5
WILSHIRE U.S. LARGE CAP	9.6	7.0	16.8	12.7	14.5	13.8
WILSHIRE U.S. SMALL CAP	4.0	-10.3	-2.3	1.5	7.5	10.2
WILSHIRE U.S. LARGE GROWTH	13.8	20.0	33.5	19.0	18.3	16.3
WILSHIRE U.S. LARGE VALUE	5.0	-5.5	1.2	6.4	10.4	11.3
WILSHIRE U.S. SMALL GROWTH	7.1	-0.1	10.0	6.8	10.7	12.0
WILSHIRE U.S. SMALL VALUE	1.0	-19.7	-13.2	-3.6	4.3	8.3
WILSHIRE REIT INDEX	1.3	-16.7	-17.7	0.4	3.7	8.0
MSCI USA MIN. VOL. INDEX	5.8	-1.1	1.9	10.6	12.5	13.4
FTSE RAFI U.S. 1000 INDEX	5.8	-8.1	-0.4	4.8	9.3	11.2

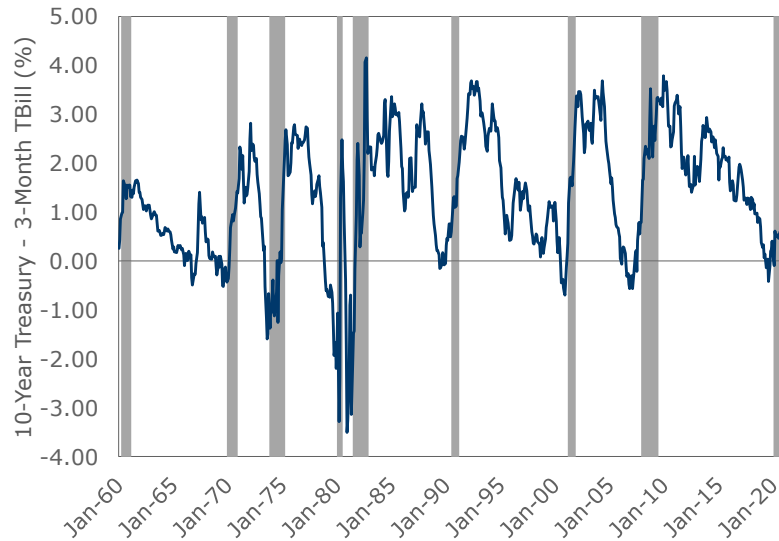
U.S. SECTOR WEIGHT AND RETURN (%)



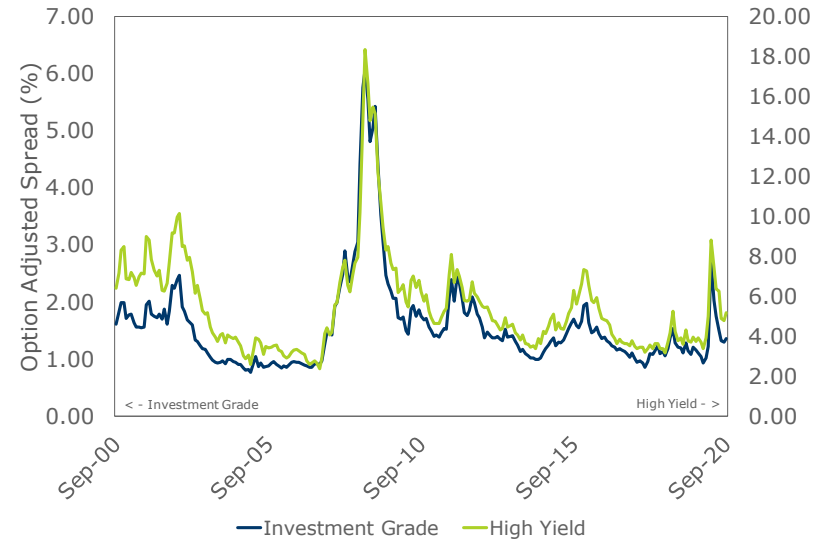
Data sources: Bloomberg, Wilshire Atlas

# RISK MONITOR

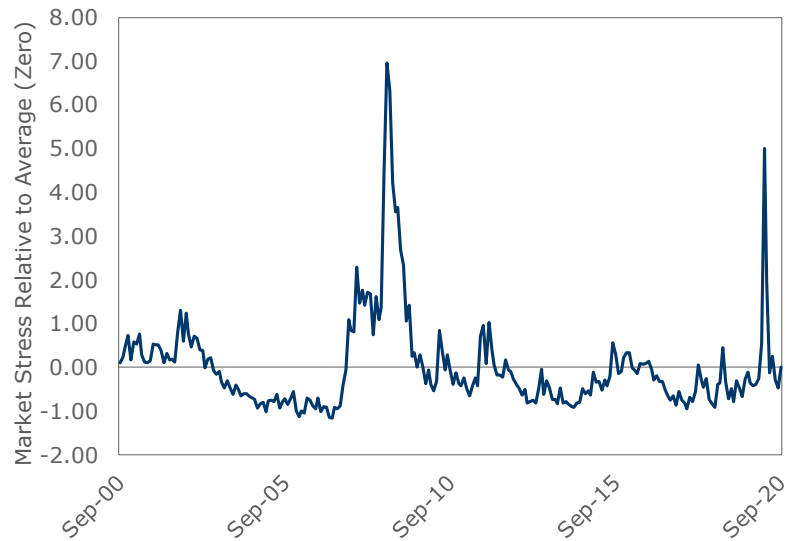
YIELD CURVE SLOPE VS RECESSIONS (IN GRAY)



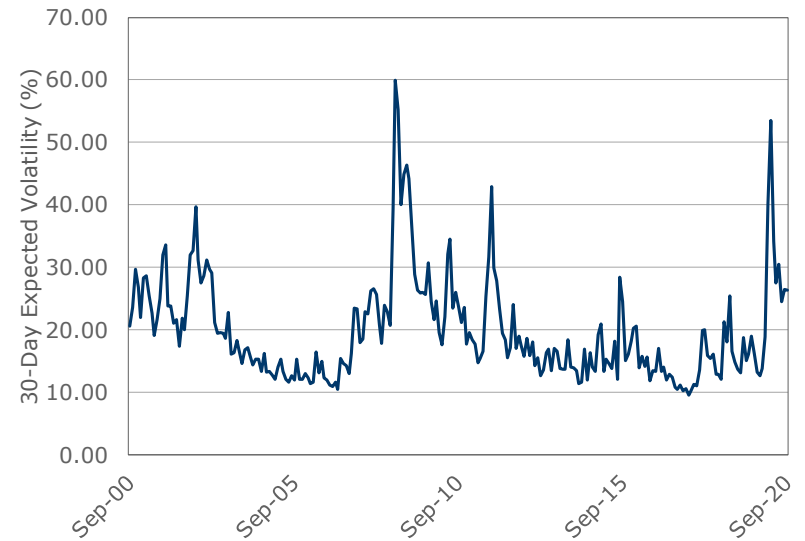
BLOOMBERG BARCLAYS CREDIT INDEXES



ST. LOUIS FED FINANCIAL STRESS INDEX



CBOE VOLATILITY INDEX

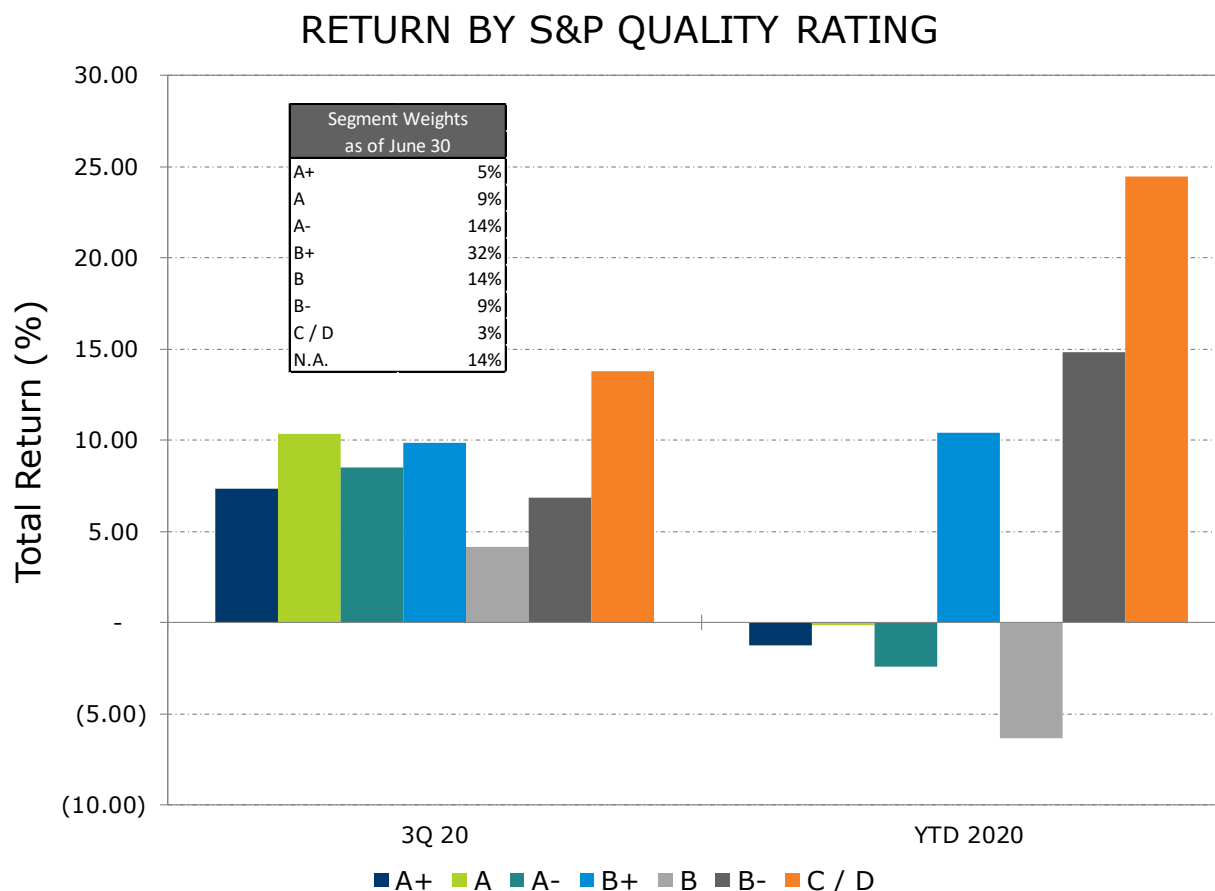


Data sources: Bloomberg

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# RETURNS BY QUALITY SEGMENT

Although gains were broad based for the quarter, lower quality names lead for the year

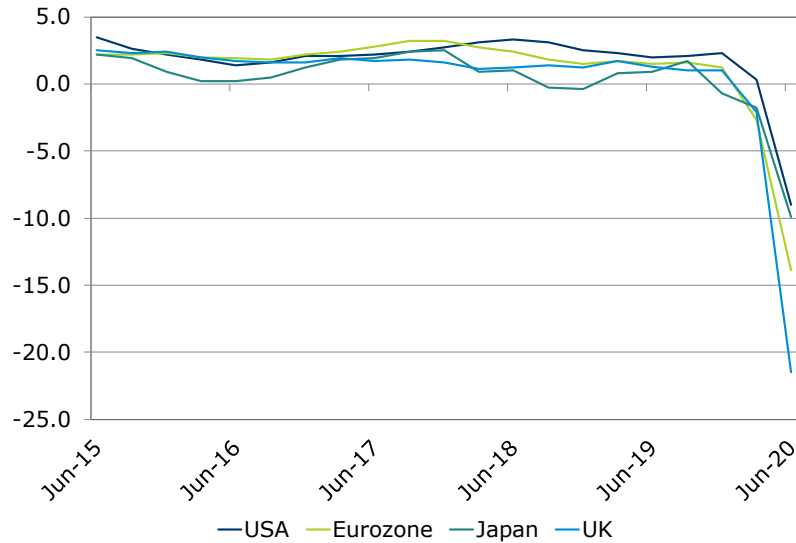


Data sources: Wilshire Atlas

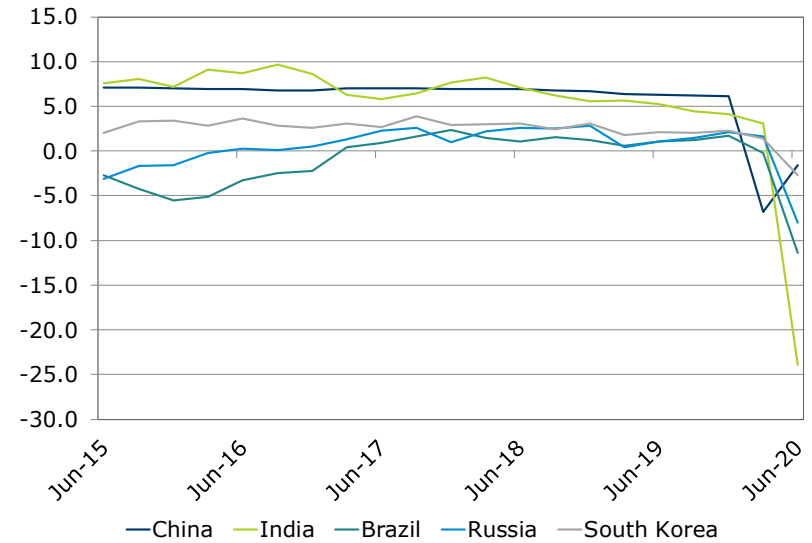
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# NON-U.S. GROWTH AND INFLATION

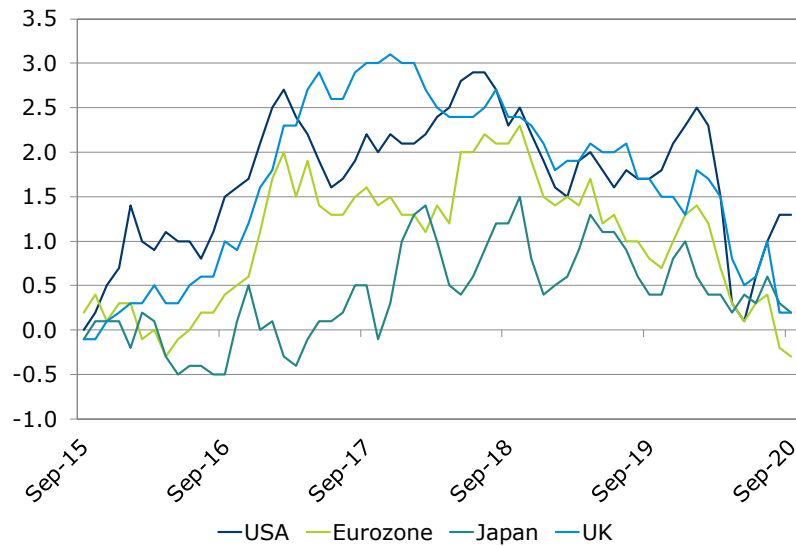
DEVELOPED MARKETS REAL GDP GROWTH YoY (%)



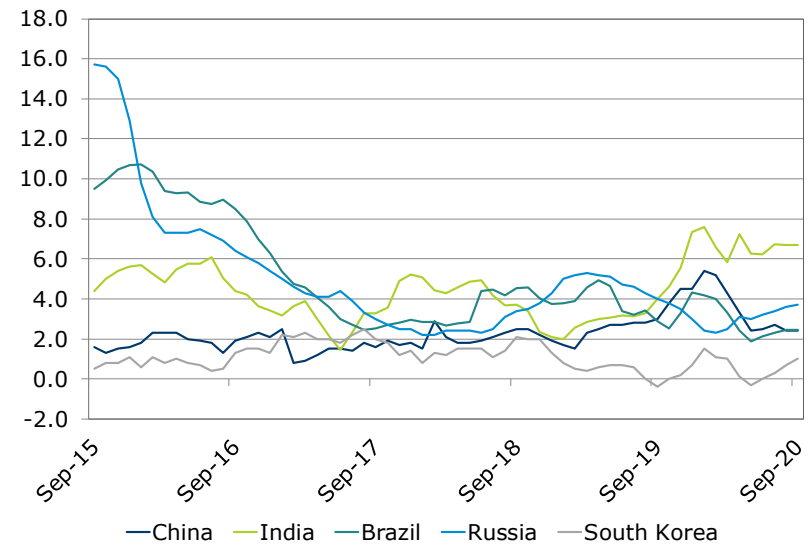
EMERGING MARKETS REAL GDP GROWTH YoY (%)



DEVELOPED MARKETS CPI GROWTH YoY (%)



EMERGING MARKETS CPI GROWTH YoY (%)



Data sources: Bloomberg

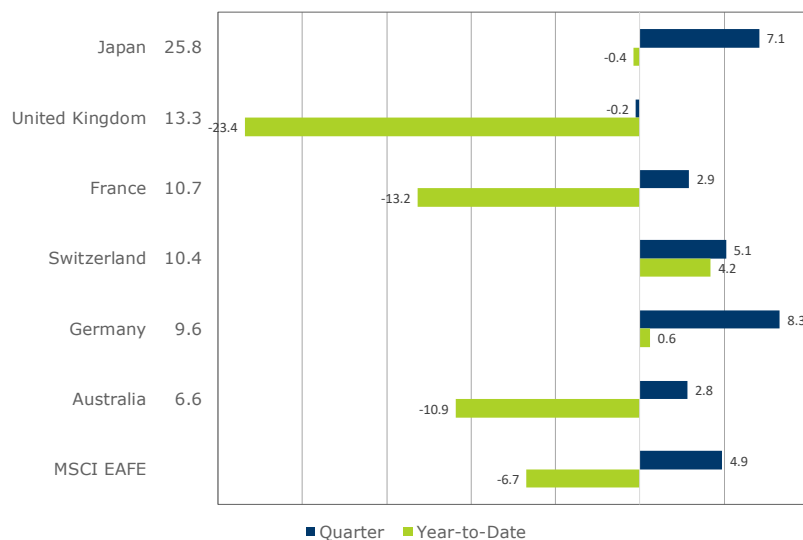
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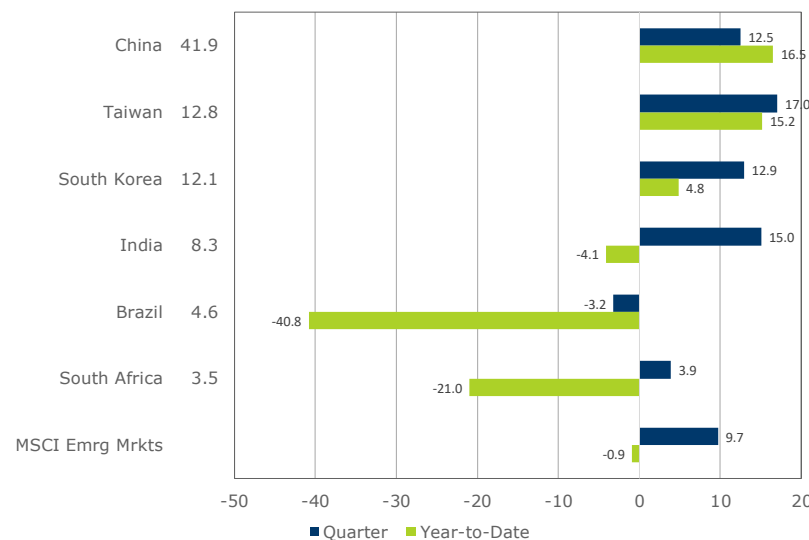
# NON-U.S. EQUITY MARKET

AS OF 9/30/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
MSCI ACWI EX-US (\$G)	6.4	-5.1	3.4	1.6	6.7	4.5
MSCI EAFE (\$G)	4.9	-6.7	0.9	1.1	5.8	5.1
MSCI EMERGING MARKETS (\$G)	9.7	-0.9	10.9	2.8	9.4	2.9
MSCI FRONTIER MARKETS (\$G)	4.4	-16.9	-11.2	-5.1	1.2	0.7
MSCI ACWI EX-US GROWTH (\$G)	10.2	7.5	17.9	7.7	10.6	6.8
MSCI ACWI EX-US VALUE (\$G)	3.1	-16.7	-9.5	-4.3	3.0	2.4
MSCI ACWI EX-US SMALL (\$G)	10.6	-3.3	7.4	1.3	7.2	5.7
MSCI ACWI MINIMUM VOLATILITY	4.9	-3.0	0.0	7.1	9.6	9.7
MSCI EAFE MINIMUM VOLATILITY	3.5	-6.9	-2.7	2.4	5.8	6.7
FTSE RAFI DEVELOPED EX-US	3.1	-15.0	-8.1	-3.7	3.3	2.9
MSCI EAFE LC (G)	1.3	-9.1	-4.3	1.0	5.3	6.8
MSCI EMERGING MARKETS LC (G)	8.8	2.9	12.8	5.2	10.0	6.0

DEVELOPED MARKETS WEIGHT AND RETURN (%)



EMERGING MARKETS WEIGHT AND RETURN (%)



Data sources: Bloomberg

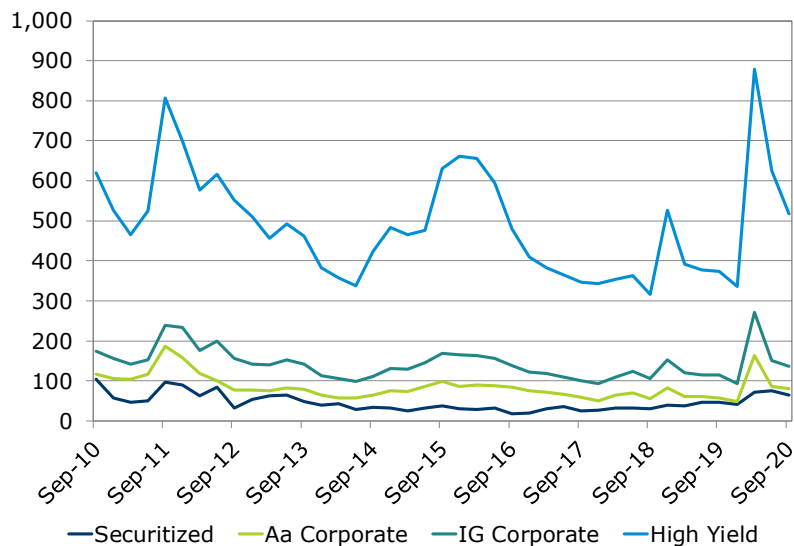
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# U.S. FIXED INCOME

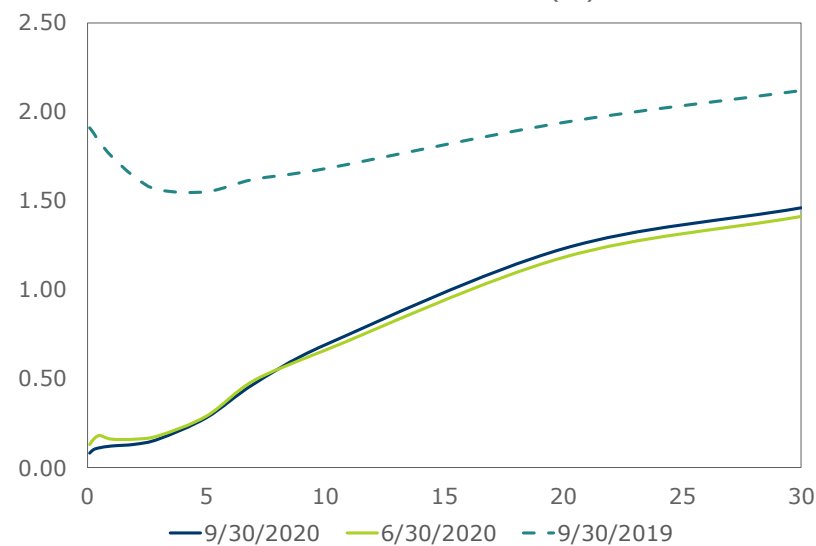
AS OF 9/30/2020	YTW	DUR.	QTR	YTD	1 YR	3 YR	5 YR	10 YR
BLOOMBERG BARCLAYS AGGREGATE	1.2	6.1	0.6	6.8	7.0	5.2	4.2	3.6
BLOOMBERG BARCLAYS TREASURY	0.5	7.2	0.2	8.9	8.0	5.5	3.7	3.1
BLOOMBERG BARCLAYS GOV'T-REL.	1.1	6.0	1.1	5.0	5.2	4.8	4.1	3.3
BLOOMBERG BARCLAYS SECURITIZED	1.3	2.4	0.2	3.9	4.5	3.8	3.1	3.1
BLOOMBERG BARCLAYS CORPORATE	2.0	8.7	1.5	6.6	7.9	6.4	6.0	5.1
BLOOMBERG BARCLAYS LT G/C	2.3	16.8	1.2	14.2	12.9	10.2	8.8	7.4
BLOOMBERG BARCLAYS LT TREASURY	1.3	19.4	0.1	21.3	16.3	11.9	8.2	7.2
BLOOMBERG BARCLAYS LT GOV't-REL.	2.8	13.6	2.3	6.7	6.6	7.8	7.8	6.7
BLOOMBERG BARCLAYS LT CORP.	3.1	15.3	1.9	8.4	9.8	8.8	8.9	7.4
BLOOMBERG BARCLAYS U.S. TIPS *	0.6	7.9	3.0	9.2	10.1	5.8	4.6	3.6
BLOOMBERG BARCLAYS HIGH YIELD	5.8	3.7	4.6	0.6	3.3	4.2	6.8	6.5
TREASURY BILLS	0.1	0.3	0.0	0.7	1.2	1.7	1.2	0.7

\* Yield and Duration statistics are for a proxy index based on similar maturity, the Bloomberg Barclays U.S. Treasury 7-10 Year Index

FIXED INCOME OPTION ADJUSTED SPREAD (BPS)



TREASURY YIELD CURVE (%)



Data sources: Bloomberg

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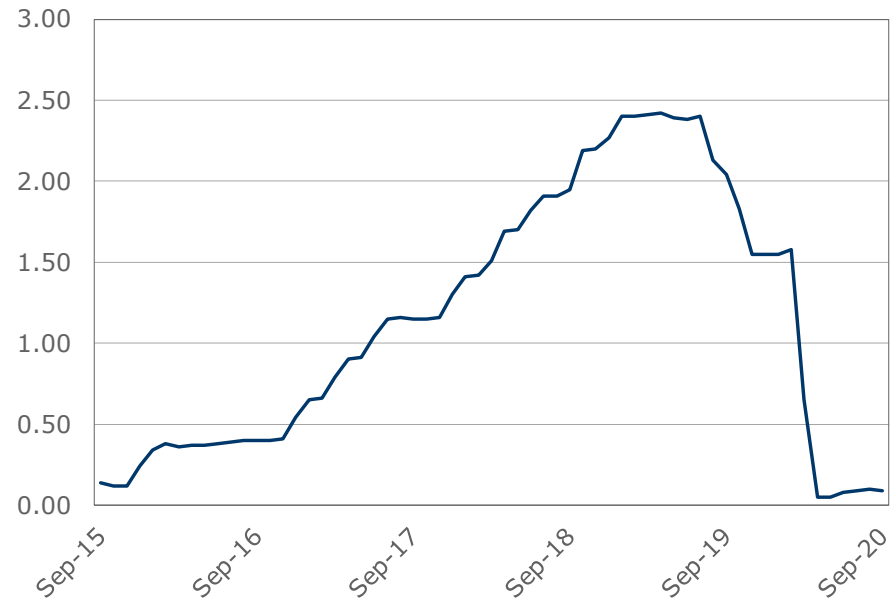
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## FEDERAL RESERVE

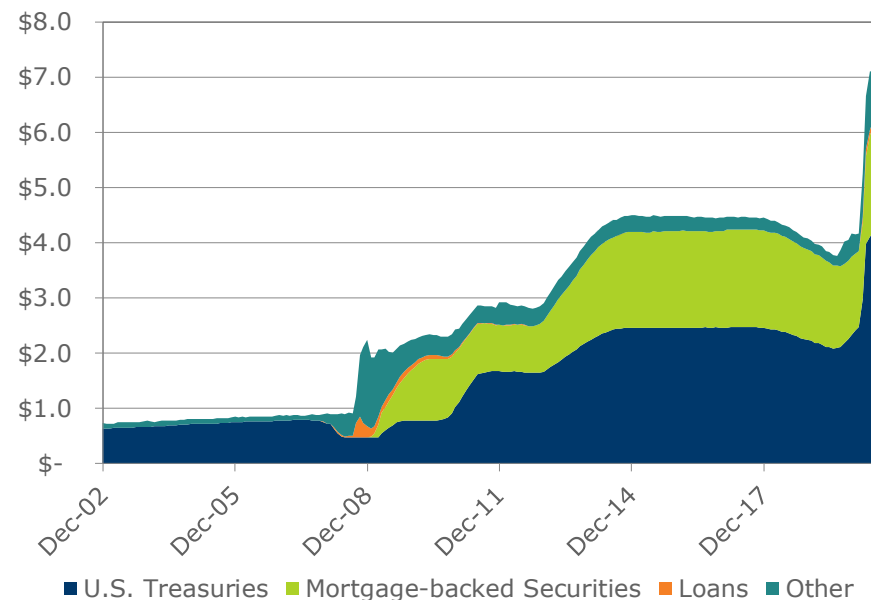
- Current expectation for the Fed-funds rate is to remain near zero through 2022
- Federal Reserve has added nearly \$3 trillion in assets to their balance sheet just this year
- Unlike after the GFC, the Fed is also buying corporate and municipal bonds in addition to Treasuries and MBS

	Announced	Closed	Amount (bil)
QE1	11/25/2008	3/31/2010	\$1,403
QE2	11/3/2010	6/29/2012	\$568
QE3	9/13/2012	10/29/2014	\$1,674
QE4	3/23/2020		\$2,935

FEDERAL FUNDS RATE (%)



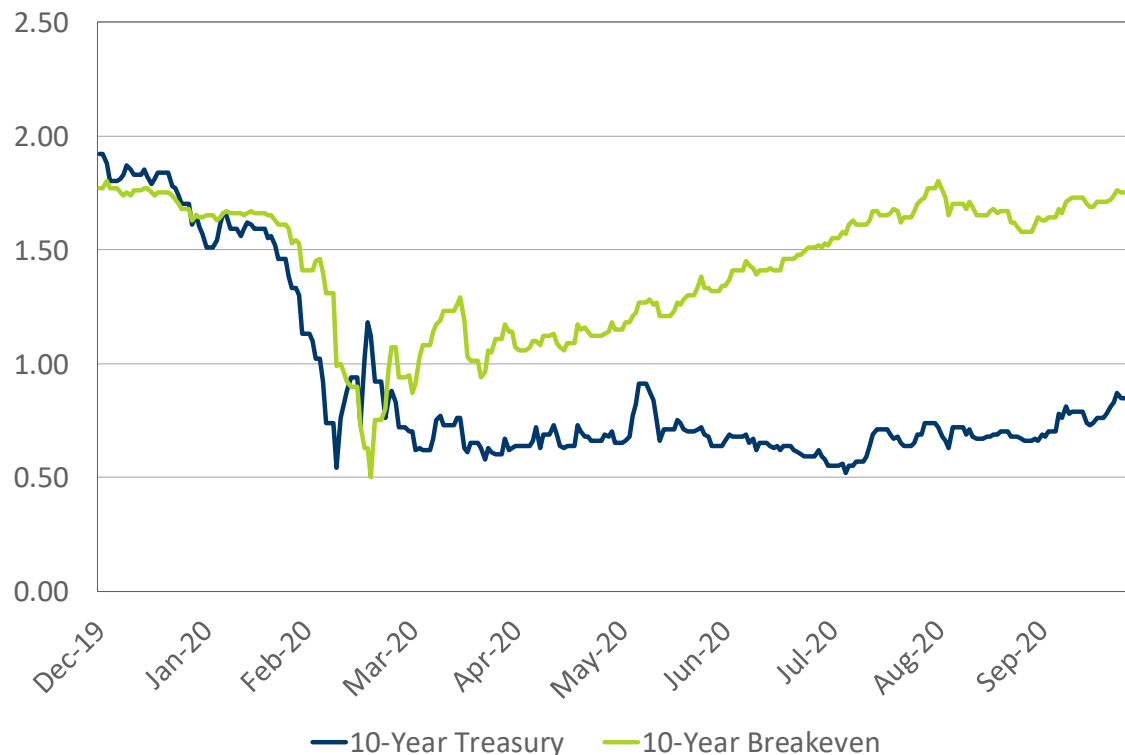
FEDERAL RESERVE BALANCE SHEET (\$T)



# TREASURIES AT LOW LEVELS

- Treasury yields and breakeven inflation both dropped as the U.S. entered coronavirus-related lockdowns; breakeven inflation has since increased
- Nearly 100 basis point spread between the two implies that investing in a 10-year Treasury is currently expected to cost an investor, in real terms

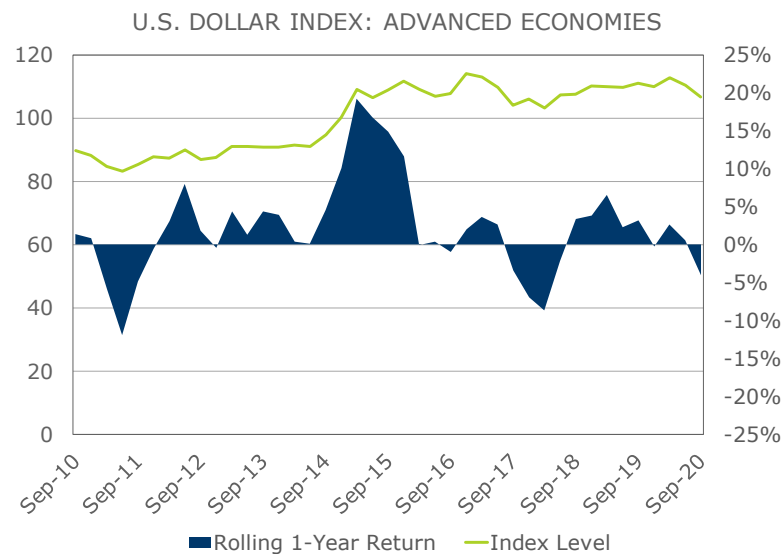
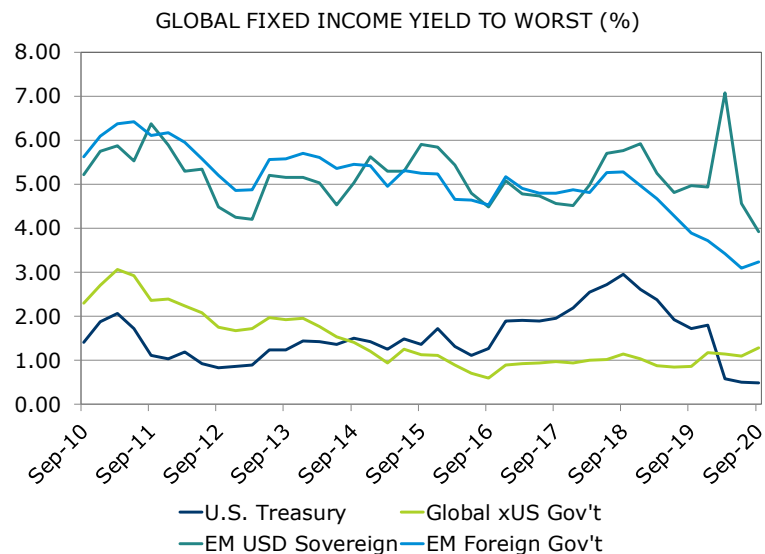
YIELDS & BREAKEVEN (%)



# NON-U.S. FIXED INCOME

AS OF 9/30/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
<b>DEVELOPED MARKETS</b>						
BLMBRG BRCLYS GLBL AGGREGATE xUS	4.1	4.8	5.5	3.1	3.6	1.3
BLMBRG BRCLYS GLBL AGGREGATE xUS *	0.7	3.0	1.8	4.9	4.3	4.1
BLMBRG BRCLYS GLOBAL INF LNKD xUS	3.9	6.0	5.4	3.8	3.8	3.5
BLMBRG BRCLYS GLOBAL INF LNKD xUS *	-0.3	6.4	0.9	6.4	6.3	5.9
<b>EMERGING MARKETS (HARD CURRENCY)</b>						
BLMBRG BRCLYS EM USD AGGREGATE	2.4	1.9	4.1	4.2	6.2	5.4
<b>EMERGING MARKETS (FOREIGN CURRENCY)</b>						
BLMBRG BRCLYS EM LOCAL CURR. GOV'T	1.8	-1.6	2.3	2.1	4.9	2.0
BLMBRG BRCLYS EM LOCAL CURR. GOV'T *	-0.6	2.3	2.8	4.5	4.1	3.3
EURO vs. DOLLAR	4.3	4.5	7.5	-0.3	1.0	-1.5
YEN vs. DOLLAR	2.3	3.0	2.5	2.2	2.6	-2.3
POUND vs. DOLLAR	4.2	-2.5	5.1	-1.2	-3.1	-1.9

\* Returns are reported in terms of local market investors, which removes currency effects.

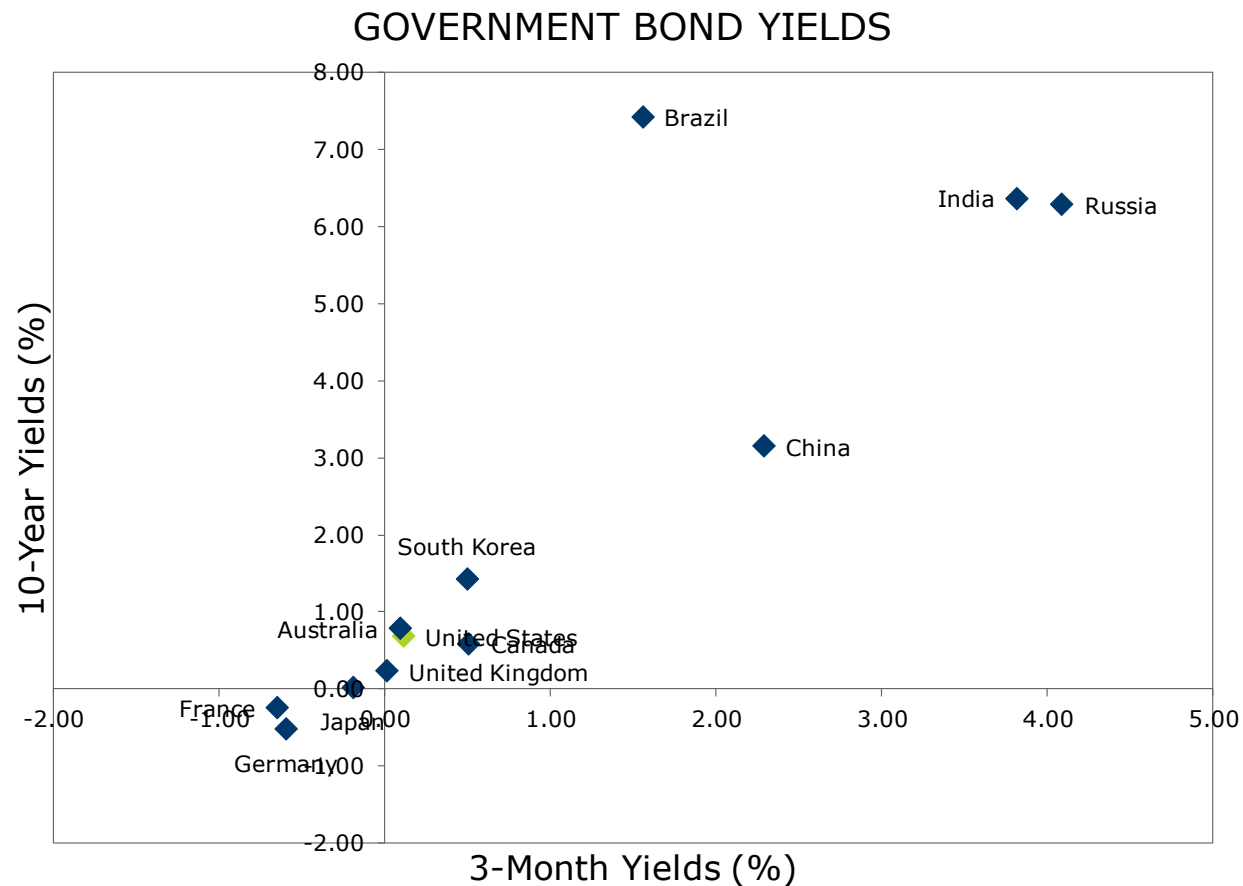


Data sources: Bloomberg

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# GLOBAL INTEREST RATES

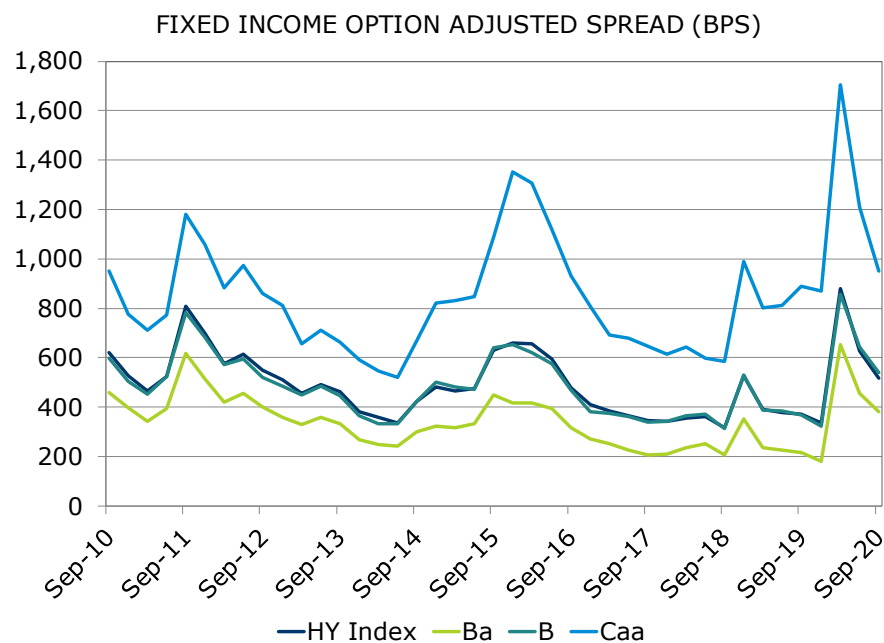
Negative rates found in Germany and France; low but positive rates, and at similar levels, in the U.S. and Australia while the U.K. approaches zero in both the short and long-term



Data sources: Bloomberg

# HIGH YIELD BOND MARKET

AS OF 9/30/2020		YTW	QTR	YTD	1 YR	3 YR	5 YR	10 YR
BLOOMBERG BARCLAYS HIGH YIELD		5.8	4.6	0.6	3.3	4.2	6.8	6.5
S&P LSTA LEVERAGE LOAN INDEX		4.9	3.5	-0.5	1.7	3.4	4.1	4.1
<b>HIGH YIELD QUALITY DISTRIBUTION</b>	<b>WEIGHT</b>							
Ba U.S. HIGH YIELD	54.6%	4.4	4.0	4.2	6.8	5.7	7.3	6.9
B U.S. HIGH YIELD	32.7%	6.0	4.5	-1.2	1.4	4.0	6.2	6.1
Caa U.S. HIGH YIELD	11.9%	10.1	7.3	-7.0	-3.5	-0.3	5.6	6.0
Ca to D U.S. HIGH YIELD	0.8%	23.9	6.7	-23.5	-29.1	-8.8	4.1	-5.8
Non-Rated U.S. HIGH YIELD	0.0%	0.0	0.0	-6.5	-4.7	-0.5	0.6	3.7



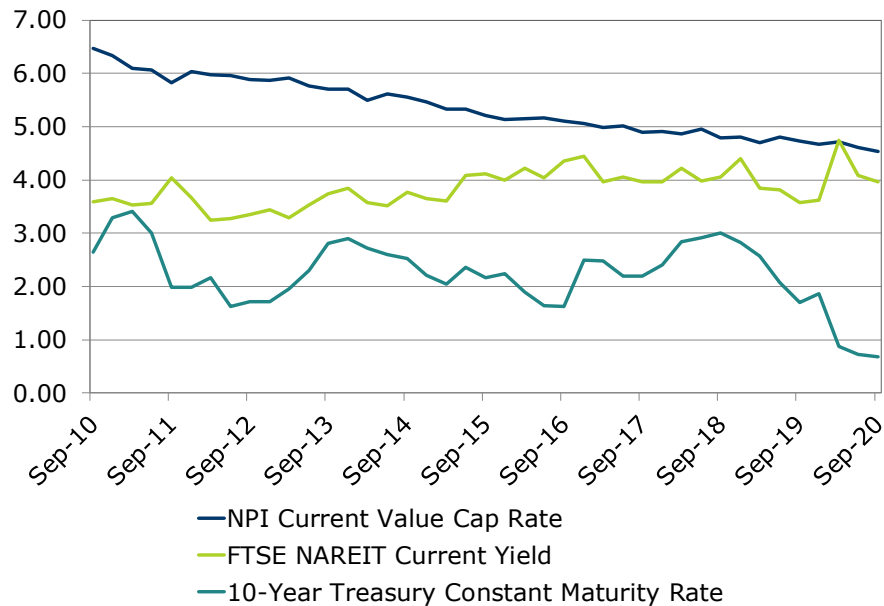
Data sources: Bloomberg

# Wilshire Consulting

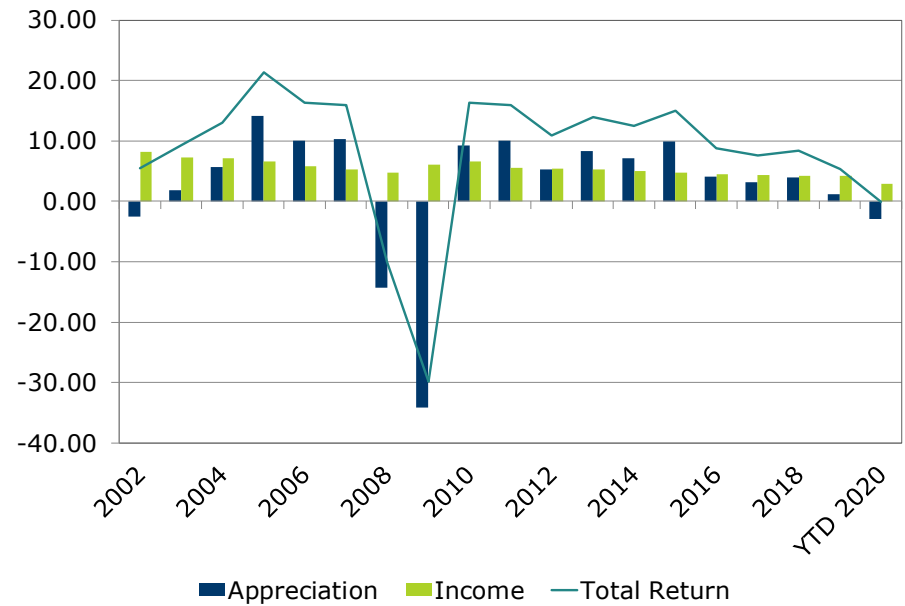
## REAL ASSETS

AS OF 9/30/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
BLOOMBERG BARCLAYS U.S. TIPS	3.0	9.2	10.1	5.8	4.6	3.6
BLOOMBERG COMMODITY INDEX	9.1	-12.1	-8.2	-4.2	-3.1	-6.0
WILSHIRE GLOBAL RESI INDEX	1.3	-19.3	-18.3	-0.7	3.0	6.5
NCREIF ODCE FUND INDEX	0.5	-0.1	1.4	5.2	6.6	10.3
NCREIF TIMBERLAND INDEX	0.0	0.2	0.2	2.2	2.6	4.4
ALERIAN MIDSTREAM ENERGY	-9.4	-36.2	-34.8	-11.9	-4.5	n.a.

REAL ESTATE VALUATION (%)



NCREIF ODCE FUND INDEX RETURN (%)



Data sources: Bloomberg, National Council of Real Estate Investment Fiduciaries



# ASSET CLASS PERFORMANCE

ASSET CLASS RETURNS - BEST TO WORST						ANNUALIZED 5-YEAR AS OF 9/20
2015	2016	2017	2018	2019	2020 YTD	
REITs 4.2%	MLPs 18.3%	Emrg Mrkts 37.7%	T-Bills 1.9%	U.S. Equity 31.0%	U.S. TIPS 9.2%	U.S. Equity 13.8%
U.S. Equity 0.7%	High Yield 17.1%	Developed 25.6%	Core Bond 0.0%	REITs 25.8%	Core Bond 6.8%	Emrg Mrkts 9.4%
Core Bond 0.6%	U.S. Equity 13.4%	U.S. Equity 21.0%	U.S. TIPS -1.3%	Developed 22.7%	U.S. Equity 5.5%	High Yield 6.8%
T-Bills 0.1%	Commodities 11.8%	High Yield 7.5%	High Yield -2.1%	Emrg Mrkts 18.9%	T-Bills 0.7%	Developed 5.8%
Developed -0.4%	Emrg Mrkts 11.6%	REITs 4.2%	REITs -4.8%	High Yield 14.3%	High Yield 0.6%	U.S. TIPS 4.6%
U.S. TIPS -1.4%	REITs 7.2%	Core Bond 3.6%	U.S. Equity -5.3%	Core Bond 8.7%	Emrg Mrkts -0.9%	Core Bond 4.2%
High Yield -4.5%	U.S. TIPS 4.7%	U.S. TIPS 3.0%	Commodities -11.2%	U.S. TIPS 8.4%	Developed -6.7%	REITs 3.7%
Emrg Mrkts -14.6%	Core Bond 2.6%	Commodities 1.7%	MLPs -12.4%	Commodities 7.7%	Commodities -12.1%	T-Bills 1.2%
Commodities -24.7%	Developed 1.5%	T-Bills 0.8%	Developed -13.4%	MLPs 6.6%	REITs -16.7%	Commodities -3.1%
MLPs -32.6%	T-Bills 0.3%	MLPs -6.5%	Emrg Mrkts -14.2%	T-Bills 2.3%	Midstream -36.2%	Midstream -4.5%

Data sources: Bloomberg

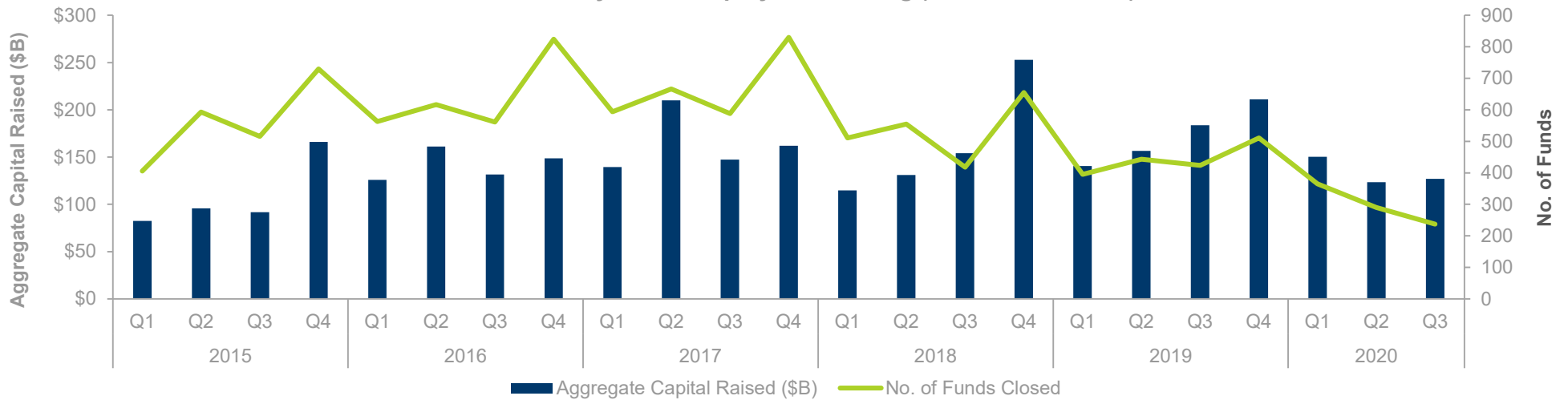
Note: Developed asset class is developed equity markets ex-U.S., ex-Canada



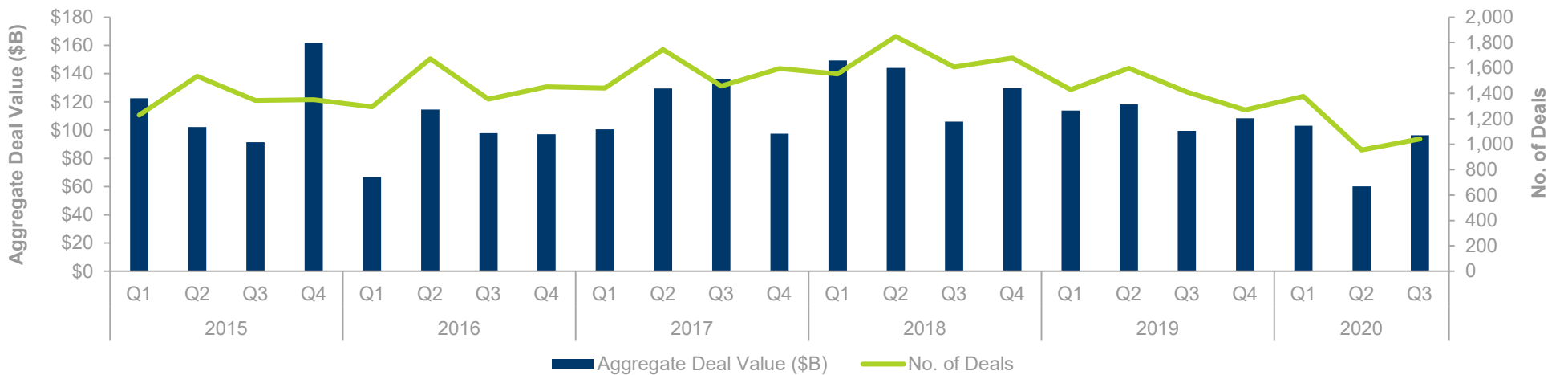
# APPENDIX: PRIVATE MARKETS UPDATE

# Private Equity – Fundraising & Investment Activity

Global Quarterly Private Equity Fundraising (Q1 2015 - Q3 2020)



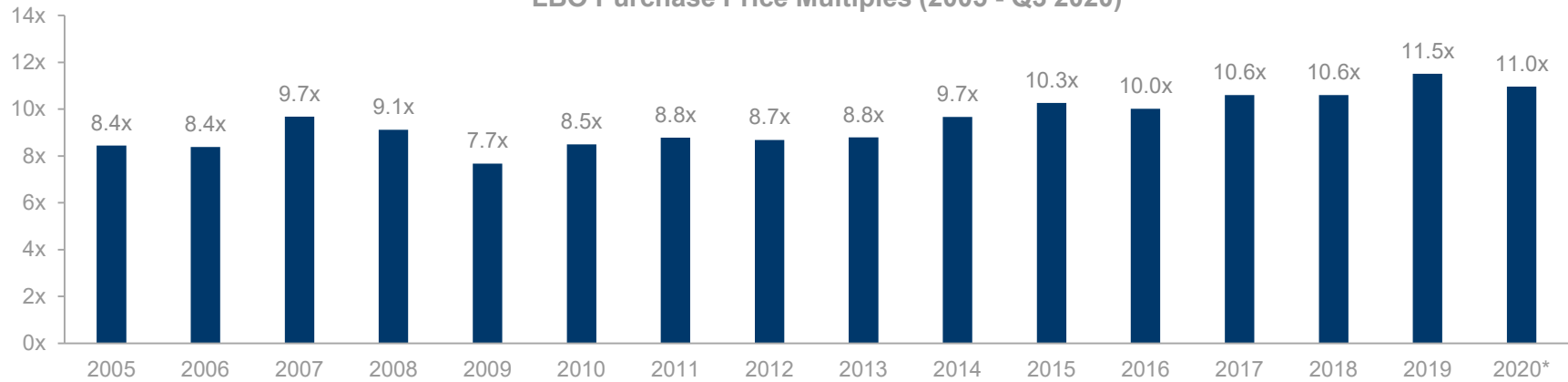
Global Quarterly Private Equity-Backed Buyout Deals (Q1 2015 - Q3 2020)



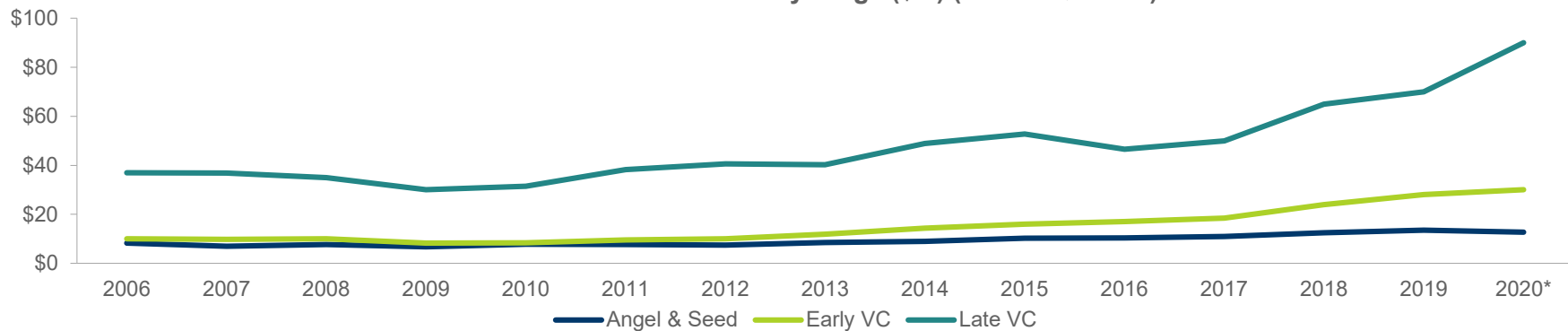
Source: Preqin, as of September 30, 2020.

# Private Equity – Pricing & Valuations

LBO Purchase Price Multiples (2005 - Q3 2020)



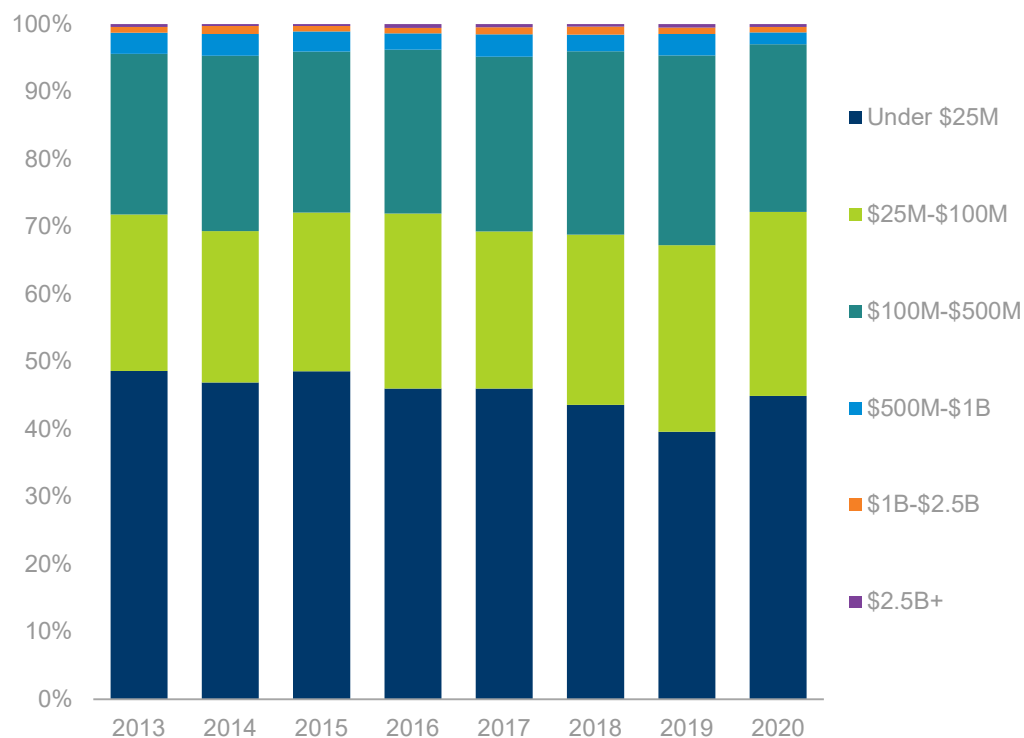
U.S. Median Pre-Value by Stage (\$M) (2006 – Q3 2020)



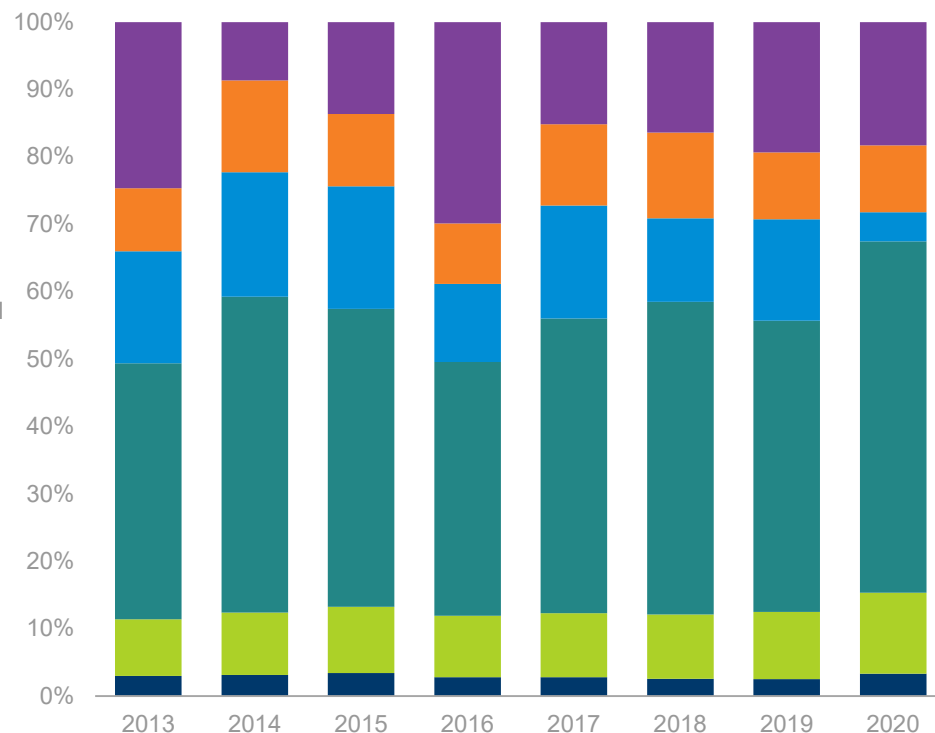
Source: S&P LBO; PitchBook, \*as of September 30, 2020

# U.S. Investment Activity by Deal Size

Percentage of Deal Volume by Deal Size (by Count)\*



Percentage of Deal Volume by Deal Size (by Dollars)\*

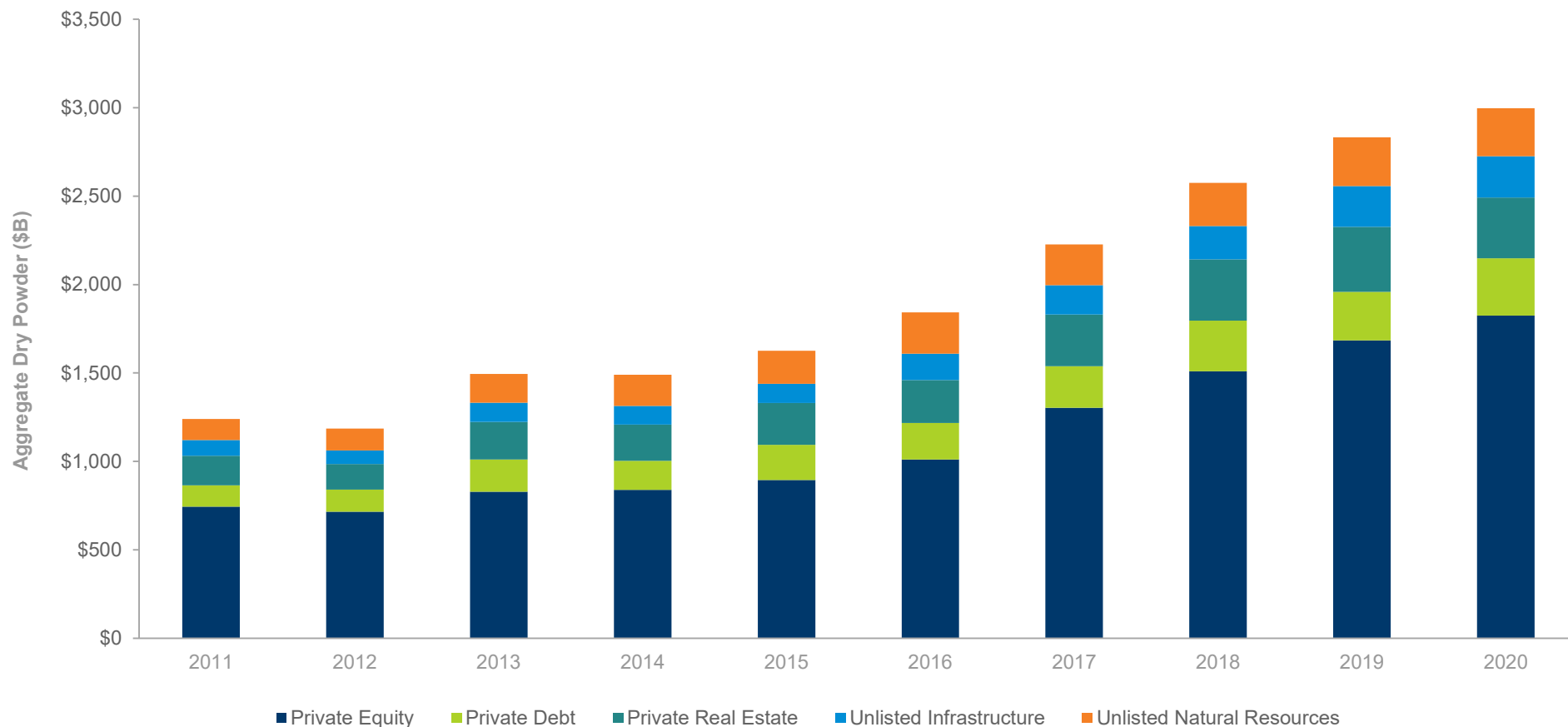


- Deal volume continues to be dominated by lower middle market deals with investment sizes below \$100 million through the third quarter of 2020
- However, deals with below \$100 million check sizes comprised only 15% of all deal volume by amount of capital invested in the third quarter of 2020

Source: S&P LBO; PitchBook, \*as of September 30, 2020

# Private Capital Dry Powder

Private Capital Dry Powder by Fund Type (2011 - October 2020)



- Global private capital dry powder continues to increase, topping \$2.9 trillion across all fund types
- Private equity comprises just over 60% of total dry power in the market as of October 2020

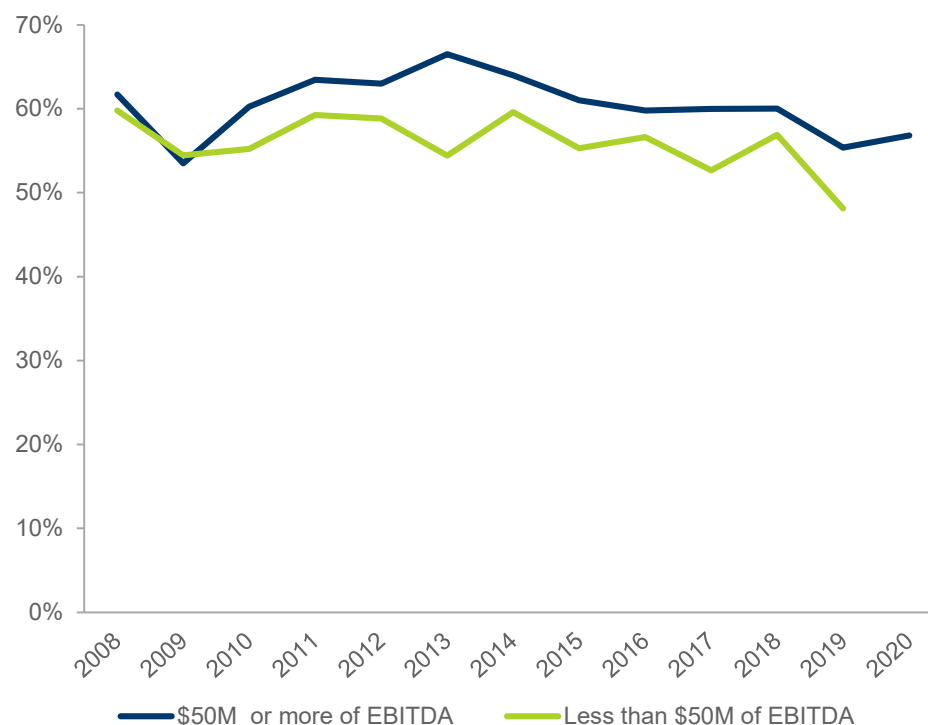
Source: Preqin, as of October 19, 2020.

# Private Equity – U.S. Debt Markets

Total U.S. LBO Loan Volume (\$B) (2005 - Q3 2020)\*



Percentage of Debt Used in LBOs (2008 - Q3 2020)\*

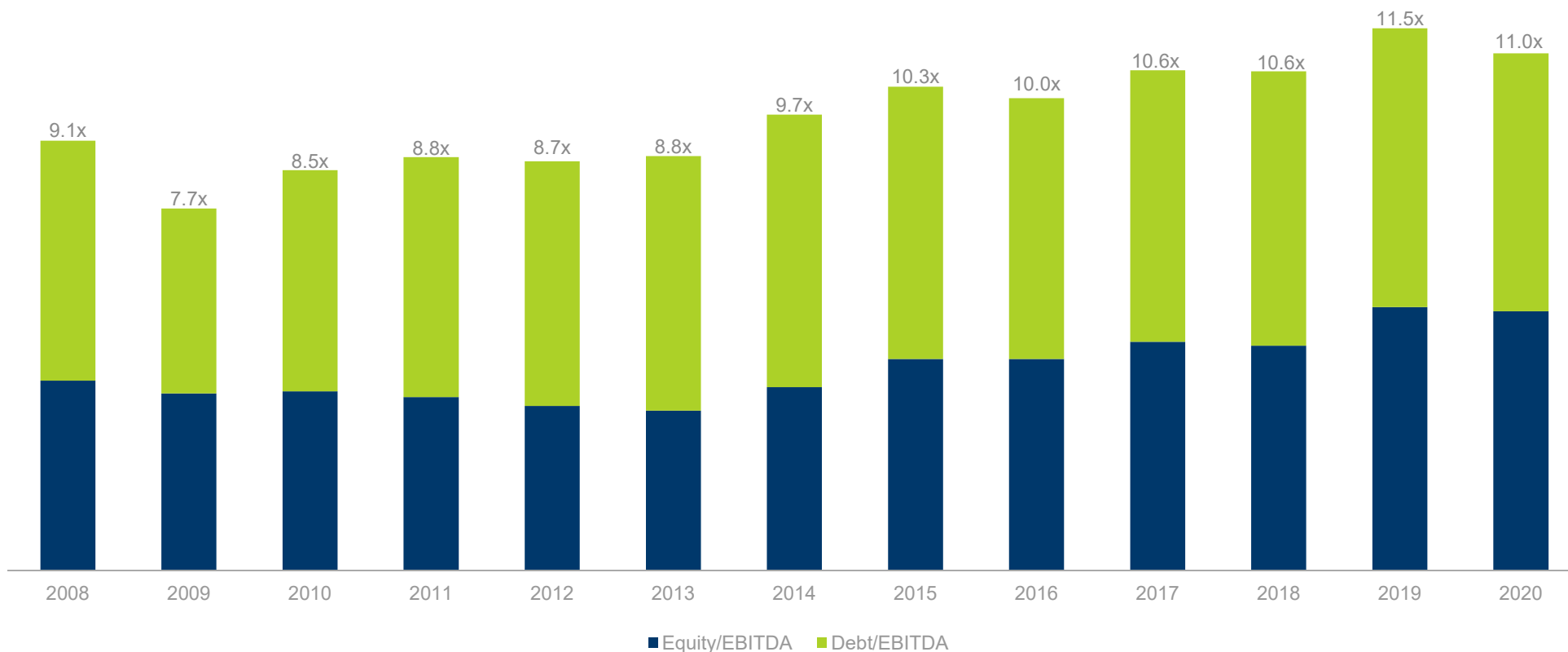


- 2020 has generated approximately \$51 billion in loan volume so far and is on pace to see a slight decrease in loan volume from 2019
- As debt multiples have decreased, the percentage of debt used to finance leveraged buyouts through the third quarter of 2020 has slightly increased from 2019 marks

Source: S&P LBO, \*as of September 30, 2020. "Less than \$50M of EBITDA" data for 2020 not yet available.

# Private Equity – U.S. LBO Purchase Price Multiples

Purchase Price Multiples of U.S. LBO Transactions (2008 - Q3 2020)\*



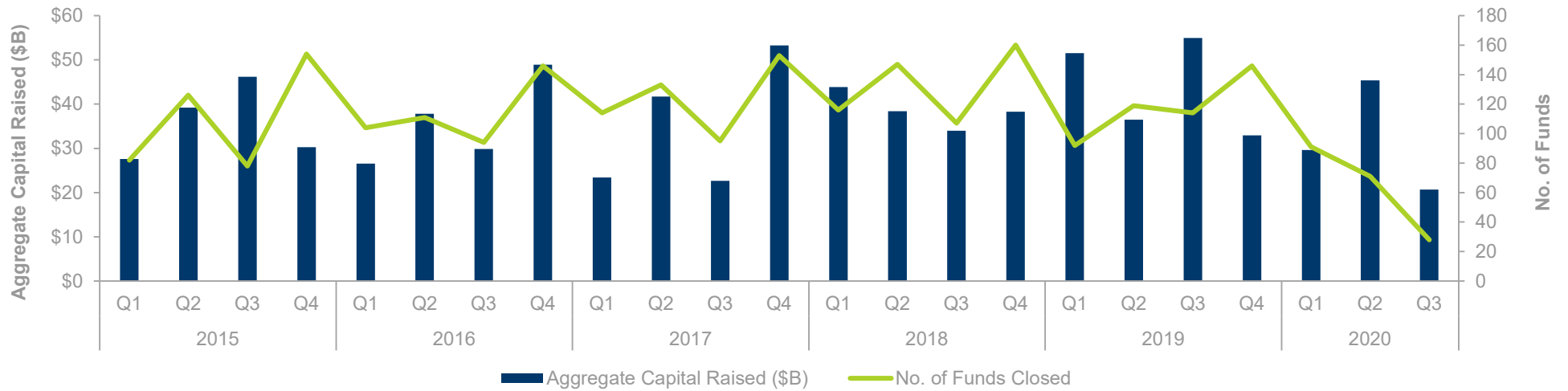
- Purchase price multiples for U.S. LBOs have slightly decreased through Q3 2020, relative to 2019 levels

Source: S&P LBO, \*as of September 30, 2020.

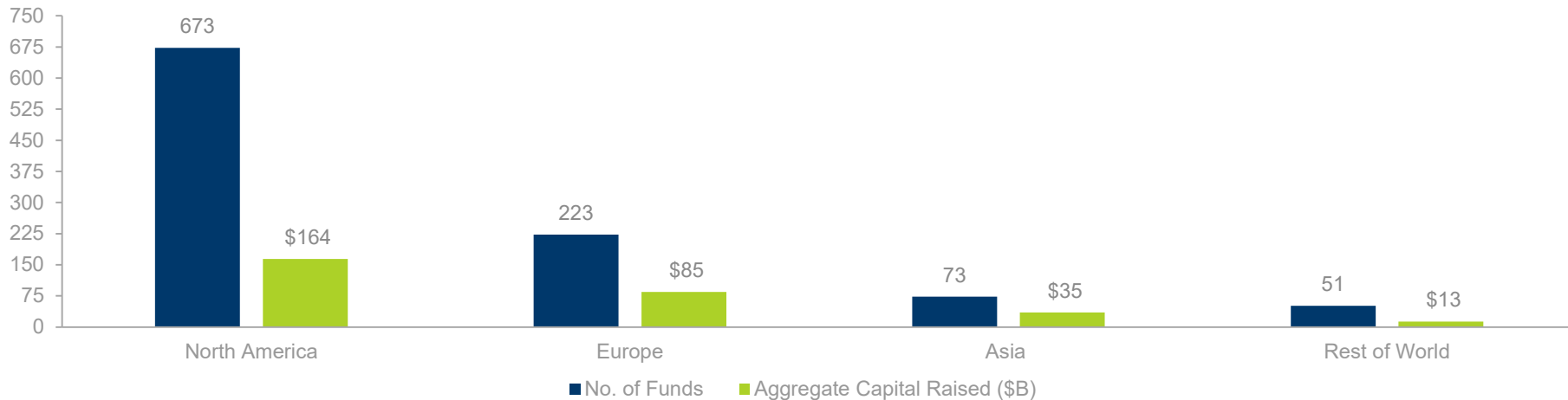


# Private Real Estate – Fundraising Activity

Global Quarterly Closed-End Private Real Estate Fundraising (Q1 2015 - Q3 2020)



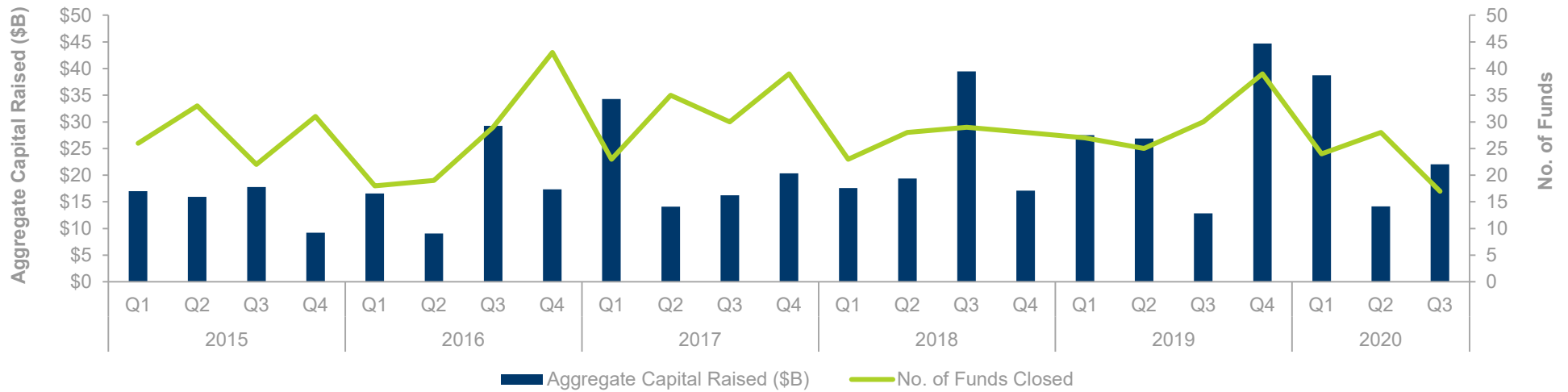
Closed-End Private Real Estate Funds Actively in Market in Q3 2020 by Primary Geographic Focus



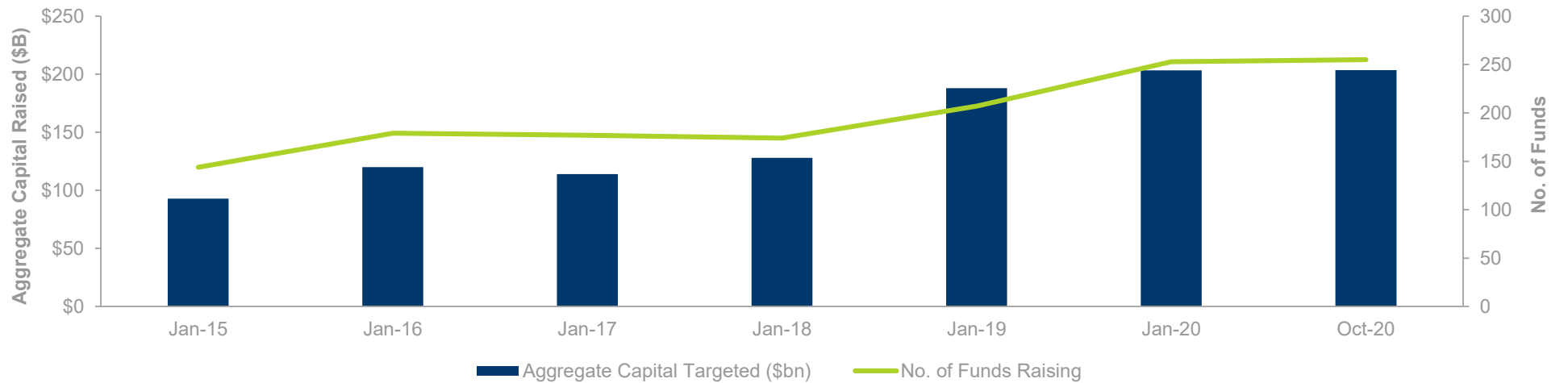
Source: Preqin as of September 30, 2020.

# Unlisted Infrastructure – Fundraising & Investment Activity

Global Quarterly Unlisted Infrastructure Fundraising (Q1 2015 – Q3 2020)



Unlisted Infrastructure Funds in Market over Time (January 2015 - October 2020)

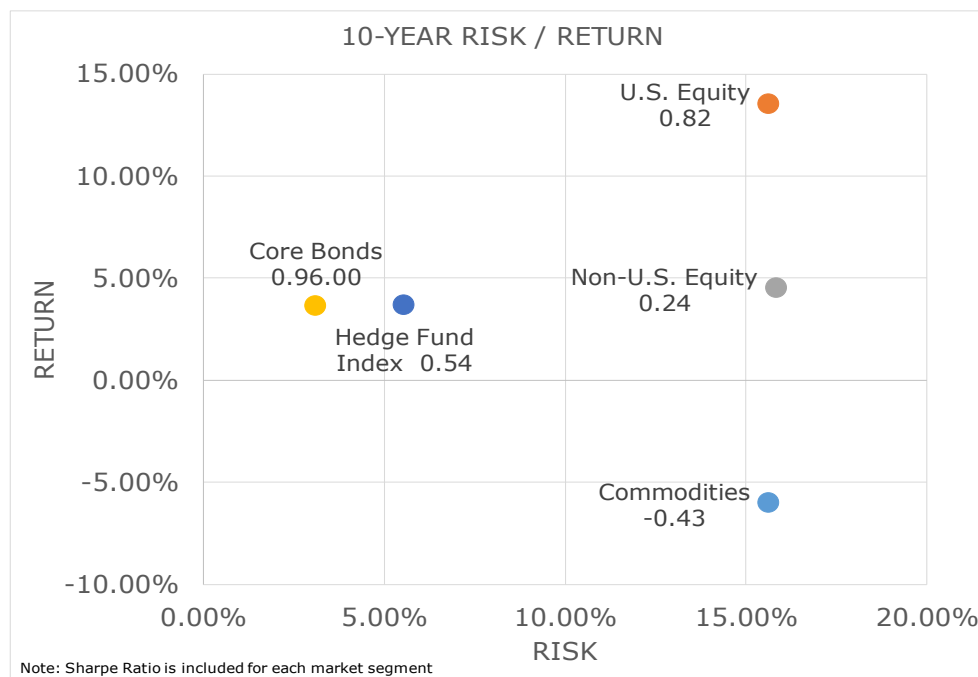


Source: Preqin as of September 30, 2020.

# Wilshire Consulting

## Hedge Fund Performance

AS OF 9/30/2020	QTR	YTD	1 YR	3 YR	5 YR	10 YR
DJ CS HEDGE FUND INDEX	3.4	0.0	2.4	2.7	2.8	3.6
EVENT DRIVEN	4.8	-3.1	-1.0	0.7	1.4	2.6
GLOBAL MACRO	4.6	0.5	1.3	4.1	3.4	3.9
LONG/SHORT EQUITY	2.7	0.2	5.3	3.5	3.6	4.9
MULTI-STRATEGY	3.4	0.5	1.8	2.3	3.6	5.6
WILSHIRE 5000	9.1	5.5	15.1	11.7	13.8	13.5
MSCI ACWI EX-US (\$G)	6.4	-5.1	3.4	1.6	6.7	4.5
BLOOMBERG BARCLAYS AGGREGATE	0.6	6.8	7.0	5.2	4.2	3.6
BLOOMBERG COMMODITY INDEX	9.1	-12.1	-8.2	-4.2	-3.1	-6.0



Data Source: Bloomberg



# Total Fund

# MONTHLY SUMMARY

Actual Allocation vs. Policy Allocation

As of September 30, 2020

Asset Class	Market Value (\$000)	Actual Allocation	Policy Target	Variance	Allowable Range <sup>4</sup>	Dollar Variance (\$000)
U.S. Equity	160,477	17.1%	16.5%	0.6%	13.0 - 20.0%	5,211
Non-U.S. Equity	170,407	18.1%	16.5%	1.6%	13.0 - 20.0%	15,141
Global Equity	1,202	0.1%	0.0%	0.1%		1,202
<b>Total Public Equity<sup>1</sup></b>	<b>332,086</b>	<b>35.3%</b>	<b>33.0%</b>	<b>2.3%</b>	<b>26.0 40.0%</b>	<b>21,554</b>
Private Equity Funds	183,395	19.5%	20.0%	-0.5%	15.0 - 25.0%	(4,806)
Life Settlement Investments	27,514	2.9%	0.0%	2.9%		27,514
<b>Total Private Equity</b>	<b>210,909</b>	<b>22.4%</b>	<b>20.0%</b>	<b>2.4%</b>	<b>15.0 - 25.0%</b>	<b>22,708</b>
Core Fixed Income <sup>2</sup>	99,133	10.5%	12.5%	-2.0%	10.0 - 15.0%	(18,493)
High Yield	115,190	12.2%	12.0%	0.2%	10.0 - 14.0%	2,269
<b>Total Fixed Income</b>	<b>214,323</b>	<b>22.8%</b>	<b>24.5%</b>	<b>-1.7%</b>	<b>20.0 - 29.0%</b>	<b>(16,223)</b>
Real Estate <sup>3</sup>	111,972	11.9%	12.5%	-0.6%	10.0 - 15.0%	(5,654)
<b>Total Private Real Assets</b>	<b>111,972</b>	<b>11.9%</b>	<b>12.5%</b>	<b>-0.6%</b>	<b>10.0 - 15.0%</b>	<b>(5,654)</b>
TIPS	39,895	4.2%	5.0%	-0.8%	4.0 - 6.0%	(7,155)
MLP's	25,310	2.7%	5.0%	-2.3%	4.0 - 6.0%	(21,740)
<b>Total Public Real Assets</b>	<b>65,205</b>	<b>6.9%</b>	<b>10.0%</b>	<b>-3.1%</b>	<b>8.0 - 12.0%</b>	<b>(28,896)</b>
<b>Hedge Funds</b>	<b>2,763</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.3%</b>		2,763
<b>Cash</b>	<b>3,747</b>	<b>0.4%</b>	<b>0.0%</b>	<b>0.4%</b>	<b>0.0 - 2.0%</b>	<b>3,747</b>
<b>Total Assets</b>	<b>941,005</b>	<b>100.0%</b>	<b>100.0%</b>			

<sup>1</sup>Uninvested private equity capital will remain invested in public equity and will not be considered to be outside of allowable range

<sup>2</sup>Core Fixed Income includes Israel Bond investments

<sup>3</sup>Real Estate includes ERECT Fund investment

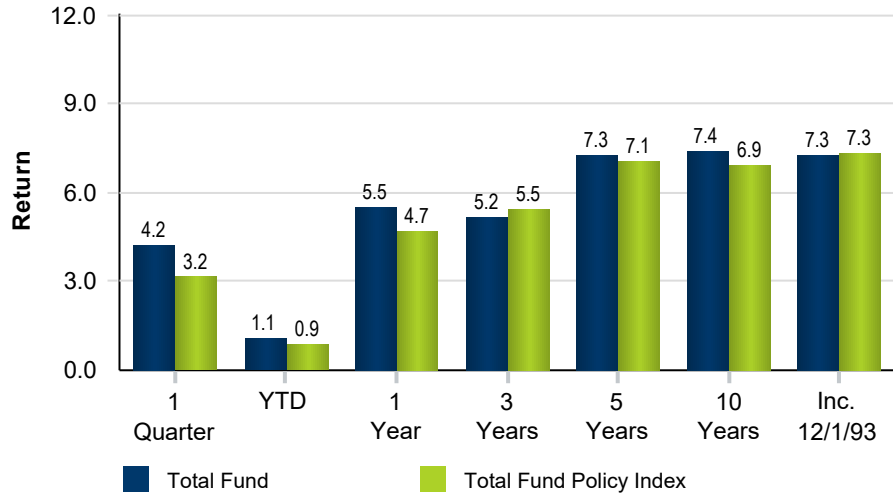
<sup>4</sup>These ranges are preliminary pending the ratification of the updated IPS

# Total Fund Summary

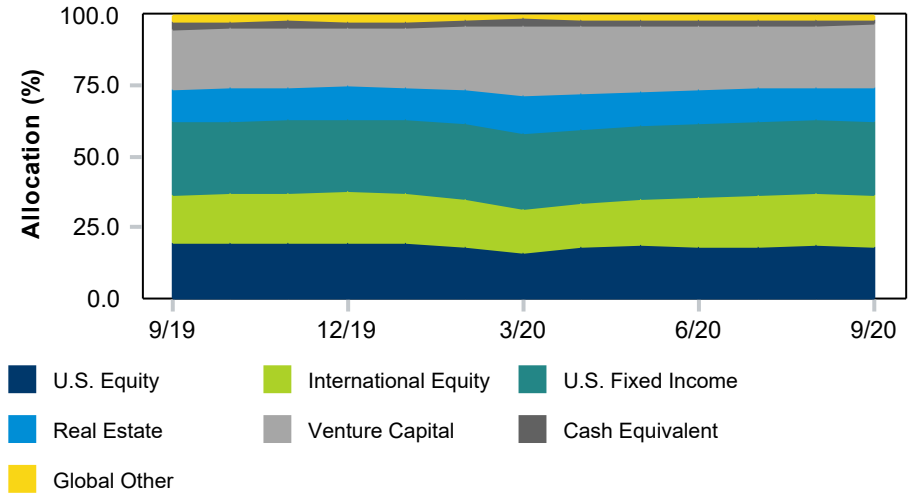
Total Fund

Periods Ended September 30, 2020

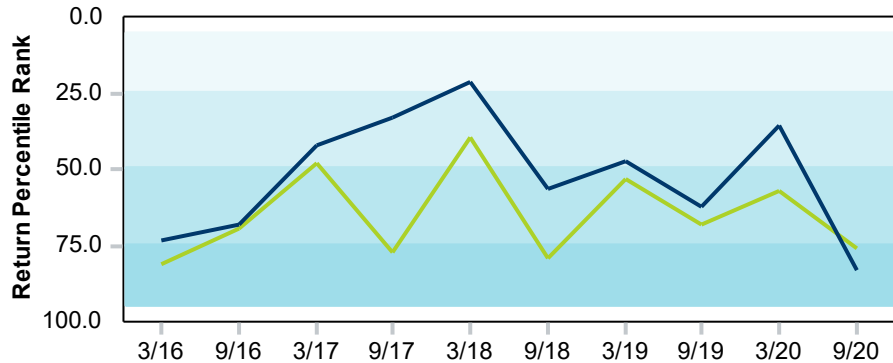
## Comparative Performance



## Historical Asset Allocation by Segment

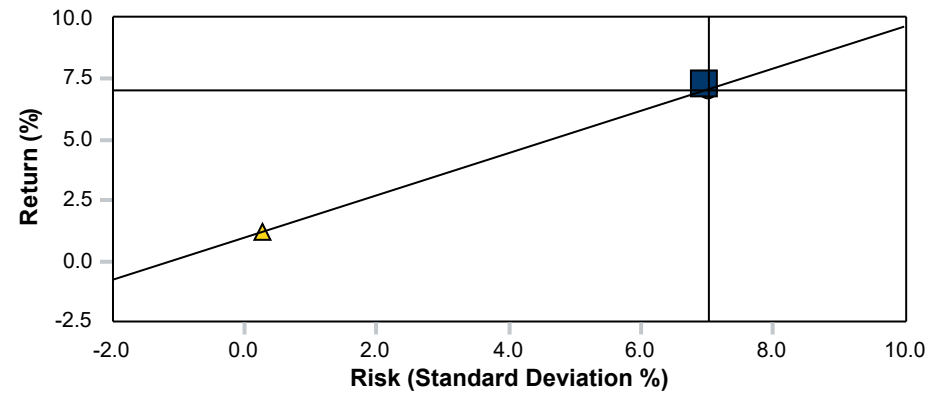


## Rolling Percentile Rank: All Public Plans-Total Fund



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
— Total Fund	10	1 (10%)	4 (40%)	4 (40%)	1 (10%)
— Benchmark	10	0 (0%)	2 (20%)	4 (40%)	4 (40%)

## Risk and Return 10/1/15 - 09/30/20

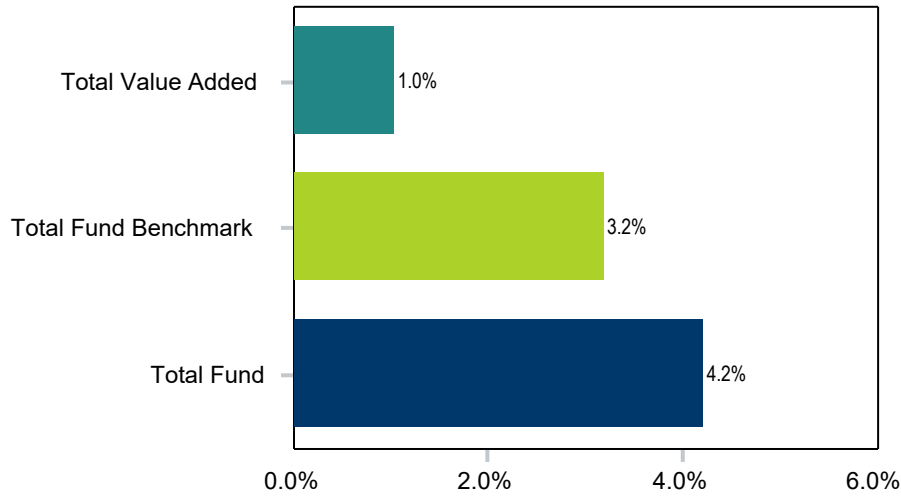


# Total Fund Attribution

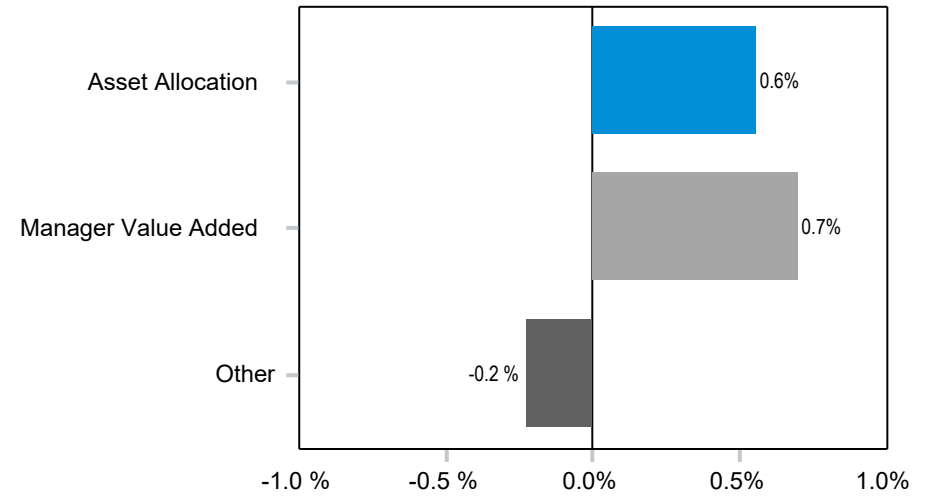
Total Fund

Periods Ended 1 Quarter Ending September 30, 2020

**Total Fund Performance**



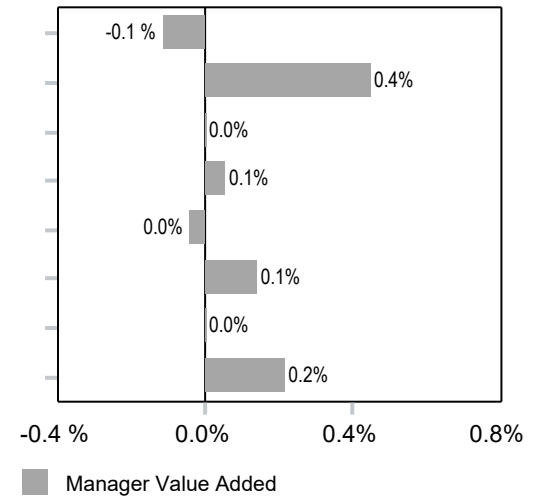
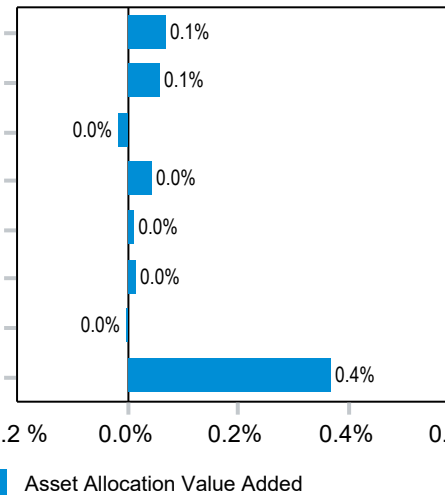
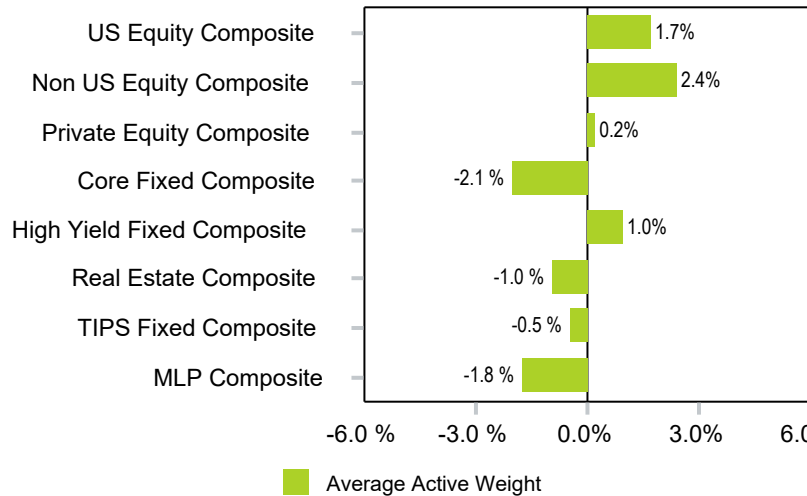
**Total Value Added:1.0%**



**Total Asset Allocation:0.6%**

**Asset Allocation Value Added:0.6%**

**Total Manager Value Added:0.7%**



■ Average Active Weight

■ Asset Allocation Value Added

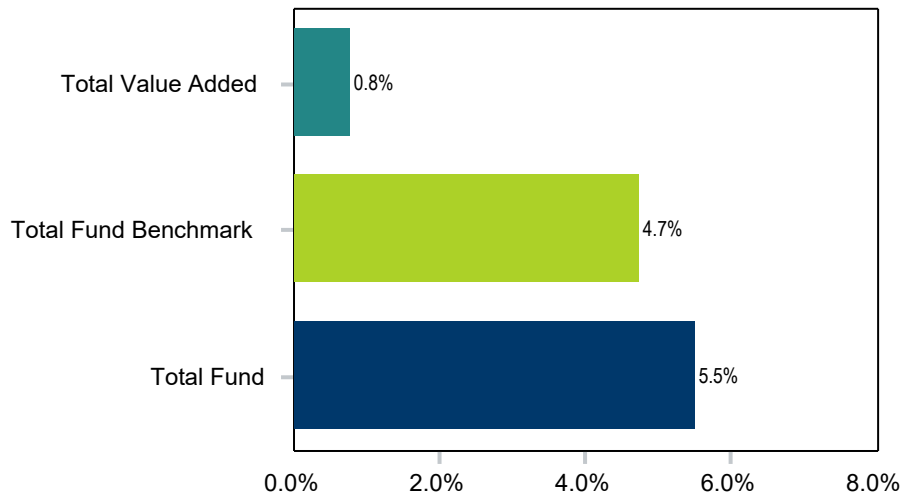
■ Manager Value Added

# Total Fund Attribution

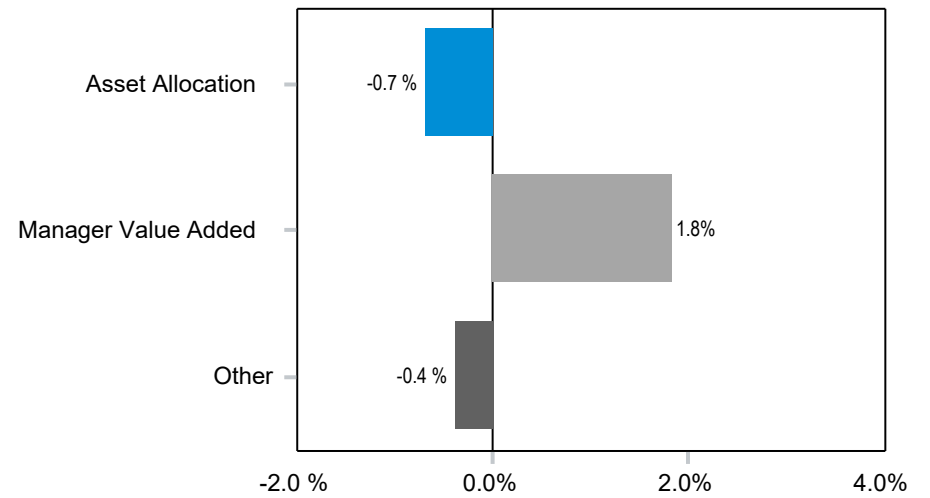
Total Fund

Periods Ended 1 Year Ending September 30, 2020

**Total Fund Performance**



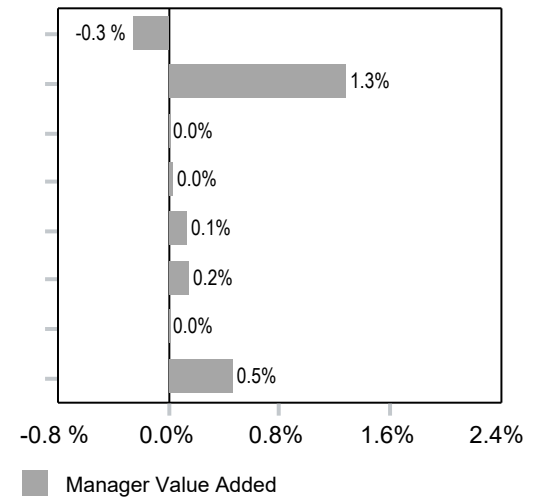
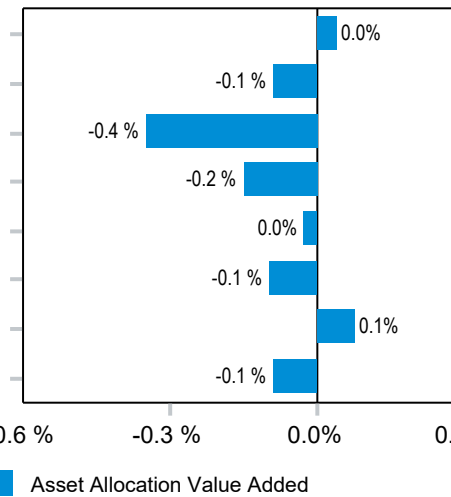
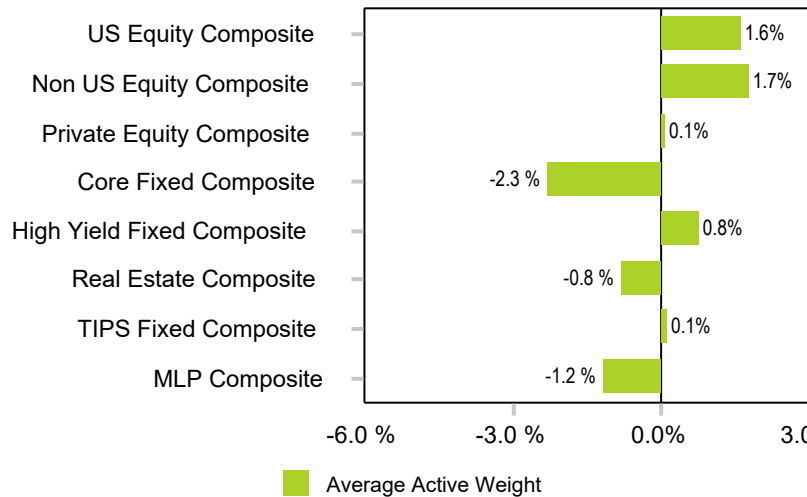
**Total Value Added:0.8%**



**Total Asset Allocation:-0.7 %**

**Asset Allocation Value Added:-0.7 %**

**Total Manager Value Added:1.8%**





# PERFORMANCE SUMMARY

Investment Performance and Market Values

Periods Ended September 30, 2020

	Performance (%) net of fees								Allocation	
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>US Equity Composite</b>	<b>8.50</b>	<b>4.03</b>	<b>13.62</b>	<b>10.52</b>	<b>12.83</b>	<b>13.02</b>	<b>8.94</b>	<b>11/1/1993</b>	<b>160,476,974</b>	<b>17.05</b>
Wilshire 5000 Total Market TR Index	9.14	5.54	15.12	11.70	13.83	13.48	9.67			
Value Added	-0.64	-1.51	-1.50	-1.18	-1.00	-0.46	-0.73			
<b>Non US Equity Composite</b>	<b>8.68</b>	<b>-0.49</b>	<b>10.11</b>	<b>2.81</b>	<b>8.26</b>	<b>5.47</b>	<b>5.07</b>	<b>2/1/2001</b>	<b>170,406,775</b>	<b>18.11</b>
Non US Equity Policy Index	6.80	-5.21	3.51	1.13	6.31	4.13	3.86			
Value Added	1.88	4.72	6.60	1.68	1.95	1.34	1.21			
<b>Global Equity Composite</b>	<b>7.22</b>	<b>-2.97</b>	<b>5.84</b>	<b>2.83</b>	<b>6.49</b>		<b>4.33</b>	<b>12/1/2014</b>	<b>1,202,415</b>	<b>0.13</b>
MSCI AC World Index (Net)	8.13	1.37	10.44	7.12	10.30		7.06			
Value Added	-0.91	-4.34	-4.60	-4.29	-3.81		-2.73			
<b>Core Fixed Composite</b>	<b>1.14</b>	<b>6.91</b>	<b>7.31</b>	<b>5.20</b>	<b>4.23</b>	<b>3.65</b>	<b>7.04</b>	<b>1/1/1983</b>	<b>91,611,331</b>	<b>9.74</b>
Blmbg. Barc. U.S. Aggregate	0.62	6.79	6.98	5.24	4.18	3.64	7.10			
Value Added	0.52	0.12	0.33	-0.04	0.05	0.01	-0.06			
<b>High Yield Fixed Composite</b>	<b>4.58</b>	<b>0.62</b>	<b>3.33</b>	<b>3.22</b>	<b>5.36</b>	<b>5.26</b>	<b>6.63</b>	<b>4/1/2008</b>	<b>115,189,754</b>	<b>12.24</b>
FTSE High Yield Market Capped Index	4.92	-0.66	2.17	3.67	6.32	6.07	7.02			
Value Added	-0.34	1.28	1.16	-0.45	-0.96	-0.81	-0.39			
<b>TIPS Fixed Composite</b>	<b>3.04</b>	<b>9.27</b>	<b>10.14</b>	<b>5.81</b>	<b>4.79</b>	<b>3.43</b>	<b>3.74</b>	<b>4/1/2008</b>	<b>39,894,926</b>	<b>4.24</b>
Blmbg. Barc. U.S. TIPS	3.03	9.22	10.08	5.79	4.61	3.57	3.69			
Value Added	0.01	0.05	0.06	0.02	0.18	-0.14	0.05			
<b>ERECT Composite</b>	<b>1.38</b>	<b>0.97</b>	<b>1.95</b>	<b>7.13</b>	<b>7.75</b>	<b>6.92</b>	<b>6.86</b>	<b>9/1/2010</b>	<b>9,851,930</b>	<b>1.05</b>
<b>Real Estate Composite</b>	<b>1.48</b>	<b>0.32</b>	<b>1.89</b>	<b>6.84</b>	<b>7.44</b>	<b>10.62</b>	<b>8.50</b>	<b>4/1/2003</b>	<b>102,119,746</b>	<b>10.85</b>
NCREIF Fund Index-ODCE (VW) (Net)	0.27	-0.74	0.52	4.25	5.69	9.26	6.77			
Value Added	1.21	1.06	1.37	2.59	1.75	1.36	1.73			

# PERFORMANCE SUMMARY

Investment Performance and Market Values

Periods Ended September 30, 2020

	Performance (%) net of fees								Allocation	
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Private Equity Composite</b>	<b>3.15</b>	<b>6.11</b>	<b>8.84</b>	<b>9.32</b>	<b>9.42</b>	<b>11.56</b>	<b>6.74</b>	<b>4/1/2003</b>	<b>183,395,139</b>	<b>19.49</b>
Private Equity Policy Index	3.15	6.11	8.84	9.32	9.42	11.56	6.74			
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
<b>Hedge Fund Composite</b>	<b>4.93</b>	<b>-3.67</b>	<b>0.57</b>	<b>0.11</b>	<b>-0.83</b>		<b>0.88</b>	<b>2/1/2011</b>	<b>2,762,835</b>	<b>0.29</b>
90 Day T-Bill Index + 3%	0.78	2.89	4.13	4.74	4.21		3.65			
Value Added	4.15	-6.56	-3.56	-4.63	-5.04		-2.77			
<b>Life Settlement Composite</b>	<b>-0.27</b>	<b>-1.13</b>	<b>-3.10</b>	<b>-2.60</b>	<b>-4.33</b>	<b>5.52</b>	<b>6.98</b>	<b>9/1/2009</b>	<b>27,514,291</b>	<b>2.92</b>
<b>Israel Bonds and Cash</b>	<b>1.14</b>	<b>2.42</b>	<b>3.31</b>	<b>2.58</b>	<b>1.92</b>	<b>1.81</b>	<b>2.90</b>	<b>3/1/1999</b>	<b>11,268,367</b>	<b>1.20</b>
<b>MLP Composite</b>	<b>-10.24</b>	<b>-39.45</b>	<b>-39.47</b>				<b>-19.02</b>	<b>2/1/2018</b>	<b>25,310,206</b>	<b>2.69</b>
Alerian MLP Index	-16.26	-46.16	-48.35				-24.35			
Value Added	6.02	6.71	8.88				5.33			
<b>Total Fund</b>	<b>4.22</b>	<b>1.08</b>	<b>5.51</b>	<b>5.19</b>	<b>7.26</b>	<b>7.43</b>	<b>7.27</b>	<b>12/1/1993</b>	<b>941,004,689</b>	<b>100.00</b>
Total Fund Policy Index	3.18	0.88	4.75	5.46	7.06	6.93	7.34			
Value Added	1.04	0.20	0.76	-0.27	0.20	0.50	-0.07			

# PERFORMANCE SUMMARY

Investment Performance and Market Values

Periods Ended September 30, 2020

	Performance (%) net of fees								Allocation	
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>SSgA S&amp;P 500 Index</b>	<b>8.93</b>	<b>5.61</b>	<b>15.18</b>	<b>12.30</b>	<b>14.18</b>	<b>13.76</b>	<b>8.51</b>	<b>11/1/2007</b>	<b>89,758,272</b>	<b>9.54</b>
S&P 500	8.93	5.57	15.15	12.28	14.15	13.74	8.46			
Value Added	0.00	0.04	0.03	0.02	0.03	0.02	0.05			
<b>Fragasso Large Core (EMWO)</b>	<b>9.49</b>	<b>1.83</b>	<b>9.68</b>	<b>11.63</b>	<b>12.83</b>		<b>11.98</b>	<b>9/1/2012</b>	<b>5,374,197</b>	<b>0.57</b>
S&P 500	8.93	5.57	15.15	12.28	14.15		13.70			
Value Added	0.56	-3.74	-5.47	-0.65	-1.32		-1.72			
<b>Twin Capital Enhanced Equity</b>	<b>8.44</b>	<b>3.87</b>	<b>13.60</b>	<b>10.62</b>	<b>12.77</b>	<b>13.25</b>	<b>8.96</b>	<b>1/1/2006</b>	<b>31,142,461</b>	<b>3.31</b>
S&P 500	8.93	5.57	15.15	12.28	14.15	13.74	9.20			
Value Added	-0.49	-1.70	-1.55	-1.66	-1.38	-0.49	-0.24			
<b>Earnest Small Value</b>	<b>4.13</b>	<b>-10.88</b>	<b>-4.23</b>	<b>1.05</b>	<b>9.03</b>	<b>10.50</b>	<b>11.79</b>	<b>6/1/2009</b>	<b>11,188,602</b>	<b>1.19</b>
Russell 2000 Value Index	2.56	-21.54	-14.88	-5.13	4.11	7.09	9.21			
Value Added	1.57	10.66	10.65	6.18	4.92	3.41	2.58			
<b>Emerald Advisors Small Cap</b>	<b>9.60</b>	<b>9.70</b>	<b>21.99</b>	<b>10.29</b>	<b>11.57</b>	<b>14.79</b>	<b>10.96</b>	<b>11/1/2004</b>	<b>11,976,361</b>	<b>1.27</b>
Russell 2000 Growth Index	7.16	3.88	15.71	8.18	11.42	12.34	9.34			
Value Added	2.44	5.82	6.28	2.11	0.15	2.45	1.62			
<b>Emerald Advisors All Cap (EMWO)</b>	<b>14.85</b>	<b>28.87</b>	<b>47.63</b>	<b>21.44</b>	<b>17.92</b>		<b>17.92</b>	<b>10/1/2015</b>	<b>4,631,369</b>	<b>0.49</b>
Russell 3000 Growth Index	12.86	23.00	36.12	20.73	19.51		19.51			
Value Added	1.99	5.87	11.51	0.71	-1.59		-1.59			
<b>Ethos (EMWO)</b>	<b>7.50</b>	<b>4.12</b>	<b>12.50</b>	<b>12.13</b>			<b>13.54</b>	<b>8/1/2016</b>	<b>1,523,095</b>	<b>0.16</b>
S&P 500	8.93	5.57	15.15	12.28			13.28			
Value Added	-1.43	-1.45	-2.65	-0.15			0.26			
<b>CIM Small Cap (EMWO)</b>	<b>4.06</b>	<b>-12.09</b>	<b>-4.23</b>	<b>0.34</b>	<b>5.70</b>		<b>3.72</b>	<b>1/1/2014</b>	<b>4,230,724</b>	<b>0.45</b>
Russell 2000 Index	4.93	-8.69	0.39	1.77	8.00		5.36			
Value Added	-0.87	-3.40	-4.62	-1.43	-2.30		-1.64			

# PERFORMANCE SUMMARY

Investment Performance and Market Values

Periods Ended September 30, 2020

	Performance (%) net of fees								Allocation	
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Cookson Peirce (EMWO)</b>	<b>3.76</b>	<b>8.70</b>	<b>15.23</b>				<b>15.98</b>	<b>1/1/2019</b>	<b>651,892</b>	<b>0.07</b>
Russell 3000 Index	9.21	5.41	15.00				20.26			
Value Added	-5.45	3.29	0.23				-4.28			
<b>US Equity Composite</b>	<b>8.50</b>	<b>4.03</b>	<b>13.62</b>	<b>10.52</b>	<b>12.83</b>	<b>13.02</b>	<b>8.94</b>	<b>11/1/1993</b>	<b>160,476,974</b>	<b>17.05</b>
Wilshire 5000 Total Market TR Index	9.14	5.54	15.12	11.70	13.83	13.48	9.67			
Value Added	-0.64	-1.51	-1.50	-1.18	-1.00	-0.46	-0.73			
<b>SSgA ACWI ex US</b>	<b>6.27</b>	<b>-5.15</b>	<b>2.71</b>	<b>1.65</b>	<b>6.09</b>		<b>2.75</b>	<b>5/1/2015</b>	<b>33,176,262</b>	<b>3.53</b>
MSCI AC World ex USA (Net)	6.25	-5.44	3.00	1.16	6.23		2.40			
Value Added	0.02	0.29	-0.29	0.49	-0.14		0.35			
<b>Baillie Gifford Intl Equity</b>	<b>10.66</b>	<b>10.14</b>	<b>23.53</b>	<b>8.65</b>	<b>13.00</b>	<b>8.67</b>	<b>9.77</b>	<b>8/1/2009</b>	<b>75,061,570</b>	<b>7.98</b>
MSCI AC World ex USA (Net)	6.25	-5.44	3.00	1.16	6.23	4.00	5.07			
Value Added	4.41	15.58	20.53	7.49	6.77	4.67	4.70			
<b>FIAM Select International Equity</b>	<b>7.03</b>	<b>-1.17</b>	<b>7.65</b>	<b>2.18</b>	<b>6.21</b>	<b>4.35</b>	<b>4.37</b>	<b>2/1/2001</b>	<b>34,508,081</b>	<b>3.67</b>
FIAM Policy Index	6.25	-5.44	3.00	1.16	6.23	4.00	3.80			
Value Added	0.78	4.27	4.65	1.02	-0.02	0.35	0.57			
<b>Segal, Bryant &amp; Hamill</b>	<b>8.38</b>	<b>-17.01</b>	<b>-7.10</b>	<b>-7.69</b>	<b>2.20</b>		<b>0.78</b>	<b>5/1/2015</b>	<b>27,660,862</b>	<b>2.94</b>
MSCI EAFE Small Cap (Net)	10.25	-4.20	6.84	1.40	7.37		5.35			
Value Added	-1.87	-12.81	-13.94	-9.09	-5.17		-4.57			
<b>Non US Equity Composite</b>	<b>8.68</b>	<b>-0.49</b>	<b>10.11</b>	<b>2.81</b>	<b>8.26</b>	<b>5.47</b>	<b>5.07</b>	<b>2/1/2001</b>	<b>170,406,775</b>	<b>18.11</b>
Non US Equity Policy Index	6.80	-5.21	3.51	1.13	6.31	4.13	3.86			
Value Added	1.88	4.72	6.60	1.68	1.95	1.34	1.21			

# PERFORMANCE SUMMARY

Investment Performance and Market Values

Periods Ended September 30, 2020

	Performance (%) net of fees								Allocation	
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Columbus Macro (EMWO)</b>	<b>7.22</b>	<b>-2.97</b>	<b>5.84</b>	<b>2.83</b>	<b>6.49</b>		<b>4.33</b>	<b>12/1/2014</b>	<b>1,202,415</b>	<b>0.13</b>
MSCI AC World Index (Net)	8.13	1.37	10.44	7.12	10.30		7.06			
Value Added	-0.91	-4.34	-4.60	-4.29	-3.81		-2.73			
<b>Global Equity Composite</b>	<b>7.22</b>	<b>-2.97</b>	<b>5.84</b>	<b>2.83</b>	<b>6.49</b>		<b>4.33</b>	<b>12/1/2014</b>	<b>1,202,415</b>	<b>0.13</b>
MSCI AC World Index (Net)	8.13	1.37	10.44	7.12	10.30		7.06			
Value Added	-0.91	-4.34	-4.60	-4.29	-3.81		-2.73			
<b>C S McKee</b>	<b>1.07</b>	<b>7.28</b>	<b>7.48</b>	<b>5.66</b>	<b>4.51</b>	<b>4.06</b>	<b>7.47</b>	<b>1/1/1983</b>	<b>34,471,981</b>	<b>3.66</b>
Blmbg. Barc. U.S. Aggregate	0.62	6.79	6.98	5.24	4.18	3.64	7.10			
Value Added	0.45	0.49	0.50	0.42	0.33	0.42	0.37			
<b>Federated</b>	<b>1.36</b>	<b>8.97</b>	<b>9.49</b>	<b>6.21</b>	<b>5.24</b>	<b>4.21</b>	<b>5.29</b>	<b>9/1/2006</b>	<b>29,768,091</b>	<b>3.16</b>
Blmbg. Barc. U.S. Aggregate	0.62	6.79	6.98	5.24	4.18	3.64	4.58			
Value Added	0.74	2.18	2.51	0.97	1.06	0.57	0.71			
<b>CIM Investment Mgmt</b>	<b>0.60</b>	<b>6.13</b>	<b>6.47</b>	<b>4.15</b>	<b>2.92</b>	<b>2.46</b>	<b>3.57</b>	<b>11/1/2005</b>	<b>13,899,925</b>	<b>1.48</b>
Blmbg. Barc. Intermed. U.S. Government/Credit	0.61	5.92	6.32	4.43	3.39	2.91	3.97			
Value Added	-0.01	0.21	0.15	-0.28	-0.47	-0.45	-0.40			
<b>StoneRidge Partners (EMWO)</b>	<b>-0.44</b>	<b>4.44</b>	<b>4.70</b>	<b>3.48</b>	<b>3.01</b>		<b>3.00</b>	<b>8/1/2015</b>	<b>6,189,972</b>	<b>0.66</b>
StoneRidge Policy Index	0.82	5.73	6.36	4.62	3.72		3.69			
Value Added	-1.26	-1.29	-1.66	-1.14	-0.71		-0.69			
<b>Gridiron Capital Fixed Income (EMWO)</b>	<b>3.80</b>	<b>-1.50</b>	<b>0.01</b>	<b>3.05</b>			<b>2.92</b>	<b>2/1/2017</b>	<b>4,457,249</b>	<b>0.47</b>
Blmbg. Barc. U.S. Aggregate	0.62	6.79	6.98	5.24			5.10			
Value Added	3.18	-8.29	-6.97	-2.19			-2.18			

# PERFORMANCE SUMMARY

Investment Performance and Market Values

Periods Ended September 30, 2020

	Performance (%) net of fees								Allocation	
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>FNB (EMWO)</b>	<b>0.78</b>	<b>5.38</b>	<b>5.63</b>	<b>4.18</b>			<b>3.76</b>	<b>7/1/2017</b>	<b>2,824,114</b>	<b>0.30</b>
Blmbg. Barc. U.S. Intermediate Aggregate	0.48	5.16	5.66	4.20			4.10			
Value Added	0.30	0.22	-0.03	-0.02			-0.34			
<b>Core Fixed Composite</b>	<b>1.14</b>	<b>6.91</b>	<b>7.31</b>	<b>5.20</b>	<b>4.23</b>	<b>3.65</b>	<b>7.04</b>	<b>1/1/1983</b>	<b>91,611,331</b>	<b>9.74</b>
Blmbg. Barc. U.S. Aggregate	0.62	6.79	6.98	5.24	4.18	3.64	7.10			
Value Added	0.52	0.12	0.33	-0.04	0.05	0.01	-0.06			
<b>Oaktree High Yield</b>	<b>4.63</b>	<b>0.25</b>	<b>2.45</b>	<b>2.20</b>	<b>4.88</b>	<b>5.15</b>	<b>6.24</b>	<b>4/1/2008</b>	<b>62,205,149</b>	<b>6.61</b>
FTSE High Yield Market Capped Index	4.92	-0.66	2.17	3.67	6.32	6.07	7.02			
Value Added	-0.29	0.91	0.28	-1.47	-1.44	-0.92	-0.78			
<b>Federated High Yield</b>	<b>4.51</b>	<b>1.16</b>	<b>4.69</b>	<b>4.62</b>			<b>4.89</b>	<b>7/1/2017</b>	<b>49,725,242</b>	<b>5.28</b>
Blmbg. Barc. U.S. High Yield - 2% Issuer Cap	4.58	0.57	3.20	4.19			4.49			
Value Added	-0.07	0.59	1.49	0.43			0.40			
<b>Sound Point</b>	<b>4.64</b>	<b>-0.39</b>	<b>-0.08</b>	<b>2.18</b>	<b>3.33</b>		<b>3.77</b>	<b>8/1/2013</b>	<b>3,259,363</b>	<b>0.35</b>
CSFB Leveraged Loan	4.13	-0.83	0.83	3.16	4.03		3.63			
Value Added	0.51	0.44	-0.91	-0.98	-0.70		0.14			
<b>High Yield Fixed Composite</b>	<b>4.58</b>	<b>0.62</b>	<b>3.33</b>	<b>3.22</b>	<b>5.36</b>	<b>5.26</b>	<b>6.63</b>	<b>4/1/2008</b>	<b>115,189,754</b>	<b>12.24</b>
FTSE High Yield Market Capped Index	4.92	-0.66	2.17	3.67	6.32	6.07	7.02			
Value Added	-0.34	1.28	1.16	-0.45	-0.96	-0.81	-0.39			
<b>MCM TIPS</b>	<b>3.04</b>	<b>9.27</b>	<b>10.14</b>	<b>5.81</b>			<b>5.21</b>	<b>12/1/2016</b>	<b>39,894,926</b>	<b>4.24</b>
Blmbg. Barc. U.S. TIPS	3.03	9.22	10.08	5.79			4.95			
Value Added	0.01	0.05	0.06	0.02			0.26			

# PERFORMANCE SUMMARY

Investment Performance and Market Values

Periods Ended September 30, 2020

	Performance (%) net of fees								Allocation	
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>TIPS Fixed Composite</b>	<b>3.04</b>	<b>9.27</b>	<b>10.14</b>	<b>5.81</b>	<b>4.79</b>	<b>3.43</b>	<b>3.74</b>	<b>4/1/2008</b>	<b>39,894,926</b>	<b>4.24</b>
Blmbg. Barc. U.S. TIPS	3.03	9.22	10.08	5.79	4.61	3.57	3.69			
Value Added	0.01	0.05	0.06	0.02	0.18	-0.14	0.05			
<b>ERECT Fund II</b>	<b>1.38</b>	<b>0.97</b>	<b>1.95</b>	<b>7.13</b>	<b>7.75</b>	<b>8.24</b>	<b>6.89</b>	<b>6/1/2005</b>	<b>9,851,930</b>	<b>1.05</b>
CPI - All Urban Consumers (SA)	1.16	0.68	1.41	1.83	1.84	1.77	1.95			
Value Added	0.22	0.29	0.54	5.30	5.91	6.47	4.94			
<b>ERECT Composite</b>	<b>1.38</b>	<b>0.97</b>	<b>1.95</b>	<b>7.13</b>	<b>7.75</b>	<b>6.92</b>	<b>6.86</b>	<b>9/1/2010</b>	<b>9,851,930</b>	<b>1.05</b>
<b>Morgan Stanley</b>	<b>1.06</b>	<b>-0.21</b>	<b>1.31</b>	<b>5.30</b>	<b>6.97</b>	<b>10.92</b>	<b>8.38</b>	<b>4/1/2003</b>	<b>72,035,433</b>	<b>7.66</b>
NCREIF Fund Index-ODCE (VW) (Net)	0.27	-0.74	0.52	4.25	5.69	9.26	6.77			
Value Added	0.79	0.53	0.79	1.05	1.28	1.66	1.61			
<b>Oaktree Real Estate</b>	<b>-0.23</b>	<b>-3.80</b>	<b>-3.02</b>	<b>4.36</b>	<b>3.19</b>		<b>4.97</b>	<b>8/1/2013</b>	<b>7,002,697</b>	<b>0.74</b>
<b>Washington Alliance (EMWO)</b>	<b>7.82</b>	<b>7.82</b>	<b>11.17</b>	<b>14.69</b>	<b>14.62</b>		<b>13.19</b>	<b>8/1/2013</b>	<b>12,672,926</b>	<b>1.35</b>
<b>Washington Alliance II (EMWO)</b>	<b>0.00</b>						<b>0.00</b>	<b>3/1/2020</b>	<b>836,723</b>	<b>0.09</b>
<b>Siguler Guff Distressed RE</b>	<b>-1.72</b>	<b>-1.72</b>	<b>-1.20</b>	<b>9.30</b>	<b>9.28</b>		<b>6.87</b>	<b>3/1/2014</b>	<b>9,571,966</b>	<b>1.02</b>
<b>Real Estate Composite</b>	<b>1.48</b>	<b>0.32</b>	<b>1.89</b>	<b>6.84</b>	<b>7.44</b>	<b>10.62</b>	<b>8.50</b>	<b>4/1/2003</b>	<b>102,119,746</b>	<b>10.85</b>
NCREIF Fund Index-ODCE (VW) (Net)	0.27	-0.74	0.52	4.25	5.69	9.26	6.77			
Value Added	1.21	1.06	1.37	2.59	1.75	1.36	1.73			
<b>Private Equity Composite</b>	<b>3.15</b>	<b>6.11</b>	<b>8.84</b>	<b>9.32</b>	<b>9.42</b>	<b>11.56</b>	<b>6.74</b>	<b>4/1/2003</b>	<b>183,395,139</b>	<b>19.49</b>
Private Equity Policy Index	3.15	6.11	8.84	9.32	9.42	11.56	6.74			
Value Added	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

# PERFORMANCE SUMMARY

Investment Performance and Market Values

Periods Ended September 30, 2020

	Performance (%) net of fees								Allocation	
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>Gridiron Capital (EMWO)</b>	<b>5.04</b>	<b>-1.07</b>	<b>4.56</b>	<b>0.73</b>	<b>2.54</b>		<b>1.87</b>	<b>8/1/2013</b>	<b>2,762,667</b>	<b>0.29</b>
HFRI FoF Composite Lagged	6.51	4.43	5.45	3.10	2.75		3.26			
Value Added	-1.47	-5.50	-0.89	-2.37	-0.21		-1.39			
<b>Maplewood (EMWO)</b>	<b>-1.55</b>	<b>-18.90</b>	<b>-18.02</b>				<b>-10.40</b>	<b>3/1/2019</b>	<b>168</b>	<b>0.00</b>
HFRX Macro Index	0.84	0.11	-0.09				3.87			
Value Added	-2.39	-19.01	-17.93				-14.27			
<b>Hedge Fund Composite</b>	<b>4.93</b>	<b>-3.67</b>	<b>0.57</b>	<b>0.11</b>	<b>-0.83</b>		<b>0.88</b>	<b>2/1/2011</b>	<b>2,762,835</b>	<b>0.29</b>
90 Day T-Bill Index + 3%	0.78	2.89	4.13	4.74	4.21		3.65			
Value Added	4.15	-6.56	-3.56	-4.63	-5.04		-2.77			
<b>Salient MLP Fund</b>	<b>-11.09</b>	<b>-40.39</b>	<b>-39.68</b>				<b>-17.11</b>	<b>1/1/2018</b>	<b>10,738,297</b>	<b>1.14</b>
Alerian MLP Index	-16.26	-46.16	-48.35				-22.14			
Value Added	5.17	5.77	8.67				5.03			
<b>Harvest MLP Fund</b>	<b>-9.60</b>	<b>-38.74</b>	<b>-39.32</b>				<b>-19.14</b>	<b>2/1/2018</b>	<b>14,571,910</b>	<b>1.55</b>
Alerian MLP Index	-16.26	-46.16	-48.35				-24.35			
Value Added	6.66	7.42	9.03				5.21			
<b>MLP Composite</b>	<b>-10.24</b>	<b>-39.45</b>	<b>-39.47</b>				<b>-19.02</b>	<b>2/1/2018</b>	<b>25,310,206</b>	<b>2.69</b>
Alerian MLP Index	-16.26	-46.16	-48.35				-24.35			
Value Added	6.02	6.71	8.88				5.33			



# PERFORMANCE SUMMARY

Investment Performance and Market Values

Periods Ended September 30, 2020

	Performance (%) net of fees								Allocation	
	1 Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Market Value \$	%
<b>CCA Green</b>	-1.27	-6.16	-12.04	-7.70	-9.23	2.79	4.44	10/1/2009	11,463,856	1.22
<b>CCA Blue</b>	-6.02	-11.69	-14.26	-7.83	-7.51		-5.85	1/1/2013	2,381,548	0.25
<b>CCA Black</b>	2.66	4.11	7.25	4.70	5.66		6.36	1/1/2015	8,410,096	0.89
<b>CCA Longevity Fund VI LP</b>	0.13	7.87	9.20				8.31	1/1/2019	5,258,792	0.56
<b>Life Settlement Composite</b>	-0.27	-1.13	-3.10	-2.60	-4.33	5.52	6.95	10/1/2009	27,514,291	2.92
<b>Israel Bonds</b>	2.21	3.55	4.83	3.21	2.50		3.10	1/1/2012	7,521,788	0.80
<b>Cash Account</b>	0.04	0.64	1.10	1.70	1.21		0.76	1/1/2012	3,746,580	0.40
<b>Total Fund</b>	<b>4.22</b>	<b>1.08</b>	<b>5.51</b>	<b>5.19</b>	<b>7.26</b>	<b>7.43</b>	<b>7.27</b>	<b>12/1/1993</b>	<b>941,004,689</b>	<b>100.00</b>
Total Fund Policy Index	3.18	0.88	4.75	5.46	7.06	6.93	7.34			
Value Added	1.04	0.20	0.76	-0.27	0.20	0.50	-0.07			

# Historical Hybrid Composition

Retirement Board of Allegheny County

Periods Ended September 30, 2020

Policy Index	Weight (%)
<b>Jan-1979</b>	
Russell 3000 Index	65.00
Blmbg. Barc. U.S. Aggregate	35.00
<b>Mar-2007</b>	
Wilshire 5000 Total Market TR Index	45.00
Blmbg. Barc. U.S. Aggregate	25.00
Private Equity Composite	5.00
MSCI EAFE Index (Net)	10.00
Bloomberg Commodity Index Total Return	5.00
90 Day US Treasury Bill	5.00
NCREIF Fund Index-ODCE (VW) (Net)	5.00
<b>Sep-2008</b>	
Wilshire 5000 Total Market TR Index	45.00
Blmbg. Barc. U.S. Aggregate	25.00
Private Equity Composite	5.00
MSCI AC World ex USA (Net)	10.00
Bloomberg Commodity Index Total Return	5.00
90 Day US Treasury Bill	5.00
NCREIF Fund Index-ODCE (VW) (Net)	5.00

Policy Index	Weight (%)
<b>Dec-2008</b>	
Wilshire 5000 Total Market TR Index	35.00
Blmbg. Barc. U.S. Aggregate	20.00
Private Equity Composite	5.00
MSCI AC World ex USA (Net)	15.00
Bloomberg Commodity Index Total Return	5.00
90 Day US Treasury Bill	2.50
NCREIF Fund Index-ODCE (VW) (Net)	7.50
Blmbg. Barc. U.S. TIPS	5.00
FTSE High Yield Market Capped Index	5.00
<b>Sep-2009</b>	
Wilshire 5000 Total Market TR Index	30.00
Blmbg. Barc. U.S. Aggregate	15.00
Private Equity Composite	5.00
MSCI AC World ex USA (Net)	20.00
Bloomberg Commodity Index Total Return	2.50
NCREIF Fund Index-ODCE (VW) (Net)	10.00
Blmbg. Barc. U.S. TIPS	7.50
FTSE High Yield Market Capped Index	10.00
<b>Jun-2010</b>	
Wilshire 5000 Total Market TR Index	20.00
Blmbg. Barc. U.S. Aggregate	14.00
Private Equity Composite	10.00
MSCI AC World ex USA (Net)	25.00
Bloomberg Commodity Index Total Return	5.00
NCREIF Fund Index-ODCE (VW) (Net)	10.00
Blmbg. Barc. U.S. TIPS	6.00
FTSE High Yield Market Capped Index	10.00

# Historical Hybrid Composition

Retirement Board of Allegheny County

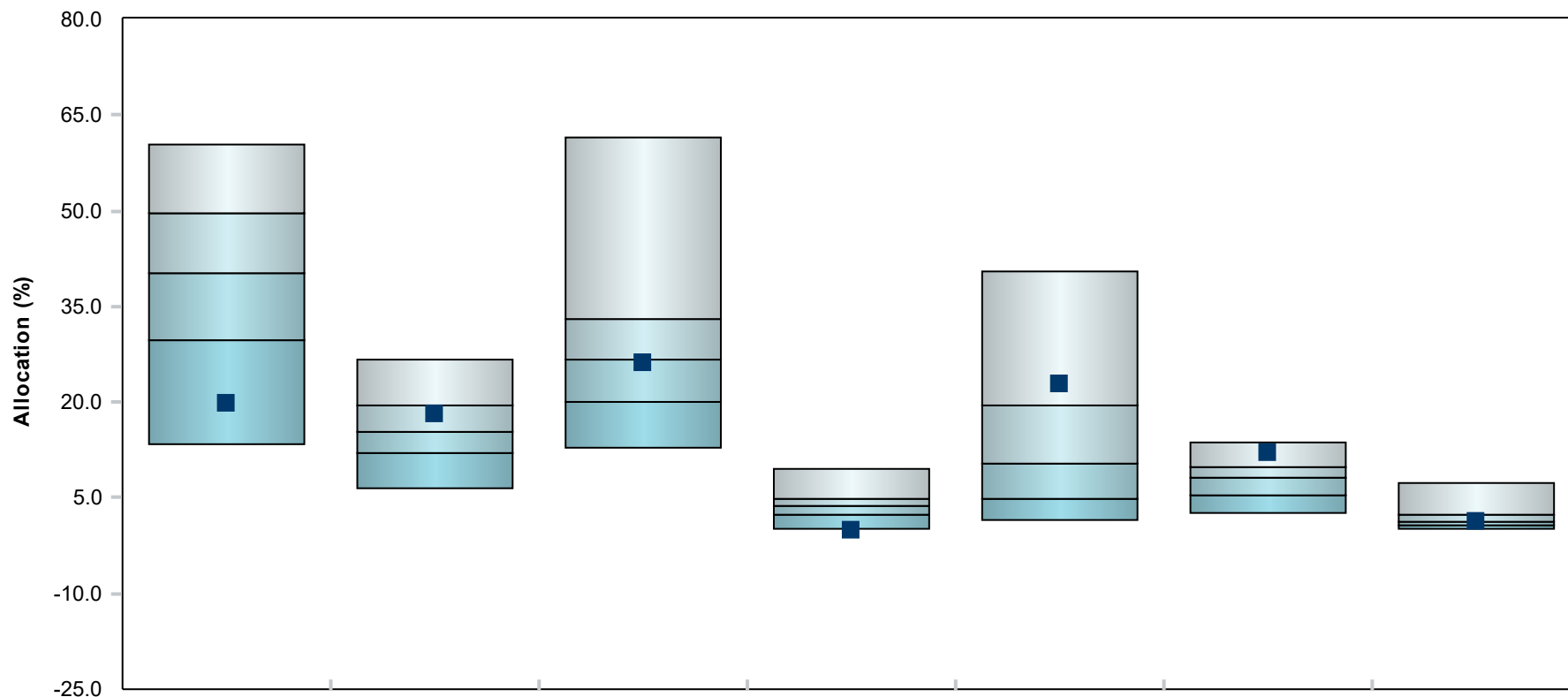
Periods Ended September 30, 2020

Policy Index	Weight (%)
<b>Mar-2013</b>	
Wilshire 5000 Total Market TR Index	16.10
Blmbg. Barc. U.S. Aggregate	10.00
Private Equity Composite	20.00
MSCI AC World ex USA (Net)	18.90
Bloomberg Commodity Index Total Return	8.00
NCREIF Fund Index-ODCE (VW) (Net)	10.00
Blmbg. Barc. U.S. TIPS	5.00
FTSE High Yield Market Capped Index	12.00
<b>Apr-2016</b>	
Wilshire 5000 Total Market TR Index	15.00
Blmbg. Barc. U.S. Aggregate	10.00
Private Equity Composite	22.50
MSCI AC World ex USA (Net)	15.00
Bloomberg Commodity Index Total Return	2.50
NCREIF Fund Index-ODCE (VW) (Net)	10.00
Blmbg. Barc. U.S. TIPS	8.00
FTSE High Yield Market Capped Index	12.00
Alerian MLP Index	5.00
<b>Jan-2019</b>	
Wilshire 5000 Total Market TR Index	16.50
Blmbg. Barc. U.S. Aggregate	12.50
Private Equity Composite	20.00
MSCI AC World ex USA (Net)	16.50
NCREIF Fund Index-ODCE (VW) (Net)	12.50
Blmbg. Barc. U.S. TIPS	5.00
FTSE High Yield Market Capped Index	12.00
Alerian MLP Index	5.00

# Plan Sponsor TF Asset Allocation

Total Fund vs All Public Plans-Total Fund

Periods Ended September 30, 2020

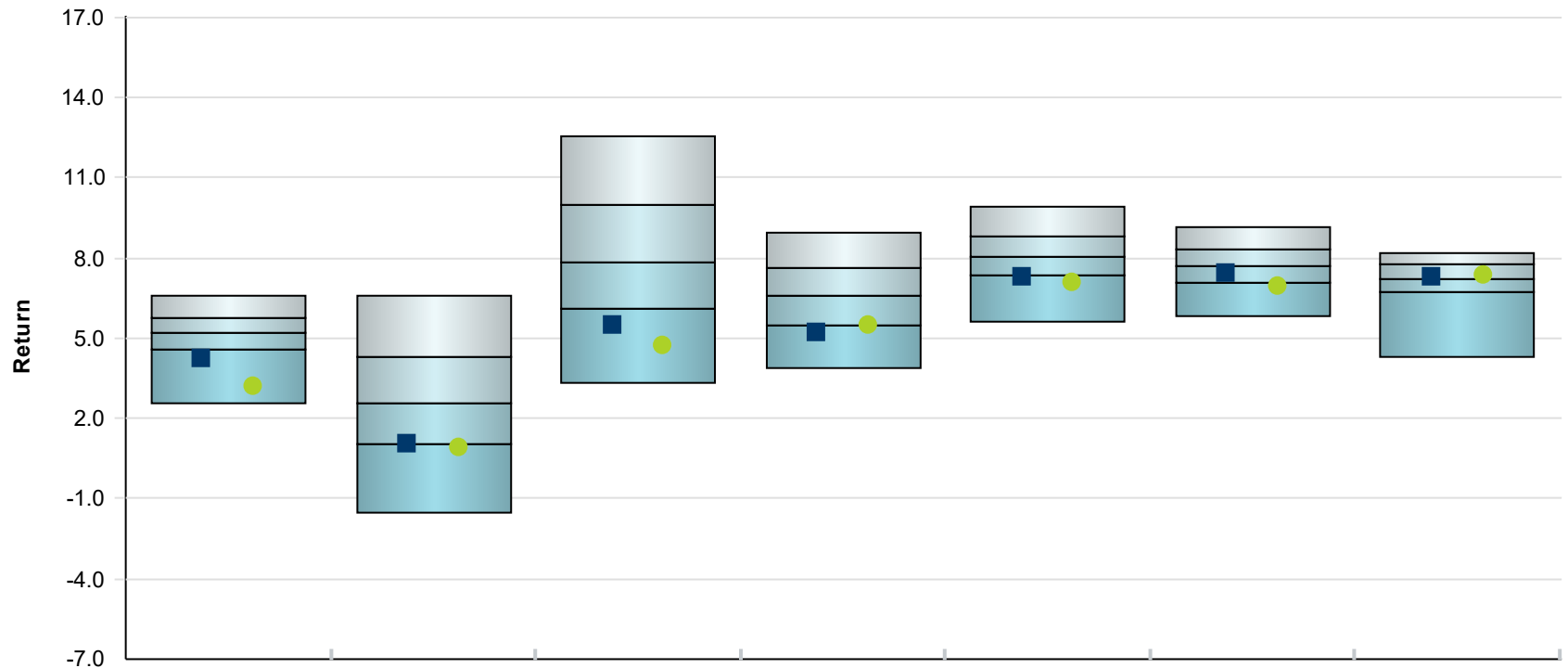


	US Equity	Intl. Equity	US Fixed Income	Intl. Fixed Income	Alternative Inv.	Real Estate	Cash
■ Total Fund	19.74	18.24	26.22	0.00	22.71	11.90	1.20
5th Percentile	60.35	26.66	61.44	9.62	40.59	13.71	7.46
1st Quartile	49.60	19.59	33.10	4.74	19.52	9.78	2.41
Median	40.16	15.23	26.68	3.69	10.40	8.22	1.19
3rd Quartile	29.59	11.97	20.13	2.22	4.86	5.39	0.60
95th Percentile	13.53	6.58	12.98	0.08	1.53	2.52	0.07
Population	669	626	631	214	218	358	460

# Plan Sponsor Peer Group Analysis

Total Fund vs All Public Plans-Total Fund

Periods Ended September 30, 2020

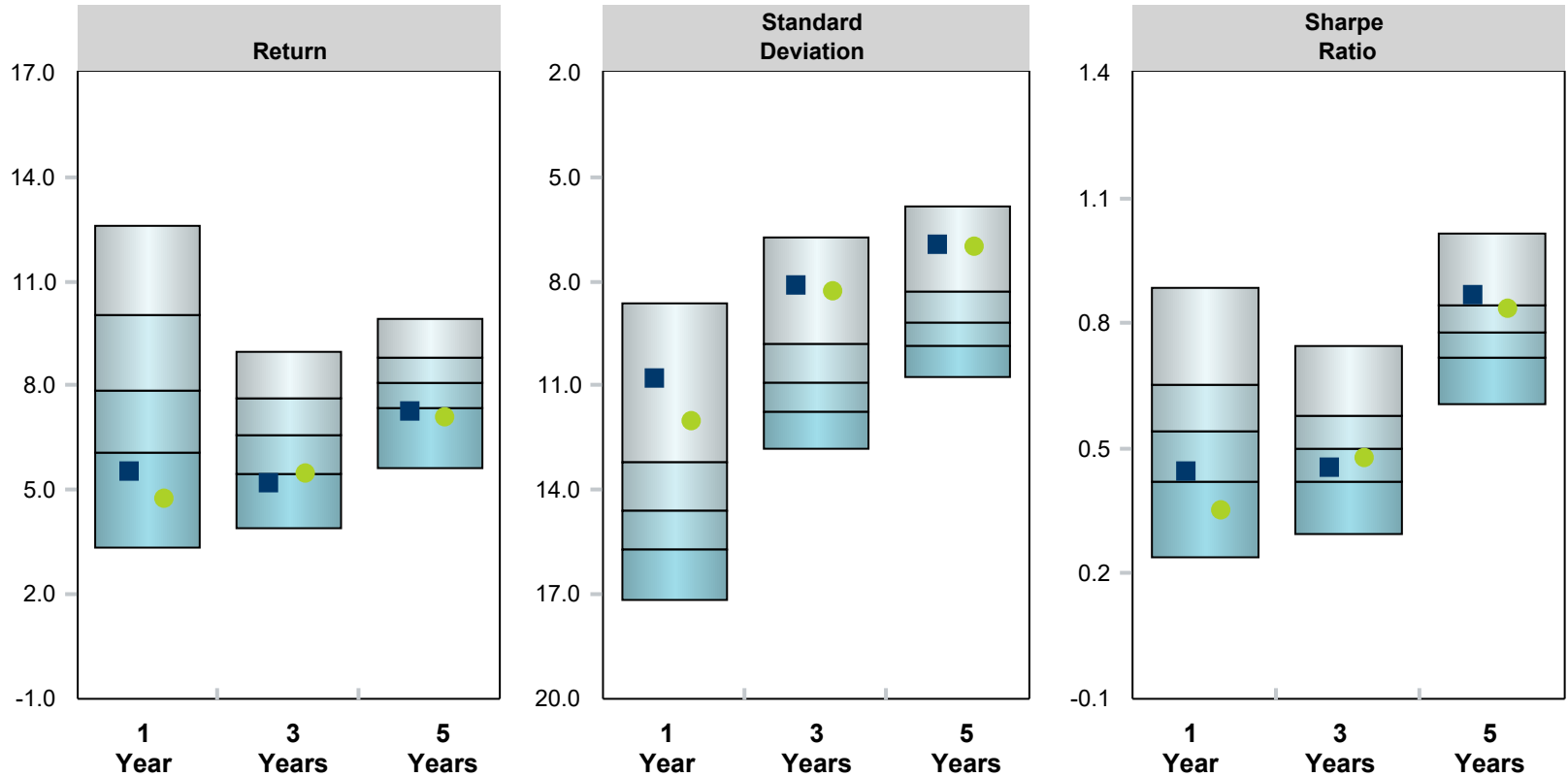


	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception
■ Total Fund	4.22 (84)	1.08 (75)	5.51 (82)	5.19 (83)	7.26 (78)	7.43 (61)	7.27 (49)
● Total Fund Policy Index	3.18 (94)	0.88 (78)	4.75 (88)	5.46 (76)	7.06 (83)	6.93 (80)	7.34 (45)
5th Percentile	6.60	6.60	12.59	8.96	9.92	9.14	8.21
1st Quartile	5.79	4.32	10.01	7.64	8.79	8.30	7.74
Median	5.20	2.58	7.85	6.60	8.08	7.69	7.23
3rd Quartile	4.58	1.04	6.10	5.48	7.36	7.08	6.75
95th Percentile	2.56	-1.53	3.37	3.88	5.61	5.82	4.30
Population	663	661	658	639	600	484	91

Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

# Plan Sponsor Peer Group Analysis - Multi Statistics

Total Fund vs All Public Plans-Total Fund  
 Periods Ended September 30, 2020



■ Total Fund	5.51 (82)	5.19 (83)	7.26 (78)
● Total Fund Policy Index	4.75 (88)	5.46 (76)	7.06 (83)

10.81 (8)	8.15 (7)	6.97 (7)
12.03 (13)	8.31 (8)	7.04 (8)

0.44 (71)	0.45 (67)	0.87 (18)
0.35 (87)	0.48 (59)	0.83 (29)

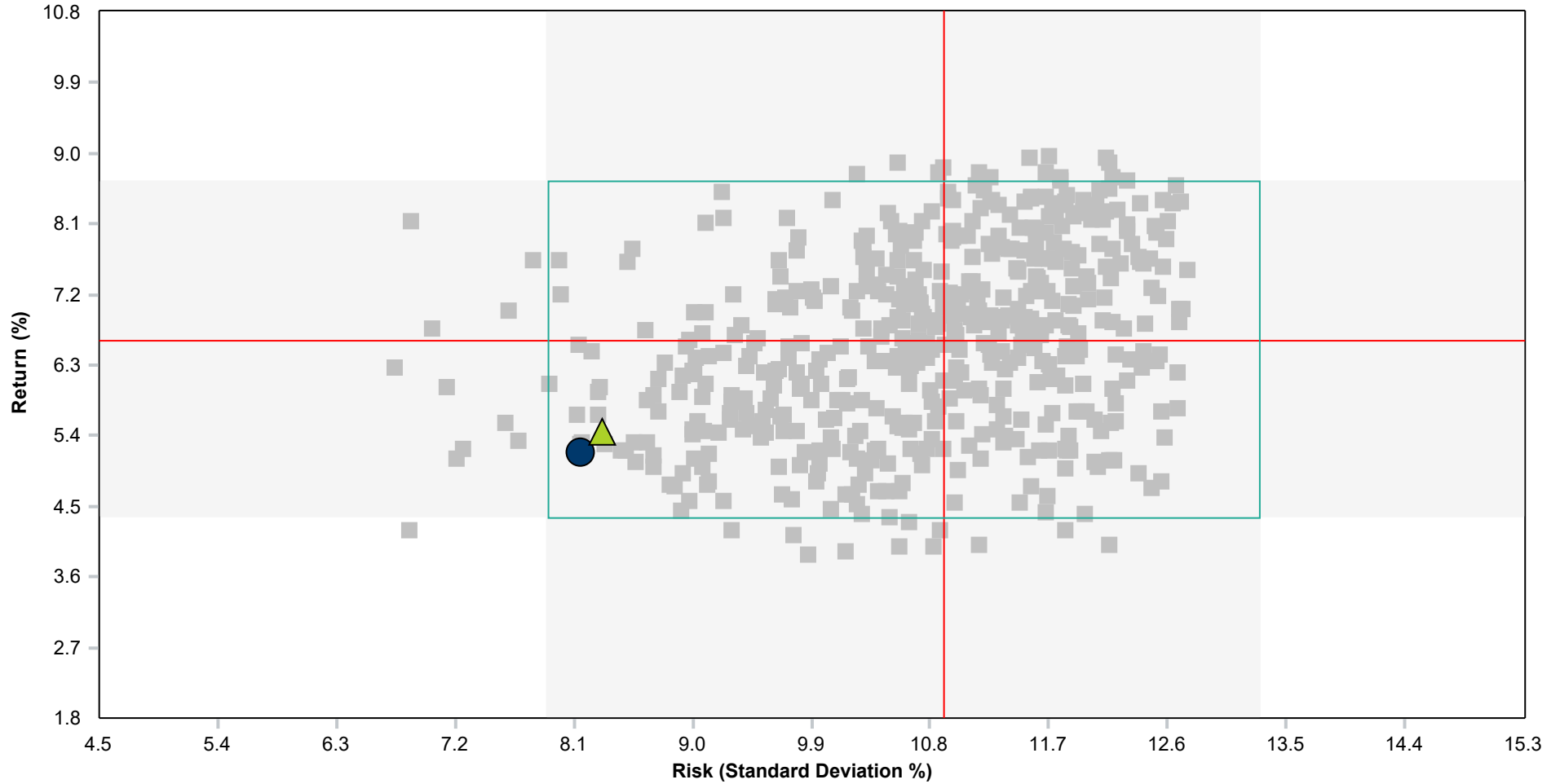
5th Percentile	12.59	8.96	9.92	8.64	6.74	5.83	0.89	0.74	1.01
1st Quartile	10.01	7.64	8.79	13.23	9.82	8.31	0.65	0.58	0.84
Median	7.85	6.60	8.08	14.57	10.91	9.16	0.54	0.50	0.78
3rd Quartile	6.10	5.48	7.36	15.69	11.75	9.85	0.42	0.42	0.72
95th Percentile	3.37	3.88	5.61	17.16	12.80	10.78	0.24	0.30	0.61
Population	658	639	600	658	639	600	658	639	600

Parenteses contain percentile rankings.  
 Calculation based on monthly periodicity.

# Plan Sponsor Scattergram

Total Fund vs All Public Plans-Total Fund

Periods Ended October 1, 2017 To September 30, 2020



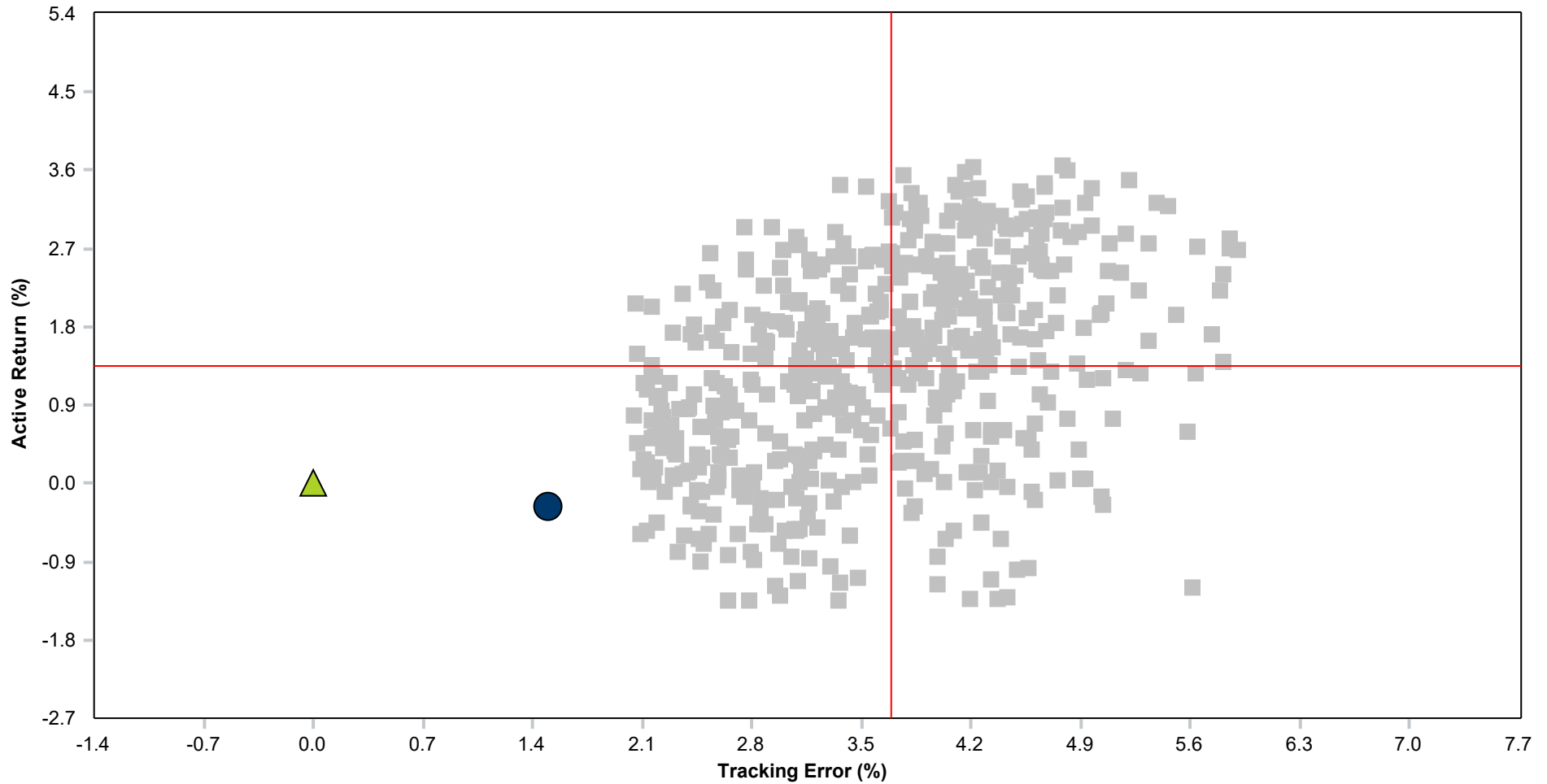
	Return	Standard Deviation
● Total Fund	5.19	8.15
▲ Total Fund Policy Index	5.46	8.31
— Median	6.60	10.91

Calculation based on monthly periodicity.

# Plan Sponsor Scattergram

Total Fund vs All Public Plans-Total Fund

Periods Ended October 1, 2017 To September 30, 2020



	Active Return	Tracking Error
● Total Fund	-0.27	1.50
▲ Total Fund Policy Index	0.00	0.00
— Median	1.34	3.68

Calculation based on monthly periodicity.



# Cash Flow Summary

Total Fund

1 Quarter Ending September 30, 2020

	Begin Value	Contributions	Distributions	Net Transfers	Fees	Expenses	Capital Apprec./ Deprec.	End Value
<b>Total Fund</b>	<b>914,329,050</b>		<b>-11,650,000</b>		<b>-715,986</b>	<b>-207,759</b>	<b>39,249,384</b>	<b>941,004,689</b>
<b>Total Fund x Private Equity</b>								
<b>US Equity Composite</b>	<b>152,596,374</b>			<b>-5,000,000</b>	<b>-96,381</b>	<b>-163</b>	<b>12,977,144</b>	<b>160,476,974</b>
SSgA S&P 500 Index	85,256,129			-3,000,000	-4,833		7,506,977	89,758,272
Twin Capital Enhanced Equity	28,717,384				-24,496		2,449,573	31,142,461
Earnest Small Value	11,238,228			-500,000	-27,586		477,960	11,188,602
Emerald Advisors Small Cap	12,304,143			-1,500,000	-24,824	-163	1,197,206	11,976,361
Fragasso Large Core (EMWO)	4,908,395				-8,204		474,006	5,374,197
CIM Small Cap (EMWO)	4,094,362						136,362	4,230,724
Emerald Advisors All Cap (EMWO)	4,032,609				-5,702		604,463	4,631,369
Ethos (EMWO)	1,416,830						106,264	1,523,095
Cookson Peirce (EMWO)	628,293				-736		24,335	651,892
<b>Non US Equity Composite</b>	<b>157,712,009</b>			<b>-1,000,000</b>	<b>-76,263</b>		<b>13,771,029</b>	<b>170,406,775</b>
Baillie Gifford Intl Equity	68,730,842			-1,000,000			7,330,727	75,061,570
FIAM Select International Equity	32,240,232				-25,167		2,293,016	34,508,081
Segal, Bryant & Hamill	25,522,537				-45,161		2,183,486	27,660,862
SSgA ACWI ex US	31,218,398				-5,935		1,963,799	33,176,262
<b>Global Equity Composite</b>	<b>1,121,495</b>				<b>-1,886</b>		<b>82,805</b>	<b>1,202,415</b>
Columbus Macro (EMWO)	1,121,495				-1,886		82,805	1,202,415
<b>Fixed Income Composite</b>								
<b>Core Fixed Composite</b>	<b>90,783,112</b>			<b>-204,924</b>	<b>-77,655</b>		<b>1,110,798</b>	<b>91,611,331</b>
C S McKee	34,108,211				-19,612		383,382	34,471,981
CIM Investment Mgmt	13,816,745				-19,714		102,894	13,899,925
Federated	29,339,966				-20,160		448,285	29,768,091
StoneRidge Partners (EMWO)	6,421,363			-204,423	-4,166		-22,803	6,189,972
Gridiron Capital Fixed Income (EMWO)	4,294,677				-501		169,924	4,457,249
FNB (EMWO)	2,802,149				-7,152		29,117	2,824,114
<b>High Yield Fixed Composite</b>	<b>110,149,769</b>						<b>5,039,984</b>	<b>115,189,754</b>
Federated High Yield	47,580,256						2,144,986	49,725,242

# Cash Flow Summary

Total Fund

1 Quarter Ending September 30, 2020

	Begin Value	Contributions	Distributions	Net Transfers	Fees	Expenses	Capital Apprec./ Deprec.	End Value
Oaktree High Yield	59,454,759						2,750,390	62,205,149
Sound Point	3,114,755						144,608	3,259,363
<b>TIPS Fixed Composite</b>	<b>38,717,790</b>				<b>-4,988</b>		<b>1,182,125</b>	<b>39,894,926</b>
MCM TIPS	38,717,790				-4,988		1,182,125	39,894,926
<b>ERECT Composite</b>	<b>9,718,261</b>						<b>133,669</b>	<b>9,851,930</b>
ERECT Fund II	9,718,261						133,669	9,851,930
<b>Real Estate Composite</b>	<b>100,929,333</b>			<b>-272,188</b>	<b>-112,106</b>	<b>-28,596</b>	<b>1,603,303</b>	<b>102,119,746</b>
Morgan Stanley	71,277,021						758,412	72,035,433
Oaktree Real Estate	7,035,603				-26,606	-16,742	10,442	7,002,697
Siguler Guff Distressed RE	9,879,482			-125,578	-85,500	-11,854	-84,583	9,571,966
Washington Alliance (EMWO)	11,753,894						919,032	12,672,926
Washington Alliance II (EMWO)	983,333			-146,610				836,723
<b>MLP Composite</b>	<b>28,197,259</b>				<b>-53,291</b>		<b>-2,833,763</b>	<b>25,310,206</b>
Harvest MLP Fund	16,119,326				-30,466		-1,516,950	14,571,910
Salient MLP Fund	12,077,934				-22,825		-1,316,812	10,738,297
<b>Life Settlement Composite</b>	<b>27,589,153</b>						<b>-74,862</b>	<b>27,514,291</b>
CCA Black	8,192,017						218,078	8,410,096
CCA Blue	2,534,176						-152,628	2,381,548
CCA Green	11,611,252						-147,396	11,463,856
CCA Longevity Fund VI LP	5,251,708						7,084	5,258,792
<b>Israel Bonds and Cash</b>	<b>17,662,950</b>		<b>-11,650,000</b>	<b>4,972,717</b>		<b>-637</b>	<b>283,338</b>	<b>11,268,367</b>
Cash Account	10,303,809		-11,650,000	4,972,717		-637	120,691	3,746,580
Israel Bonds	7,359,141						162,647	7,521,788
<b>Hedge Fund Composite</b>	<b>2,672,965</b>			<b>-44,853</b>	<b>-4,804</b>		<b>139,527</b>	<b>2,762,835</b>
<b>Gridiron Capital (EMWO)</b>	<b>2,630,126</b>			<b>-2,206</b>	<b>-4,804</b>		<b>139,552</b>	<b>2,762,667</b>
Gridiron Capital Multi-Asset (EMWO)	2,630,126			-2,206	-4,804		139,552	2,762,667
Maplewood (EMWO)	42,840			-42,646			-25	168
<b>Private Equity Composite</b>	<b>176,478,580</b>			<b>1,549,248</b>	<b>-288,613</b>	<b>-178,363</b>	<b>5,834,287</b>	<b>183,395,139</b>
Accolade V	4,043,891			-111,300			504,106	4,436,697

# Cash Flow Summary

Total Fund

1 Quarter Ending September 30, 2020

	Begin Value	Contributions	Distributions	Net Transfers	Fees	Expenses	Capital Apprec./ Deprec.	End Value
Accolade Partners VI	1,333,789						254,212	1,588,001
Adams Street 2003	1,449,756						188,239	1,637,995
Adams Street 2008 Global	4,996,696			-225,862	-10,500		909,715	5,670,049
Adams Street 2009 Global	3,028,416			-137,623	-6,625		415,425	3,299,593
Auldbrass Spec Opps II	860,787			-206,853			342,676	996,609
Birchmere Ventures	232,909				-1,426	-777	-79,714	150,992
BlackRock Multi-Alternative Opps	865,218			37,241	-4,350		21,657	919,766
Blackstone	667,443			-24,354	-31,290		70,092	681,891
Blackstone Tac Op II	1,641,333			-101,570	-15,155	-2,479	105,260	1,627,389
Blackstone Tac Op III	1,466,340			72,776		-28,167	199,376	1,710,325
Commonfund Venture Partners XII	1,206,456			210,000			39,749	1,456,205
Constitution	22,023					-1,851	2,578	22,750
Crestline Opportunity Fund III	3,780,864			-382,547	-13,258	-5,112	137,596	3,517,543
Crestline Recovery II	397,034			-19,942				377,092
DCM Fund IV	2,658,044			4,740	-14,716	-2,326	146,905	2,792,647
Draper Triangle	362,101						-167	361,934
Draper Triangle III	10,617,343					-52,494	196,829	10,761,678
Emerald Advisors Fin Srv I	687,906						19,085	706,990
Entrust	1,072,774				-3,899		128,749	1,197,624
Entrust Special Opps IV	2,642,346				-7,911		275,817	2,910,252
Farol Fund II	2,775,139			514,000			243,954	3,533,093
Five Points III	2,121,415			105,790				2,227,206
Goldman Sachs	854,162			-340,887		-3,717	-6,780	502,778
Greenspring	1,717,231						107,488	1,824,719
Greenspring Early Stage I LP	1,642,927						541,368	2,184,295
Greenspring III	4,170,619			-150,000				4,020,619
Greenspring IV	3,433,222							3,433,222
Greenspring Sec I	2,219,804			-90,000			614,782	2,744,586
Greenspring Sec II	2,627,790			-140,000			374,315	2,862,105

# Cash Flow Summary

Total Fund

1 Quarter Ending September 30, 2020

	Begin Value	Contributions	Distributions	Net Transfers	Fees	Expenses	Capital Apprec./ Deprec.	End Value
Greenspring V	3,006,933			60,000			-85,260	2,981,673
iNetworks	13,163,344			276,512	-44,965		44,965	13,439,857
iNetworks II	2,996,811			146,391				3,143,202
INOF II	5,631,002							5,631,002
Ironside III	6,584,968				-8,283	-6,391	746,941	7,317,235
Ironside IV	3,042,332				-3,230	-1,470	195,559	3,233,190
Ironside Opportunities Fund	2,607,424			376,115		-11,416	154,211	3,126,333
JMI Equity Fund IX-A	1,440,732			204,000	-9,131		101,528	1,737,129
Mellon PAM Fund V	3,605,858			-198,656	-6,250		454,532	3,855,484
Mesirow Partners Fund IV	5,692,314			-680,000	-19,715		928,177	5,920,776
North Haven Capital Partners	2,354,594						204,501	2,559,095
North Haven Senior Loan Fund	1,786,909			76,679	-8,734	-18,394	60,391	1,896,851
Permal Capital Mgmt	549,350			-81,000	-4,174		20,794	484,970
Pharos Capital	3,386,978			-26,989			256,495	3,616,484
PLSG Accelerator Fund	240,115						-23,471	216,644
ValStone Partners IV	13,240						-13,239	1
ValStone Partners V	25,088,032						-2,847,035	22,240,997
ValStone Partners VI	15,662,879			2,382,589	-75,000	-43,769	-118,115	17,808,584
Valstone Senior Living	14,028,989							14,028,989



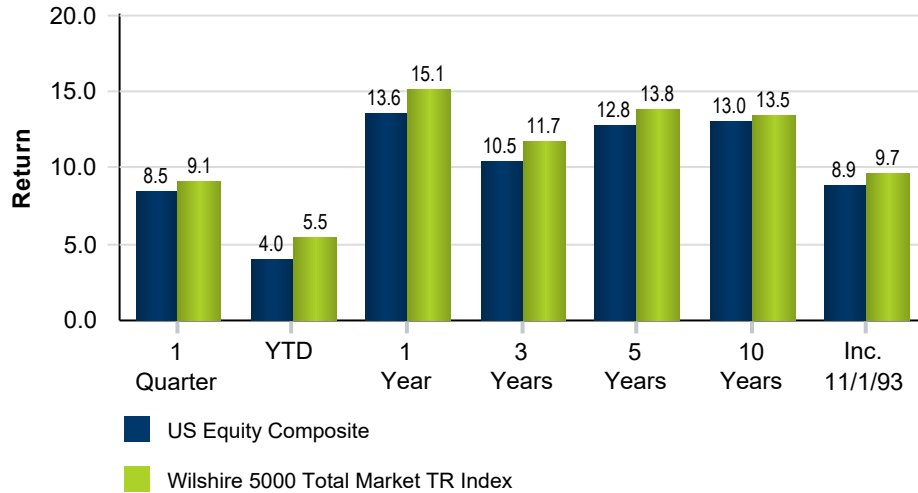
# US Equity Composite

# Composite Performance Summary

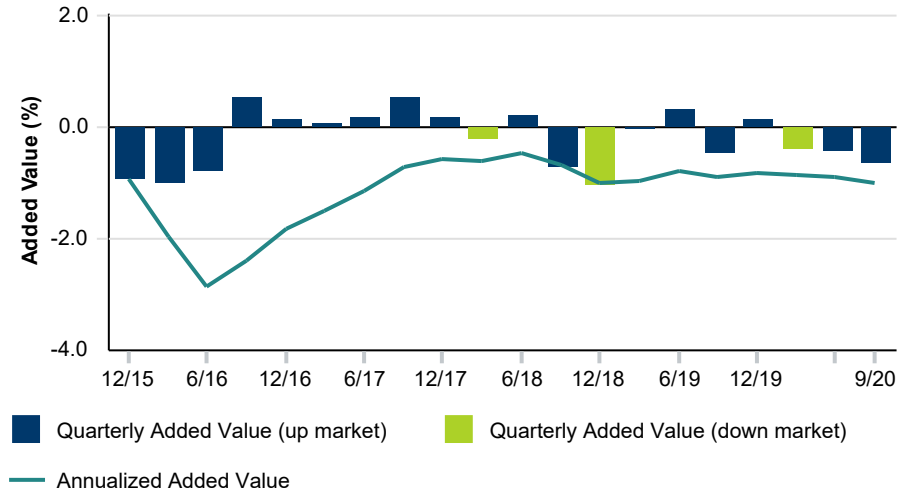
US Equity Composite

Periods Ended September 30, 2020

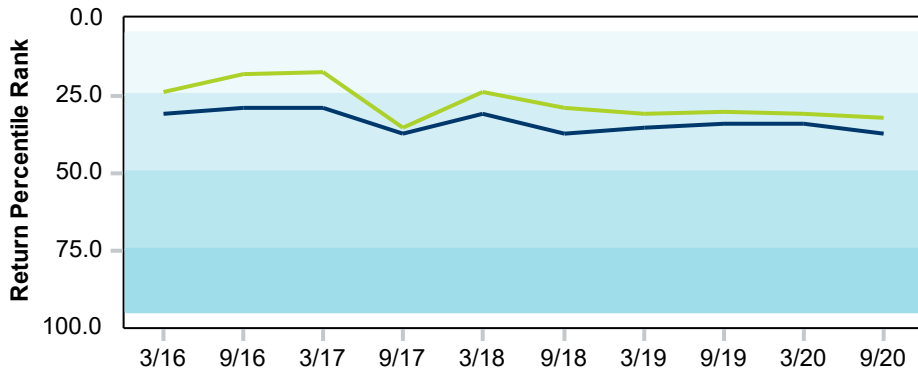
**Comparative Performance**



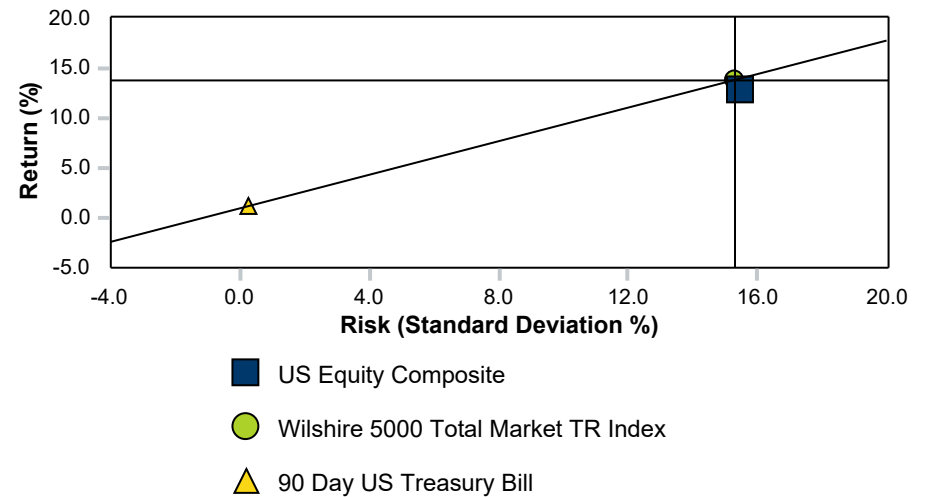
**Added Value History**



**Rolling Percentile Rank: IM U.S. Equity (SA+CF)**



**Risk and Return 10/1/15 - 09/30/20**



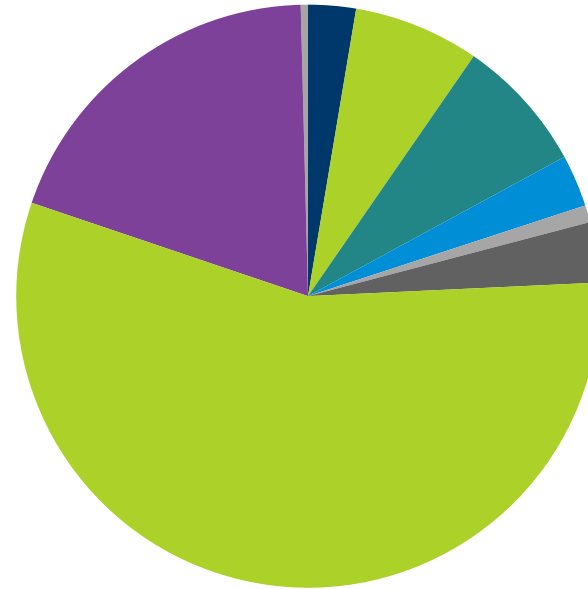
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
US Equity Composite	10	0 (0%)	10 (100%)	0 (0%)	0 (0%)
Benchmark	10	4 (40%)	6 (60%)	0 (0%)	0 (0%)

# Asset Allocation By Manager

US Equity Composite

Periods Ended September 30, 2020

Sep-2020 : 160,476,974

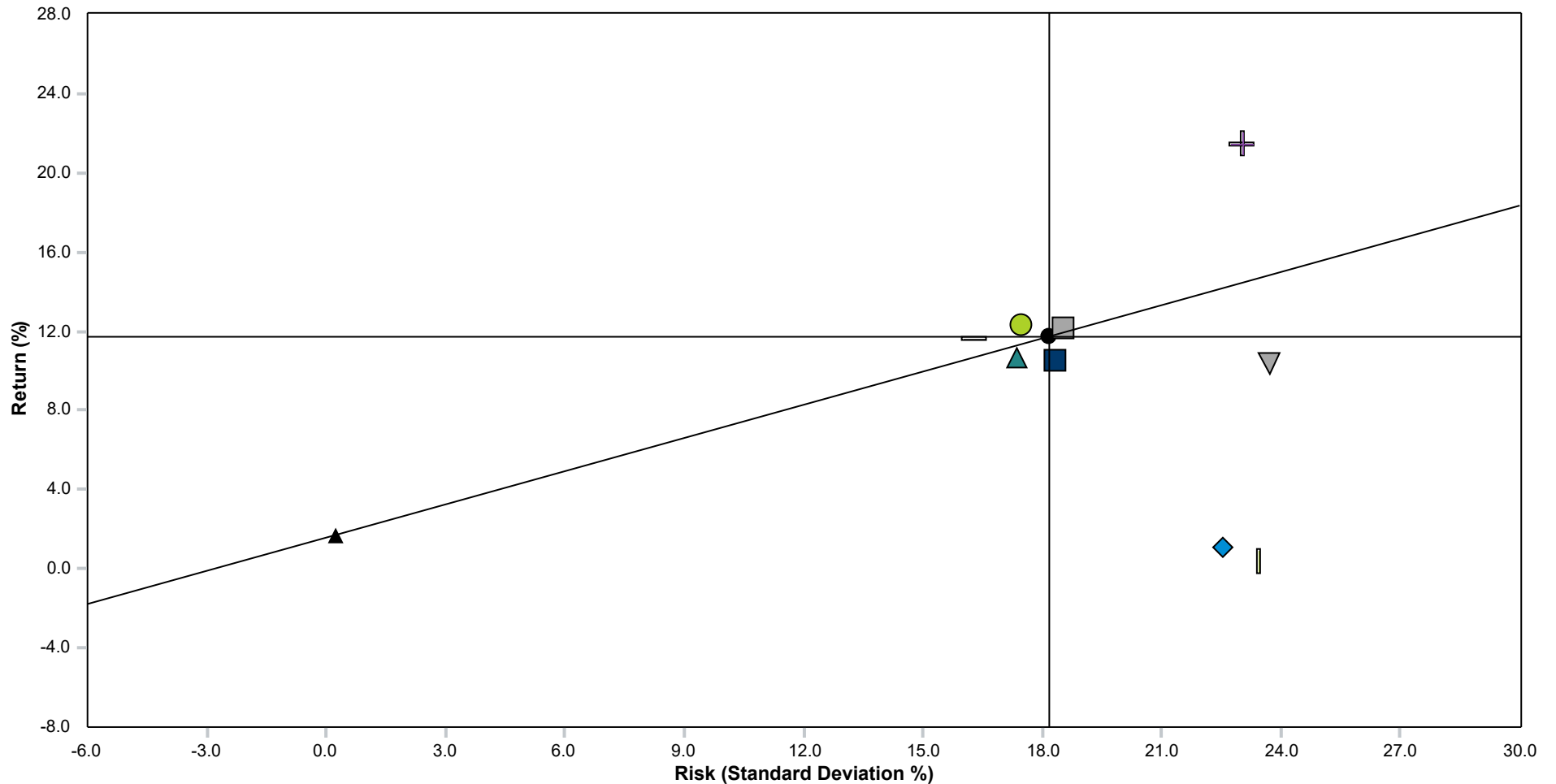


	Market Value \$	Allocation (%)
■ CIM Small Cap (EMWO)	4,230,724	2.6
■ Earnest Small Value	11,188,602	7.0
■ Emerald Advisors Small Cap	11,976,361	7.5
■ Emerald Advisors All Cap (EMWO)	4,631,369	2.9
■ Ethos (EMWO)	1,523,095	0.9
■ Fragasso Large Core (EMWO)	5,374,197	3.3
■ SSGA S&P 500 Index	89,758,272	55.9
■ Twin Capital Enhanced Equity	31,142,461	19.4
■ Cookson Peirce (EMWO)	651,892	0.4

# Risk vs. Return

US Equity Composite

Periods Ended 3 Years Ending September 30, 2020



- |                            |                            |                                     |                                 |
|----------------------------|----------------------------|-------------------------------------|---------------------------------|
| US Equity Composite        | SSgA S&P 500 Index         | Twin Capital Enhanced Equity        | Earnest Small Value             |
| Emerald Advisors Small Cap | Fragasso Large Core (EMWO) | CIM Small Cap (EMWO)                | Emerald Advisors All Cap (EMWO) |
| Ethos (EMWO)               | Cookson Peirce (EMWO)      | Wilshire 5000 Total Market TR Index | 90 Day US Treasury Bill         |

Calculation based on monthly periodicity.

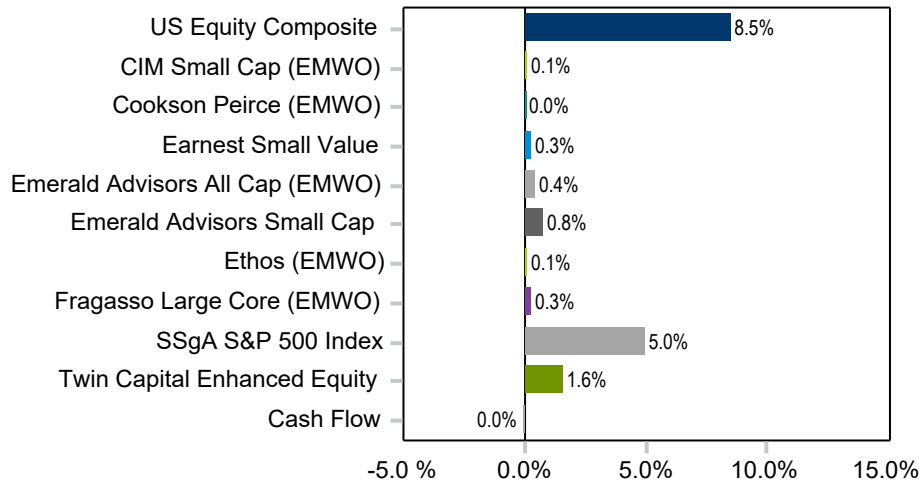


# Return and Risk Contribution

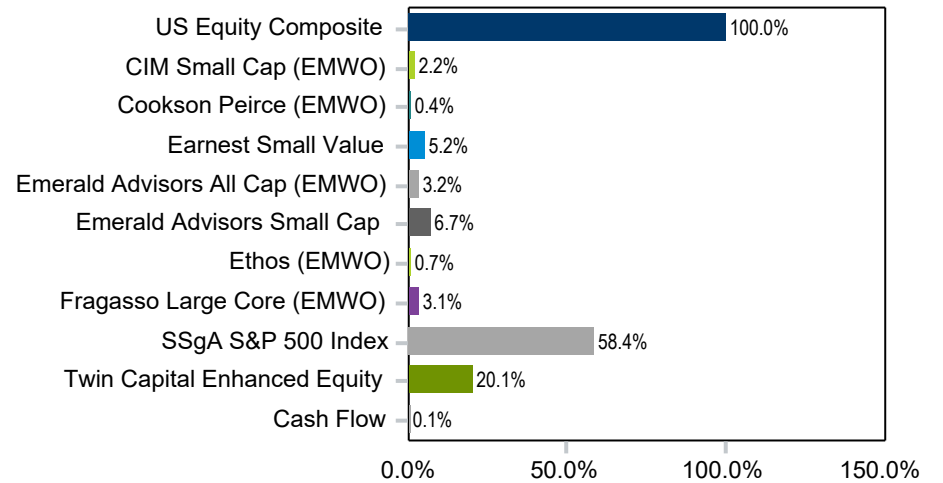
US Equity Composite

Periods Ended 1 Quarter September 30, 2020

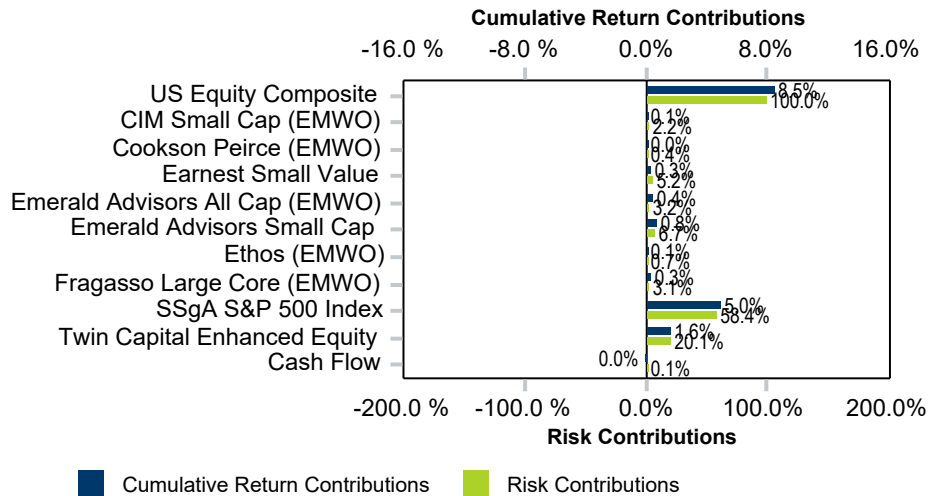
**Cumulative Return Contributions**



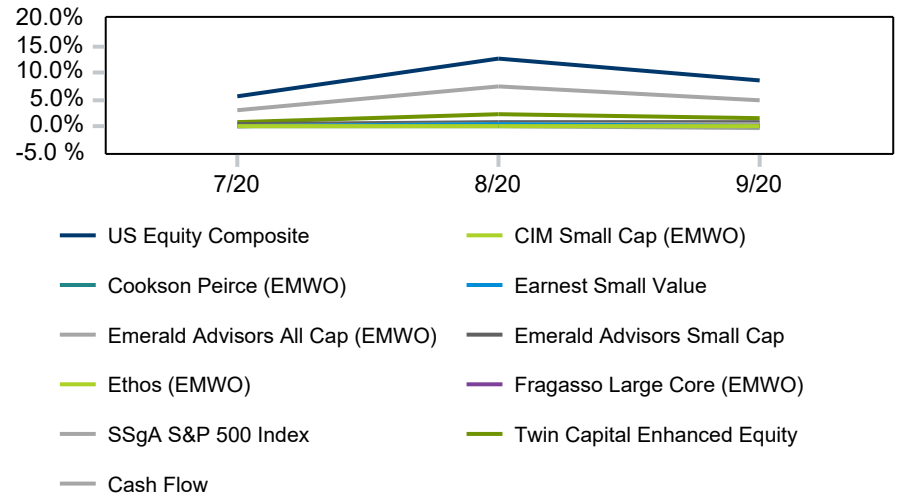
**Risk Contributions**



**Cumulative Return and Risk Contributions**



**Cumulative Return Contributions History**

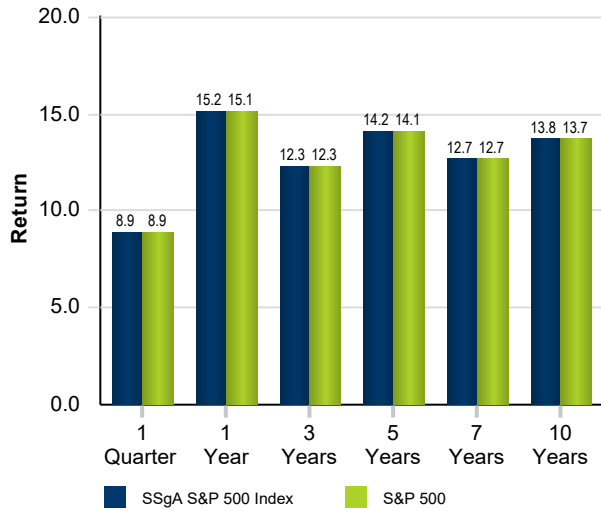


# Performance Summary

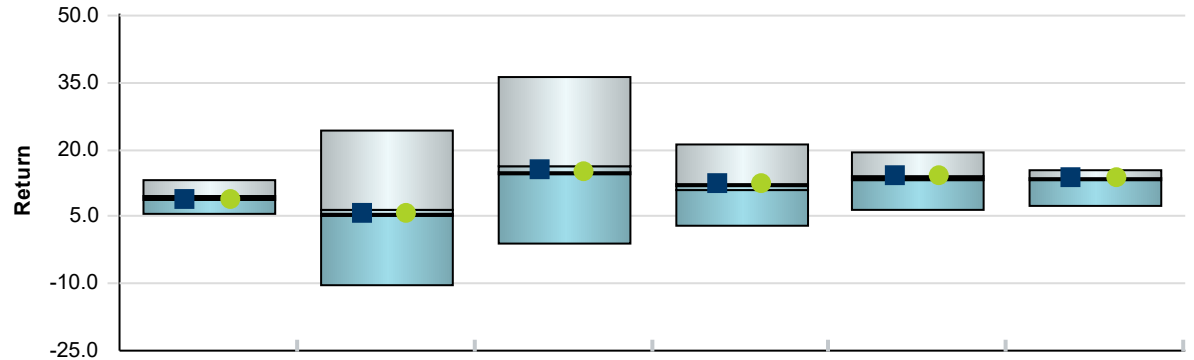
SSgA S&P 500 Index

Periods Ended September 30, 2020

## Comparative Performance

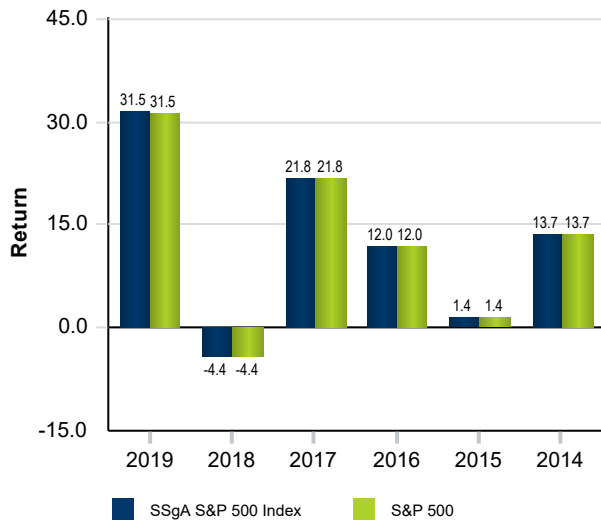


## Peer Group Analysis: IM U.S. Large Cap Index Equity (SA+CF)

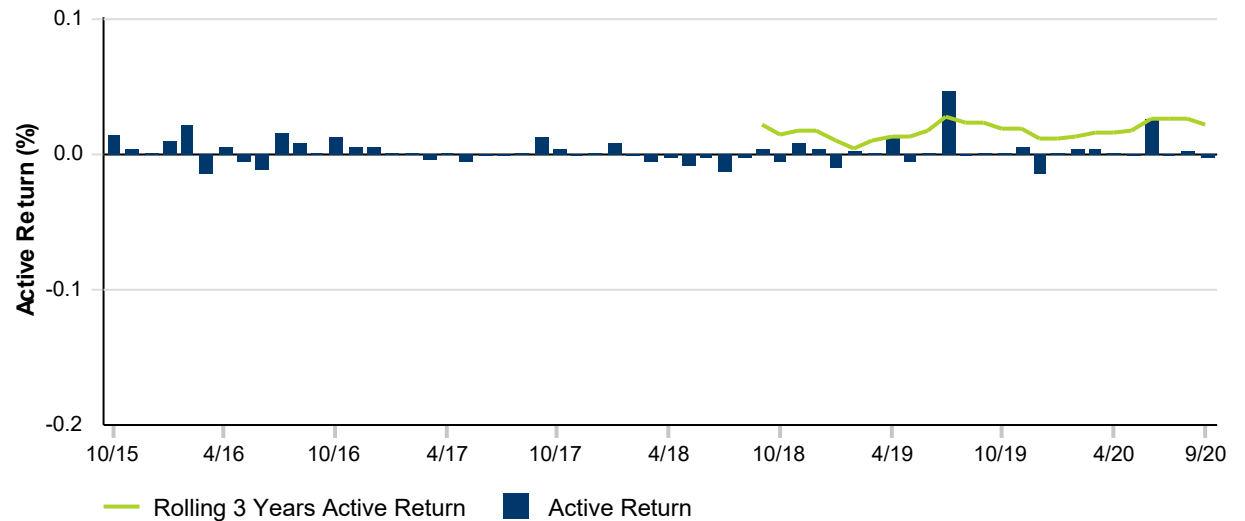


	Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years
■ Fund	8.93 (57)	5.61 (47)	15.18 (40)	12.30 (26)	14.18 (24)	13.76 (18)
● Benchmark	8.93 (57)	5.57 (48)	15.15 (40)	12.28 (26)	14.15 (25)	13.74 (19)
Median	9.06	5.55	14.95	11.63	13.52	13.57

## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

SSgA S&P 500 Index

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>SSgA S&amp;P 500 Index</u>	<u>S&amp;P 500</u>
Maximum Return	12.82	12.82
Minimum Return	-12.35	-12.35
Return	15.18	15.15
Cumulative Return	15.18	15.15
Active Return	0.03	0.00
Excess Return	15.72	15.69

## Risk Summary Statistics

	<u>SSgA S&amp;P 500 Index</u>	<u>S&amp;P 500</u>
Upside Risk	5.01	5.01
Downside Risk	15.32	15.32
Beta	1.00	1.00

## Risk/Return Summary Statistics

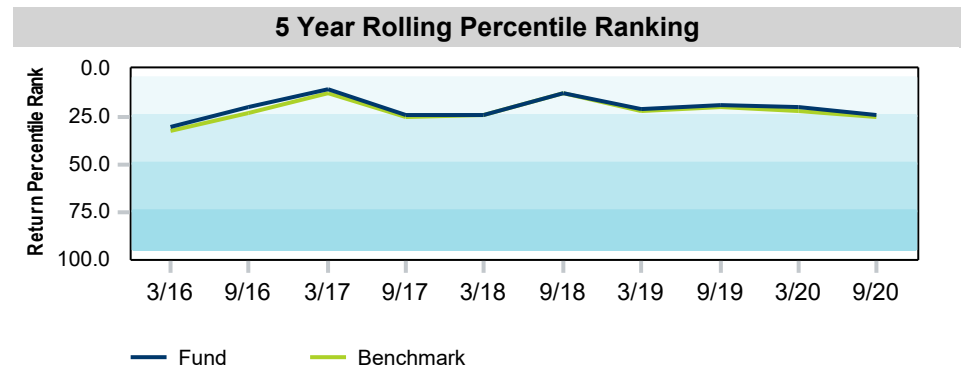
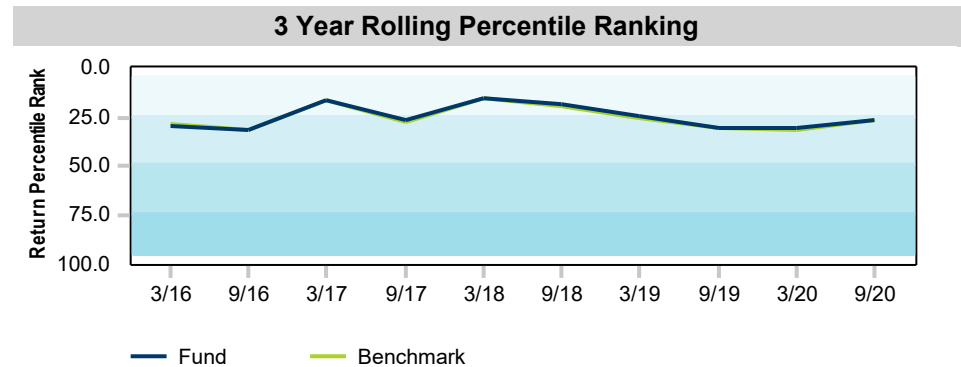
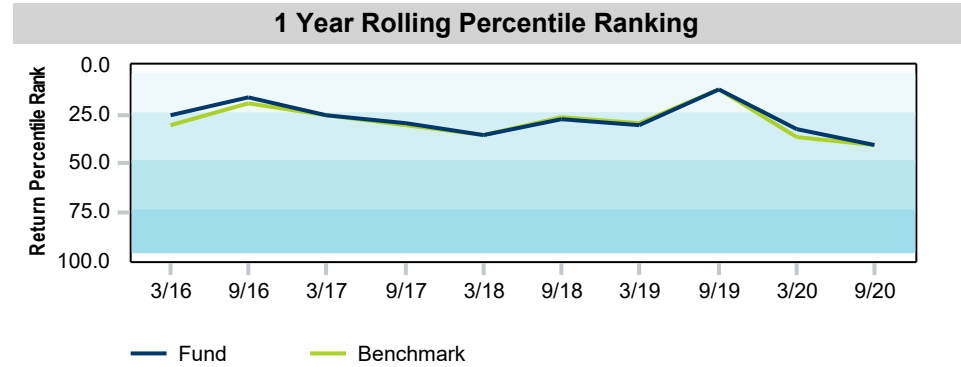
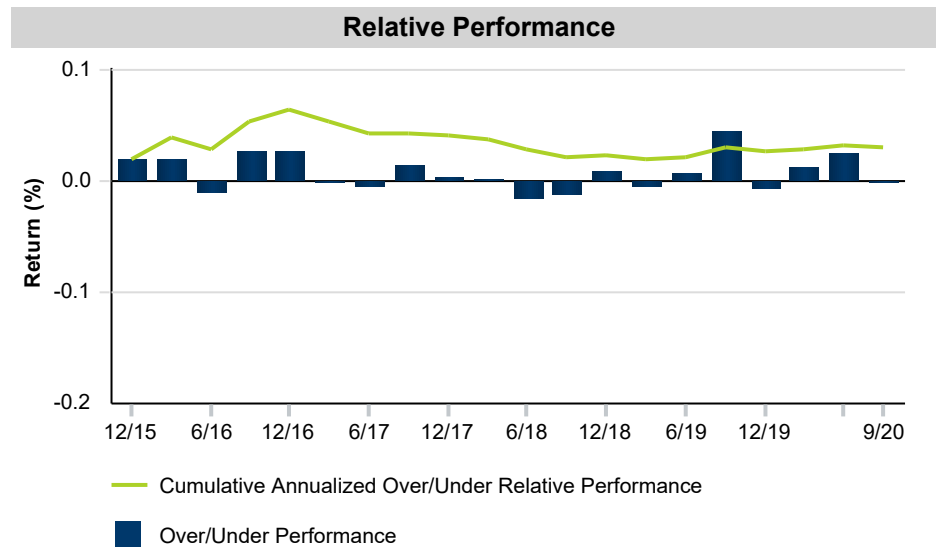
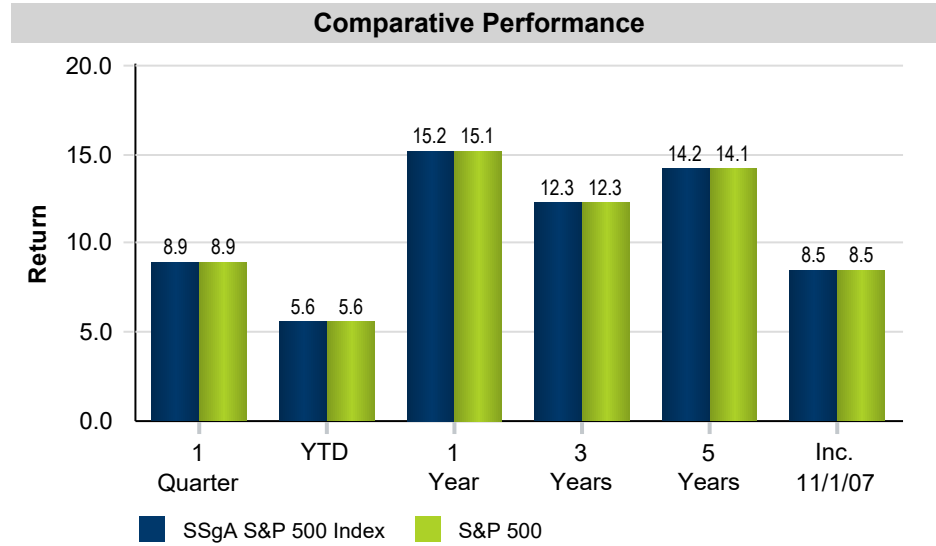
	<u>SSgA S&amp;P 500 Index</u>	<u>S&amp;P 500</u>
Standard Deviation	22.64	22.64
Alpha	0.03	0.00
Active Return/Risk	0.00	0.00
Tracking Error	0.03	0.00
Information Ratio	0.97	
Sharpe Ratio	0.69	0.69

## Correlation Statistics

	<u>SSgA S&amp;P 500 Index</u>	<u>S&amp;P 500</u>
R-Squared	1.00	1.00
Actual Correlation	1.00	1.00

# Manager Summary

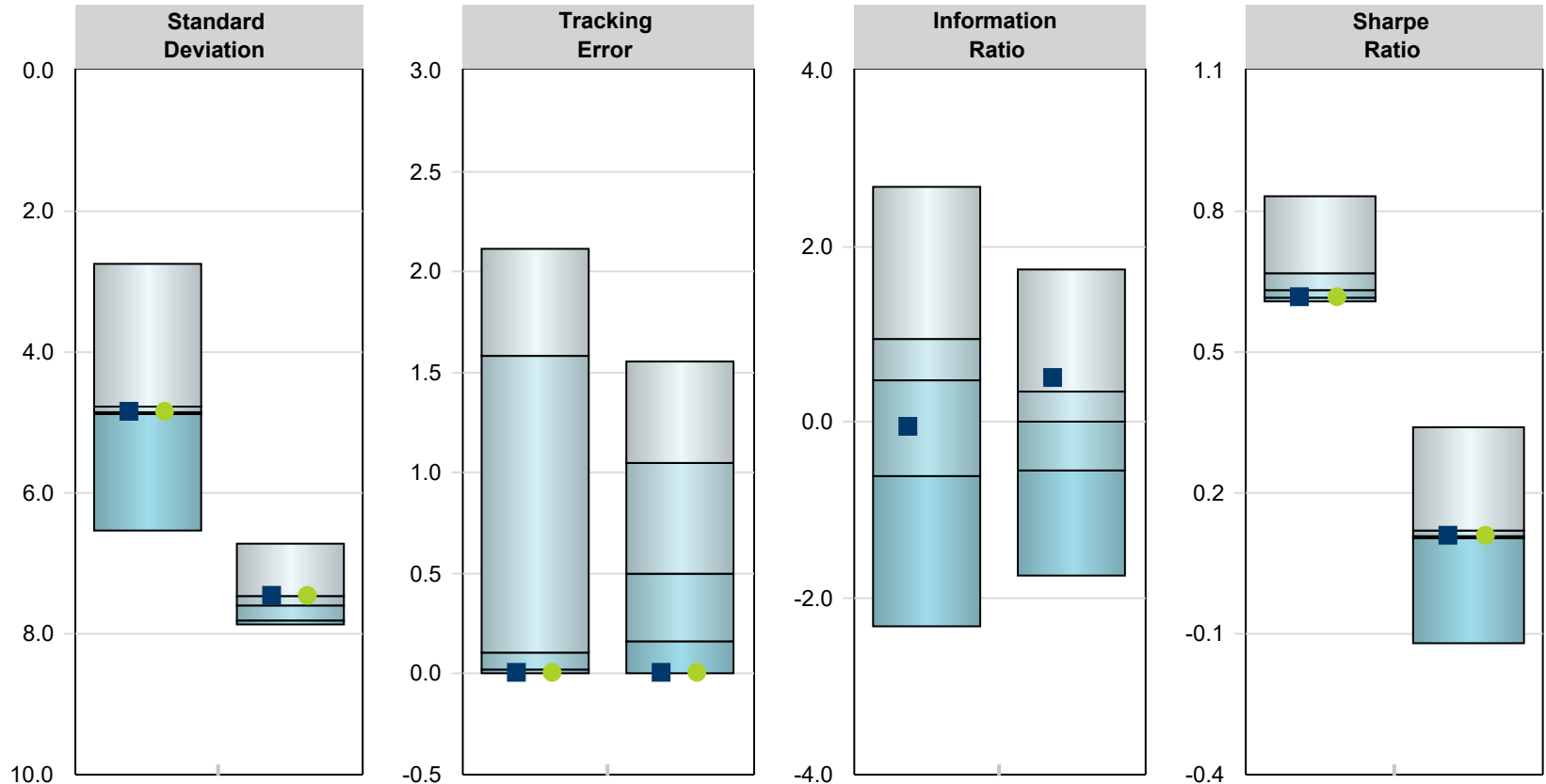
SSgA S&P 500 Index vs IM U.S. Large Cap Index Equity (SA+CF)  
 Periods Ended September 30, 2020



# Peer Group Analysis - Multi Statistics

SSgA S&P 500 Index

Periods Ended September 30, 2020



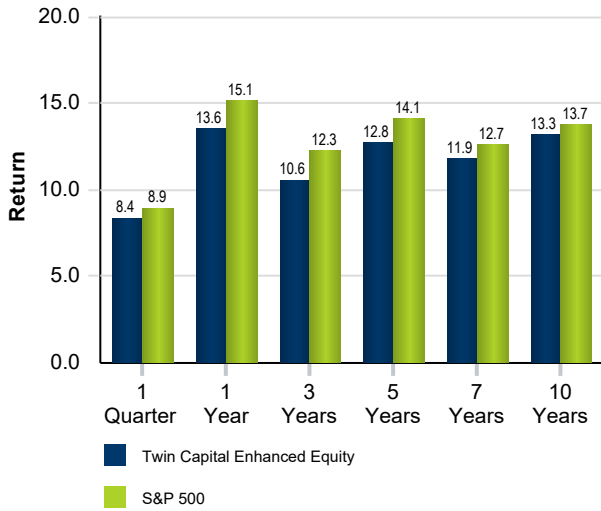
	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ SSgA S&P 500 Index	4.86 (53)	7.47 (38)	0.00 (100)	0.01 (90)	-0.05 (57)	0.50 (20)	0.62 (70)	0.11 (47)
● S&P 500	4.86 (47)	7.47 (38)	0.00 (100)	0.00 (100)			0.62 (69)	0.11 (48)
5th Percentile	2.75	6.72	2.12	1.55	2.68	1.73	0.83	0.34
1st Quartile	4.76	7.46	1.58	1.05	0.95	0.34	0.67	0.12
Median	4.86	7.60	0.11	0.50	0.48	0.01	0.63	0.11
3rd Quartile	4.88	7.82	0.03	0.16	-0.62	-0.55	0.61	0.10
95th Percentile	6.53	7.87	0.01	0.01	-2.32	-1.74	0.61	-0.12

Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

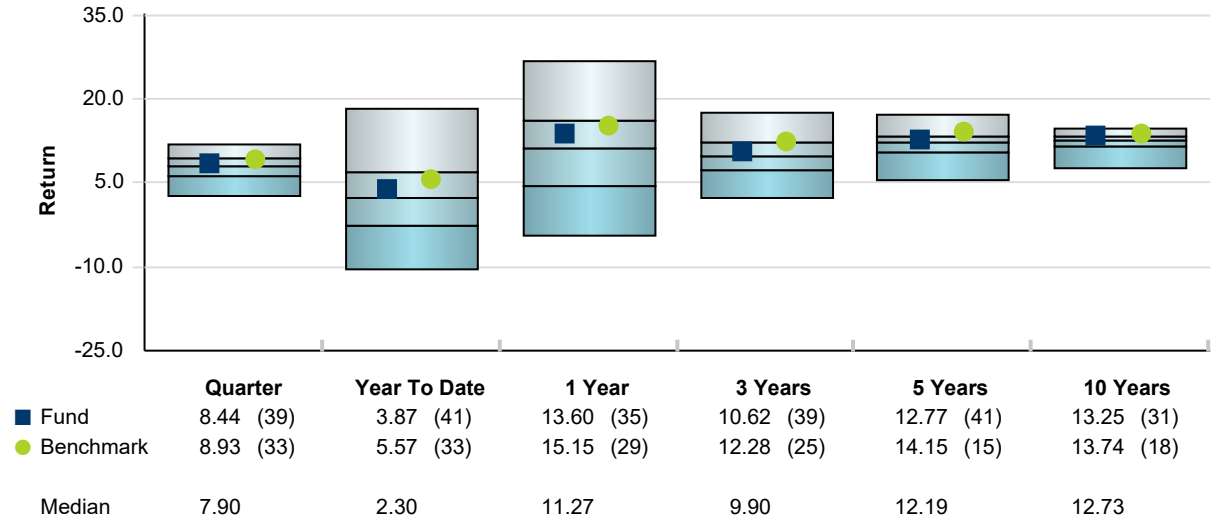
# Performance Summary

Twin Capital Enhanced Equity  
 Periods Ended September 30, 2020

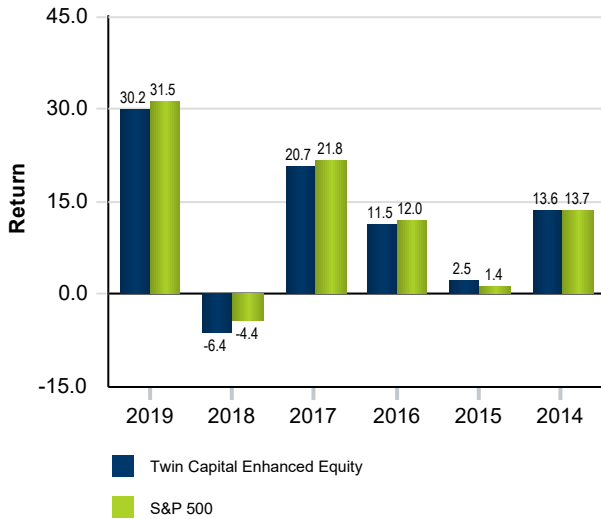
## Comparative Performance



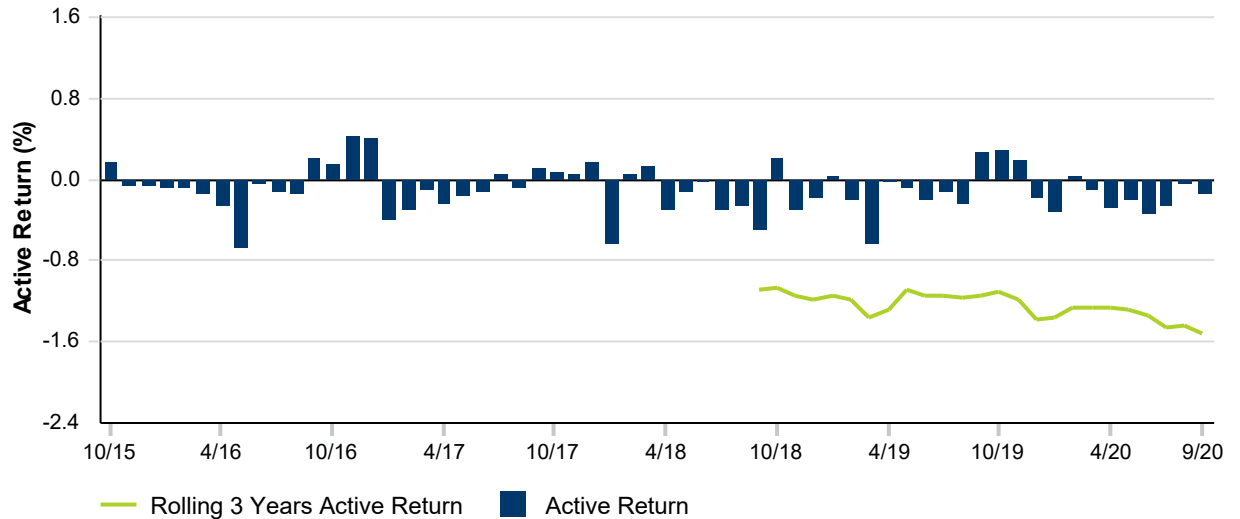
## Peer Group Analysis: IM U.S. Large Cap Core Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Twin Capital Enhanced Equity

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Twin Capital Enhanced Equity</u>	<u>S&amp;P 500</u>
Maximum Return	12.53	12.82
Minimum Return	-12.45	-12.35
Return	13.60	15.15
Cumulative Return	13.60	15.15
Active Return	-1.39	0.00
Excess Return	14.30	15.69

## Risk Summary Statistics

	<u>Twin Capital Enhanced Equity</u>	<u>S&amp;P 500</u>
Upside Risk	4.91	5.01
Downside Risk	15.42	15.32
Beta	0.99	1.00

## Risk/Return Summary Statistics

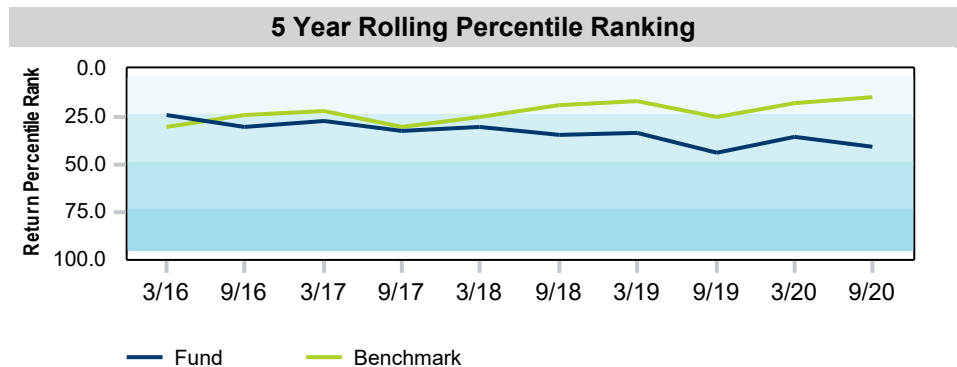
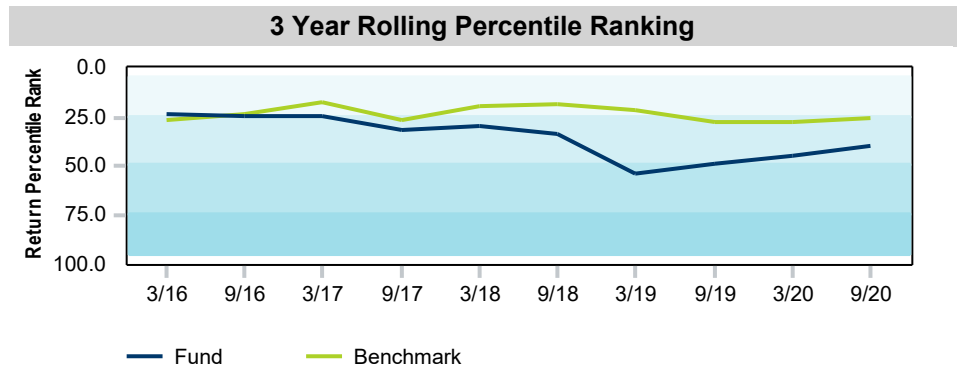
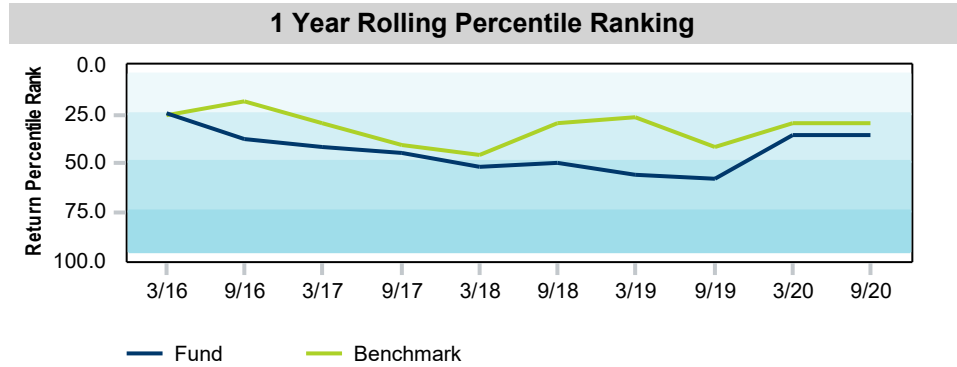
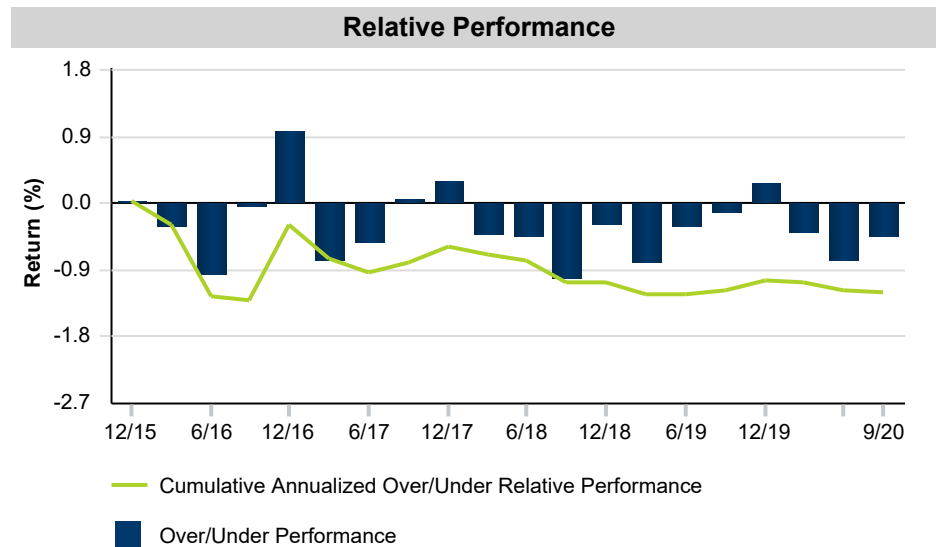
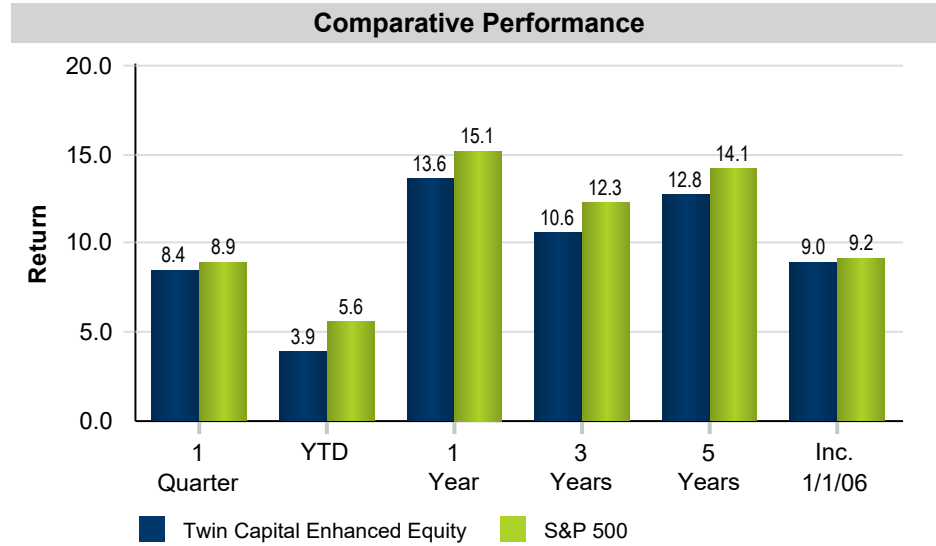
	<u>Twin Capital Enhanced Equity</u>	<u>S&amp;P 500</u>
Standard Deviation	22.52	22.64
Alpha	-1.28	0.00
Active Return/Risk	-0.06	0.00
Tracking Error	0.66	0.00
Information Ratio	-2.10	
Sharpe Ratio	0.63	0.69

## Correlation Statistics

	<u>Twin Capital Enhanced Equity</u>	<u>S&amp;P 500</u>
R-Squared	1.00	1.00
Actual Correlation	1.00	1.00

# Manager Summary

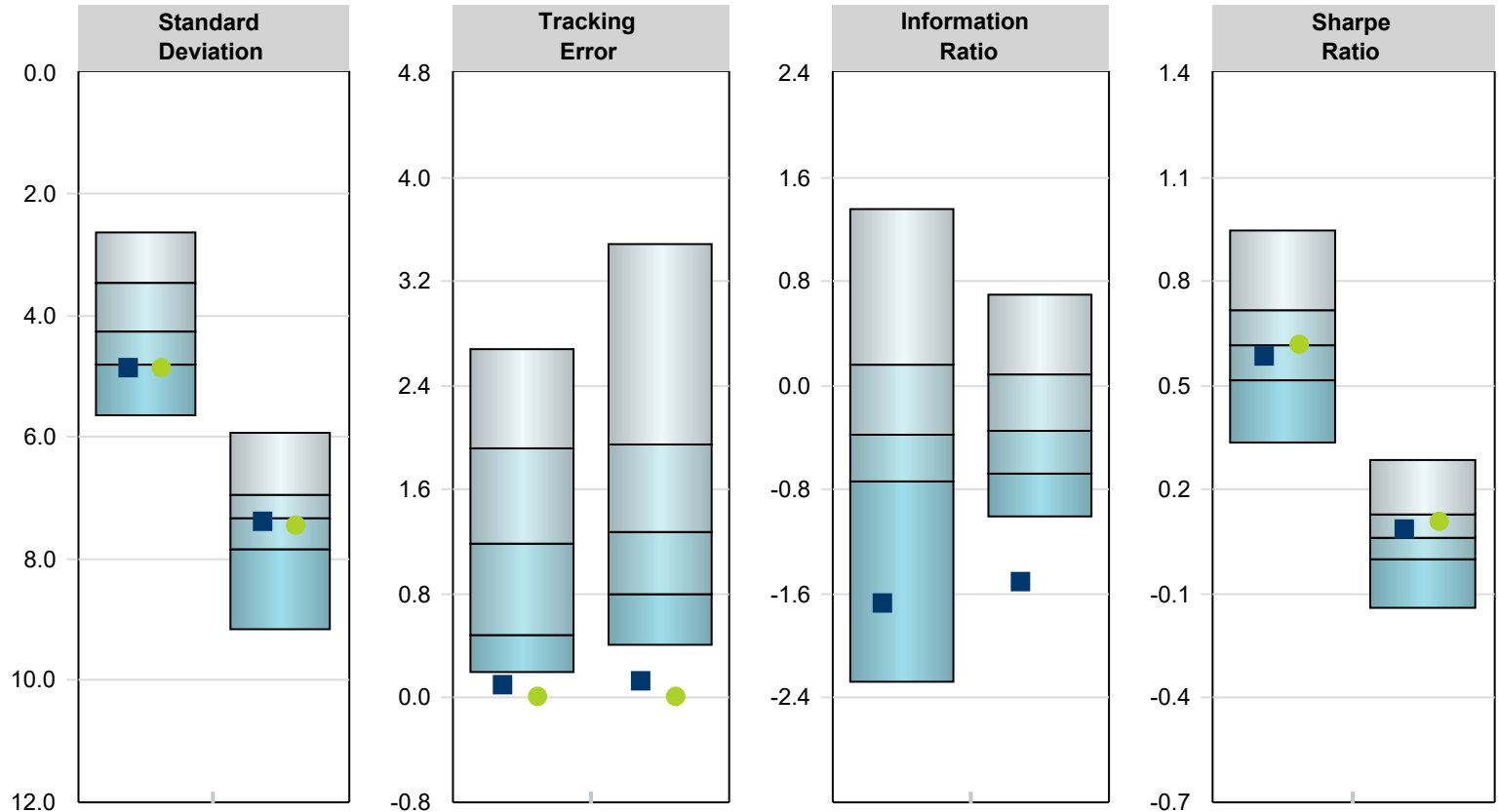
Twin Capital Enhanced Equity vs IM U.S. Large Cap Core Equity (SA+CF)  
 Periods Ended September 30, 2020





# Peer Group Analysis - Multi Statistics

Twin Capital Enhanced Equity  
 Periods Ended September 30, 2020



	Standard Deviation		Tracking Error		Information Ratio		Sharpe Ratio	
	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ Twin Capital Enhanced Equity	4.86 (80)	7.41 (57)	0.09 (100)	0.12 (100)	-1.68 (92)	-1.51 (100)	0.59 (62)	0.08 (41)
● S&P 500	4.86 (80)	7.47 (62)	0.00 (100)	0.00 (100)			0.62 (50)	0.11 (32)
5th Percentile	2.63	5.93	2.67	3.48	1.36	0.70	0.95	0.29
1st Quartile	3.46	6.94	1.92	1.95	0.16	0.09	0.72	0.13
Median	4.24	7.32	1.18	1.28	-0.37	-0.35	0.62	0.06
3rd Quartile	4.79	7.86	0.48	0.79	-0.74	-0.68	0.51	0.00
95th Percentile	5.62	9.16	0.20	0.41	-2.28	-1.00	0.33	-0.14

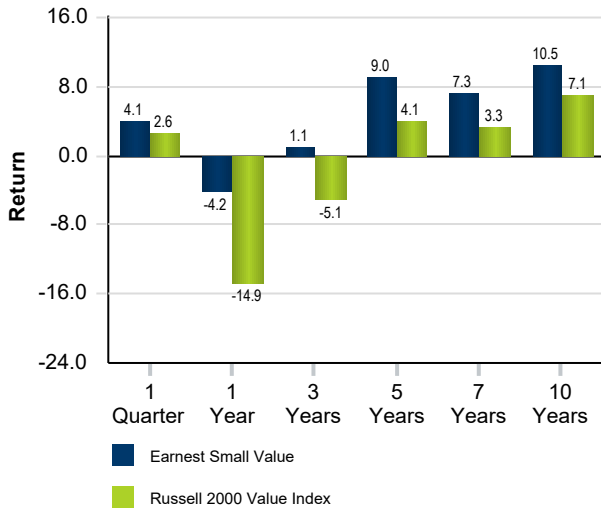
Parenteses contain percentile rankings.  
 Calculation based on monthly periodicity.

# Performance Summary

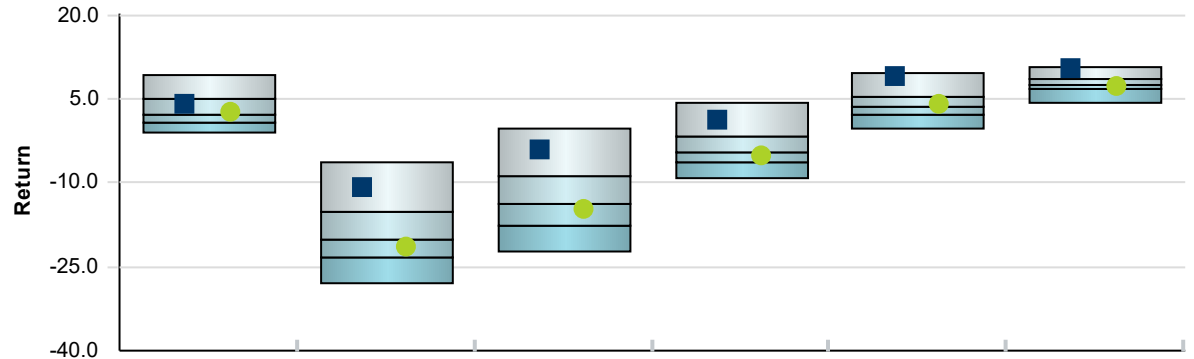
Earnest Small Value

Periods Ended September 30, 2020

## Comparative Performance

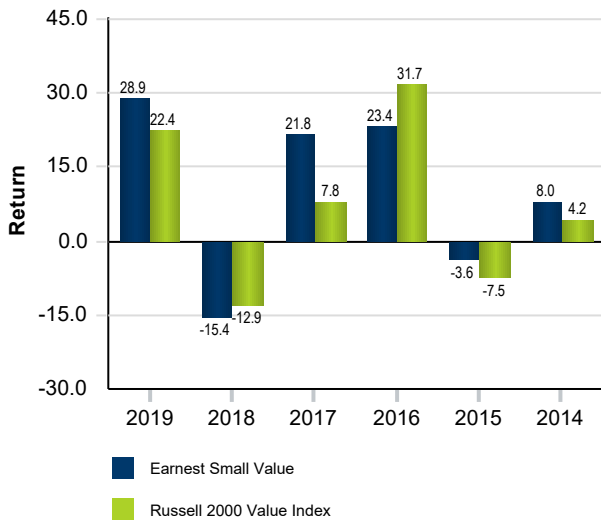


## Peer Group Analysis: IM U.S. Small Cap Value Equity (SA+CF)

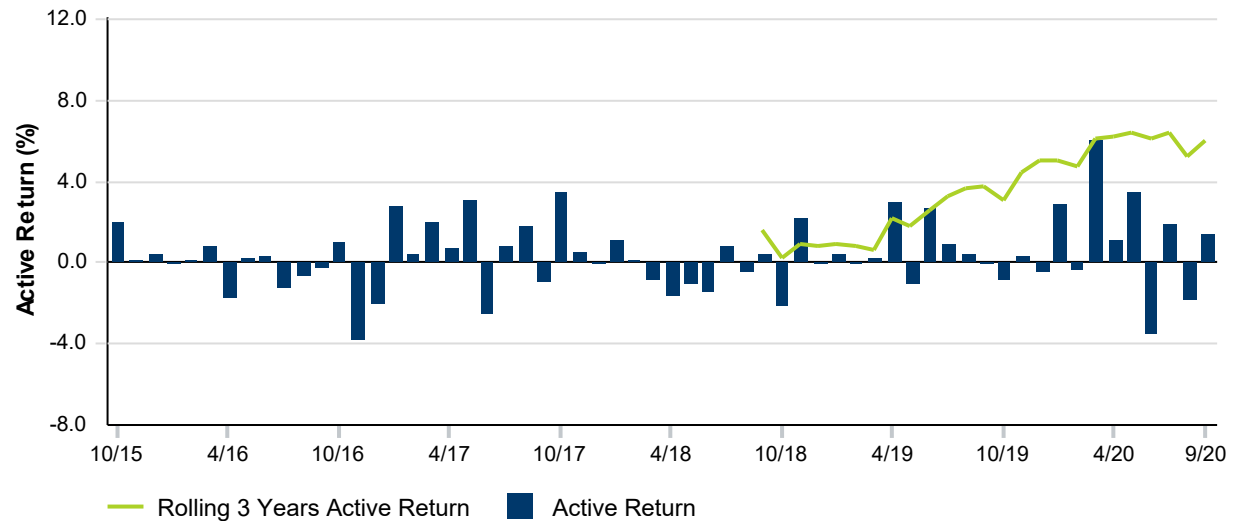


	Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years
<b>Fund</b>	4.13 (32)	-10.88 (11)	-4.23 (14)	1.05 (13)	9.03 (6)	10.50 (6)
<b>Benchmark</b>	2.56 (47)	-21.54 (63)	-14.88 (57)	-5.13 (61)	4.11 (43)	7.09 (69)
<b>Median</b>	2.18	-20.08	-13.85	-4.36	3.67	7.75

## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Earnest Small Value

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Earnest Small Value</u>	<u>Russell 2000 Value Index</u>
Maximum Return	13.43	12.34
Minimum Return	-18.65	-24.67
Return	-4.23	-14.88
Cumulative Return	-4.23	-14.88
Active Return	10.18	0.00
Excess Return	-1.54	-11.72

## Risk Summary Statistics

	<u>Earnest Small Value</u>	<u>Russell 2000 Value Index</u>
Upside Risk	4.73	4.34
Downside Risk	21.60	27.46
Beta	0.84	1.00

## Risk/Return Summary Statistics

	<u>Earnest Small Value</u>	<u>Russell 2000 Value Index</u>
Standard Deviation	27.11	31.15
Alpha	8.85	0.00
Active Return/Risk	0.38	0.00
Tracking Error	8.45	0.00
Information Ratio	1.21	
Sharpe Ratio	-0.06	-0.37

## Correlation Statistics

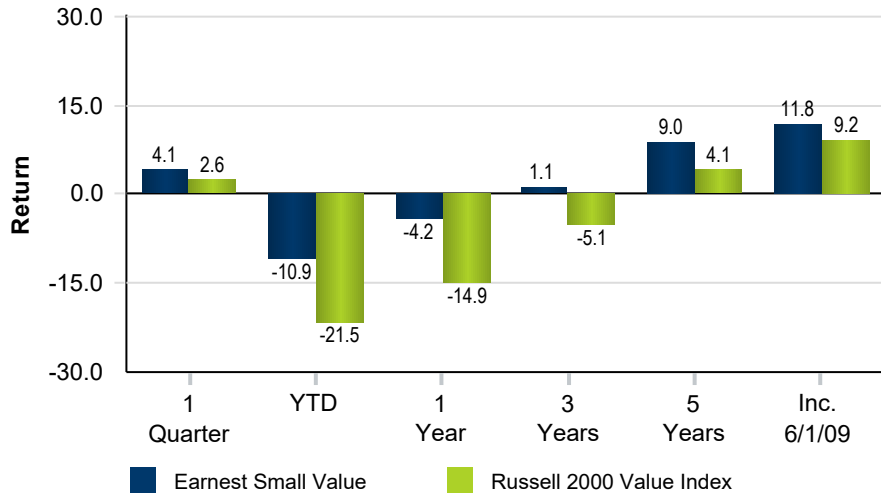
	<u>Earnest Small Value</u>	<u>Russell 2000 Value Index</u>
R-Squared	0.94	1.00
Actual Correlation	0.97	1.00

# Manager Summary

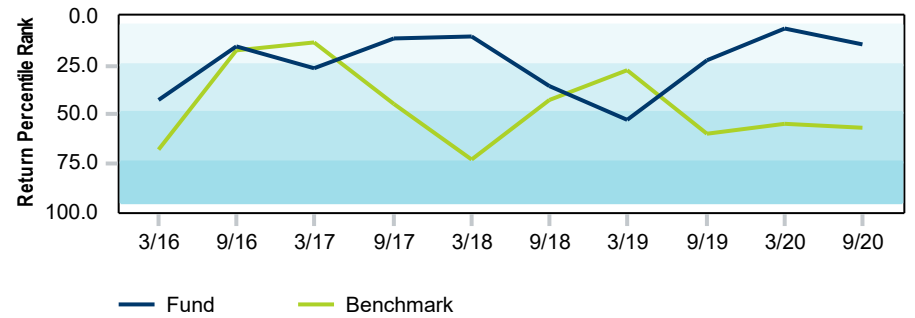
Earnest Small Value vs IM U.S. Small Cap Value Equity (SA+CF)

Periods Ended September 30, 2020

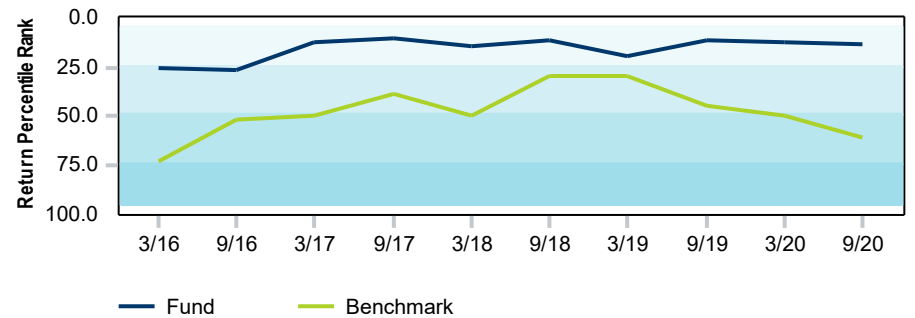
**Comparative Performance**



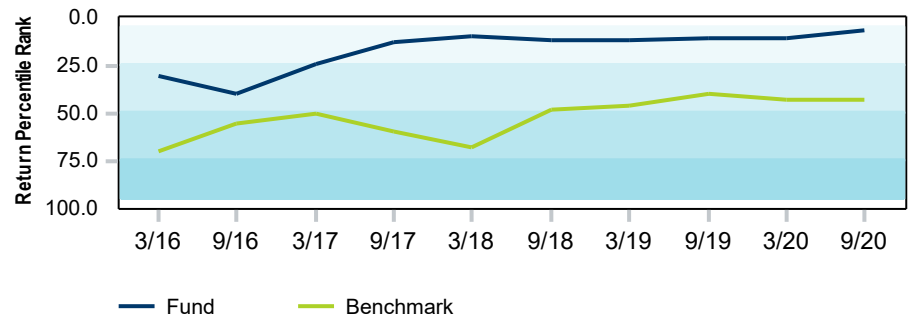
**1 Year Rolling Percentile Ranking**



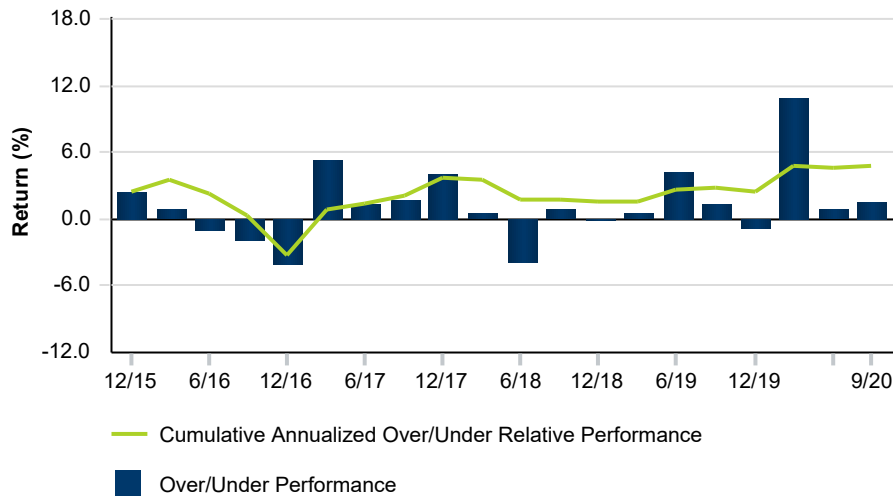
**3 Year Rolling Percentile Ranking**



**5 Year Rolling Percentile Ranking**



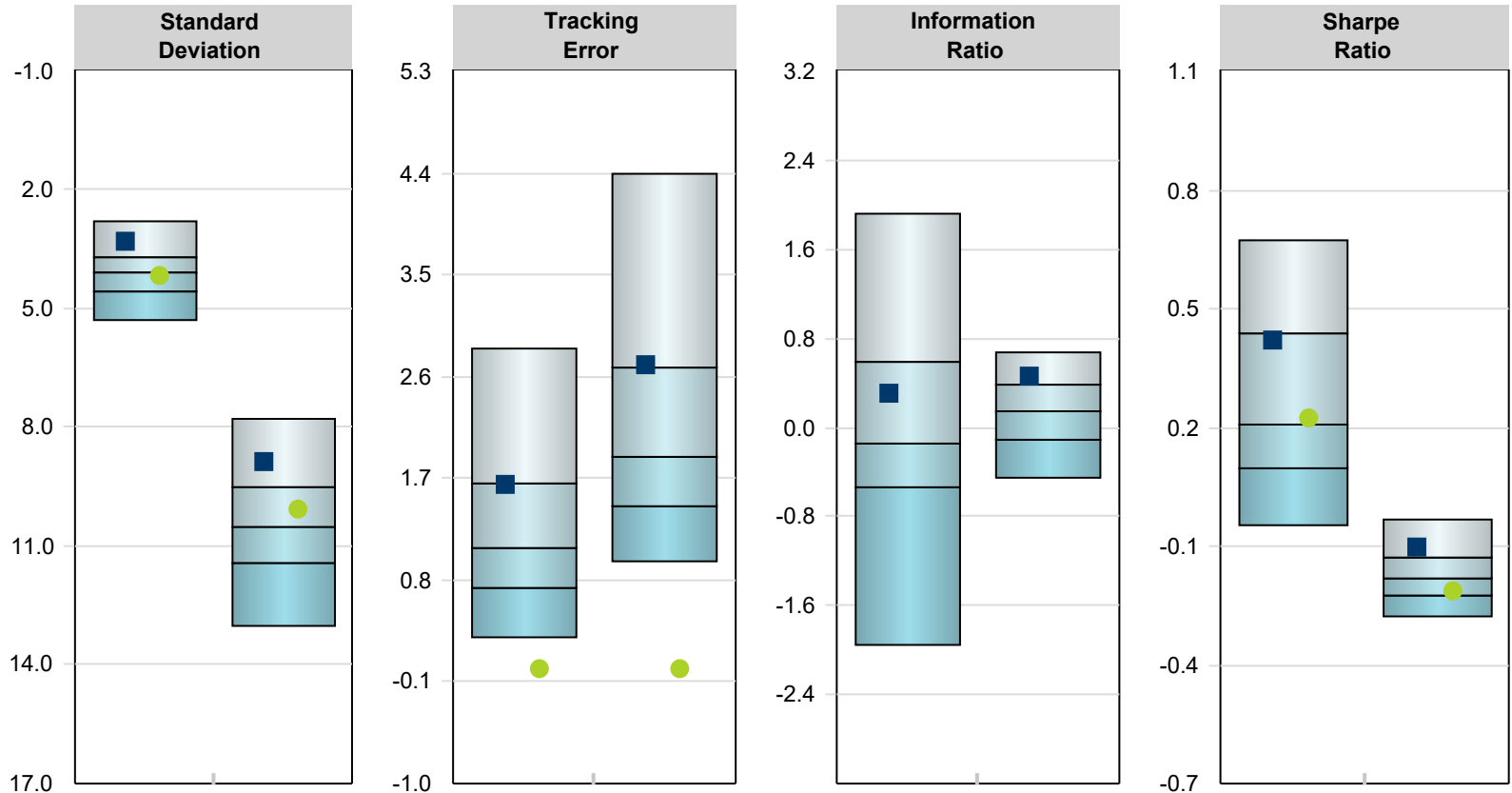
**Relative Performance**



# Peer Group Analysis - Multi Statistics

Earnest Small Value

Periods Ended September 30, 2020



	Standard Deviation		Tracking Error		Information Ratio		Sharpe Ratio	
	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ Earnest Small Value	3.33 (14)	8.88 (12)	1.63 (26)	2.69 (25)	0.29 (36)	0.46 (21)	0.42 (27)	-0.10 (21)
● Russell 2000 Value Index	4.18 (56)	10.09 (38)	0.00 (100)	0.00 (100)			0.22 (49)	-0.21 (69)
5th Percentile	2.78	7.81	2.84	4.40	1.92	0.68	0.67	-0.03
1st Quartile	3.69	9.53	1.65	2.69	0.59	0.38	0.44	-0.13
Median	4.08	10.50	1.08	1.90	-0.15	0.14	0.21	-0.18
3rd Quartile	4.55	11.46	0.72	1.46	-0.54	-0.10	0.10	-0.22
95th Percentile	5.29	13.03	0.30	0.96	-1.96	-0.44	-0.05	-0.28

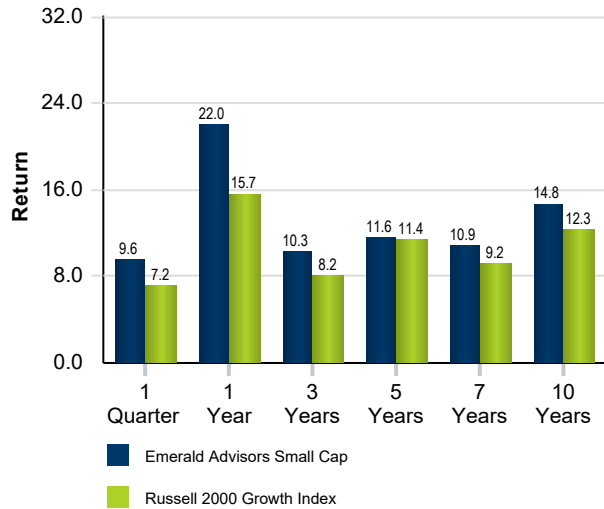
Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

# Performance Summary

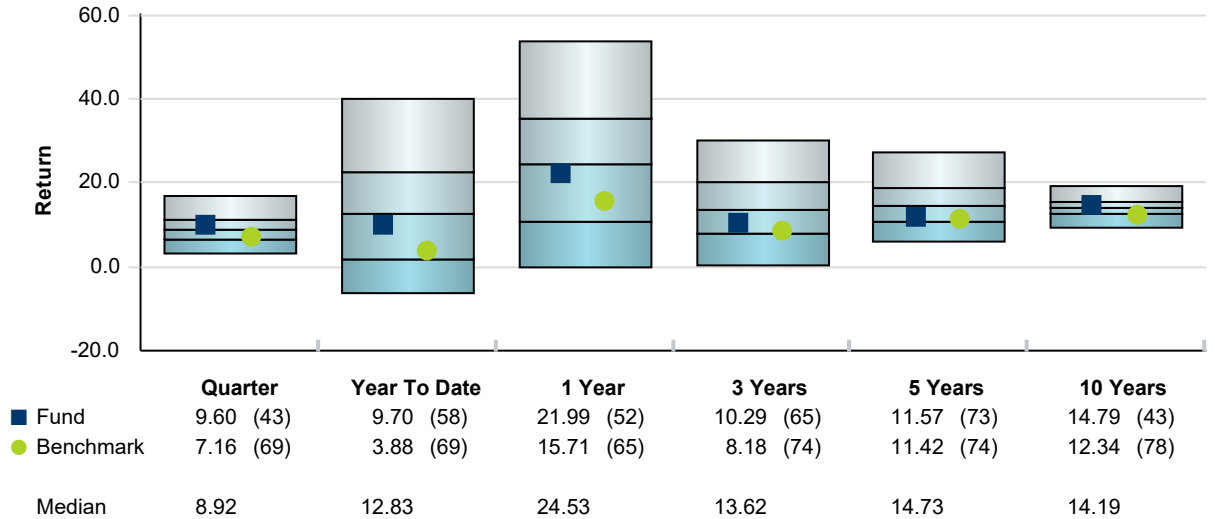
Emerald Advisors Small Cap

Periods Ended September 30, 2020

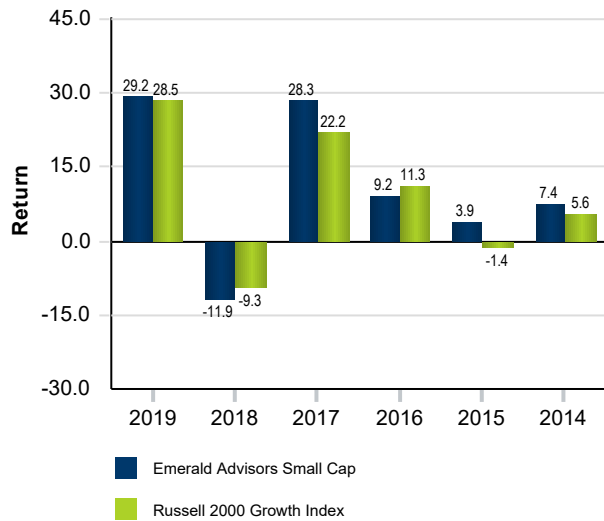
## Comparative Performance



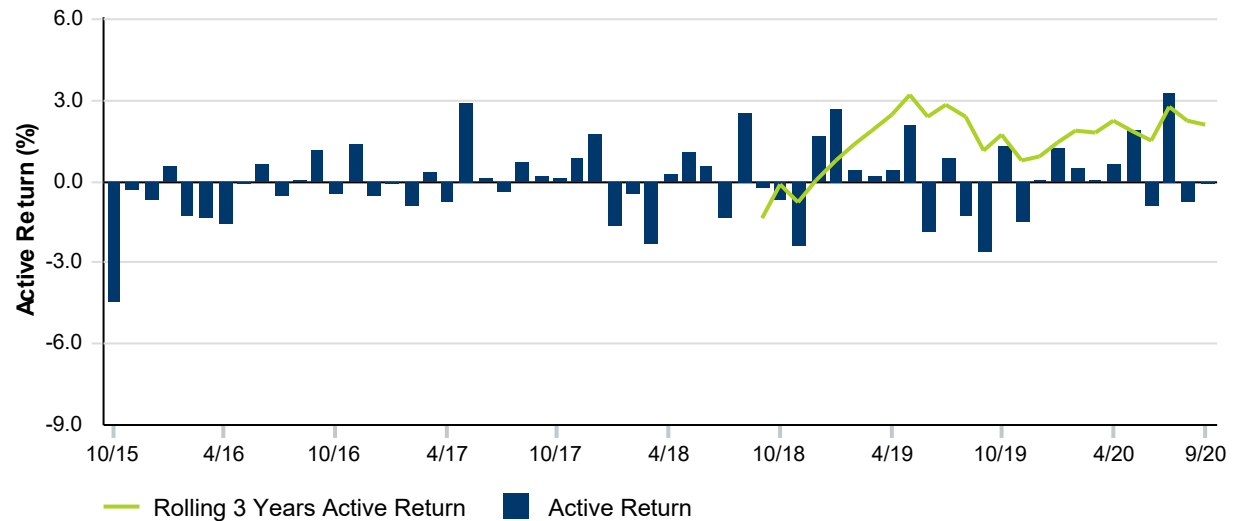
## Peer Group Analysis: IM U.S. Small Cap Growth Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Emerald Advisors Small Cap

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Emerald Advisors Small Cap</u>	<u>Russell 2000 Growth Index</u>
Maximum Return	15.49	14.89
Minimum Return	-19.05	-19.10
Return	21.99	15.71
Cumulative Return	21.99	15.71
Active Return	5.55	0.00
Excess Return	23.41	17.85

## Risk Summary Statistics

	<u>Emerald Advisors Small Cap</u>	<u>Russell 2000 Growth Index</u>
Upside Risk	6.39	5.92
Downside Risk	20.33	20.56
Beta	1.01	1.00

## Risk/Return Summary Statistics

	<u>Emerald Advisors Small Cap</u>	<u>Russell 2000 Growth Index</u>
Standard Deviation	29.22	28.51
Alpha	5.43	0.00
Active Return/Risk	0.19	0.00
Tracking Error	4.43	0.00
Information Ratio	1.25	
Sharpe Ratio	0.79	0.62

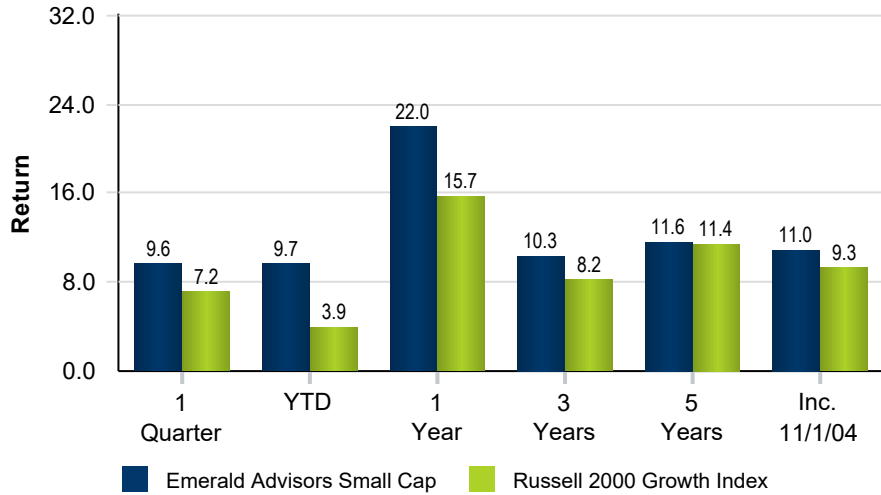
## Correlation Statistics

	<u>Emerald Advisors Small Cap</u>	<u>Russell 2000 Growth Index</u>
R-Squared	0.98	1.00
Actual Correlation	0.99	1.00

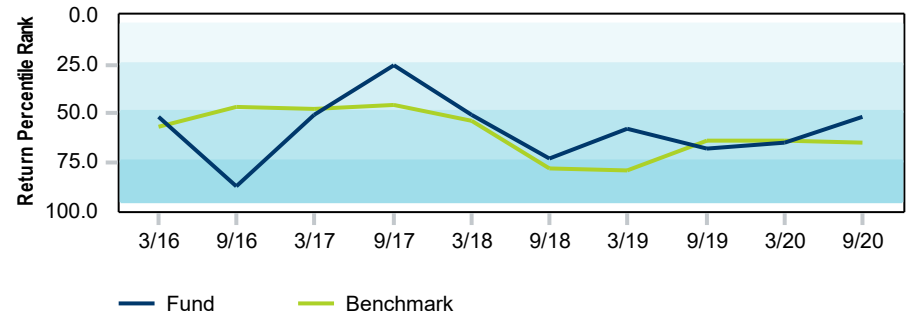
# Manager Summary

Emerald Advisors Small Cap vs IM U.S. Small Cap Growth Equity (SA+CF)  
 Periods Ended September 30, 2020

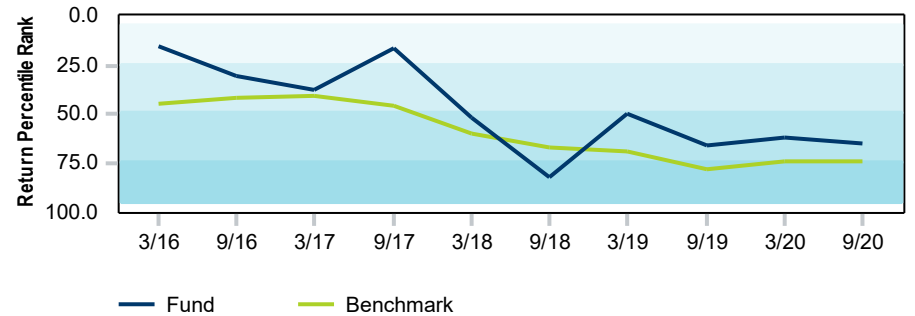
## Comparative Performance



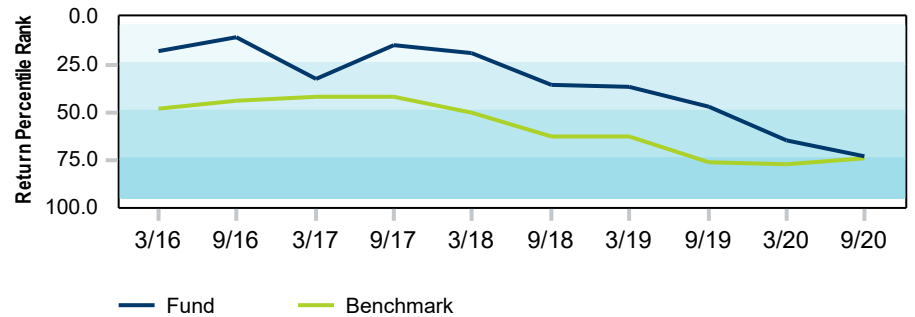
## 1 Year Rolling Percentile Ranking



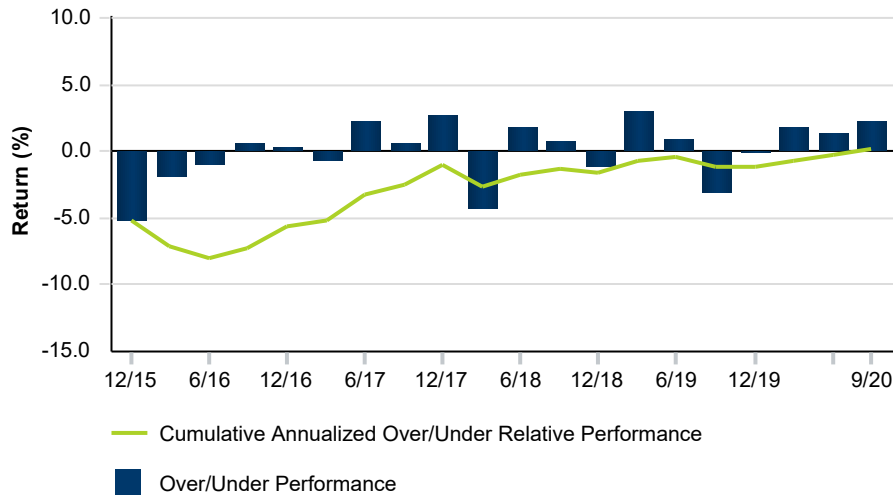
## 3 Year Rolling Percentile Ranking



## 5 Year Rolling Percentile Ranking



## Relative Performance

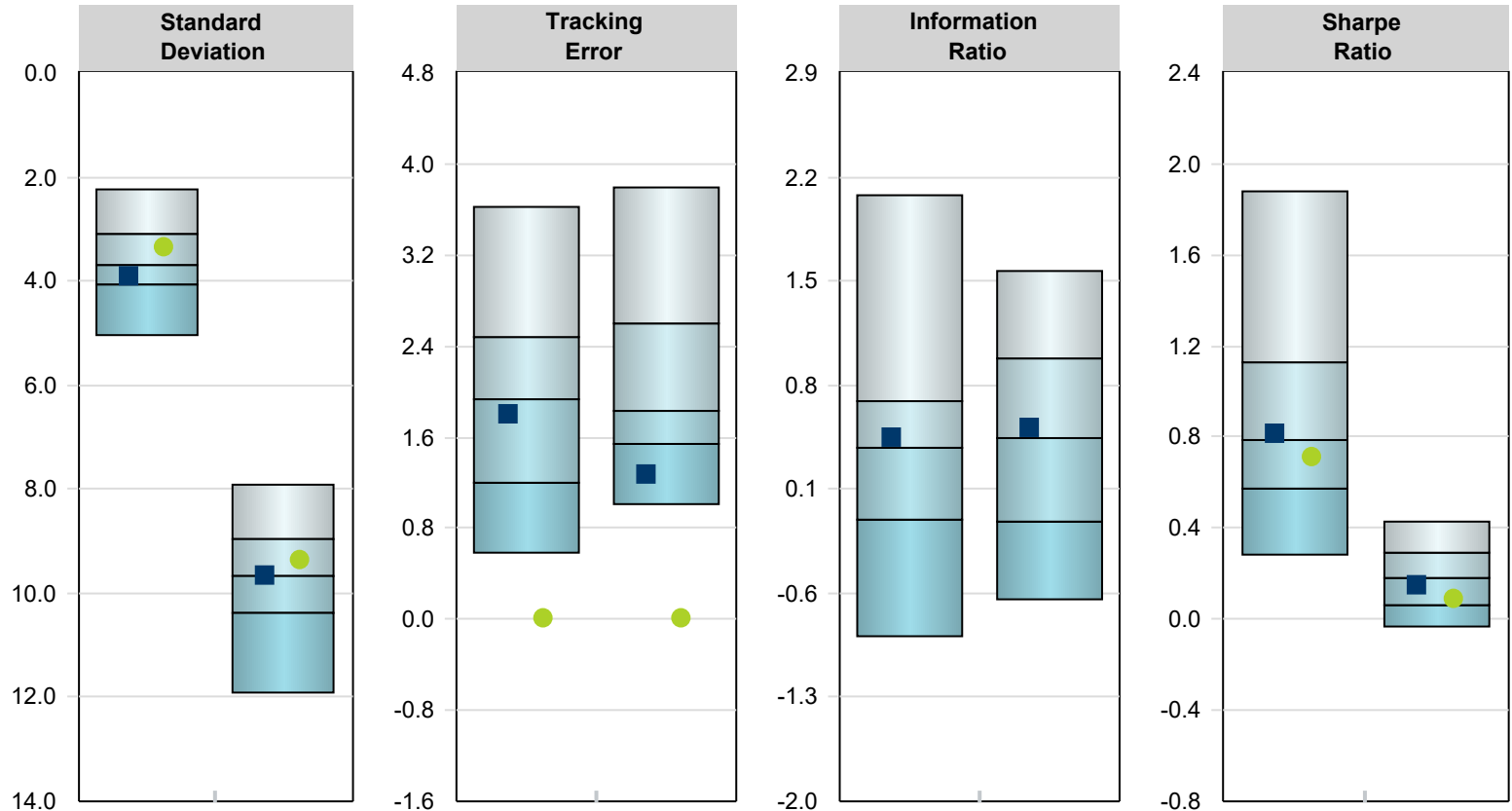




# Peer Group Analysis - Multi Statistics

Emerald Advisors Small Cap

Periods Ended September 30, 2020



	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ Emerald Advisors Small Cap	3.91 (66)	9.67 (49)	1.79 (57)	1.27 (88)	0.44 (46)	0.50 (47)	0.81 (48)	0.15 (57)
● Russell 2000 Growth Index	3.35 (35)	9.36 (37)	0.00 (100)	0.00 (100)			0.71 (63)	0.09 (69)
5th Percentile	2.24	7.93	3.62	3.80	2.08	1.57	1.88	0.43
1st Quartile	3.10	8.95	2.48	2.60	0.70	0.98	1.13	0.29
Median	3.68	9.67	1.94	1.83	0.38	0.44	0.79	0.18
3rd Quartile	4.08	10.39	1.20	1.54	-0.10	-0.12	0.58	0.06
95th Percentile	5.03	11.90	0.59	1.00	-0.88	-0.64	0.28	-0.04

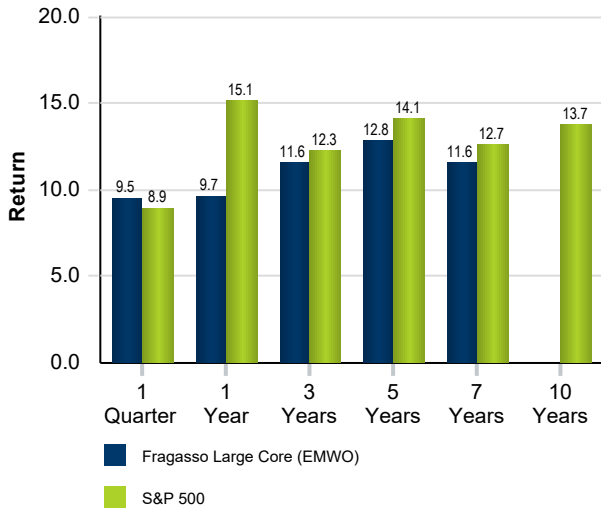
Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

# Performance Summary

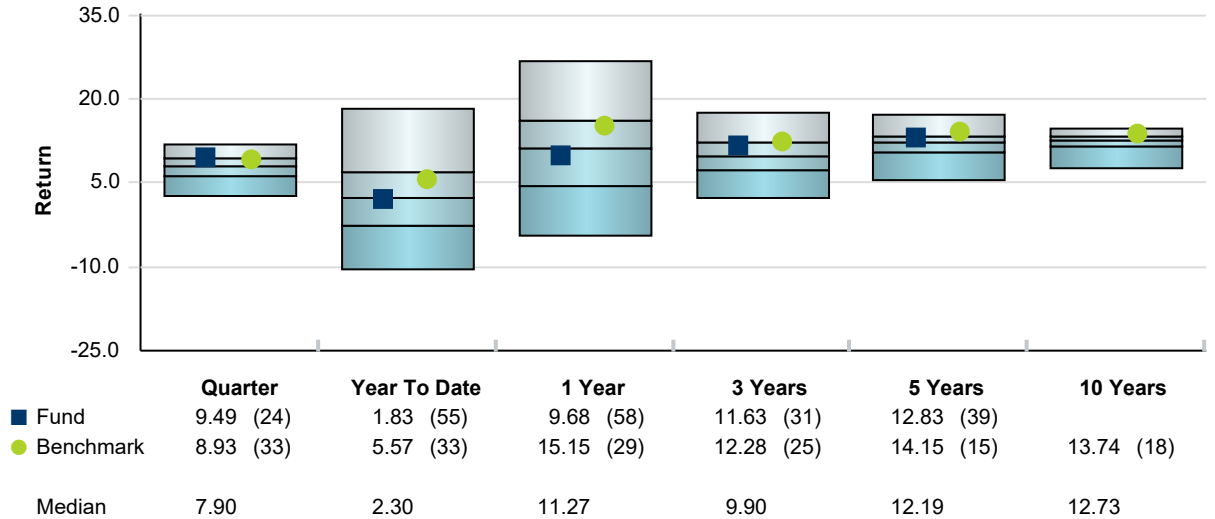
Fragasso Large Core (EMWO)

Periods Ended September 30, 2020

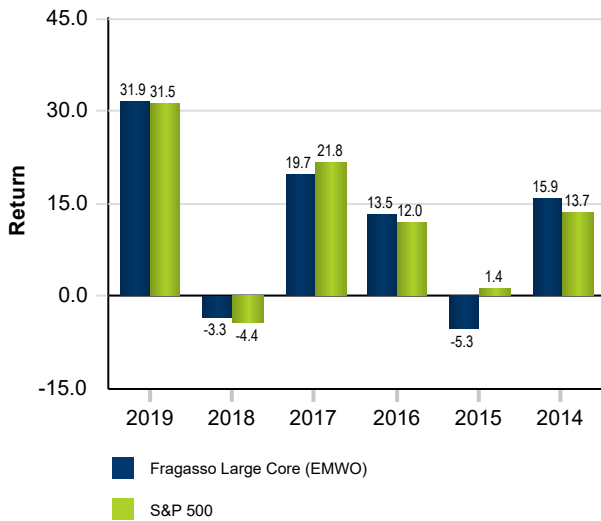
## Comparative Performance



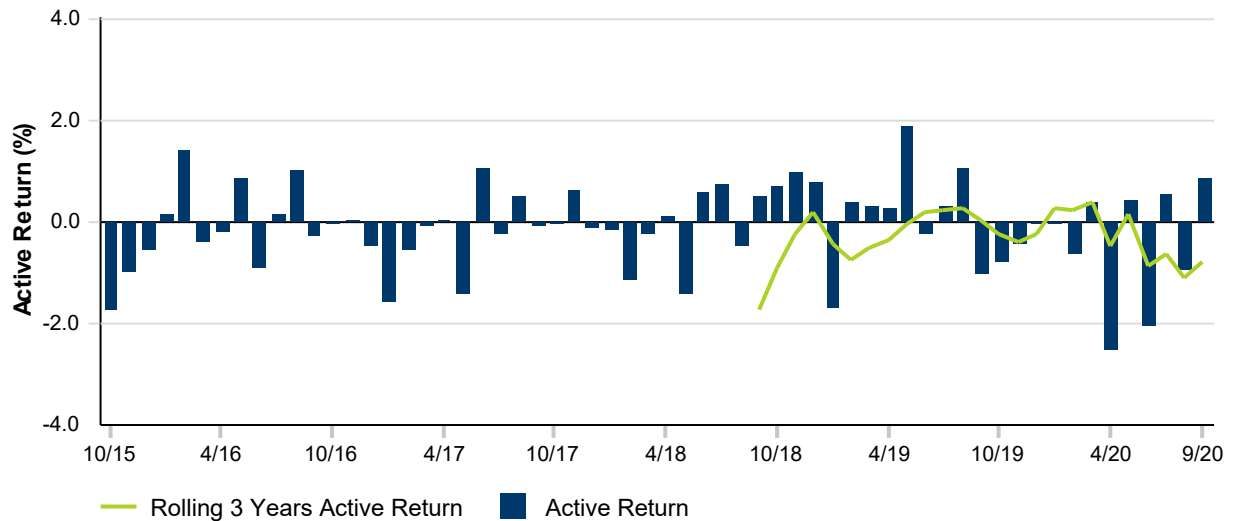
## Peer Group Analysis: IM U.S. Large Cap Core Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Fragasso Large Core (EMWO)

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Fragasso Large Core (EMWO)</u>	<u>S&amp;P 500</u>
Maximum Return	10.30	12.82
Minimum Return	-11.97	-12.35
Return	9.68	15.15
Cumulative Return	9.68	15.15
Active Return	-5.21	0.00
Excess Return	10.48	15.69

## Risk Summary Statistics

	<u>Fragasso Large Core (EMWO)</u>	<u>S&amp;P 500</u>
Upside Risk	4.39	5.01
Downside Risk	15.17	15.32
Beta	0.93	1.00

## Risk/Return Summary Statistics

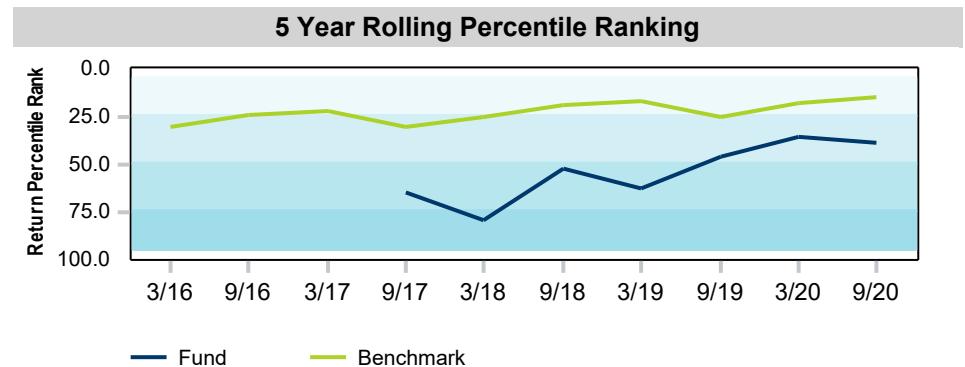
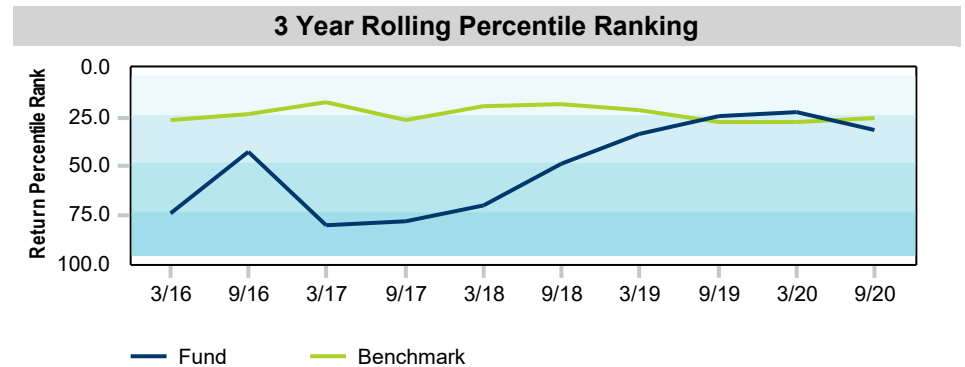
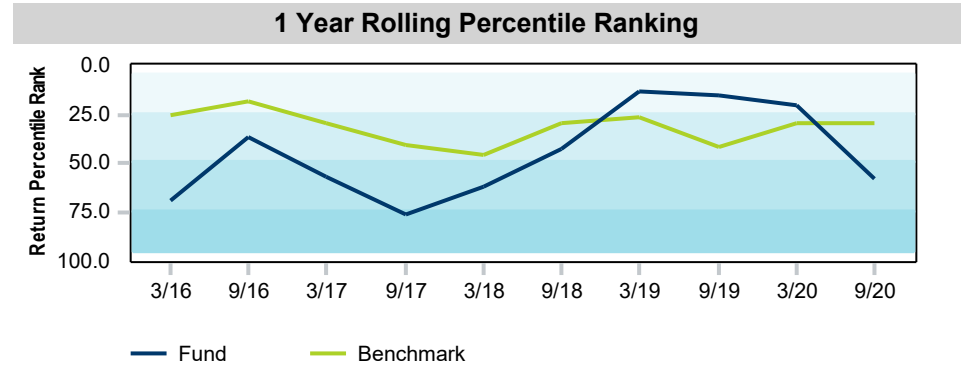
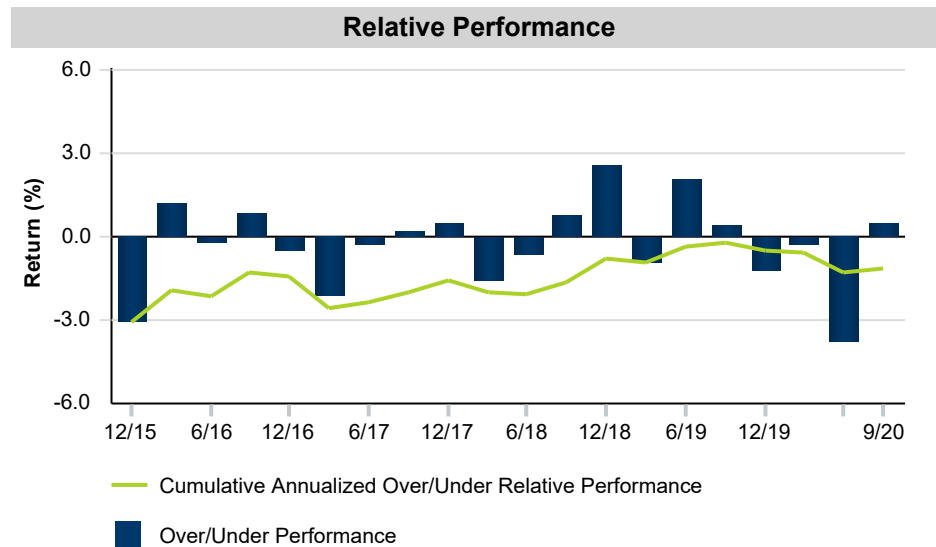
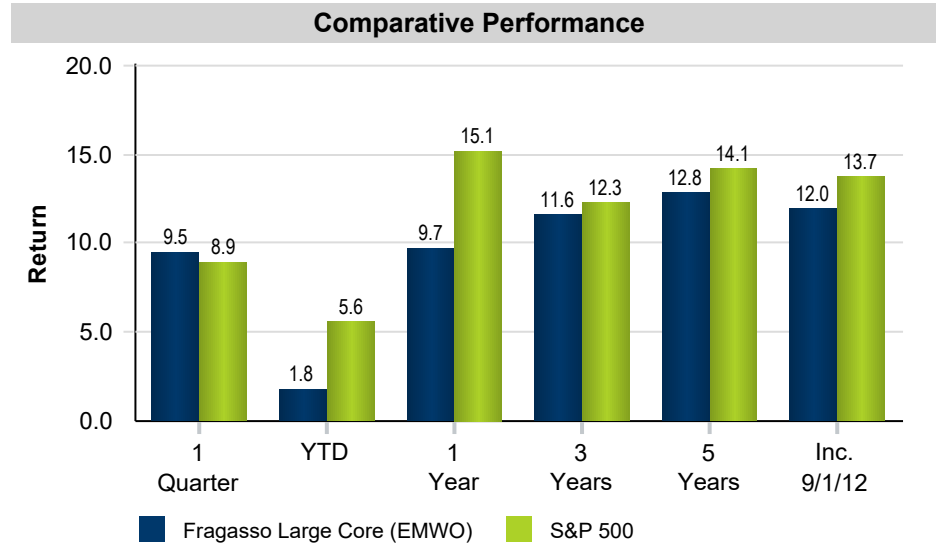
	<u>Fragasso Large Core (EMWO)</u>	<u>S&amp;P 500</u>
Standard Deviation	21.23	22.64
Alpha	-3.93	0.00
Active Return/Risk	-0.25	0.00
Tracking Error	3.43	0.00
Information Ratio	-1.52	
Sharpe Ratio	0.49	0.69

## Correlation Statistics

	<u>Fragasso Large Core (EMWO)</u>	<u>S&amp;P 500</u>
R-Squared	0.98	1.00
Actual Correlation	0.99	1.00

# Manager Summary

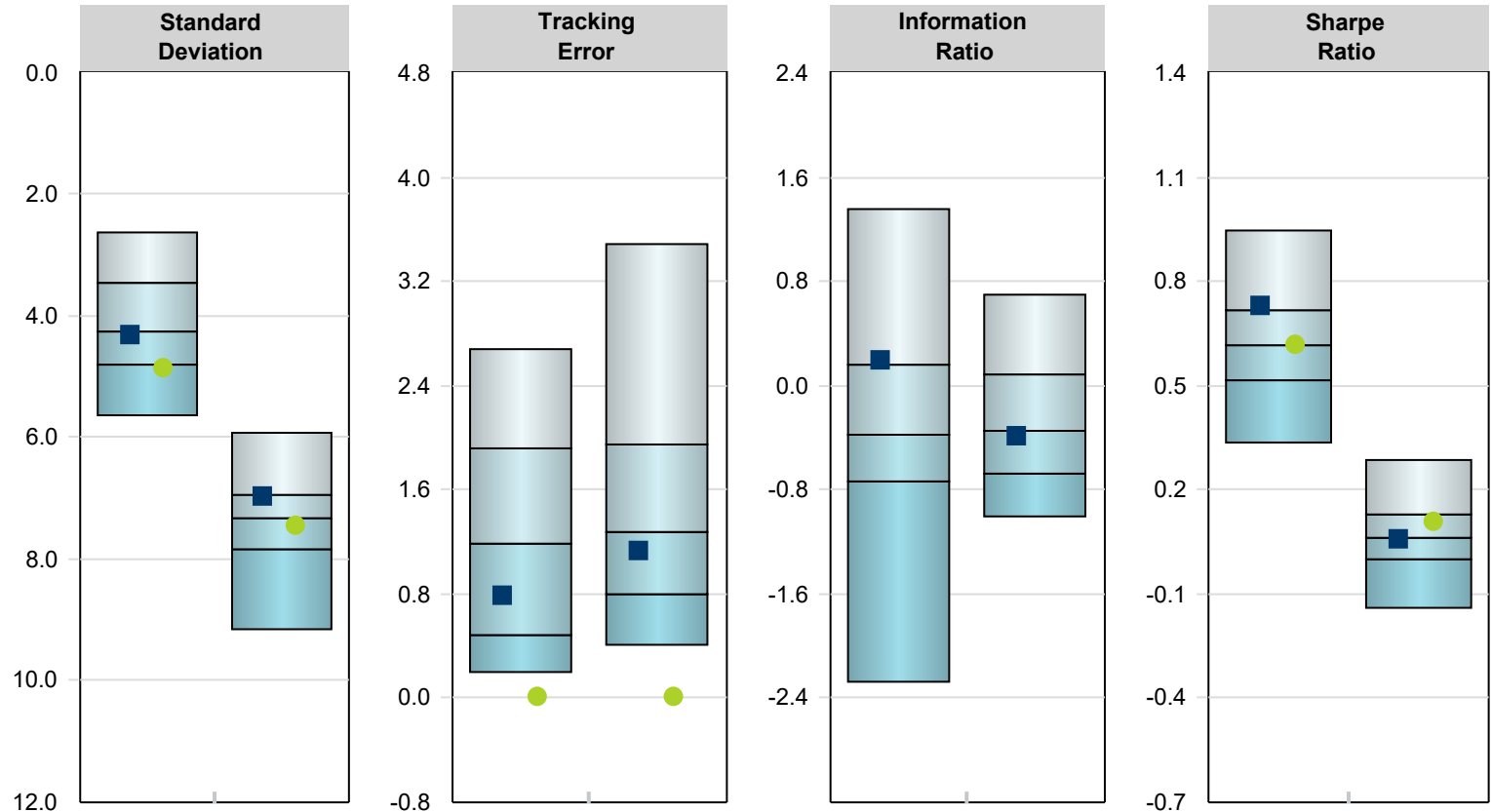
Fragasso Large Core (EMWO) vs IM U.S. Large Cap Core Equity (SA+CF)  
 Periods Ended September 30, 2020



# Peer Group Analysis - Multi Statistics

Fragasso Large Core (EMWO)

Periods Ended September 30, 2020



	Standard Deviation		Tracking Error		Information Ratio		Sharpe Ratio	
	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ Fragasso Large Core (EMWO)	4.33 (52)	6.98 (27)	0.78 (63)	1.13 (57)	0.19 (24)	-0.39 (55)	0.73 (24)	0.05 (56)
● S&P 500	4.86 (80)	7.47 (62)	0.00 (100)	0.00 (100)			0.62 (50)	0.11 (32)
5th Percentile	2.63	5.93	2.67	3.48	1.36	0.70	0.95	0.29
1st Quartile	3.46	6.94	1.92	1.95	0.16	0.09	0.72	0.13
Median	4.24	7.32	1.18	1.28	-0.37	-0.35	0.62	0.06
3rd Quartile	4.79	7.86	0.48	0.79	-0.74	-0.68	0.51	0.00
95th Percentile	5.62	9.16	0.20	0.41	-2.28	-1.00	0.33	-0.14

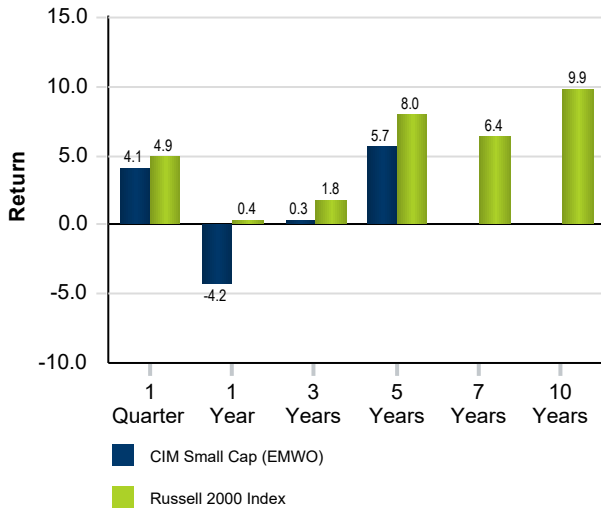
Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

# Performance Summary

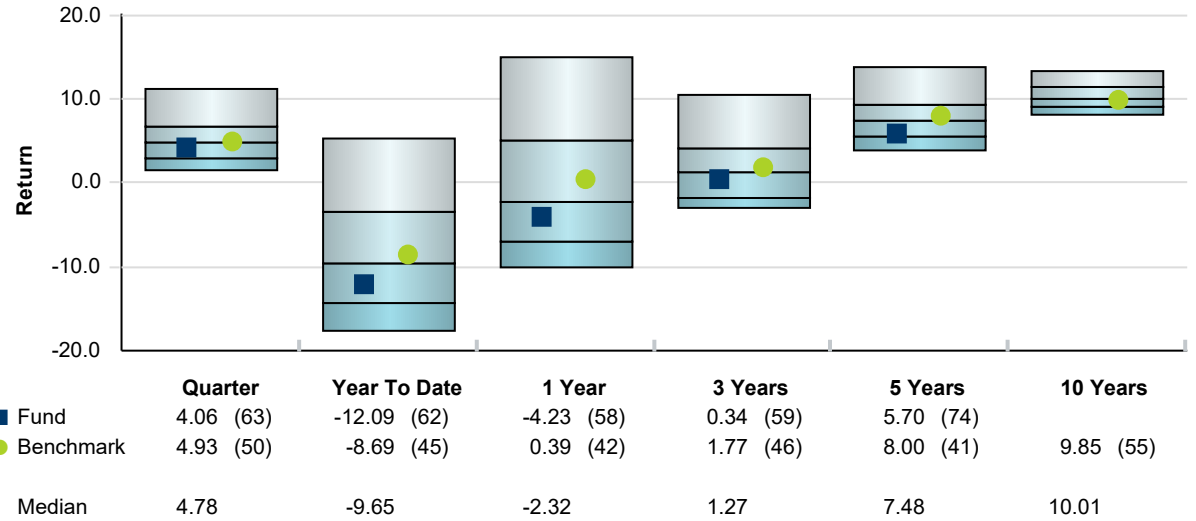
CIM Small Cap (EMWO)

Periods Ended September 30, 2020

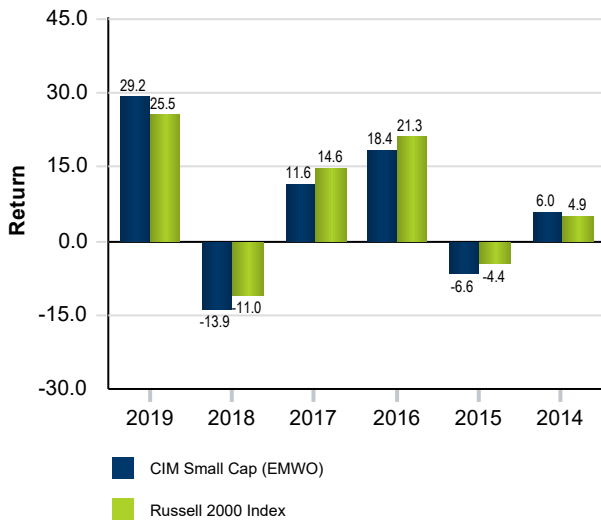
## Comparative Performance



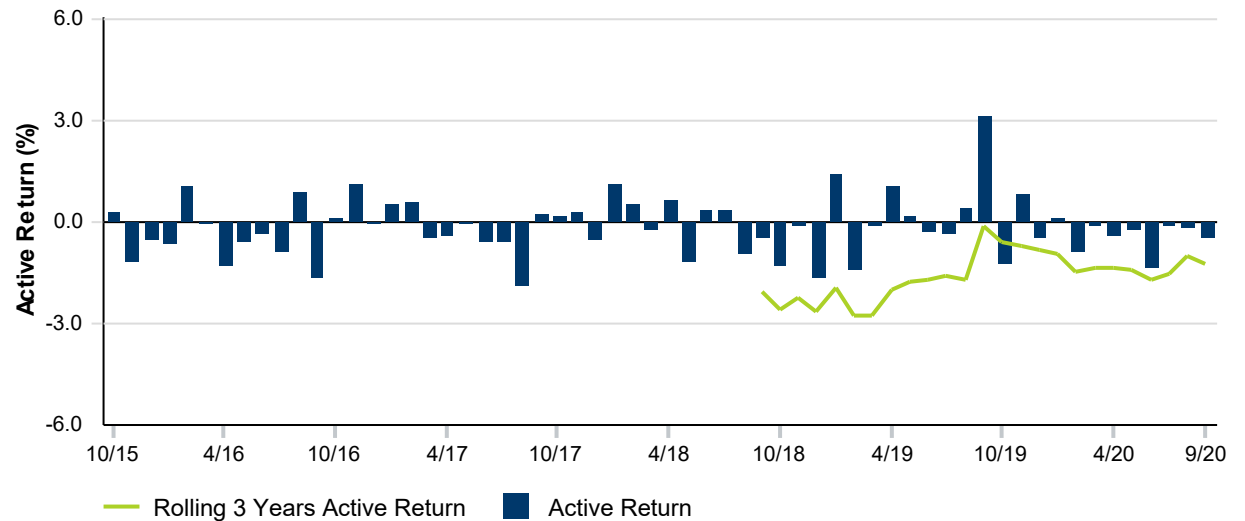
## Peer Group Analysis: IM U.S. Small Cap Core Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

CIM Small Cap (EMWO)

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>CIM Small Cap (EMWO)</u>	<u>Russell 2000 Index</u>
Maximum Return	13.34	13.74
Minimum Return	-21.85	-21.73
Return	-4.23	0.39
Cumulative Return	-4.23	0.39
Active Return	-4.69	0.00
Excess Return	-0.67	4.02

## Risk Summary Statistics

	<u>CIM Small Cap (EMWO)</u>	<u>Russell 2000 Index</u>
Upside Risk	4.91	5.12
Downside Risk	24.27	23.76
Beta	1.00	1.00

## Risk/Return Summary Statistics

	<u>CIM Small Cap (EMWO)</u>	<u>Russell 2000 Index</u>
Standard Deviation	29.64	29.62
Alpha	-4.59	0.00
Active Return/Risk	-0.16	0.00
Tracking Error	1.95	0.00
Information Ratio	-2.41	
Sharpe Ratio	-0.02	0.13

## Correlation Statistics

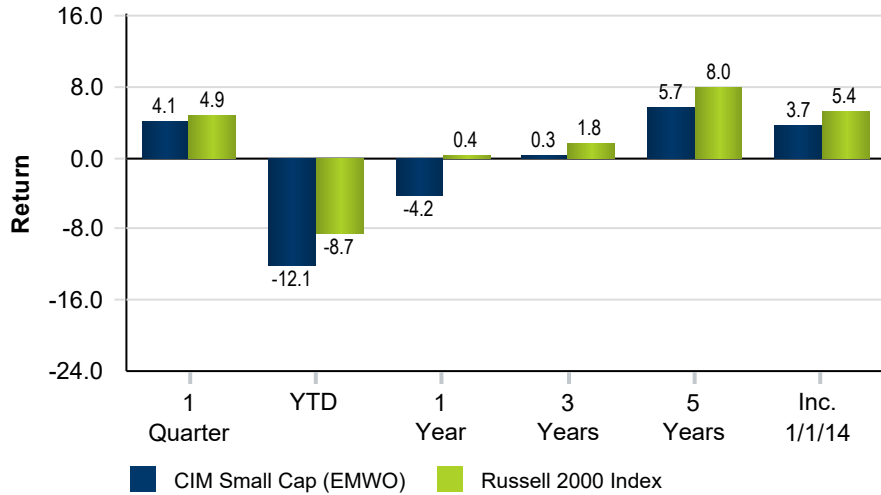
	<u>CIM Small Cap (EMWO)</u>	<u>Russell 2000 Index</u>
R-Squared	1.00	1.00
Actual Correlation	1.00	1.00

# Manager Summary

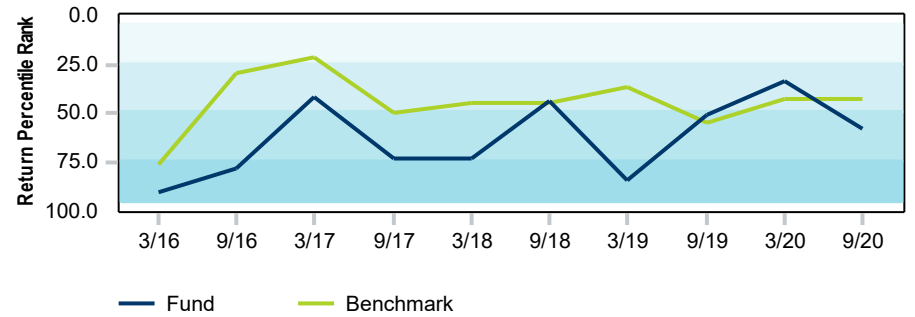
CIM Small Cap (EMWO) vs IM U.S. Small Cap Core Equity (SA+CF)

Periods Ended September 30, 2020

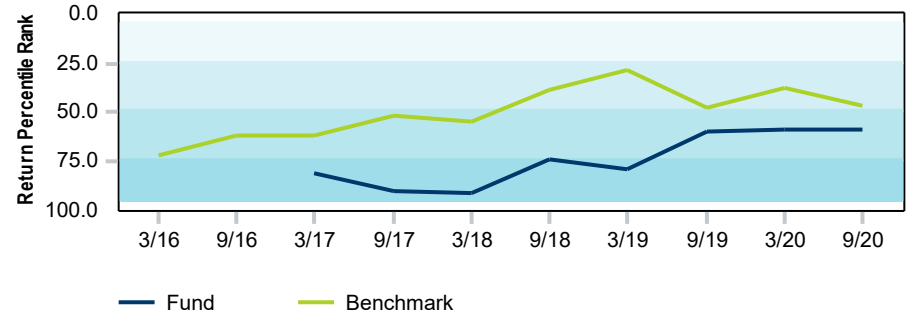
**Comparative Performance**



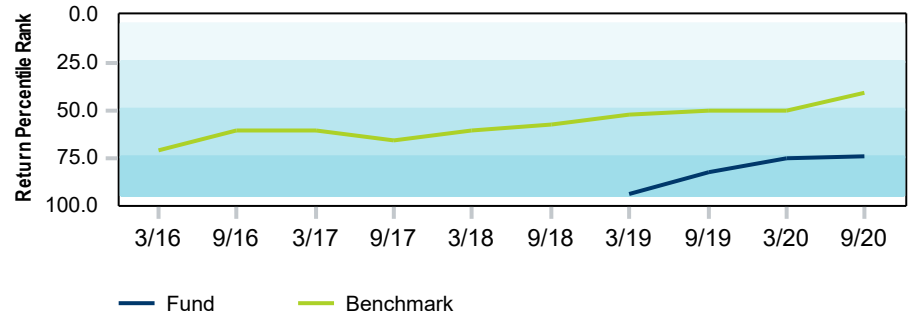
**1 Year Rolling Percentile Ranking**



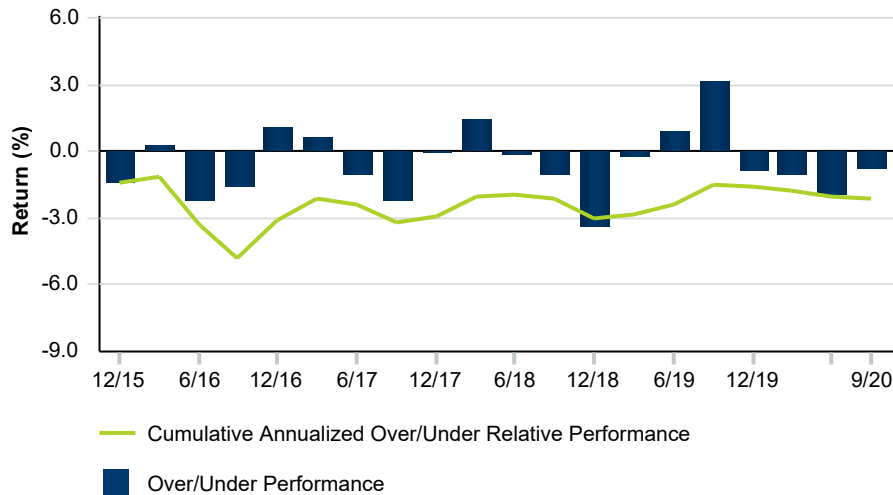
**3 Year Rolling Percentile Ranking**



**5 Year Rolling Percentile Ranking**



**Relative Performance**

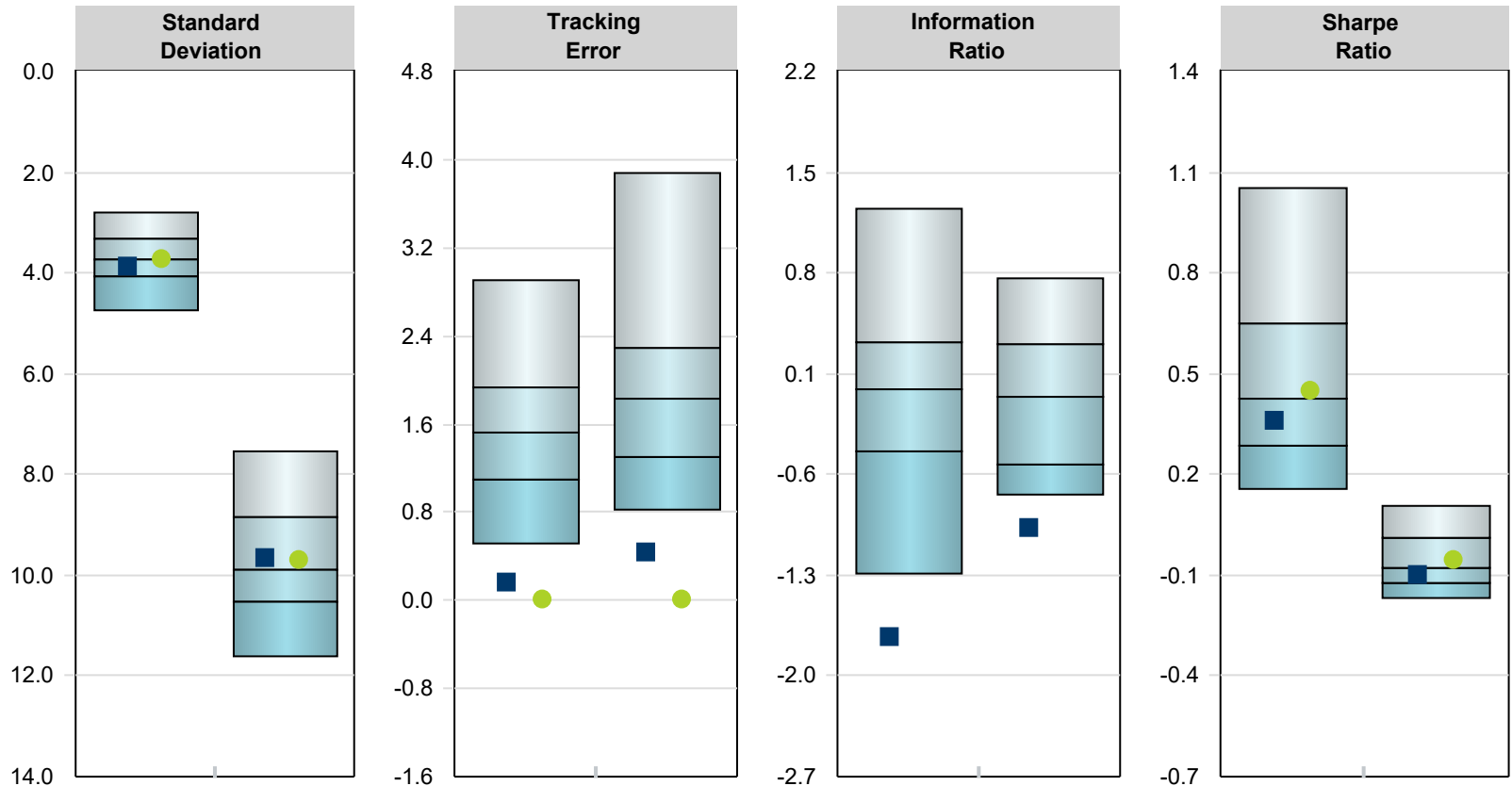




# Peer Group Analysis - Multi Statistics

CIM Small Cap (EMWO)

Periods Ended September 30, 2020



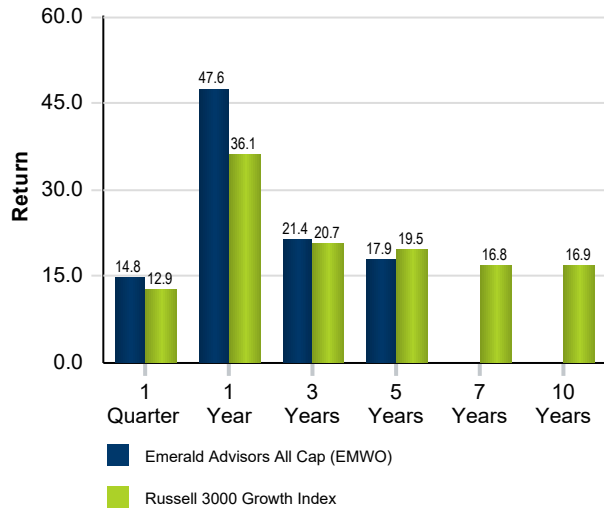
	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ CIM Small Cap (EMWO)	3.88 (60)	9.66 (40)	0.16 (100)	0.43 (100)	-1.73 (98)	-0.98 (100)	0.36 (65)	-0.10 (63)
● Russell 2000 Index	3.74 (50)	9.69 (40)	0.00 (100)	0.00 (100)			0.45 (47)	-0.06 (45)
5th Percentile	2.79	7.55	2.91	3.88	1.25	0.77	1.05	0.11
1st Quartile	3.31	8.86	1.93	2.30	0.32	0.31	0.65	0.01
Median	3.73	9.90	1.53	1.83	-0.01	-0.06	0.43	-0.08
3rd Quartile	4.06	10.53	1.09	1.30	-0.43	-0.53	0.29	-0.12
95th Percentile	4.74	11.60	0.52	0.83	-1.29	-0.75	0.15	-0.17

Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

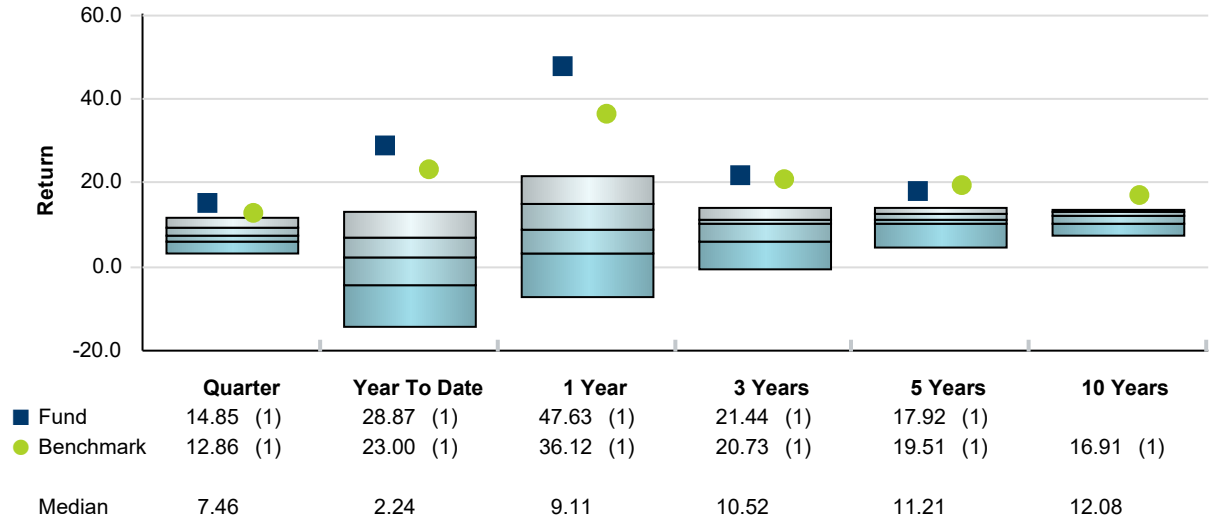
# Performance Summary

Emerald Advisors All Cap (EMWO)  
 Periods Ended September 30, 2020

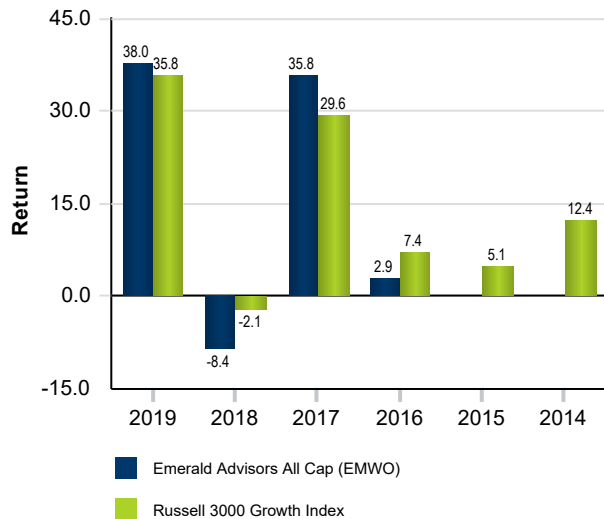
## Comparative Performance



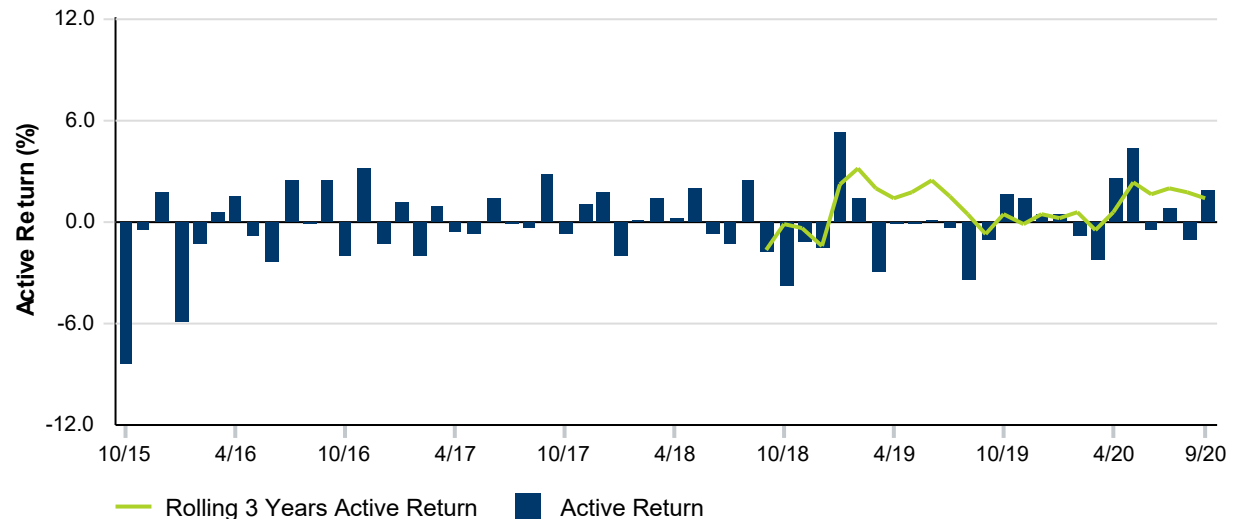
## Peer Group Analysis: IM U.S. All Cap Core Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Emerald Advisors All Cap (EMWO)

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Emerald Advisors All Cap (EMWO)</u>	<u>Russell 3000 Growth Index</u>
Maximum Return	17.36	14.80
Minimum Return	-12.59	-10.41
Return	47.63	36.12
Cumulative Return	47.63	36.12
Active Return	9.21	0.00
Excess Return	42.15	32.93

## Risk Summary Statistics

	<u>Emerald Advisors All Cap (EMWO)</u>	<u>Russell 3000 Growth Index</u>
Upside Risk	7.46	6.35
Downside Risk	14.97	13.27
Beta	1.12	1.00

## Risk/Return Summary Statistics

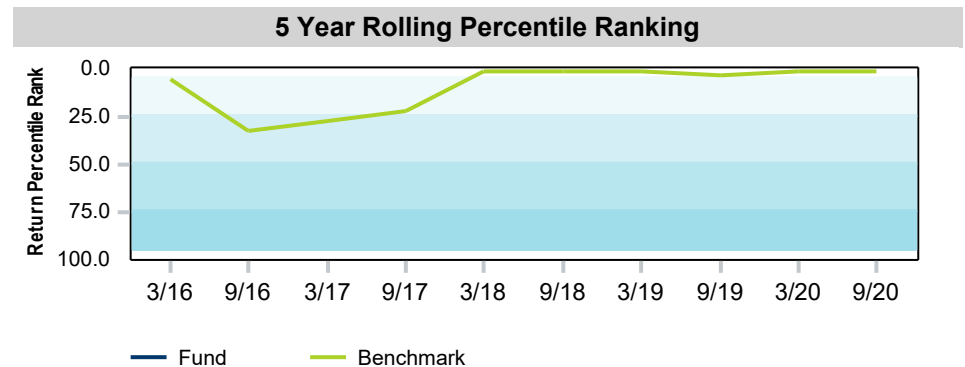
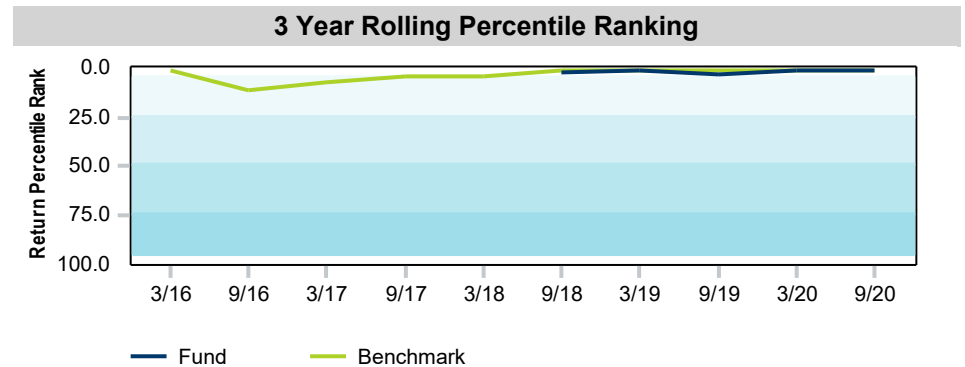
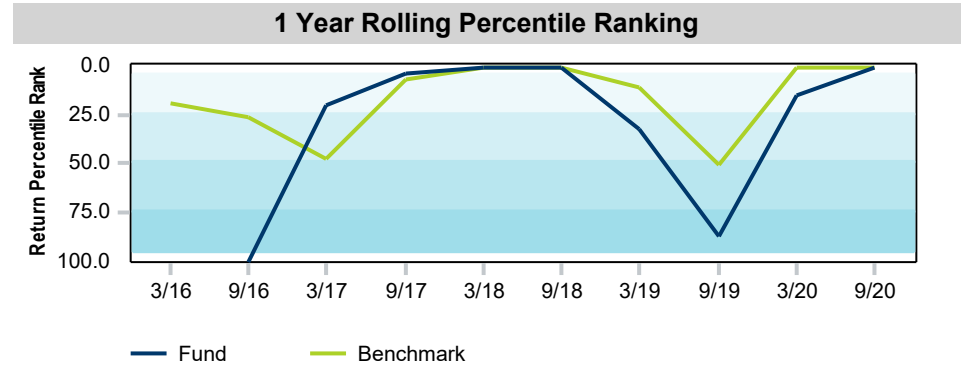
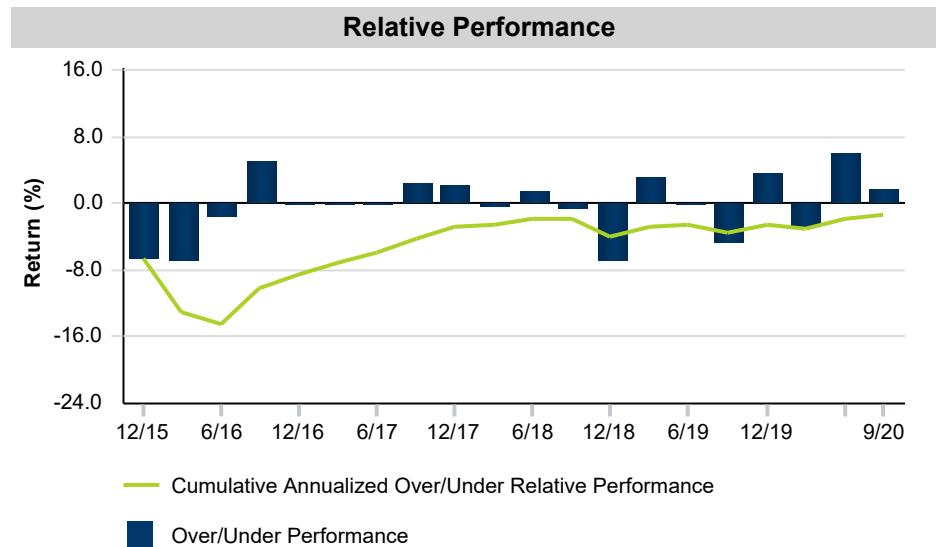
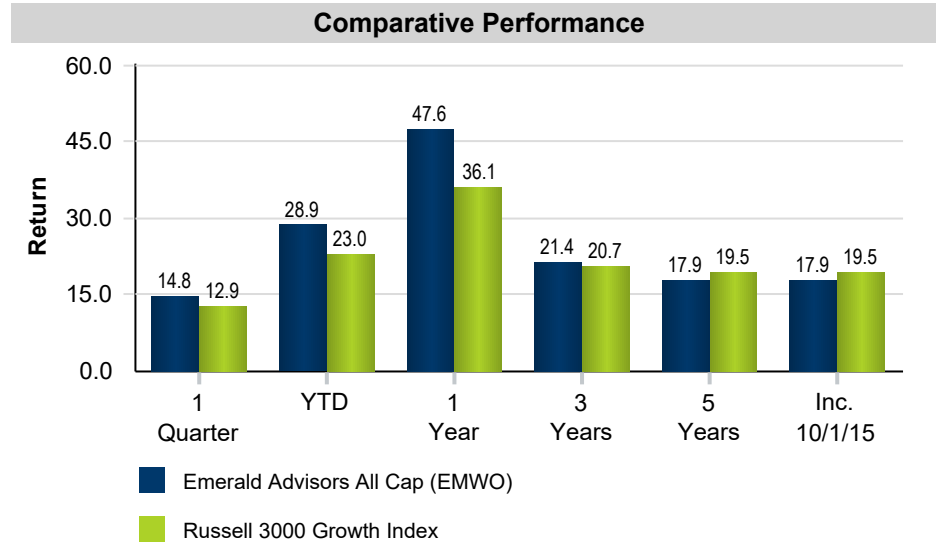
	<u>Emerald Advisors All Cap (EMWO)</u>	<u>Russell 3000 Growth Index</u>
Standard Deviation	27.12	23.72
Alpha	5.17	0.00
Active Return/Risk	0.34	0.00
Tracking Error	5.89	0.00
Information Ratio	1.56	
Sharpe Ratio	1.54	1.38

## Correlation Statistics

	<u>Emerald Advisors All Cap (EMWO)</u>	<u>Russell 3000 Growth Index</u>
R-Squared	0.96	1.00
Actual Correlation	0.98	1.00

# Manager Summary

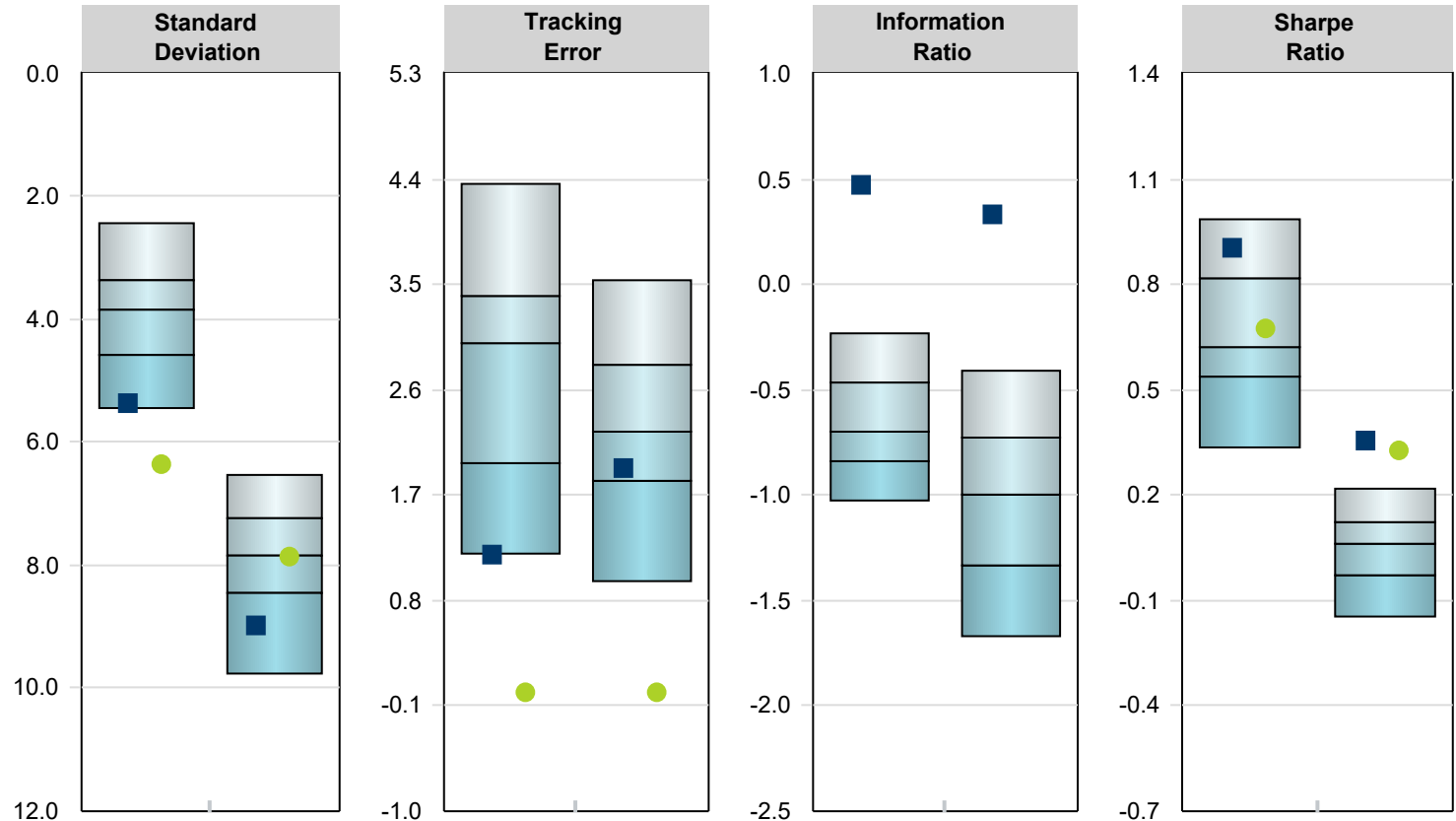
Emerald Advisors All Cap (EMWO) vs IM U.S. All Cap Core Equity (SA+CF)  
 Periods Ended September 30, 2020



# Peer Group Analysis - Multi Statistics

Emerald Advisors All Cap (EMWO)

Periods Ended September 30, 2020



	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ Emerald Advisors All Cap (EMWO)	5.38 (93)	8.99 (82)	1.18 (96)	1.92 (69)	0.46 (1)	0.33 (1)	0.90 (14)	0.35 (1)
● Russell 3000 Growth Index	6.38 (100)	7.89 (52)	0.00 (100)	0.00 (100)			0.67 (38)	0.32 (1)
5th Percentile	2.45	6.54	4.35	3.53	-0.23	-0.41	0.98	0.22
1st Quartile	3.36	7.22	3.41	2.82	-0.47	-0.72	0.82	0.12
Median	3.84	7.83	3.01	2.25	-0.69	-1.00	0.62	0.06
3rd Quartile	4.57	8.45	1.97	1.83	-0.84	-1.33	0.54	-0.03
95th Percentile	5.44	9.77	1.21	0.96	-1.02	-1.67	0.33	-0.15

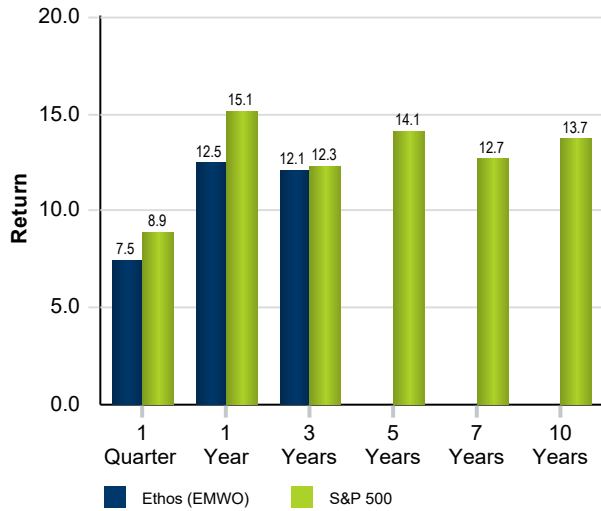
Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

# Performance Summary

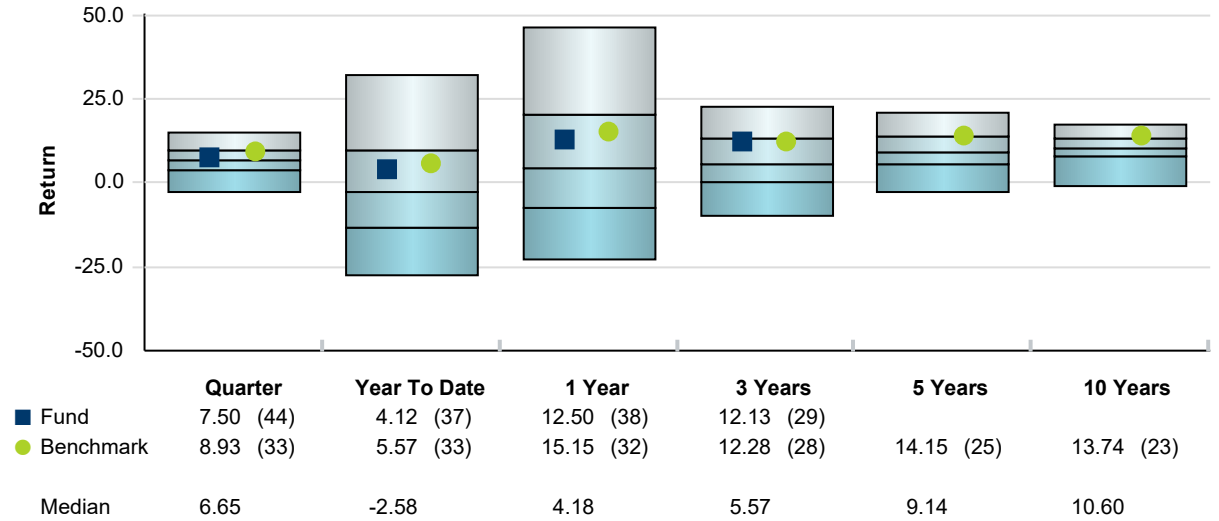
Ethos (EMWO)

Periods Ended September 30, 2020

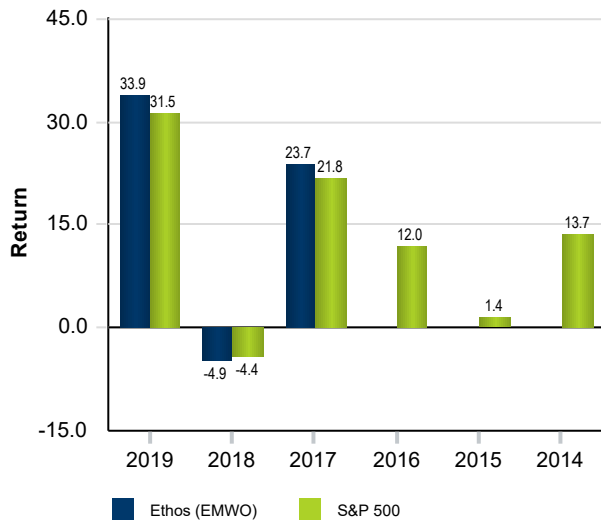
## Comparative Performance



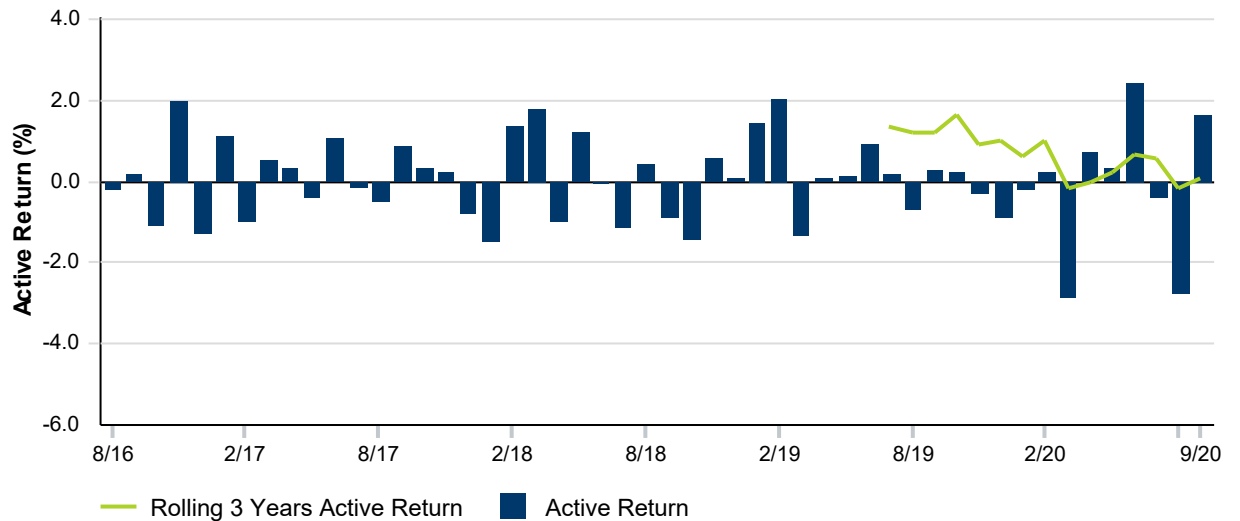
## Peer Group Analysis: IM U.S. Equity (MF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Ethos (EMWO)

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Ethos (EMWO)</u>	<u>S&amp;P 500</u>
Maximum Return	13.51	12.82
Minimum Return	-15.23	-12.35
Return	12.50	15.15
Cumulative Return	12.50	15.15
Active Return	-1.97	0.00
Excess Return	13.73	15.69

## Risk Summary Statistics

	<u>Ethos (EMWO)</u>	<u>S&amp;P 500</u>
Upside Risk	4.96	5.01
Downside Risk	17.35	15.32
Beta	1.04	1.00

## Risk/Return Summary Statistics

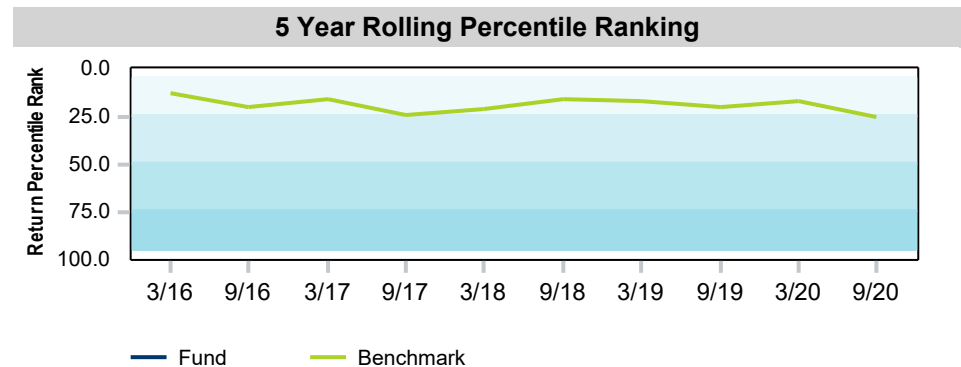
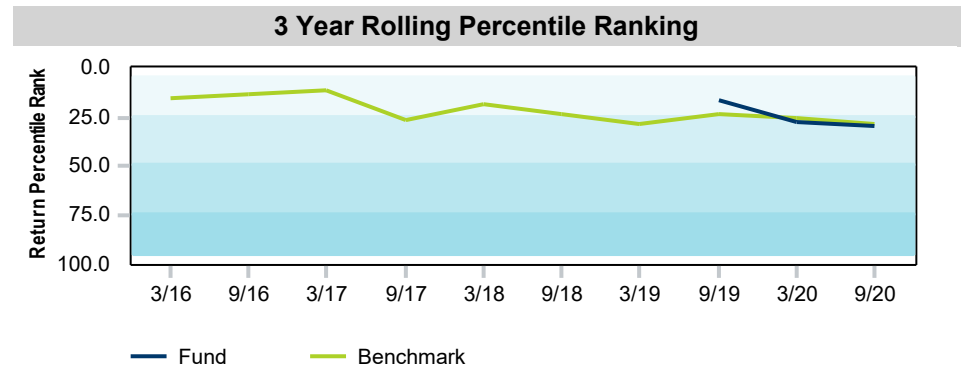
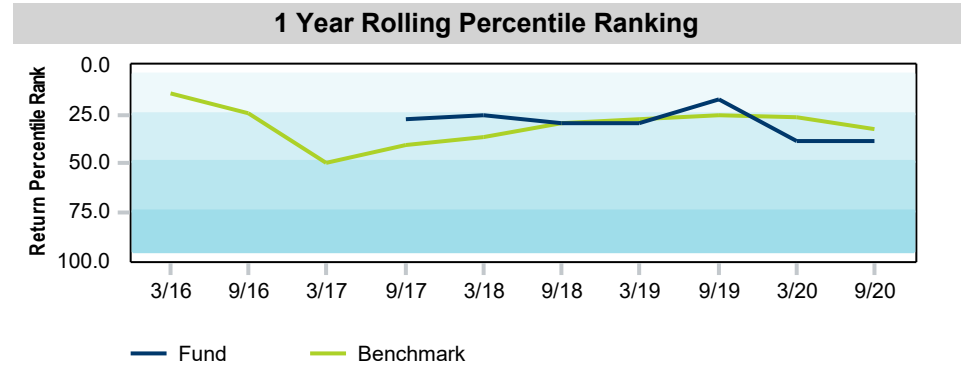
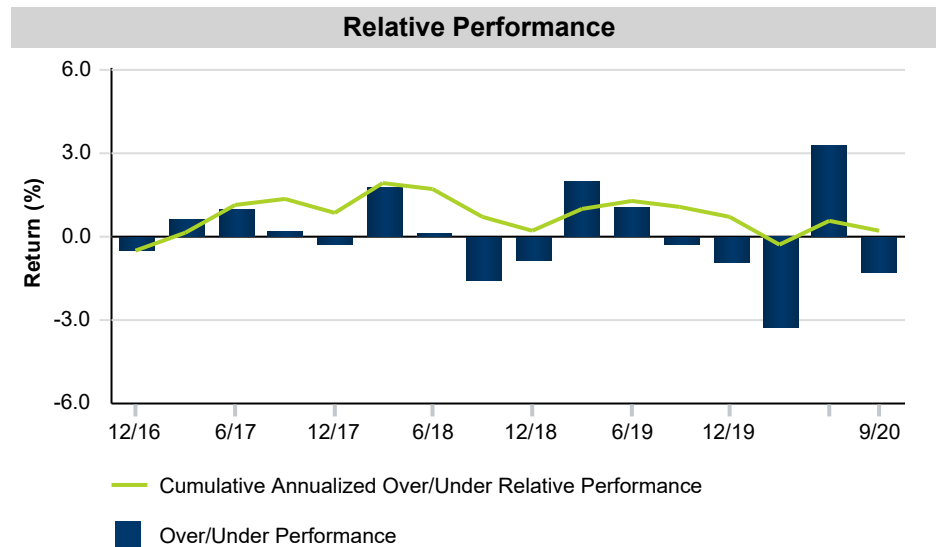
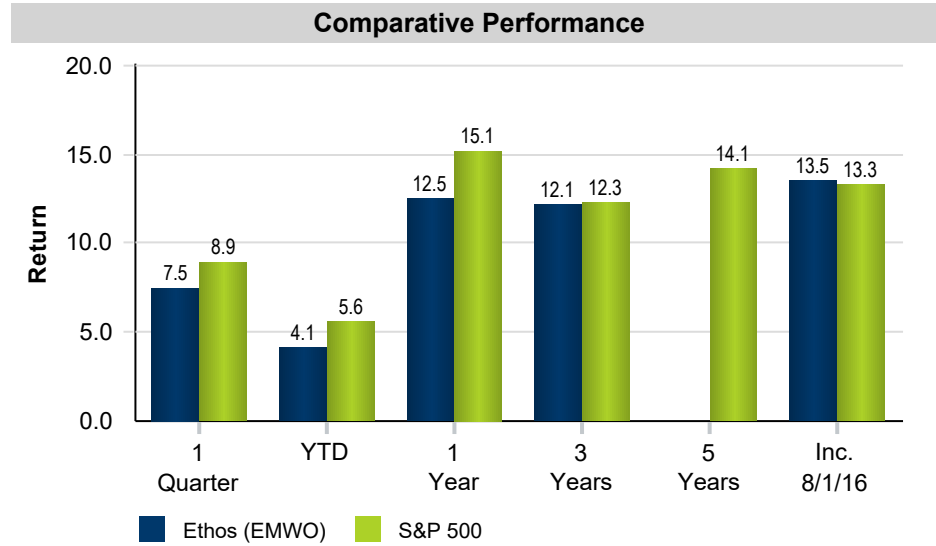
	<u>Ethos (EMWO)</u>	<u>S&amp;P 500</u>
Standard Deviation	24.05	22.64
Alpha	-2.59	0.00
Active Return/Risk	-0.08	0.00
Tracking Error	5.11	0.00
Information Ratio	-0.39	
Sharpe Ratio	0.57	0.69

## Correlation Statistics

	<u>Ethos (EMWO)</u>	<u>S&amp;P 500</u>
R-Squared	0.96	1.00
Actual Correlation	0.98	1.00

# Manager Summary

Ethos (EMWO) vs IM U.S. Equity (MF)  
 Periods Ended September 30, 2020

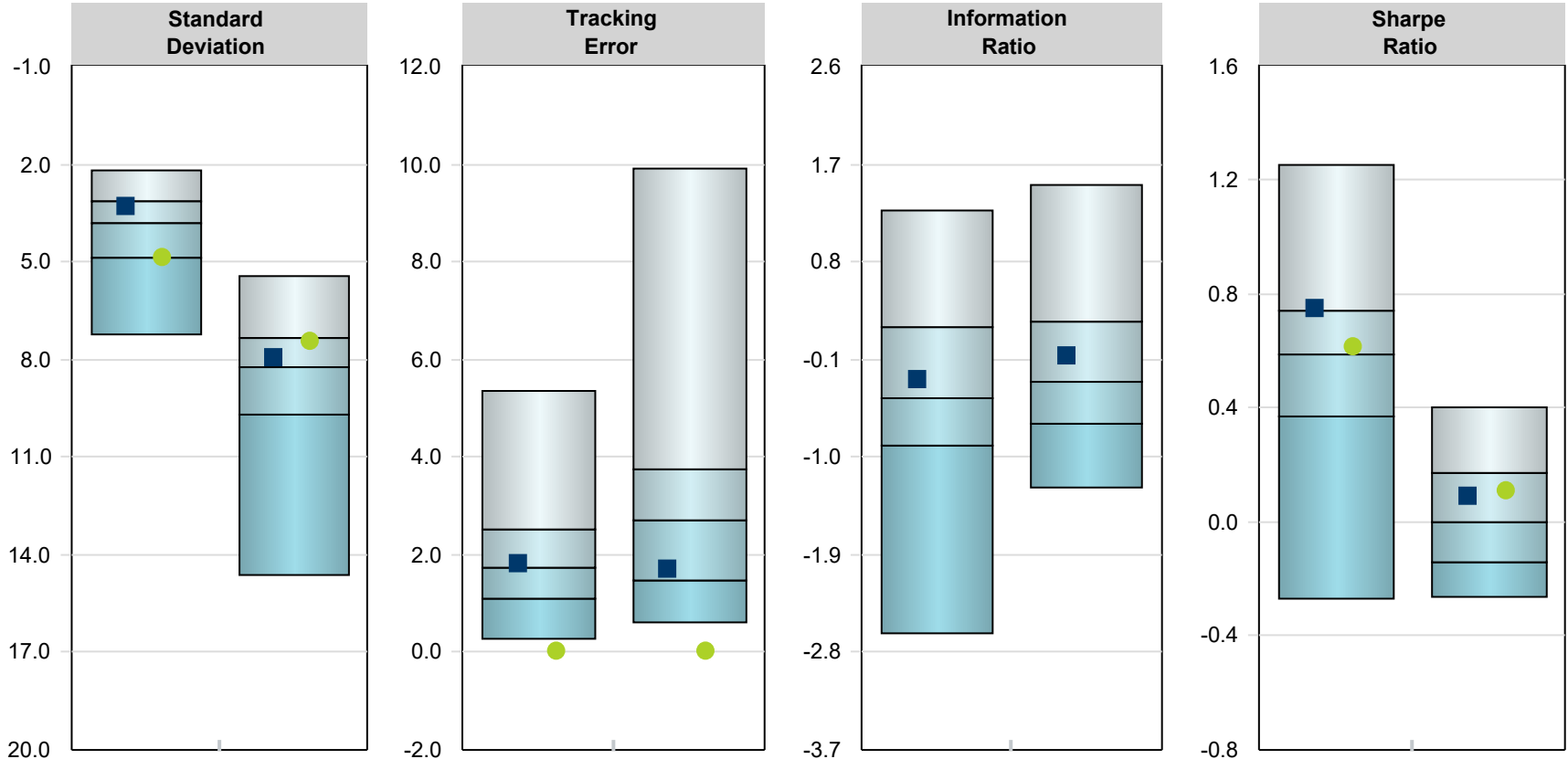




# Peer Group Analysis - Multi Statistics

Ethos (EMWO)

Periods Ended September 30, 2020



	QTD		YTD	
■ Ethos (EMWO)	3.30 (31)	7.96 (44)	1.81 (48)	1.68 (69)
● S&P 500	4.86 (74)	7.47 (29)	0.00 (100)	0.00 (100)
5th Percentile	2.21	5.47	5.36	9.92
1st Quartile	3.12	7.36	2.51	3.75
Median	3.79	8.22	1.75	2.69
3rd Quartile	4.86	9.67	1.10	1.47
95th Percentile	7.21	14.61	0.28	0.63

	QTD		YTD	
■ Ethos (EMWO)	-0.28 (43)	-0.07 (37)	0.75 (25)	0.09 (38)
● S&P 500	-0.28 (43)	-0.07 (37)	0.62 (44)	0.11 (33)
5th Percentile	1.28	1.51	1.26	0.40
1st Quartile	0.19	0.25	0.74	0.17
Median	-0.46	-0.31	0.59	0.00
3rd Quartile	-0.90	-0.69	0.37	-0.14
95th Percentile	-2.63	-1.28	-0.27	-0.26

Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

# Summary Statistics

Cookson Peirce (EMWO)

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Cookson Peirce (EMWO)</u>	<u>Russell 3000 Index</u>
Maximum Return	10.54	13.24
Minimum Return	-11.06	-13.75
Return	15.23	15.00
Cumulative Return	15.23	15.00
Active Return	-0.23	0.00
Excess Return	15.62	15.86

## Risk Summary Statistics

	<u>Cookson Peirce (EMWO)</u>	<u>Russell 3000 Index</u>
Upside Risk	4.79	5.18
Downside Risk	15.19	16.41
Beta	0.87	1.00

## Risk/Return Summary Statistics

	<u>Cookson Peirce (EMWO)</u>	<u>Russell 3000 Index</u>
Standard Deviation	21.97	23.81
Alpha	2.03	0.00
Active Return/Risk	-0.01	0.00
Tracking Error	8.14	0.00
Information Ratio	-0.03	
Sharpe Ratio	0.70	0.66

## Correlation Statistics

	<u>Cookson Peirce (EMWO)</u>	<u>Russell 3000 Index</u>
R-Squared	0.88	1.00
Actual Correlation	0.94	1.00



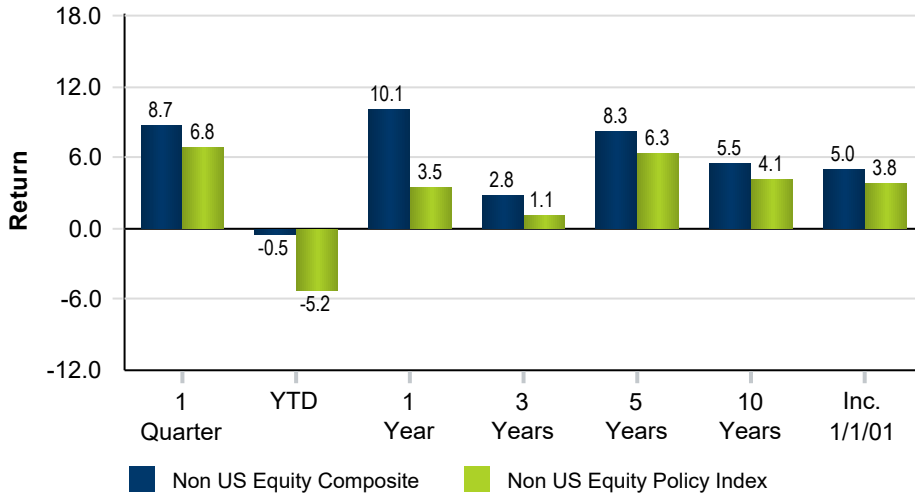
# Non US Equity Composite

# Composite Performance Summary

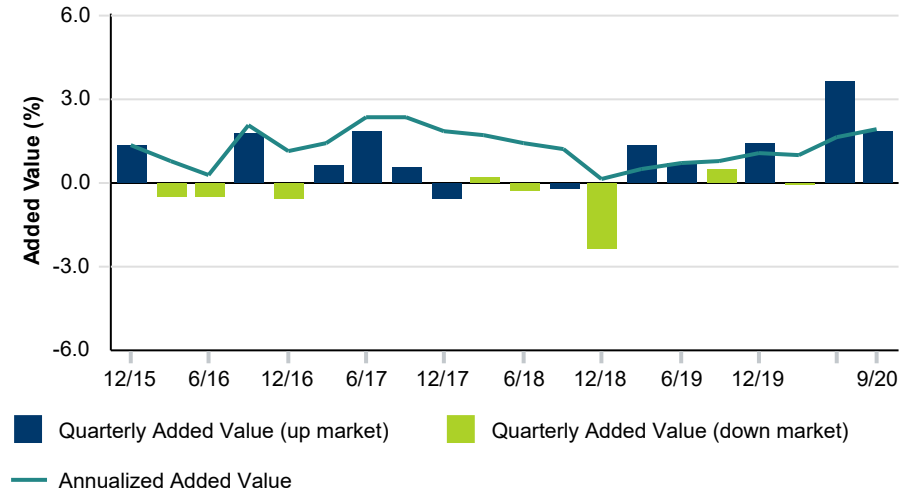
Non US Equity Composite

Periods Ended September 30, 2020

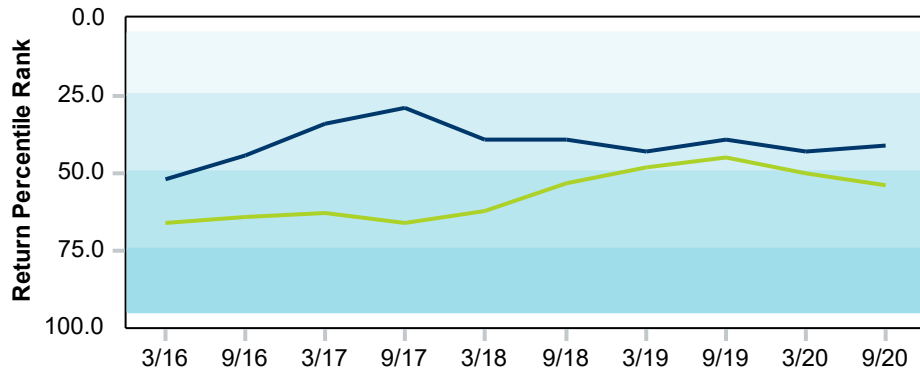
**Comparative Performance**



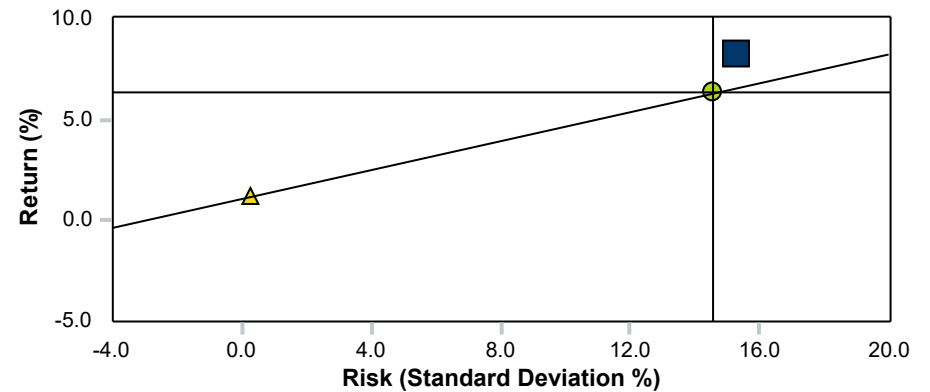
**Added Value History**



**Rolling Percentile Rank: IM International Equity (SA+CF)**



**Risk and Return 10/1/15 - 09/30/20**



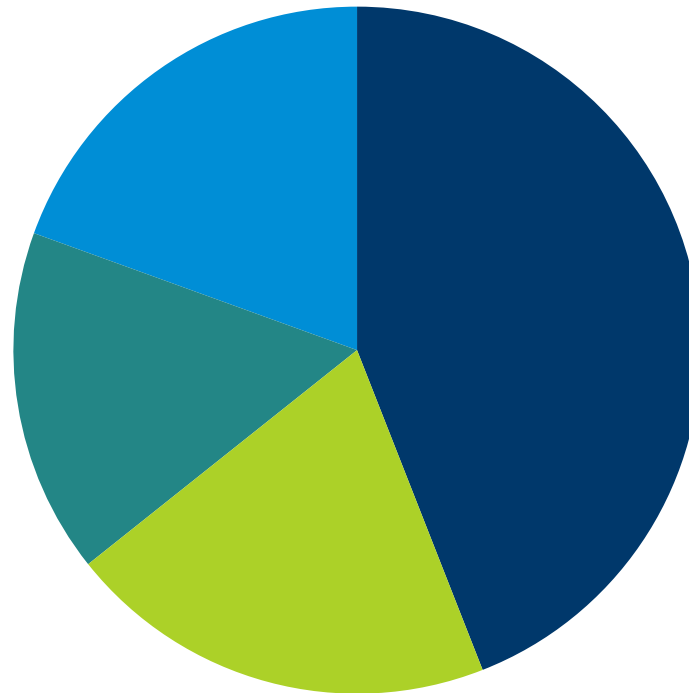
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Non US Equity Composite	10	0 (0%)	9 (90%)	1 (10%)	0 (0%)
Benchmark	10	0 (0%)	3 (30%)	7 (70%)	0 (0%)

# Asset Allocation By Manager

Non US Equity Composite

Periods Ended September 30, 2020

Sep-2020 : 170,406,775

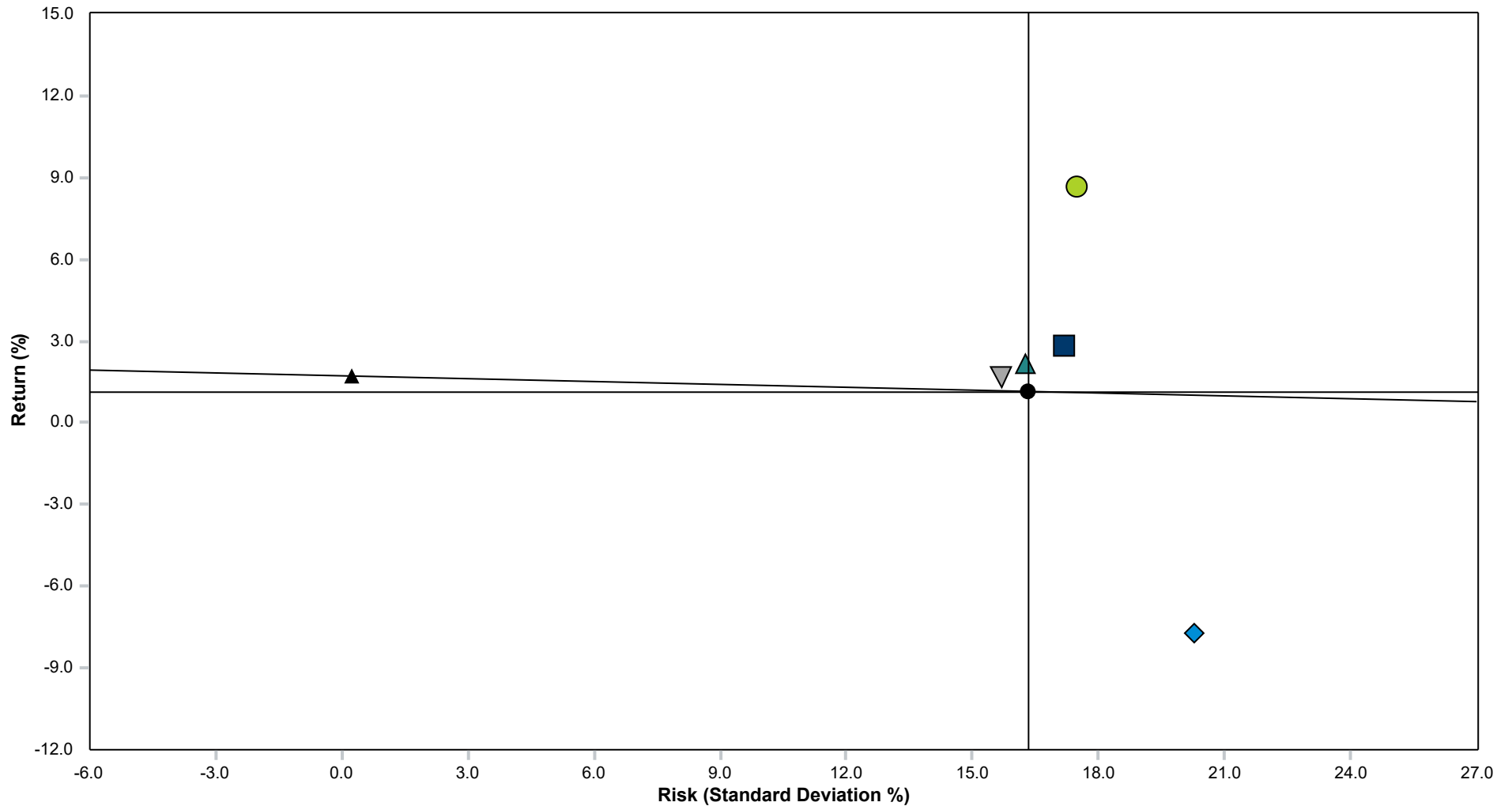


	Market Value \$	Allocation (%)
■ Baillie Gifford Intl Equity	75,061,570	44.0
■ FIAM Select International Equity	34,508,081	20.3
■ Segal, Bryant & Hamill	27,660,862	16.2
■ SSgA ACWI ex US	33,176,262	19.5

# Risk vs. Return

Non US Equity Composite

Periods Ended 3 Years Ending September 30, 2020



- Non US Equity Composite
- Baillie Gifford Intl Equity
- ▲ FIAM Select International Equity
- ◆ Segal, Bryant & Hamill
- ▼ SSgA ACWI ex US
- Non US Equity Policy Index
- ▲ 90 Day US Treasury Bill

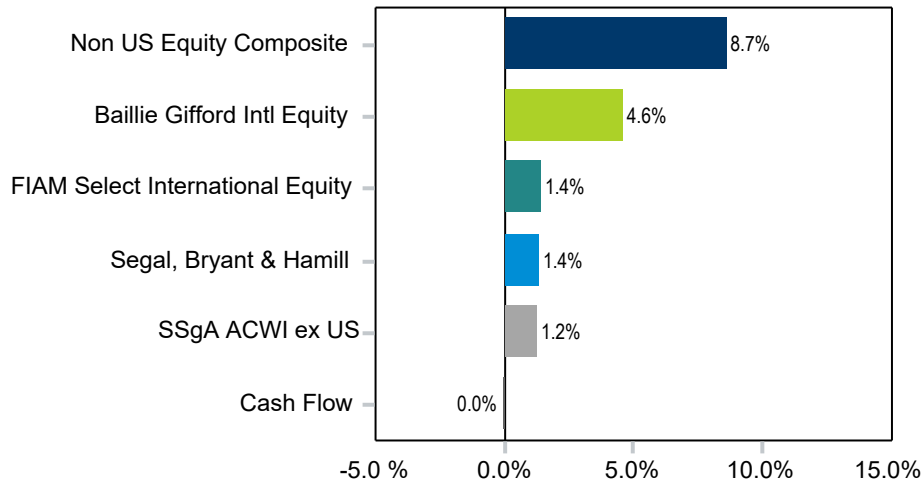
Calculation based on monthly periodicity.

# Return and Risk Contribution

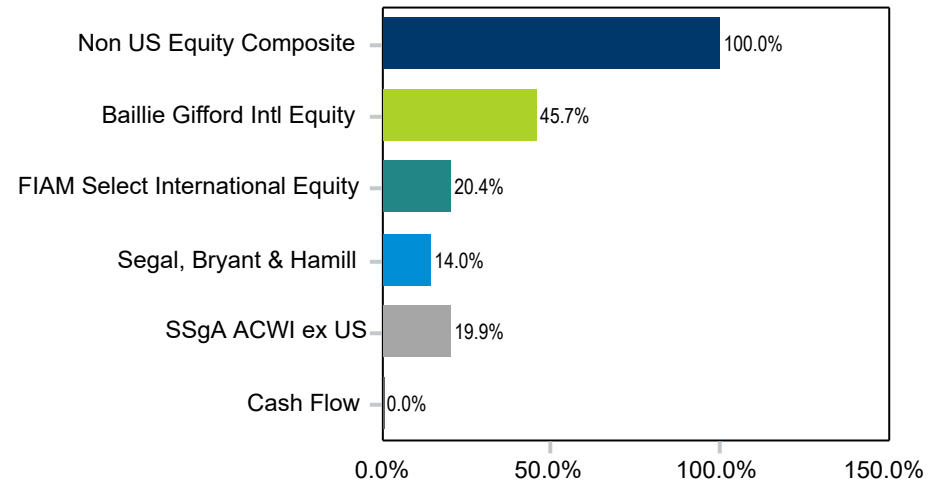
Non US Equity Composite

Periods Ended 1 Quarter September 30, 2020

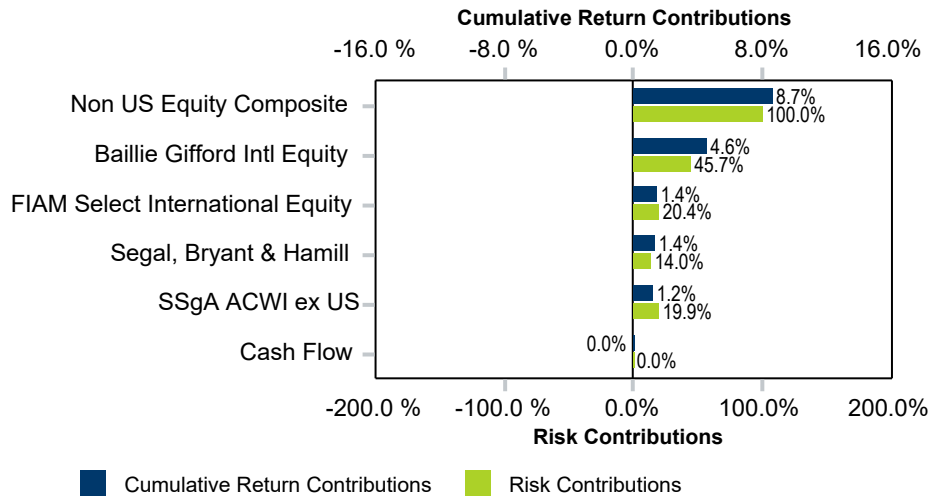
**Cumulative Return Contributions**



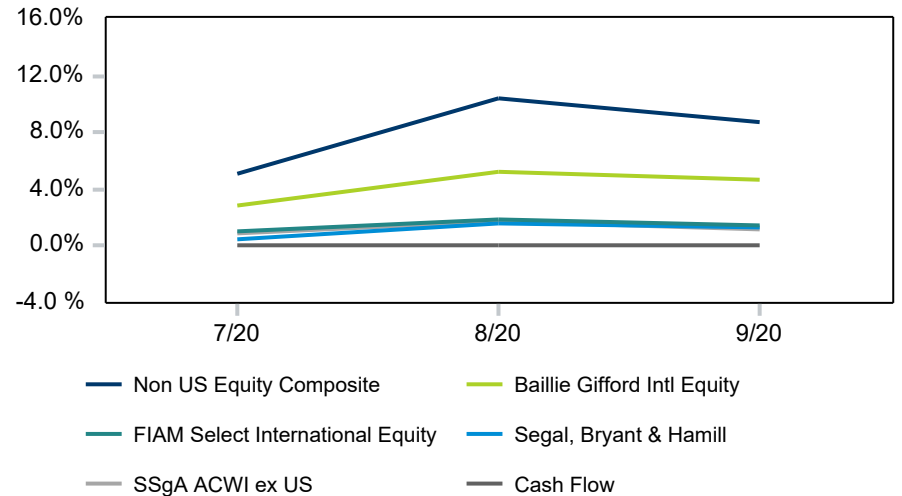
**Risk Contributions**



**Cumulative Return and Risk Contributions**



**Cumulative Return Contributions History**

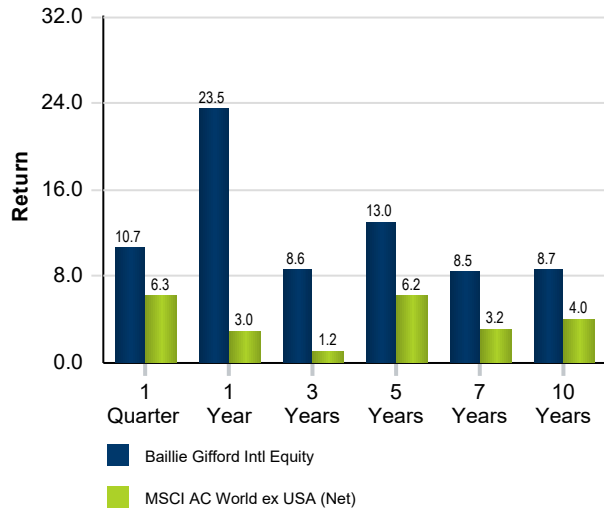


# Performance Summary

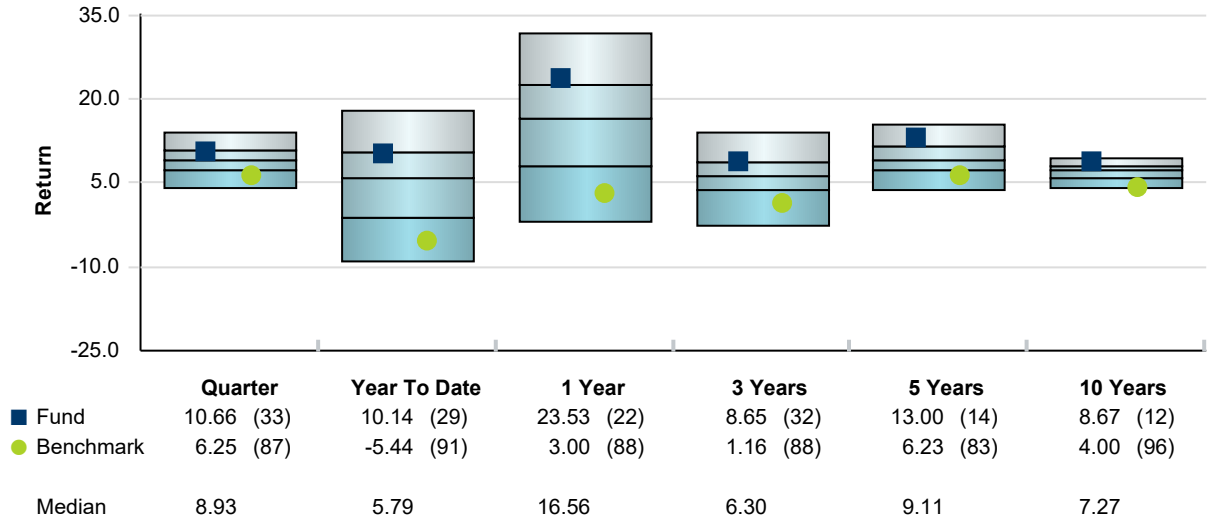
Baillie Gifford Intl Equity

Periods Ended September 30, 2020

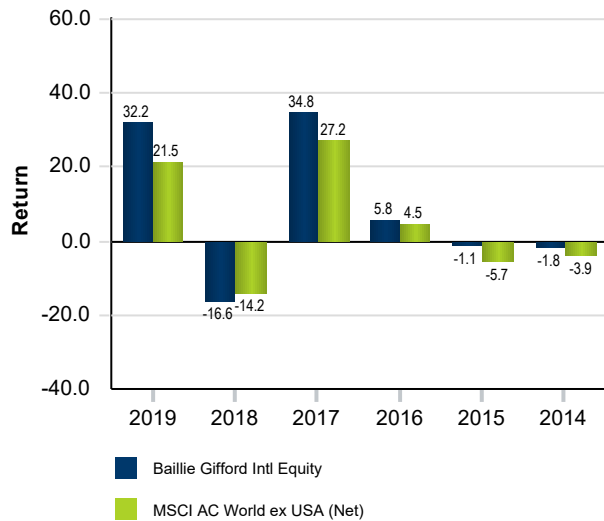
## Comparative Performance



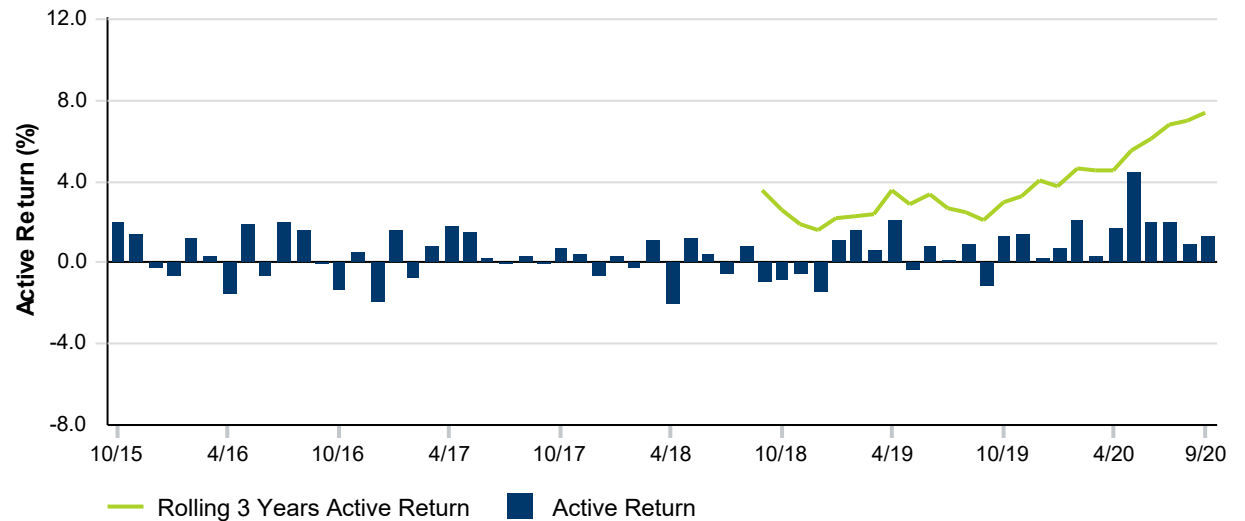
## Peer Group Analysis: IM International Large Cap Growth Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance





# Summary Statistics

Baillie Gifford Intl Equity

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Baillie Gifford Intl Equity</u>	<u>MSCI AC World ex USA (Net)</u>
Maximum Return	9.33	7.58
Minimum Return	-14.19	-14.48
Return	23.53	3.00
Cumulative Return	23.53	3.00
Active Return	18.63	0.00
Excess Return	22.82	4.18

## Risk Summary Statistics

	<u>Baillie Gifford Intl Equity</u>	<u>MSCI AC World ex USA (Net)</u>
Upside Risk	5.07	3.63
Downside Risk	15.50	16.89
Beta	1.05	1.00

## Risk/Return Summary Statistics

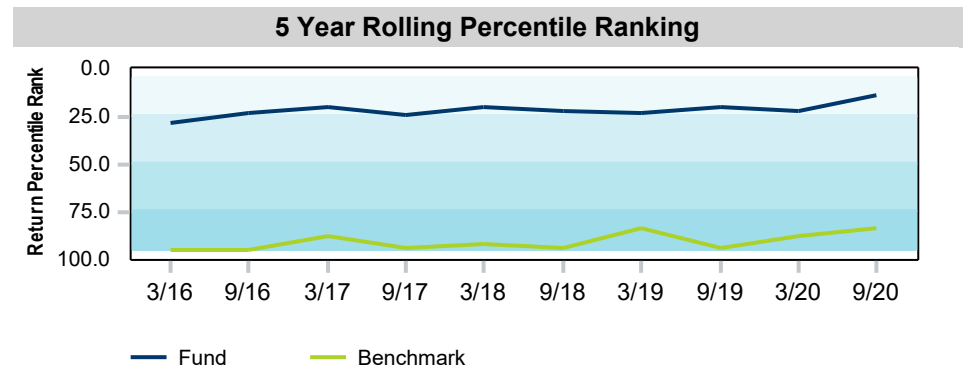
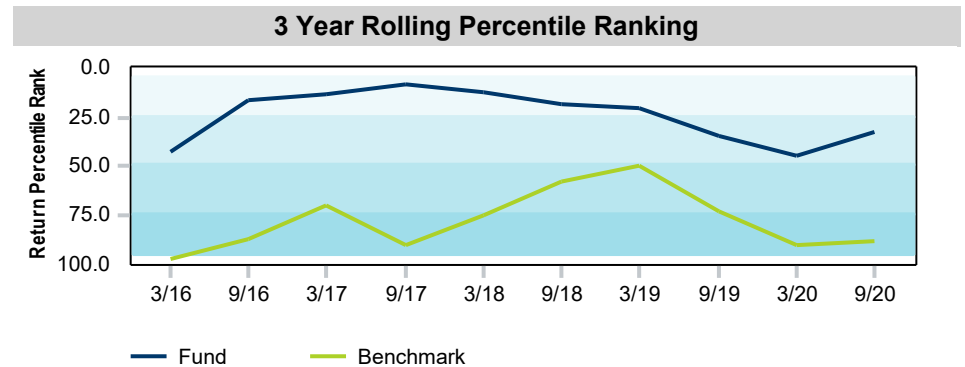
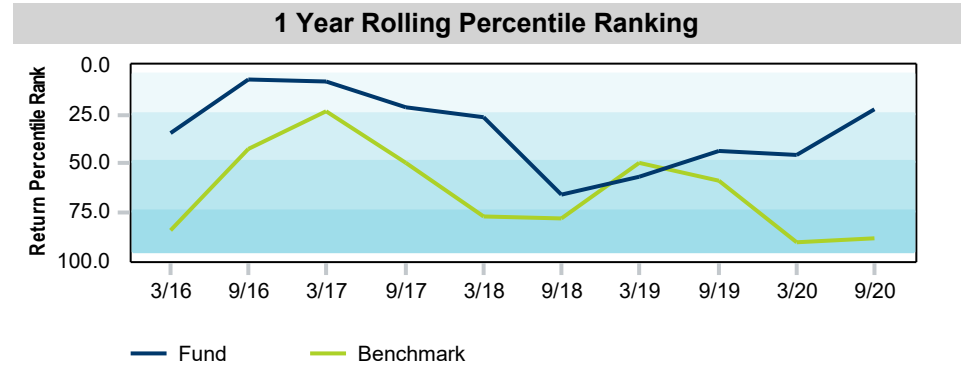
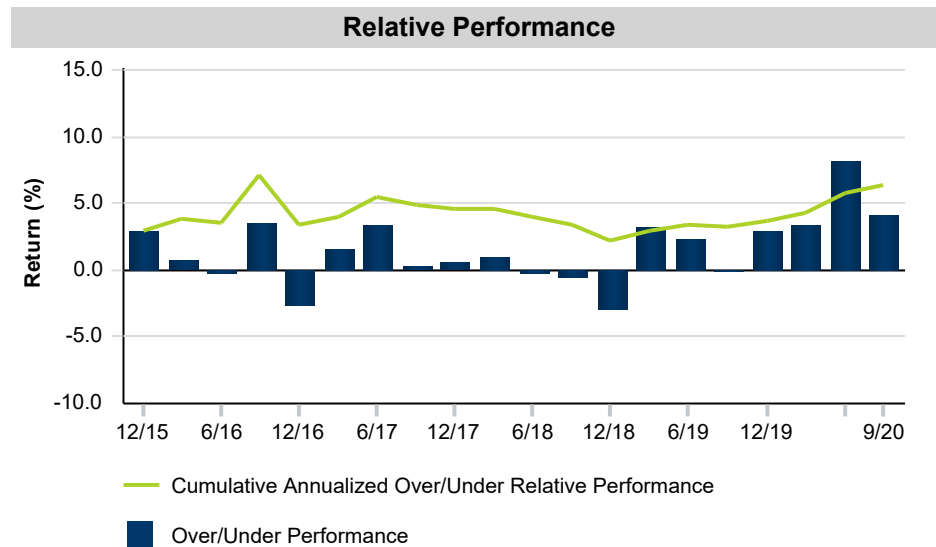
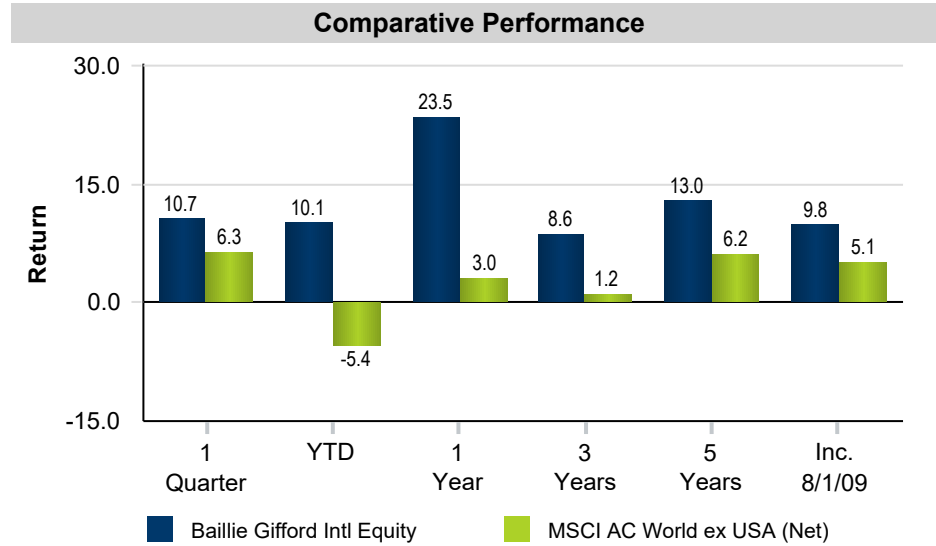
	<u>Baillie Gifford Intl Equity</u>	<u>MSCI AC World ex USA (Net)</u>
Standard Deviation	22.38	21.01
Alpha	19.99	0.00
Active Return/Risk	0.83	0.00
Tracking Error	3.73	0.00
Information Ratio	5.00	
Sharpe Ratio	1.01	0.20

## Correlation Statistics

	<u>Baillie Gifford Intl Equity</u>	<u>MSCI AC World ex USA (Net)</u>
R-Squared	0.97	1.00
Actual Correlation	0.99	1.00

# Manager Summary

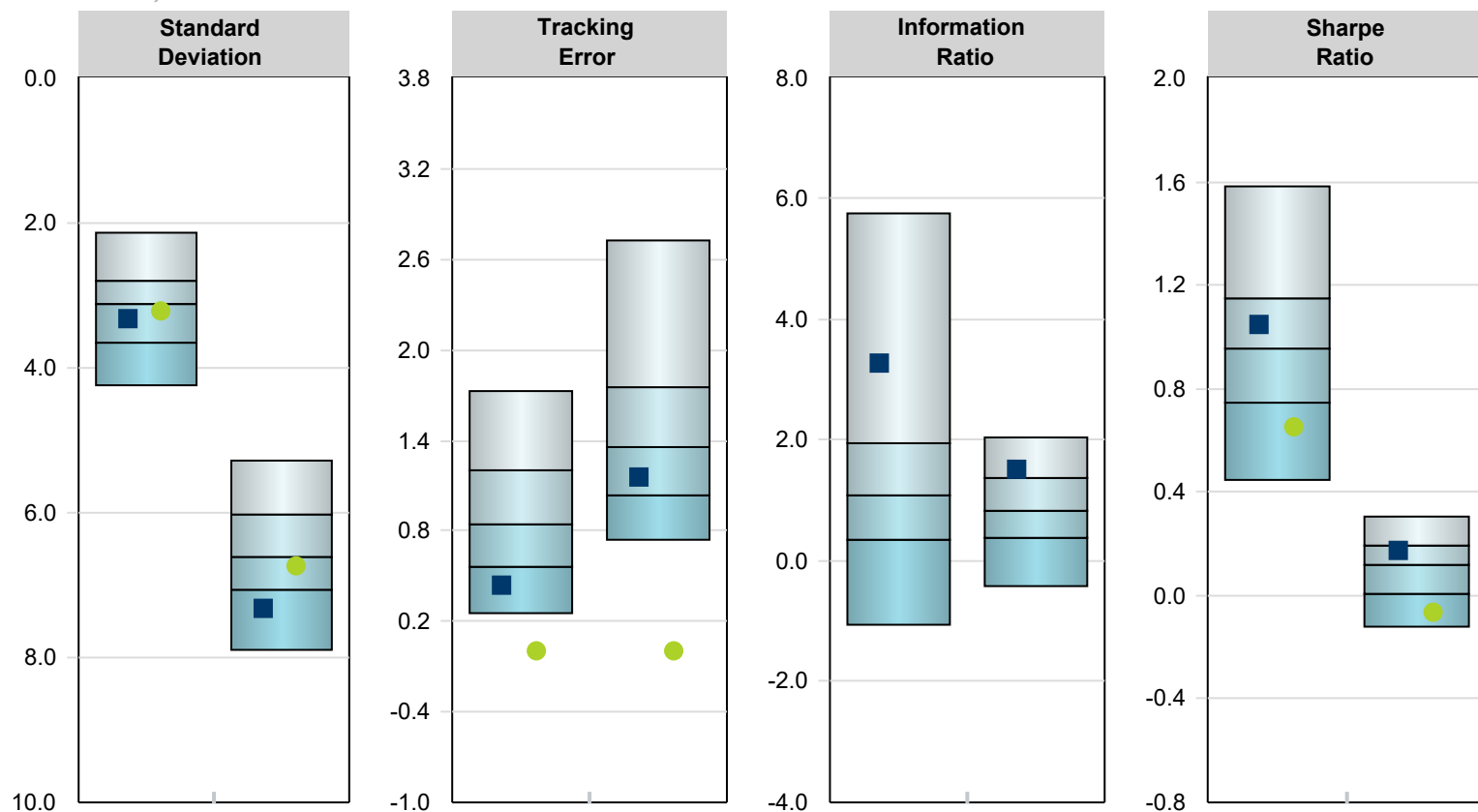
Baillie Gifford Intl Equity vs IM International Large Cap Growth Equity (SA+CF)  
 Periods Ended September 30, 2020



# Peer Group Analysis - Multi Statistics

Baillie Gifford Intl Equity

Periods Ended September 30, 2020



	Standard Deviation		Tracking Error		Information Ratio		Sharpe Ratio	
	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ Baillie Gifford Intl Equity	3.33 (64)	7.32 (82)	0.43 (84)	1.14 (68)	3.25 (10)	1.52 (21)	1.04 (39)	0.17 (33)
● MSCI AC World ex USA (Net)	3.22 (55)	6.76 (56)	0.00 (100)	0.00 (100)			0.65 (87)	-0.07 (92)

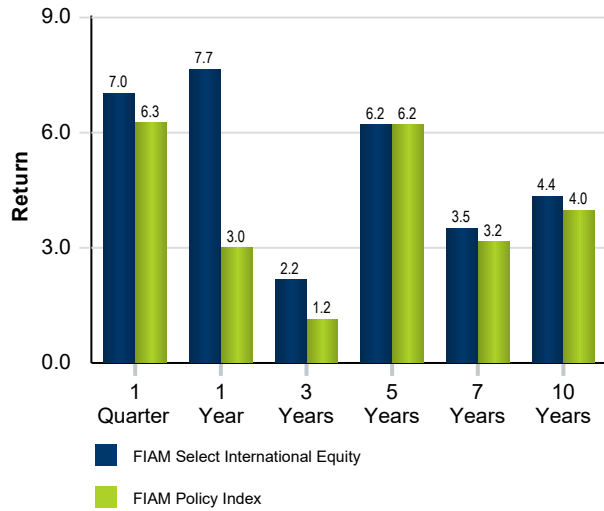
5th Percentile	2.14	5.29	1.73	2.73	5.77	2.06	1.58	0.31
1st Quartile	2.80	6.02	1.20	1.76	1.97	1.38	1.15	0.20
Median	3.11	6.62	0.84	1.35	1.08	0.84	0.96	0.12
3rd Quartile	3.66	7.08	0.56	1.03	0.34	0.39	0.75	0.00
95th Percentile	4.25	7.90	0.25	0.74	-1.06	-0.42	0.45	-0.12

Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

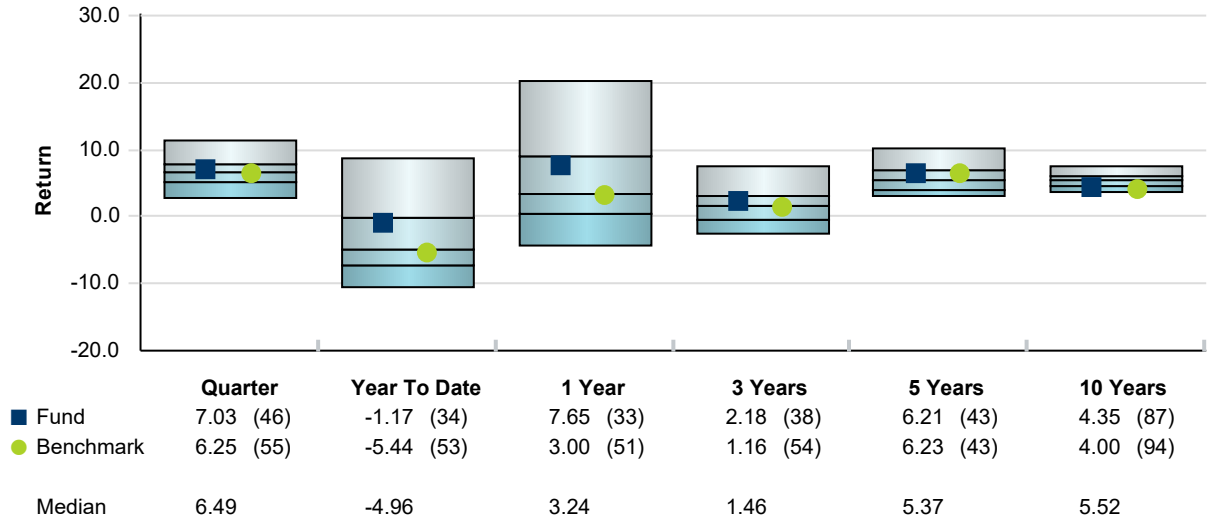
# Performance Summary

FIAM Select International Equity  
Periods Ended September 30, 2020

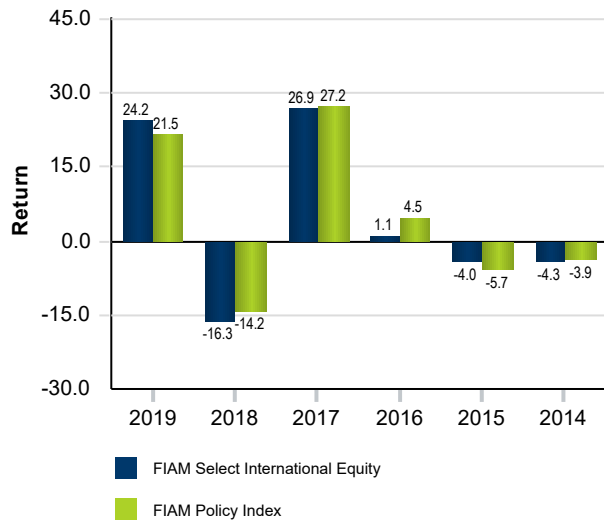
## Comparative Performance



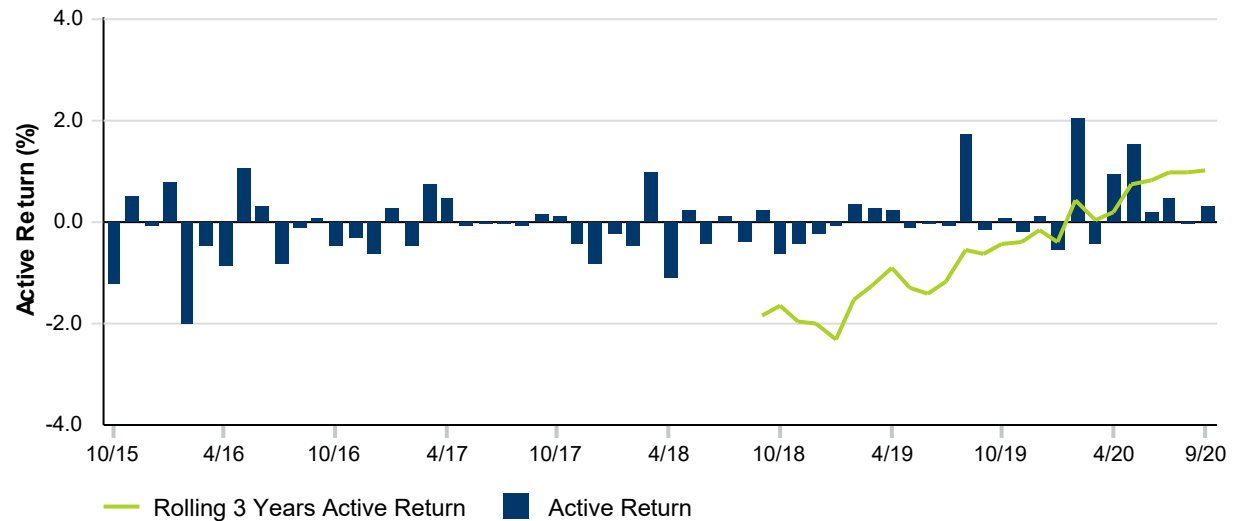
## Peer Group Analysis: IM International Large Cap Core Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

FIAM Select International Equity

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>FIAM Select International Equity</u>	<u>FIAM Policy Index</u>
Maximum Return	8.53	7.58
Minimum Return	-14.90	-14.48
Return	7.65	3.00
Cumulative Return	7.65	3.00
Active Return	4.51	0.00
Excess Return	8.69	4.18

## Risk Summary Statistics

	<u>FIAM Select International Equity</u>	<u>FIAM Policy Index</u>
Upside Risk	4.01	3.63
Downside Risk	16.47	16.89
Beta	1.01	1.00

## Risk/Return Summary Statistics

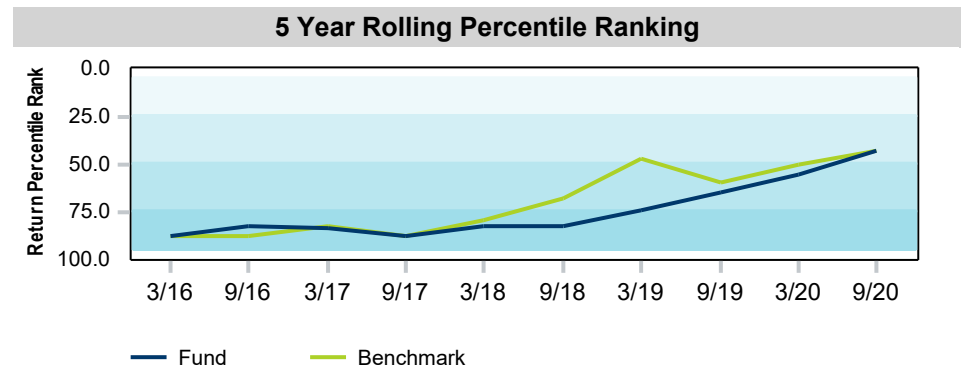
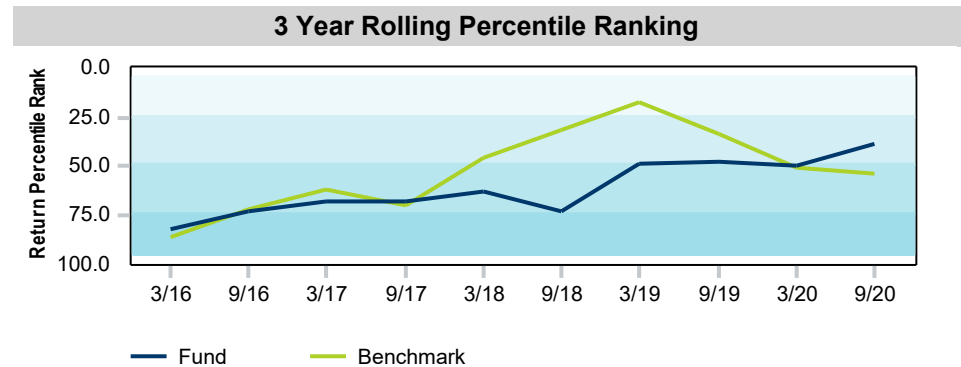
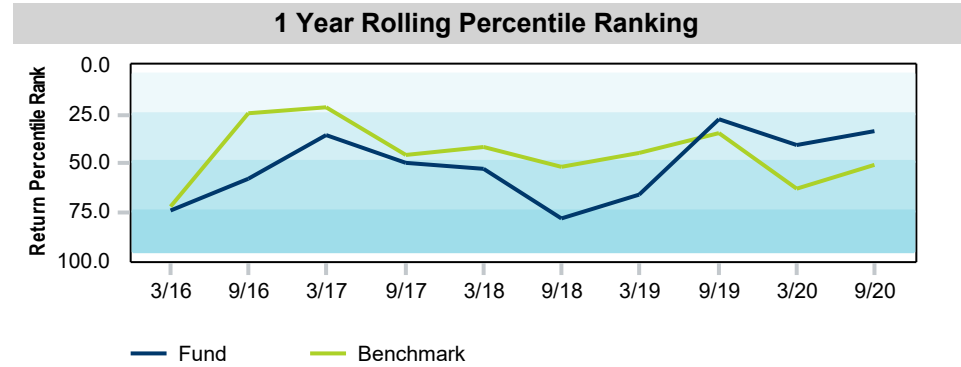
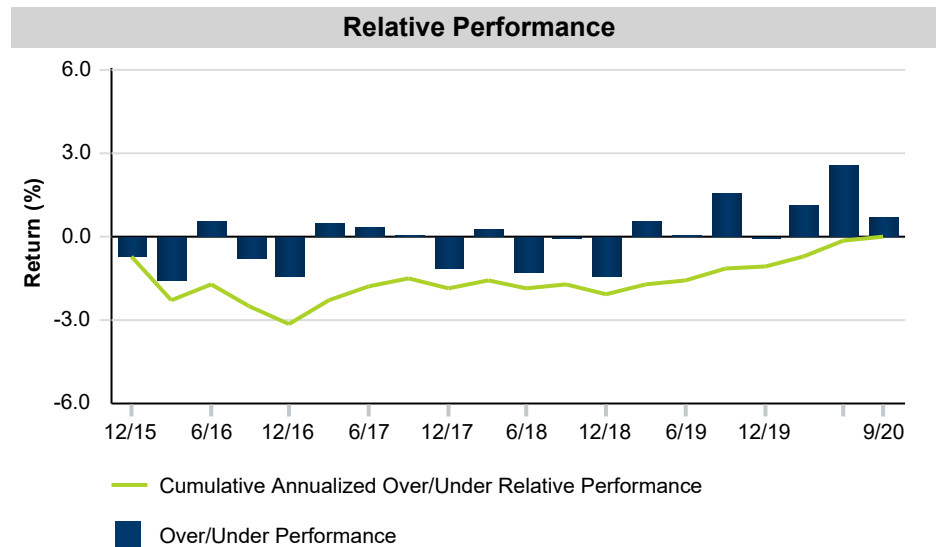
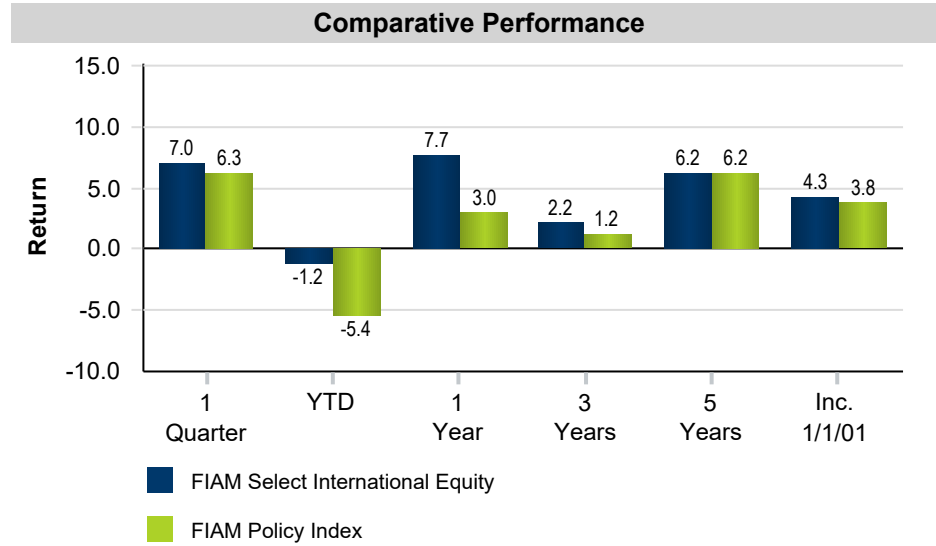
	<u>FIAM Select International Equity</u>	<u>FIAM Policy Index</u>
Standard Deviation	21.37	21.01
Alpha	4.55	0.00
Active Return/Risk	0.21	0.00
Tracking Error	2.57	0.00
Information Ratio	1.76	
Sharpe Ratio	0.40	0.20

## Correlation Statistics

	<u>FIAM Select International Equity</u>	<u>FIAM Policy Index</u>
R-Squared	0.99	1.00
Actual Correlation	0.99	1.00

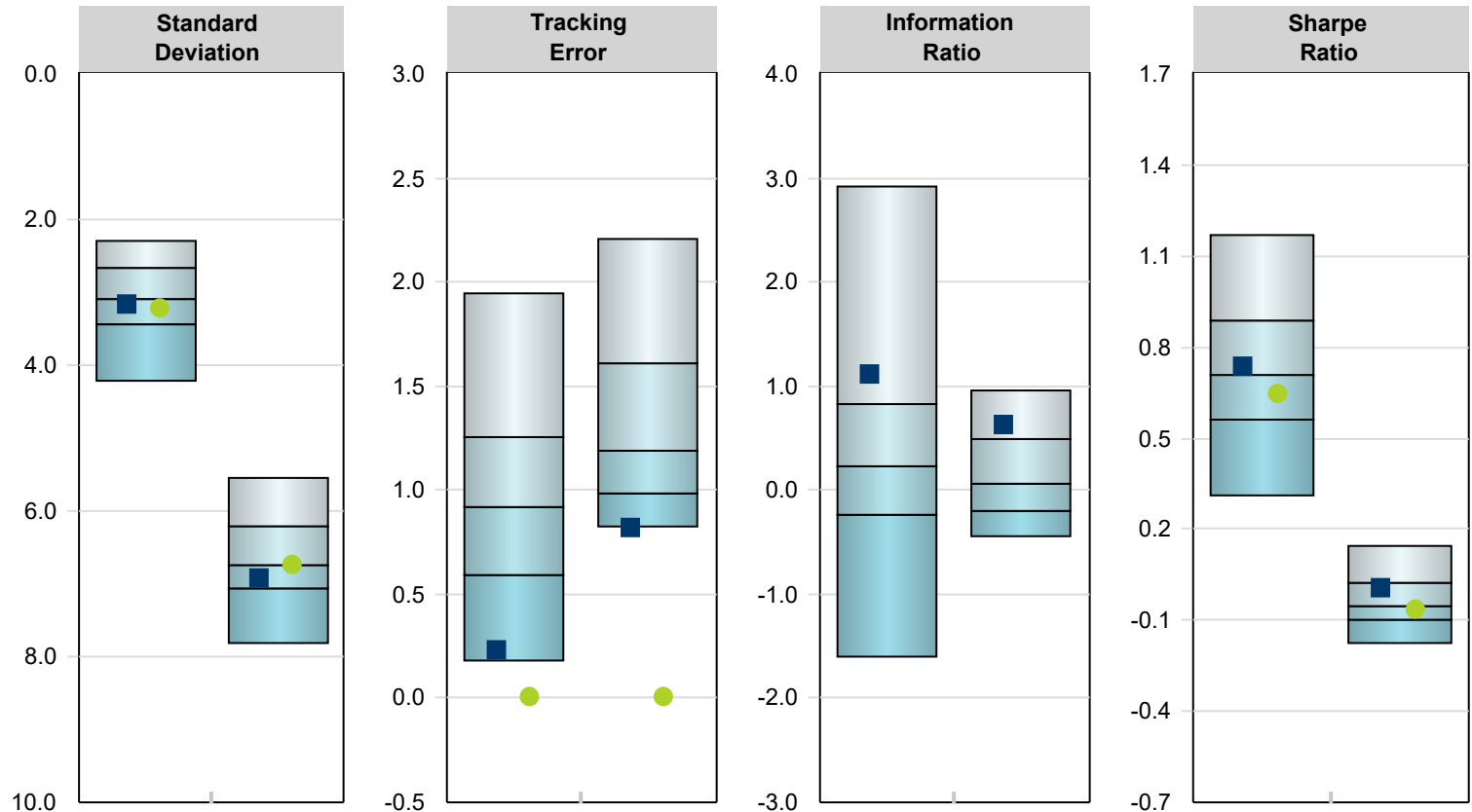
# Manager Summary

FIAM Select International Equity vs IM International Large Cap Core Equity (SA+CF)  
 Periods Ended September 30, 2020



# Peer Group Analysis - Multi Statistics

FIAM Select International Equity  
 Periods Ended September 30, 2020



	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ FIAM Select International Equity	3.19 (58)	6.92 (62)	0.22 (93)	0.81 (97)	1.11 (15)	0.61 (20)	0.73 (48)	0.01 (33)
● FIAM Policy Index	3.22 (64)	6.76 (51)	0.00 (100)	0.00 (100)			0.65 (64)	-0.07 (55)
5th Percentile	2.29	5.54	1.95	2.21	2.92	0.96	1.17	0.14
1st Quartile	2.67	6.21	1.25	1.61	0.82	0.50	0.88	0.02
Median	3.10	6.74	0.91	1.19	0.22	0.06	0.71	-0.05
3rd Quartile	3.43	7.06	0.59	0.98	-0.25	-0.19	0.56	-0.10
95th Percentile	4.22	7.82	0.18	0.82	-1.61	-0.44	0.31	-0.17

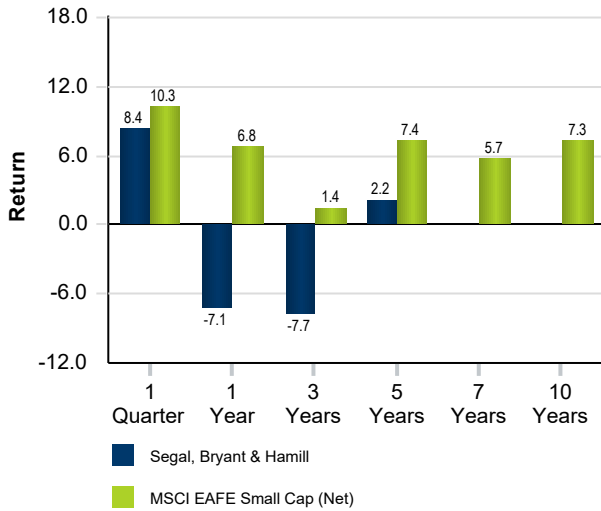
Parenteses contain percentile rankings.  
 Calculation based on monthly periodicity.

# Performance Summary

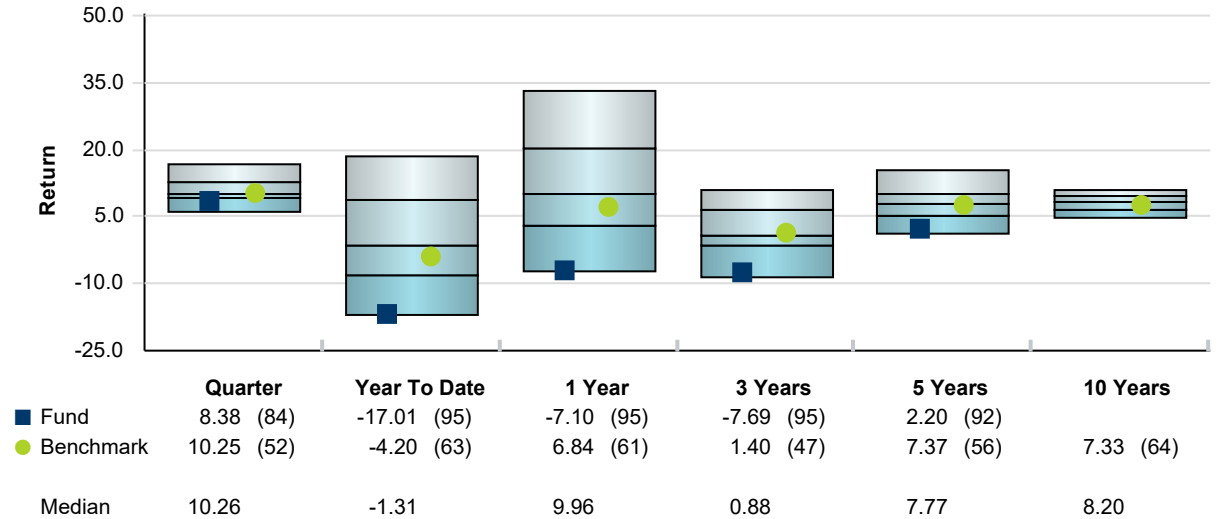
Segal, Bryant & Hamill

Periods Ended September 30, 2020

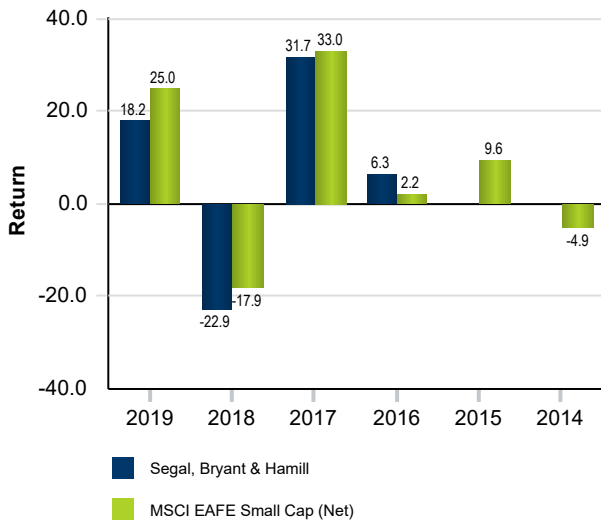
## Comparative Performance



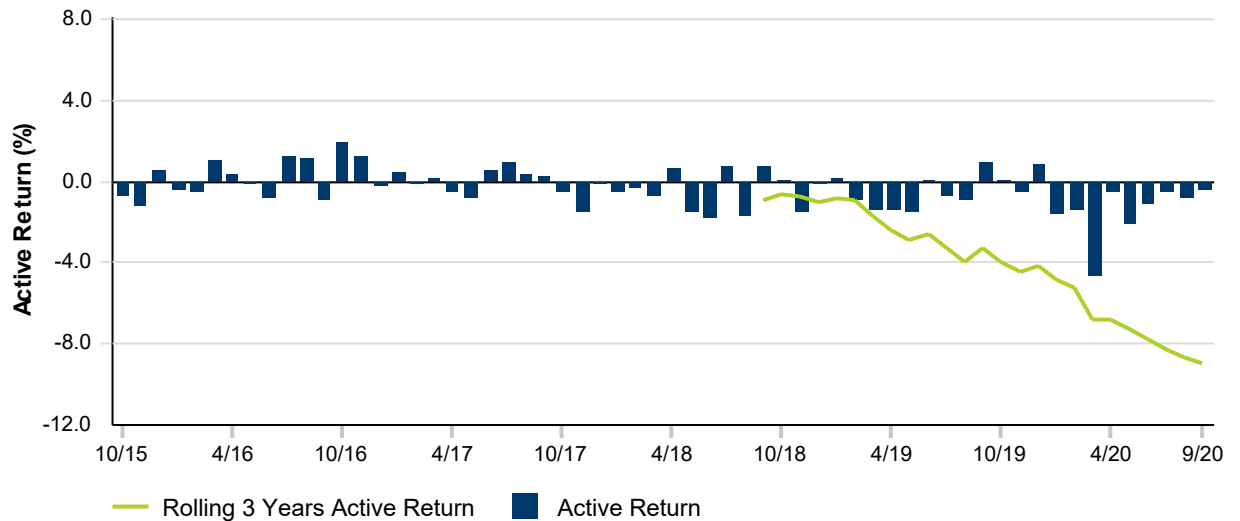
## Peer Group Analysis: IM International Small Cap Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance





# Summary Statistics

Segal, Bryant & Hamill

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Segal, Bryant &amp; Hamill</u>	<u>MSCI EAFE Small Cap (Net)</u>
Maximum Return	9.83	10.40
Minimum Return	-21.87	-17.24
Return	-7.10	6.84
Cumulative Return	-7.10	6.84
Active Return	-12.84	0.00
Excess Return	-3.78	9.06

## Risk Summary Statistics

	<u>Segal, Bryant &amp; Hamill</u>	<u>MSCI EAFE Small Cap (Net)</u>
Upside Risk	4.33	4.76
Downside Risk	25.02	20.06
Beta	1.12	1.00

## Risk/Return Summary Statistics

	<u>Segal, Bryant &amp; Hamill</u>	<u>MSCI EAFE Small Cap (Net)</u>
Standard Deviation	29.17	25.81
Alpha	-13.22	0.00
Active Return/Risk	-0.44	0.00
Tracking Error	4.51	0.00
Information Ratio	-2.84	
Sharpe Ratio	-0.13	0.35

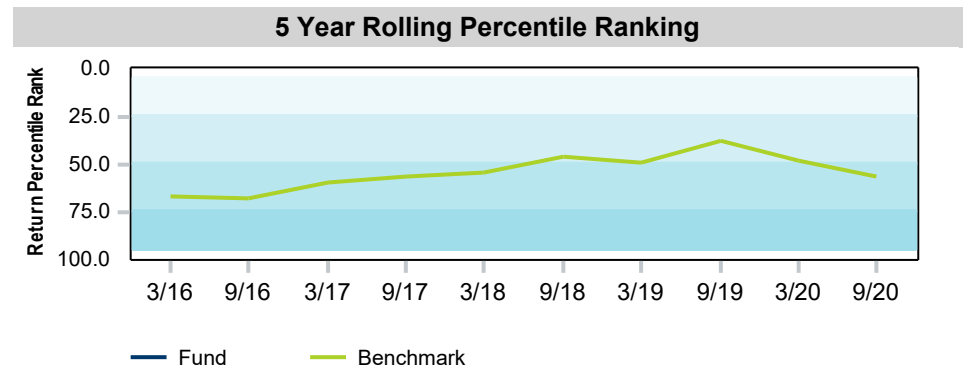
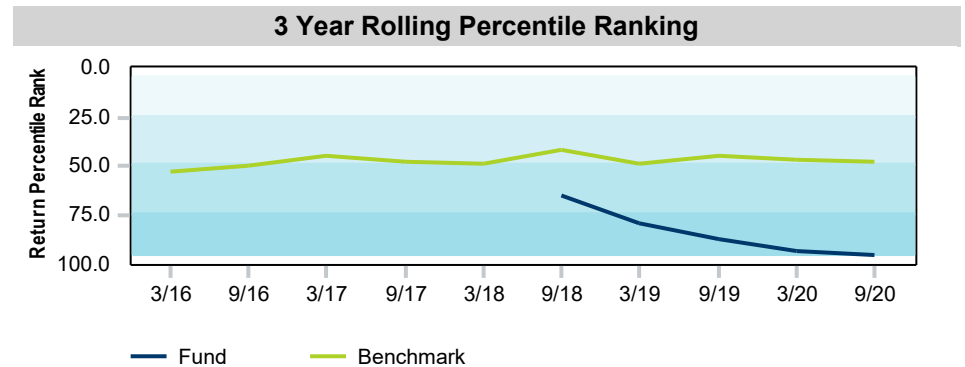
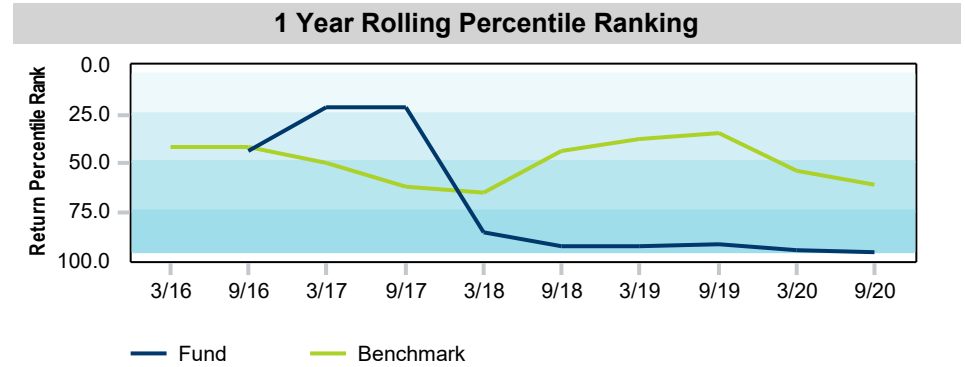
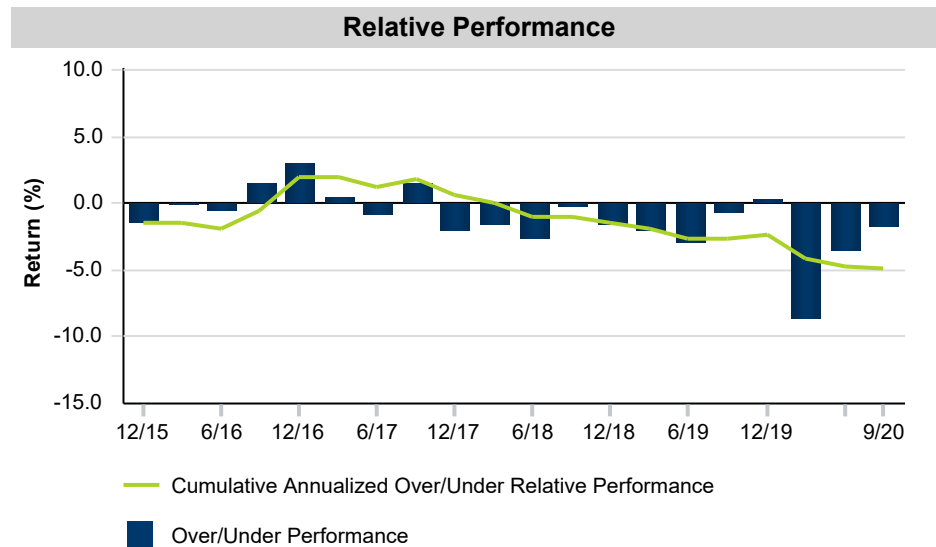
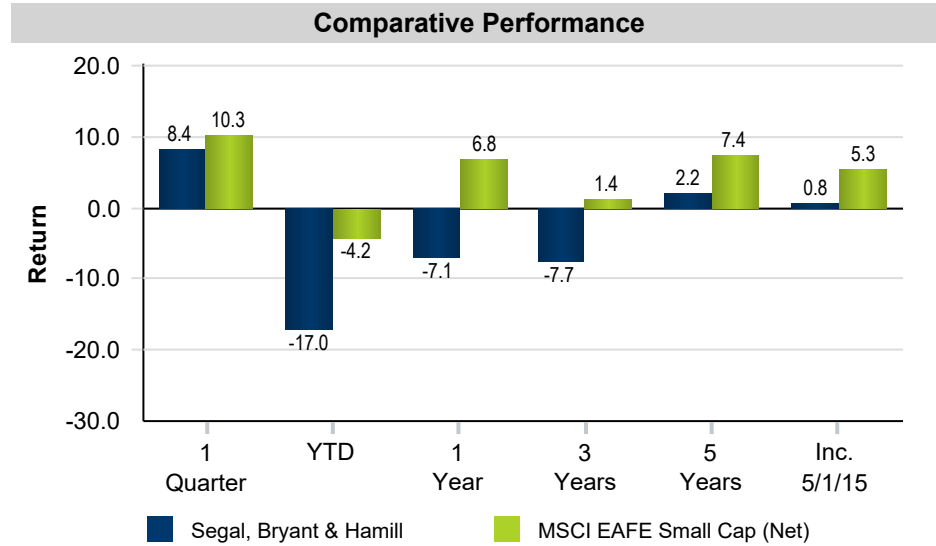
## Correlation Statistics

	<u>Segal, Bryant &amp; Hamill</u>	<u>MSCI EAFE Small Cap (Net)</u>
R-Squared	0.99	1.00
Actual Correlation	0.99	1.00

# Manager Summary

Segal, Bryant & Hamill vs IM International Small Cap Equity (SA+CF)

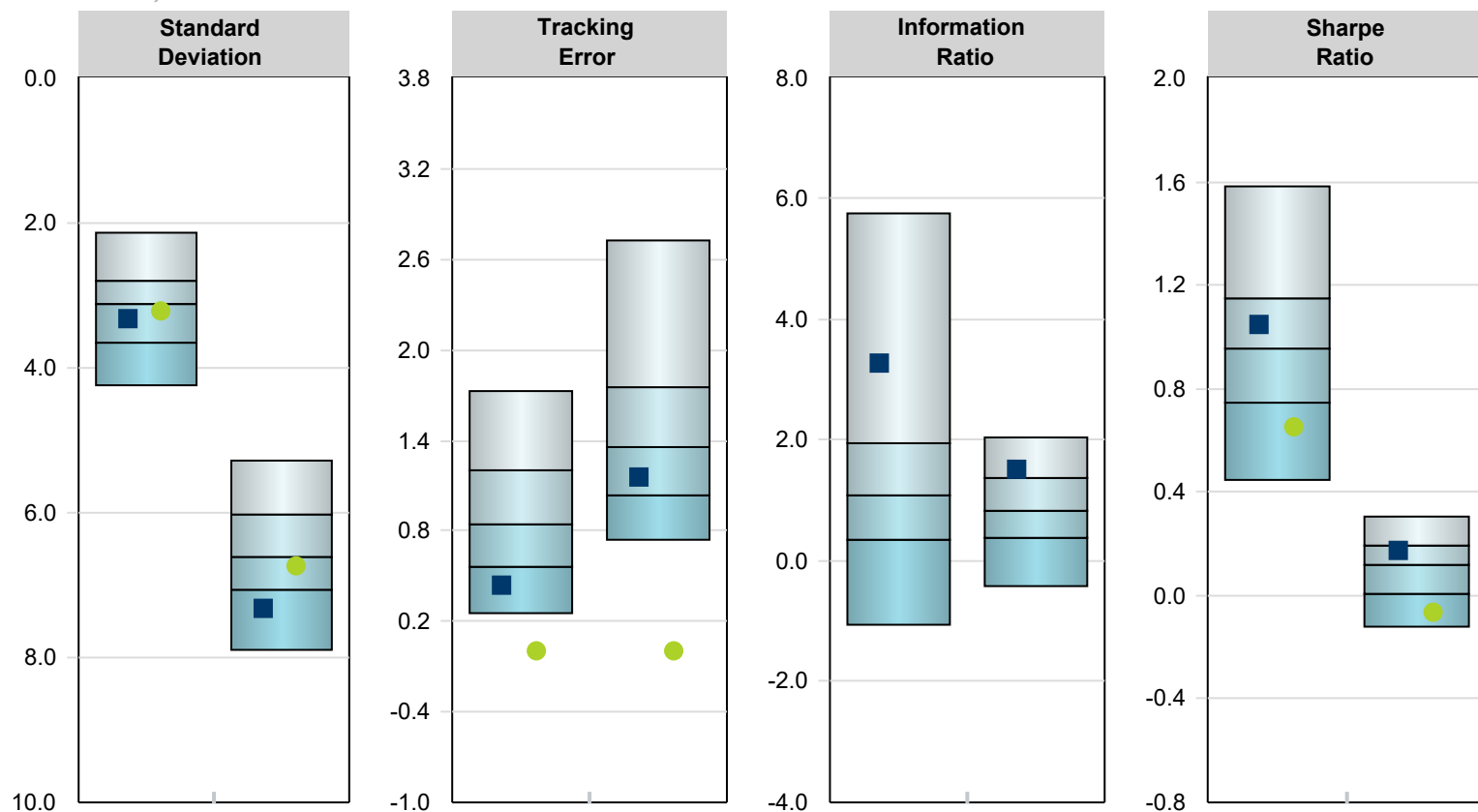
Periods Ended September 30, 2020



# Peer Group Analysis - Multi Statistics

Baillie Gifford Intl Equity

Periods Ended September 30, 2020



	Standard Deviation		Tracking Error		Information Ratio		Sharpe Ratio	
	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ Baillie Gifford Intl Equity	3.33 (64)	7.32 (82)	0.43 (84)	1.14 (68)	3.25 (10)	1.52 (21)	1.04 (39)	0.17 (33)
● MSCI AC World ex USA (Net)	3.22 (55)	6.76 (56)	0.00 (100)	0.00 (100)			0.65 (87)	-0.07 (92)

5th Percentile	2.14	5.29	1.73	2.73	5.77	2.06	1.58	0.31
1st Quartile	2.80	6.02	1.20	1.76	1.97	1.38	1.15	0.20
Median	3.11	6.62	0.84	1.35	1.08	0.84	0.96	0.12
3rd Quartile	3.66	7.08	0.56	1.03	0.34	0.39	0.75	0.00
95th Percentile	4.25	7.90	0.25	0.74	-1.06	-0.42	0.45	-0.12

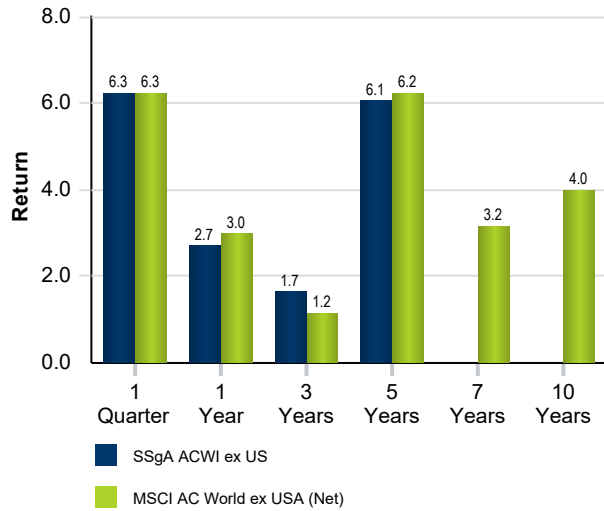
Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

# Performance Summary

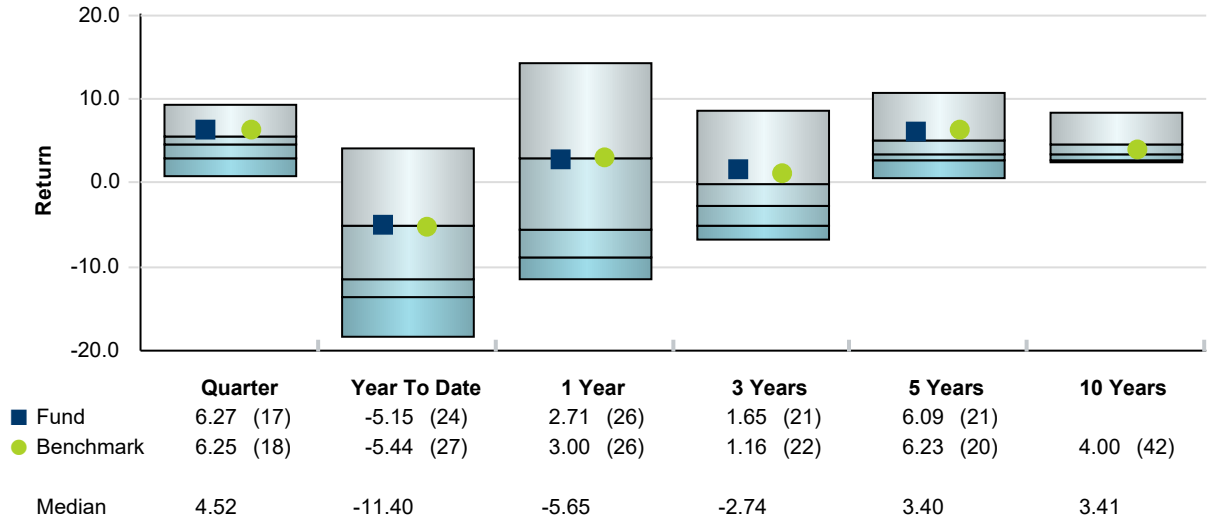
SSgA ACWI ex US

Periods Ended September 30, 2020

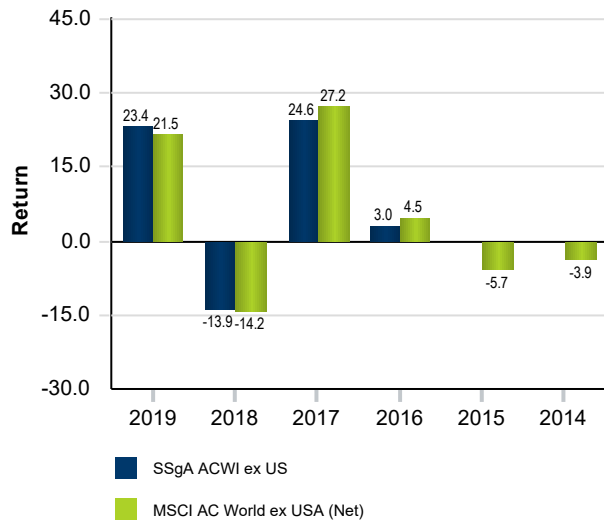
## Comparative Performance



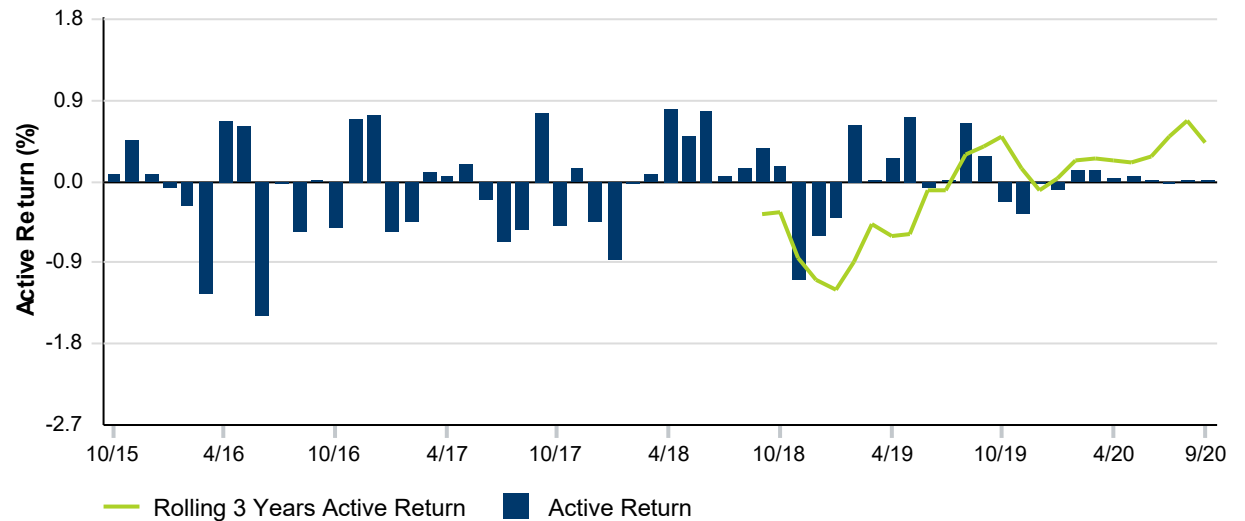
## Peer Group Analysis: IM Enhanced and Indexed International Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

SSgA ACWI ex US

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>SSgA ACWI ex US</u>	<u>MSCI AC World ex USA (Net)</u>
Maximum Return	7.61	7.58
Minimum Return	-14.36	-14.48
Return	2.71	3.00
Cumulative Return	2.71	3.00
Active Return	-0.31	0.00
Excess Return	3.87	4.18

## Risk Summary Statistics

	<u>SSgA ACWI ex US</u>	<u>MSCI AC World ex USA (Net)</u>
Upside Risk	3.62	3.63
Downside Risk	16.75	16.89
Beta	0.99	1.00

## Risk/Return Summary Statistics

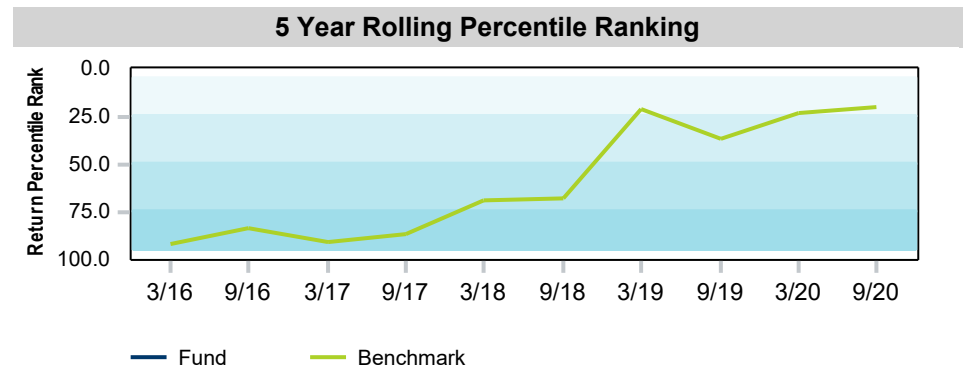
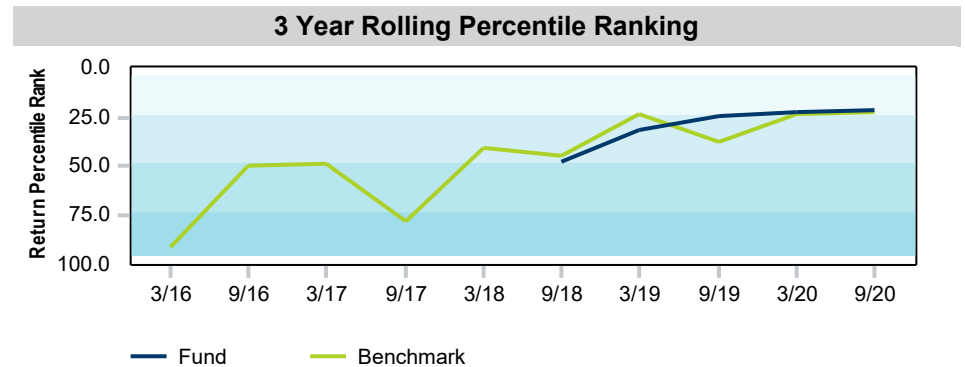
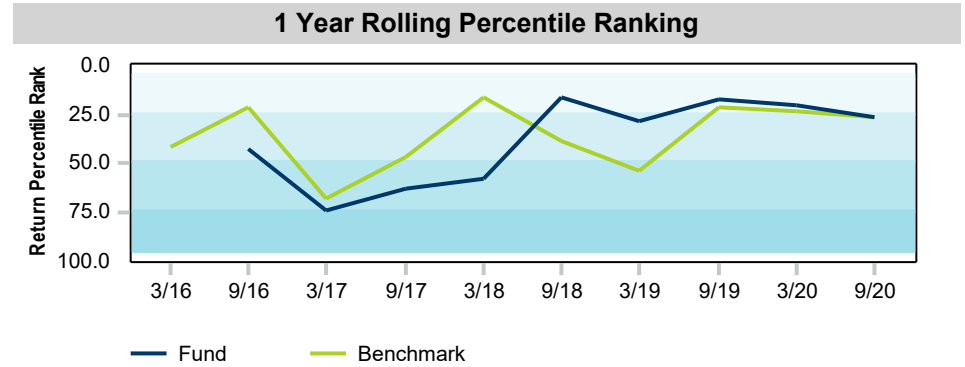
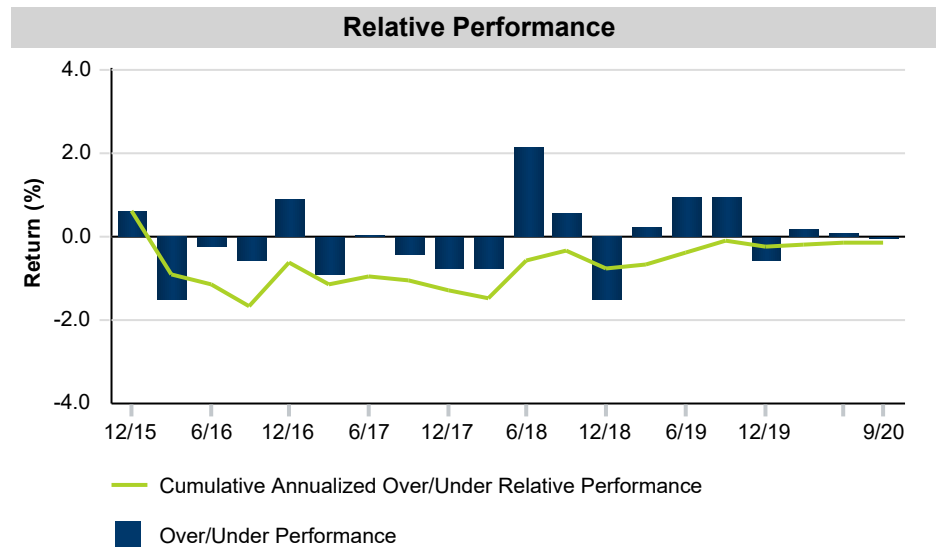
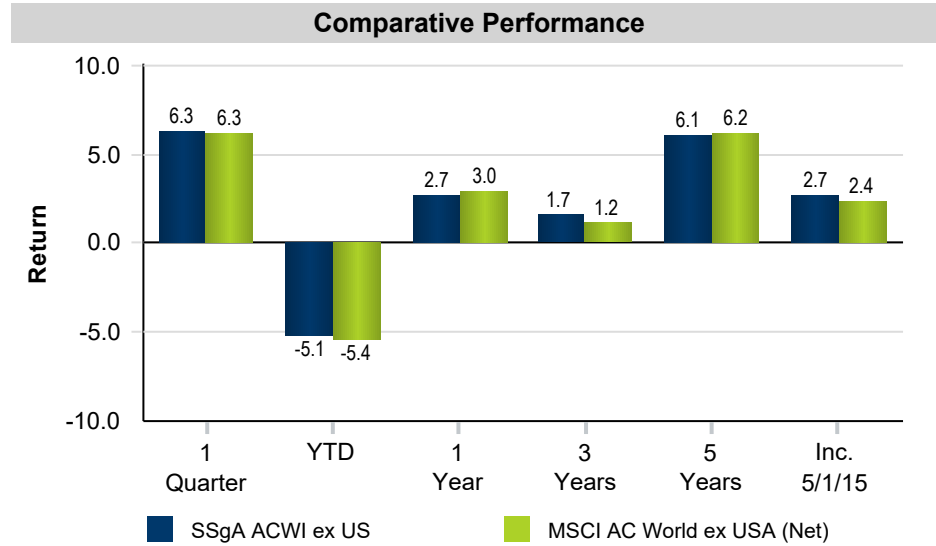
	<u>SSgA ACWI ex US</u>	<u>MSCI AC World ex USA (Net)</u>
Standard Deviation	20.88	21.01
Alpha	-0.28	0.00
Active Return/Risk	-0.01	0.00
Tracking Error	0.47	0.00
Information Ratio	-0.66	
Sharpe Ratio	0.18	0.20

## Correlation Statistics

	<u>SSgA ACWI ex US</u>	<u>MSCI AC World ex USA (Net)</u>
R-Squared	1.00	1.00
Actual Correlation	1.00	1.00

# Manager Summary

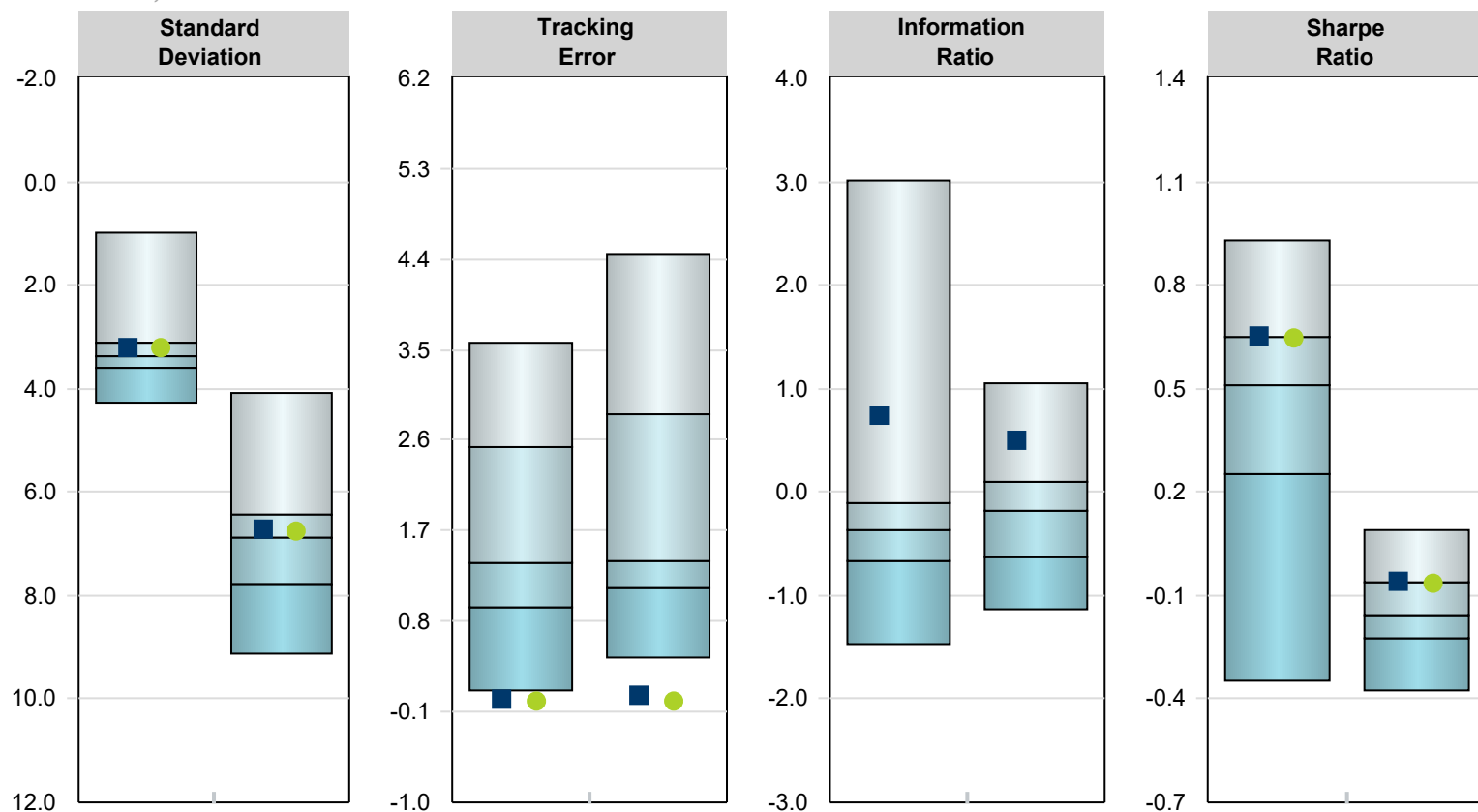
SSgA ACWI ex US vs IM Enhanced and Indexed International Equity (SA+CF)  
 Periods Ended September 30, 2020



# Peer Group Analysis - Multi Statistics

SSgA ACWI ex US

Periods Ended September 30, 2020



	Standard Deviation		Tracking Error		Information Ratio		Sharpe Ratio	
	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ SSgA ACWI ex US	3.21 (38)	6.73 (40)	0.01 (100)	0.06 (100)	0.73 (21)	0.49 (14)	0.65 (26)	-0.06 (25)
● MSCI AC World ex USA (Net)	3.22 (41)	6.76 (42)	0.00 (100)	0.00 (100)			0.65 (26)	-0.07 (27)
5th Percentile	1.00	4.07	3.58	4.45	3.02	1.04	0.93	0.09
1st Quartile	3.12	6.42	2.53	2.87	-0.10	0.09	0.65	-0.06
Median	3.39	6.87	1.38	1.39	-0.37	-0.17	0.51	-0.16
3rd Quartile	3.60	7.77	0.94	1.14	-0.66	-0.63	0.25	-0.22
95th Percentile	4.27	9.11	0.12	0.45	-1.47	-1.13	-0.35	-0.38

Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.



# Global Equity

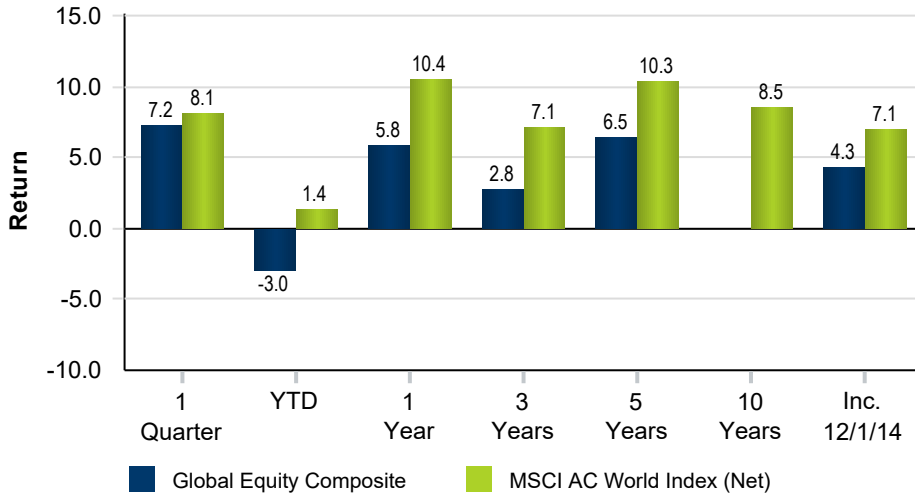


# Composite Performance Summary

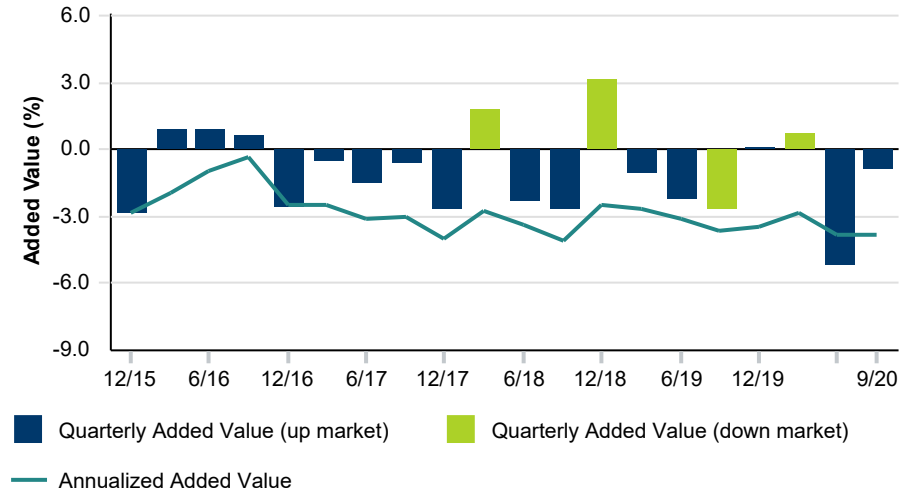
Global Equity Composite

Periods Ended September 30, 2020

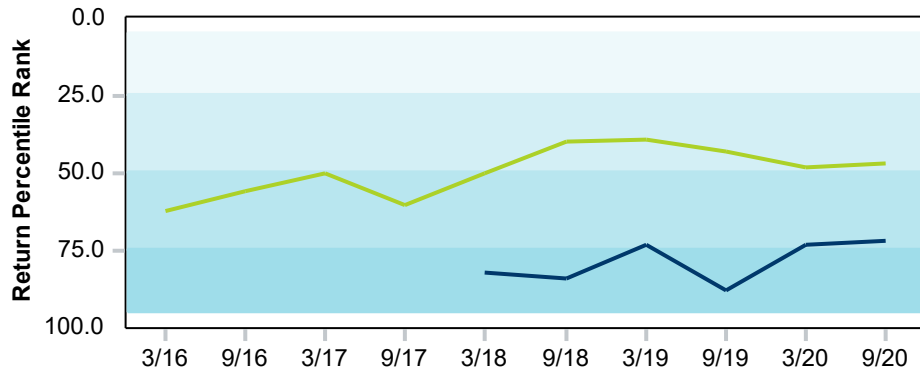
**Comparative Performance**



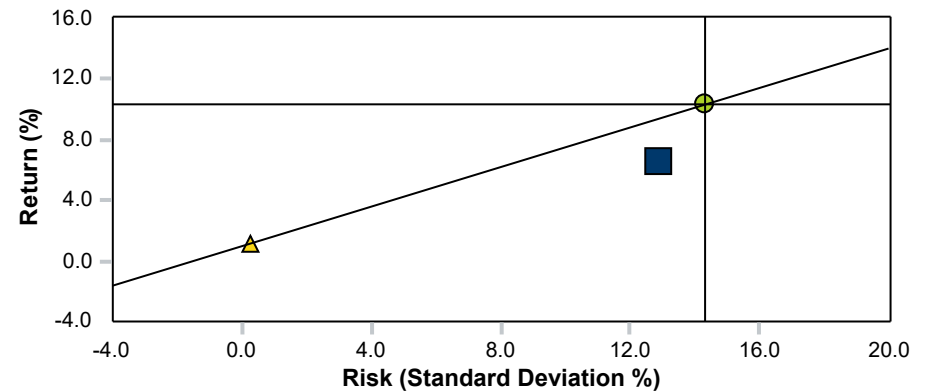
**Added Value History**



**Rolling Percentile Rank: IM Global Equity (SA+CF)**



**Risk and Return 10/1/15 - 09/30/20**



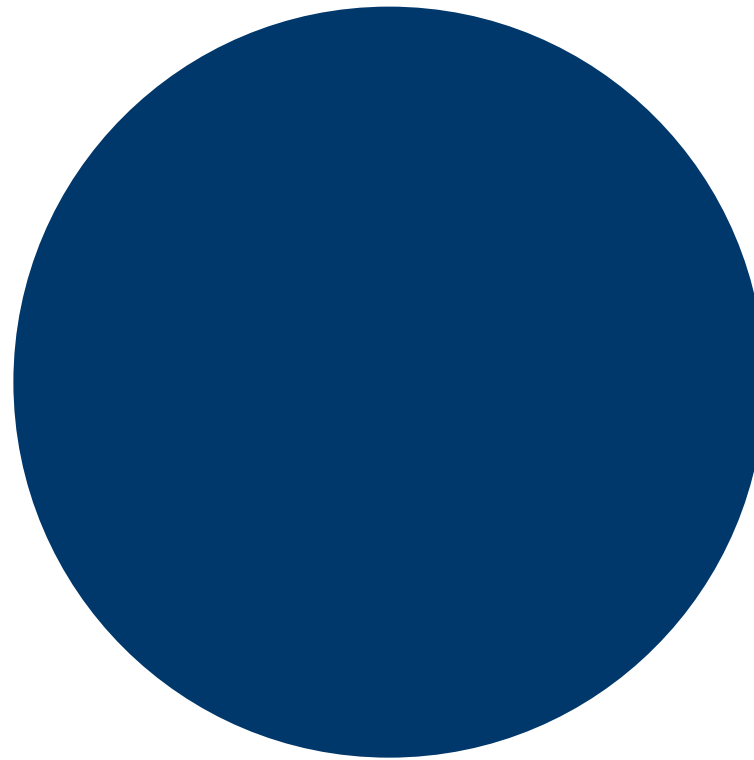
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Global Equity Composite	6	0 (0%)	0 (0%)	3 (50%)	3 (50%)
Benchmark	10	0 (0%)	7 (70%)	3 (30%)	0 (0%)

# Asset Allocation By Manager

Global Equity Composite

Periods Ended September 30, 2020

Sep-2020 : 1,202,415

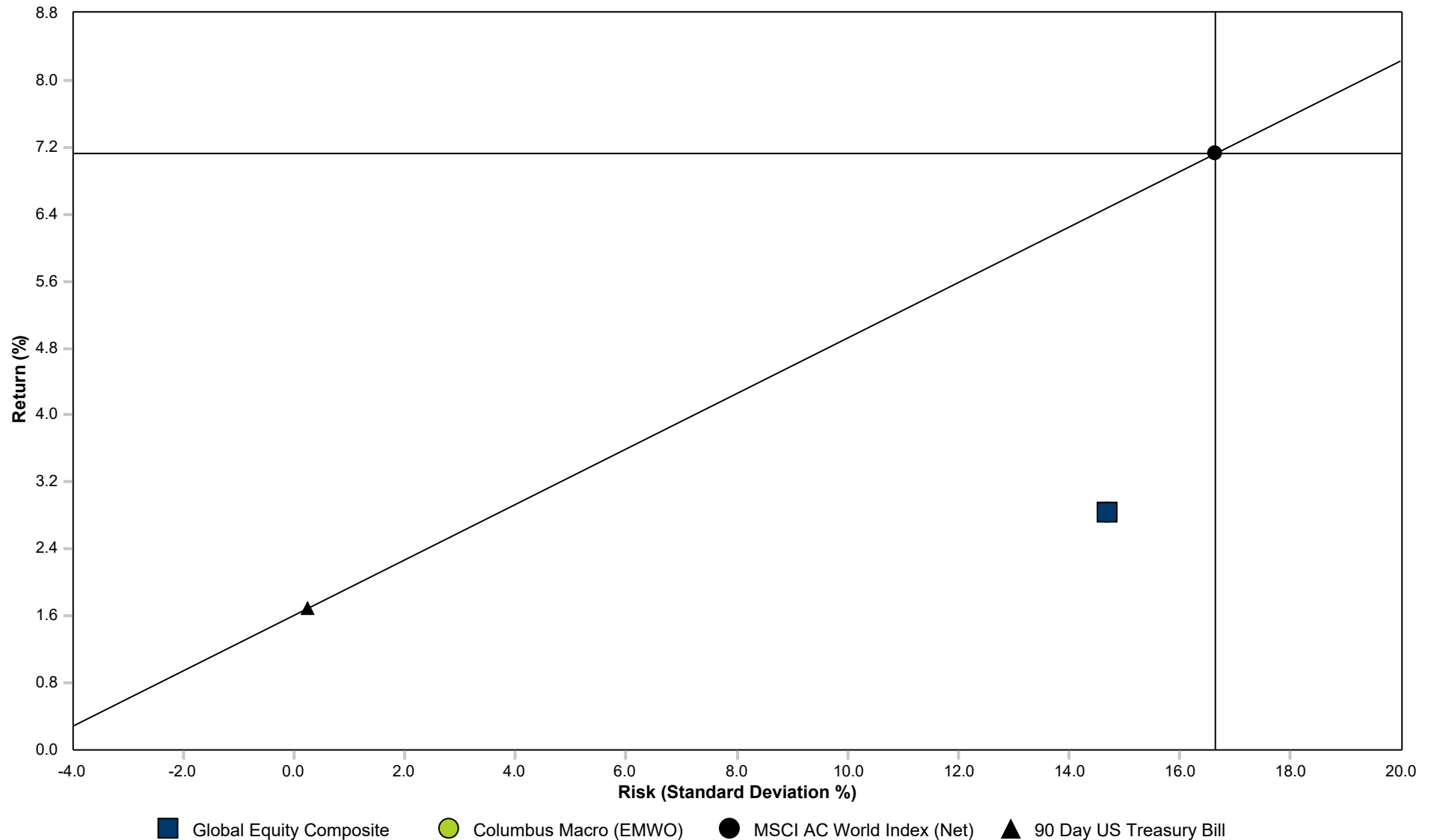


	Market Value \$	Allocation (%)
■ Columbus Macro (EMWO)	1,202,415	100.0

# Risk vs. Return

Global Equity Composite

Periods Ended 3 Years Ending September 30, 2020



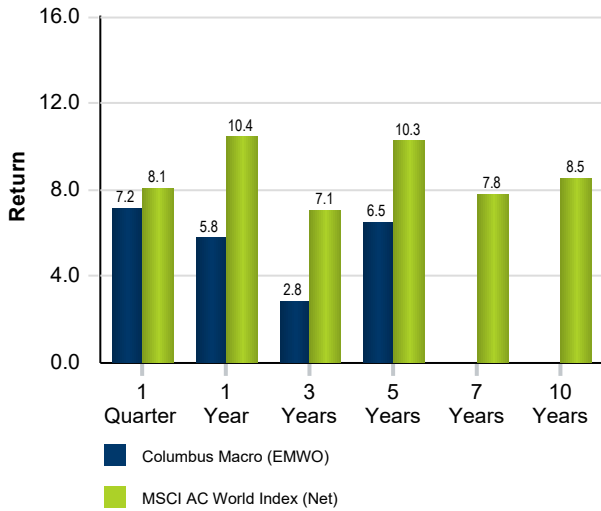
Calculation based on monthly periodicity.

# Performance Summary

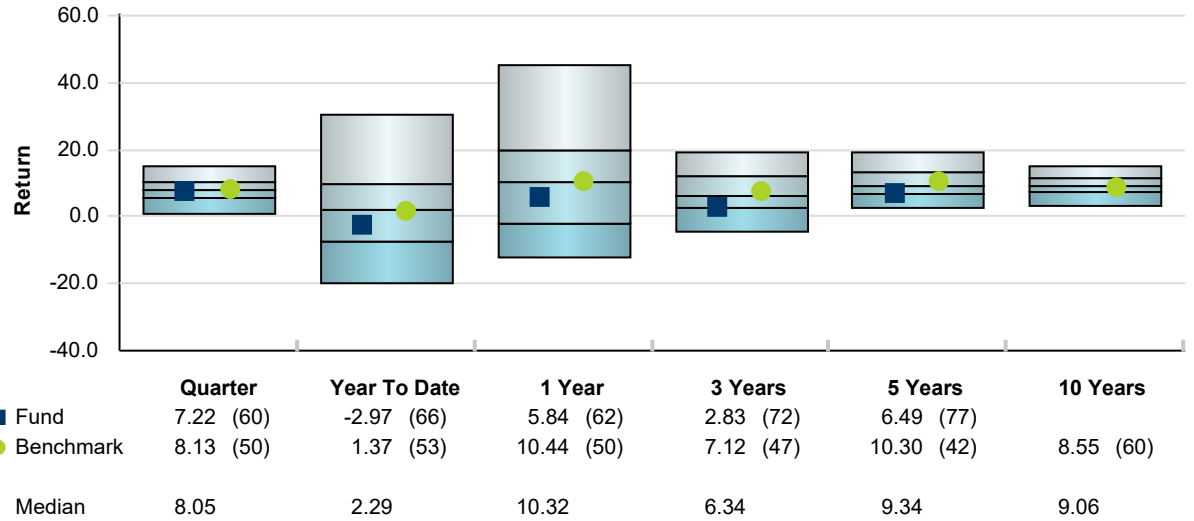
Columbus Macro (EMWO)

Periods Ended September 30, 2020

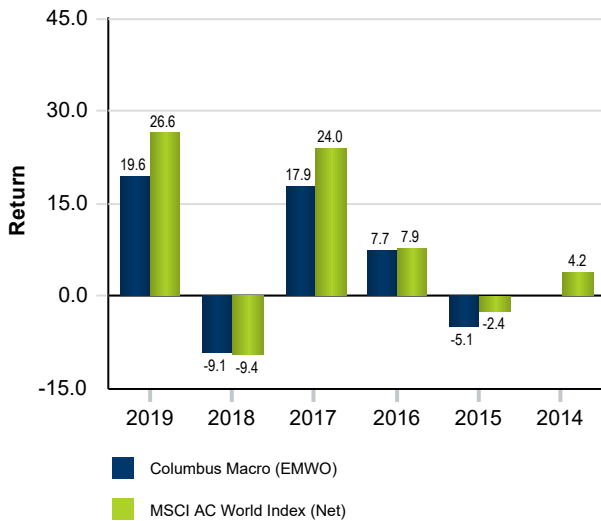
## Comparative Performance



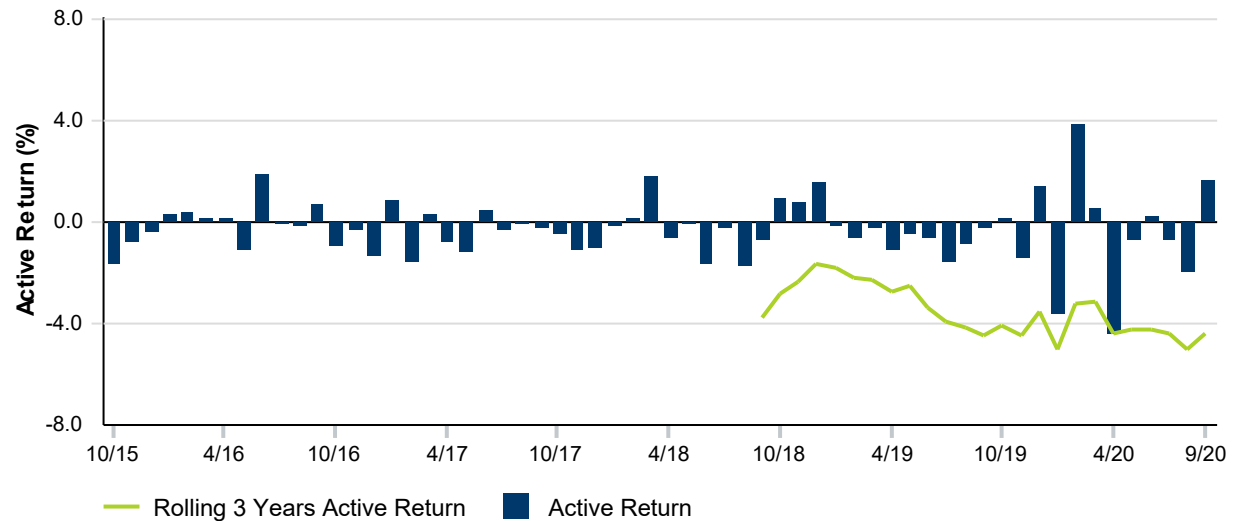
## Peer Group Analysis: IM Global Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Columbus Macro (EMWO)

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Columbus Macro (EMWO)</u>	<u>MSCI AC World Index (Net)</u>
Maximum Return	6.35	10.71
Minimum Return	-12.98	-13.50
Return	5.84	10.44
Cumulative Return	5.84	10.44
Active Return	-4.97	0.00
Excess Return	6.39	11.36

## Risk Summary Statistics

	<u>Columbus Macro (EMWO)</u>	<u>MSCI AC World Index (Net)</u>
Upside Risk	3.39	4.43
Downside Risk	14.54	16.10
Beta	0.80	1.00

## Risk/Return Summary Statistics

	<u>Columbus Macro (EMWO)</u>	<u>MSCI AC World Index (Net)</u>
Standard Deviation	18.56	21.94
Alpha	-2.44	0.00
Active Return/Risk	-0.27	0.00
Tracking Error	7.54	0.00
Information Ratio	-0.66	
Sharpe Ratio	0.34	0.51

## Correlation Statistics

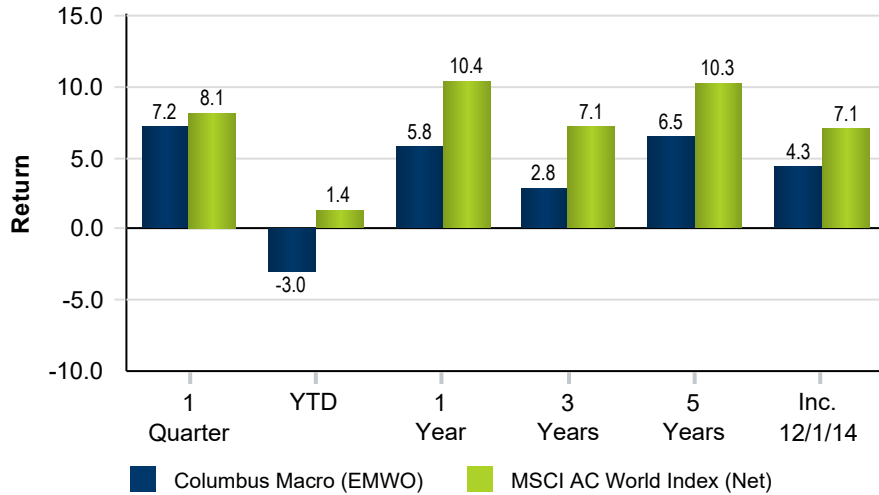
	<u>Columbus Macro (EMWO)</u>	<u>MSCI AC World Index (Net)</u>
R-Squared	0.89	1.00
Actual Correlation	0.94	1.00

# Manager Summary

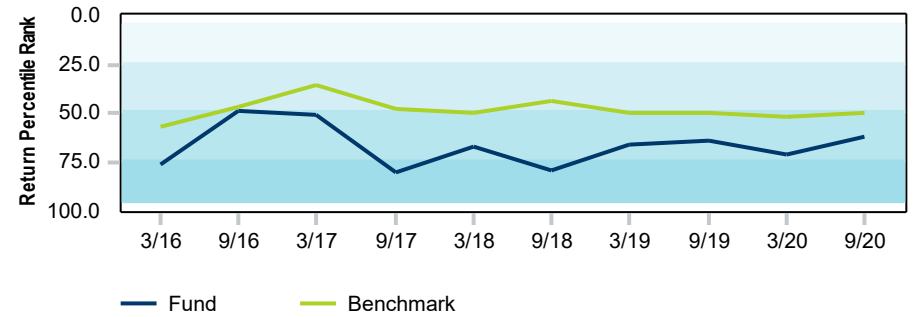
Columbus Macro (EMWO) vs IM Global Equity (SA+CF)

Periods Ended September 30, 2020

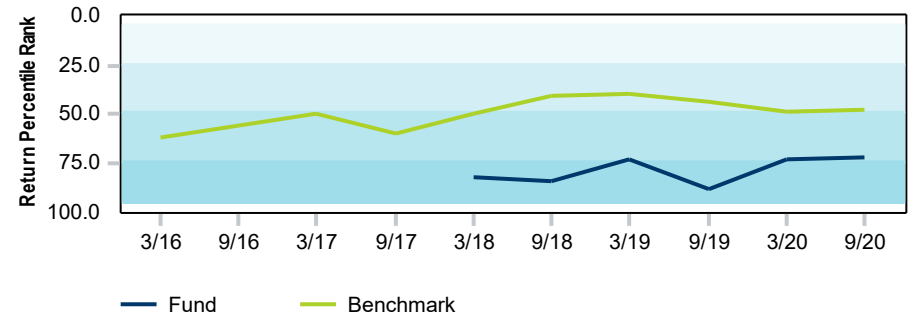
## Comparative Performance



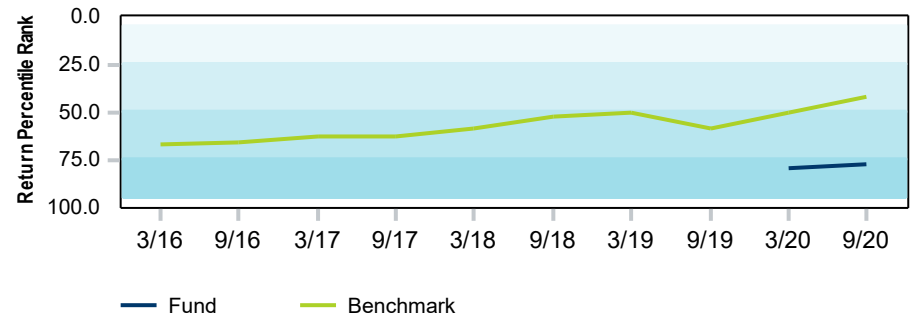
## 1 Year Rolling Percentile Ranking



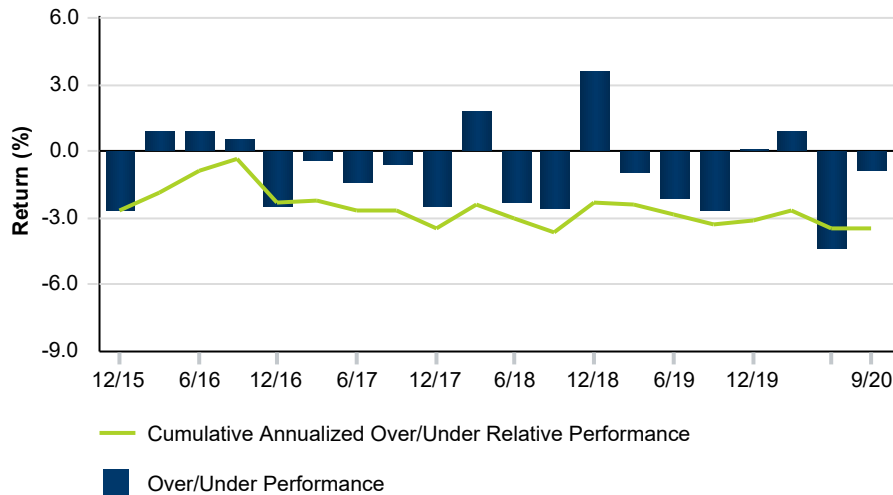
## 3 Year Rolling Percentile Ranking



## 5 Year Rolling Percentile Ranking



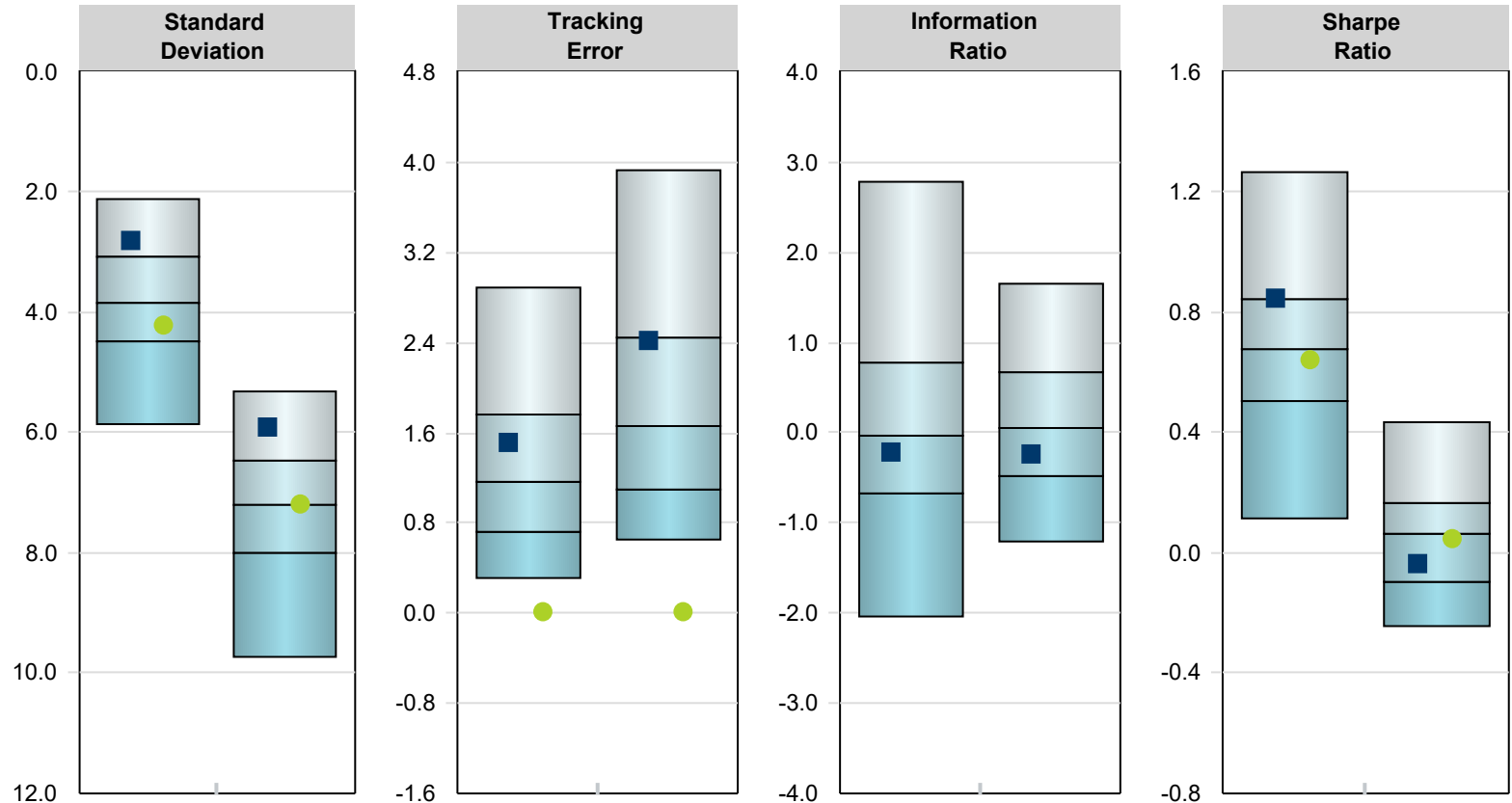
## Relative Performance



# Peer Group Analysis - Multi Statistics

Columbus Macro (EMWO)

Periods Ended September 30, 2020



	Standard Deviation		Tracking Error		Information Ratio		Sharpe Ratio	
	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ Columbus Macro (EMWO)	2.80 (16)	5.92 (13)	1.51 (35)	2.40 (26)	-0.23 (57)	-0.24 (63)	0.85 (25)	-0.04 (68)
● MSCI AC World Index (Net)	4.22 (64)	7.20 (50)	0.00 (100)	0.00 (100)			0.64 (60)	0.05 (53)
5th Percentile	2.10	5.31	2.89	3.92	2.79	1.65	1.27	0.44
1st Quartile	3.09	6.45	1.77	2.44	0.78	0.67	0.84	0.17
Median	3.83	7.20	1.16	1.65	-0.03	0.06	0.68	0.06
3rd Quartile	4.48	8.00	0.72	1.09	-0.68	-0.49	0.51	-0.10
95th Percentile	5.87	9.72	0.31	0.66	-2.04	-1.21	0.11	-0.25

Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.



# Core Fixed Composite

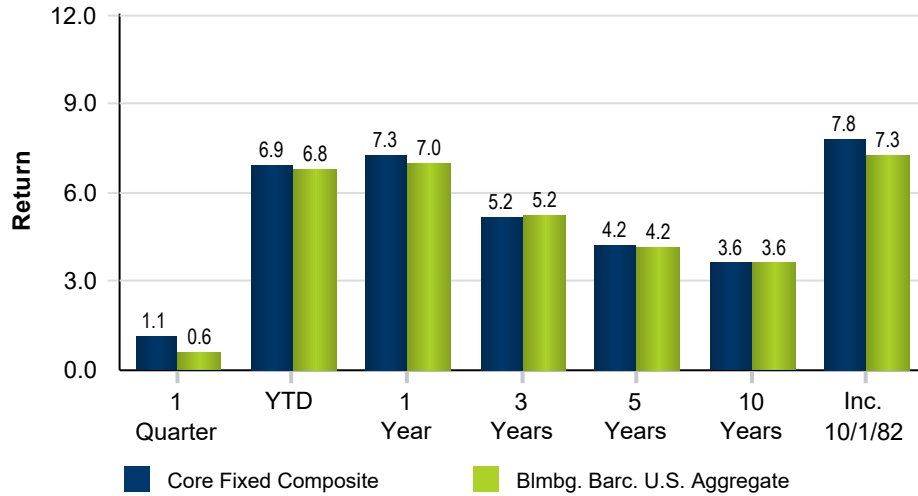


# Composite Performance Summary

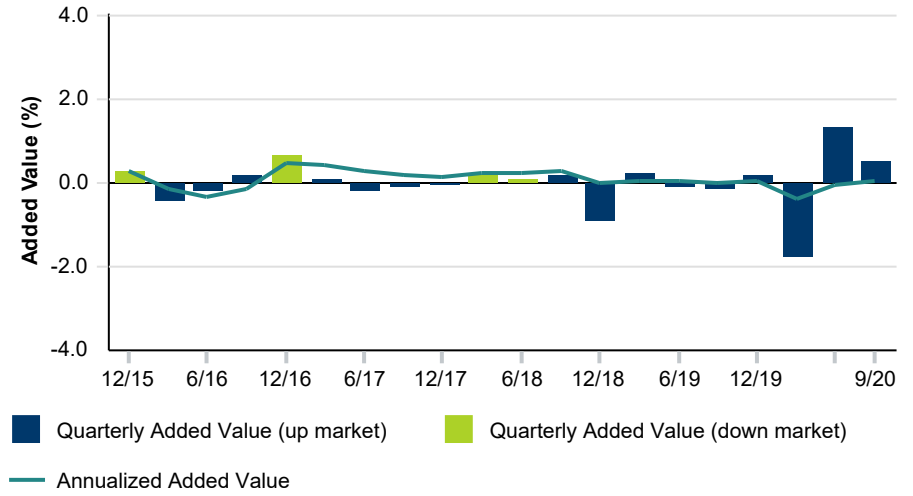
Core Fixed Composite

Periods Ended September 30, 2020

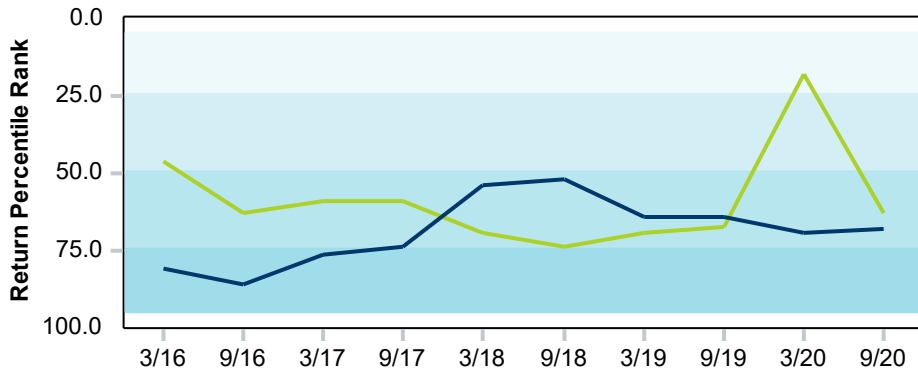
**Comparative Performance**



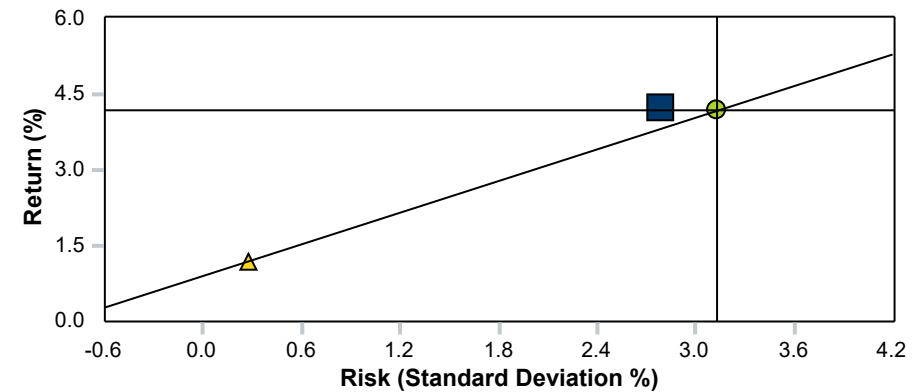
**Added Value History**



**Rolling Percentile Rank: IM U.S. Broad Market Core Fixed Income (SA+CF)**



**Risk and Return 10/1/15 - 09/30/20**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Core Fixed Composite	10	0 (0%)	0 (0%)	7 (70%)	3 (30%)
Benchmark	10	1 (10%)	1 (10%)	8 (80%)	0 (0%)

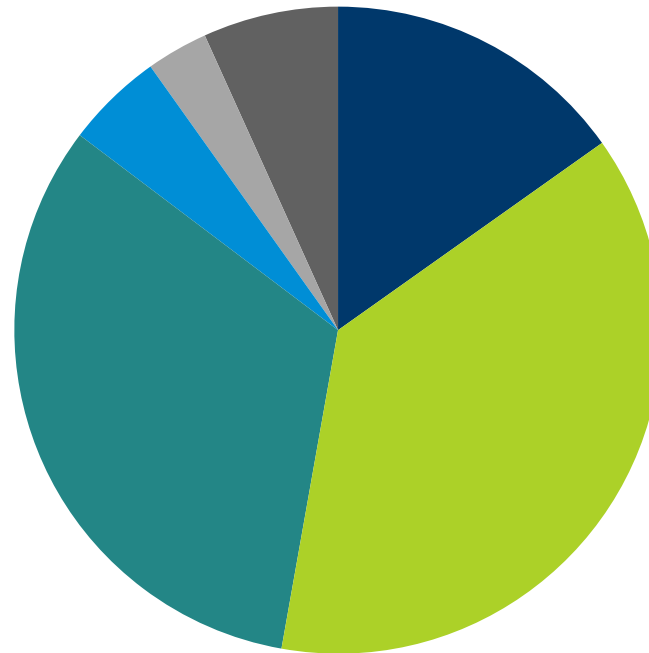
Asset	Risk (Standard Deviation %)	Return (%)
Core Fixed Composite	2.8	4.2
Blmbg. Barc. U.S. Aggregate	3.1	4.2
90 Day US Treasury Bill	0.3	1.2

# Asset Allocation By Manager

Core Fixed Composite

Periods Ended September 30, 2020

Sep-2020 : 91,611,331

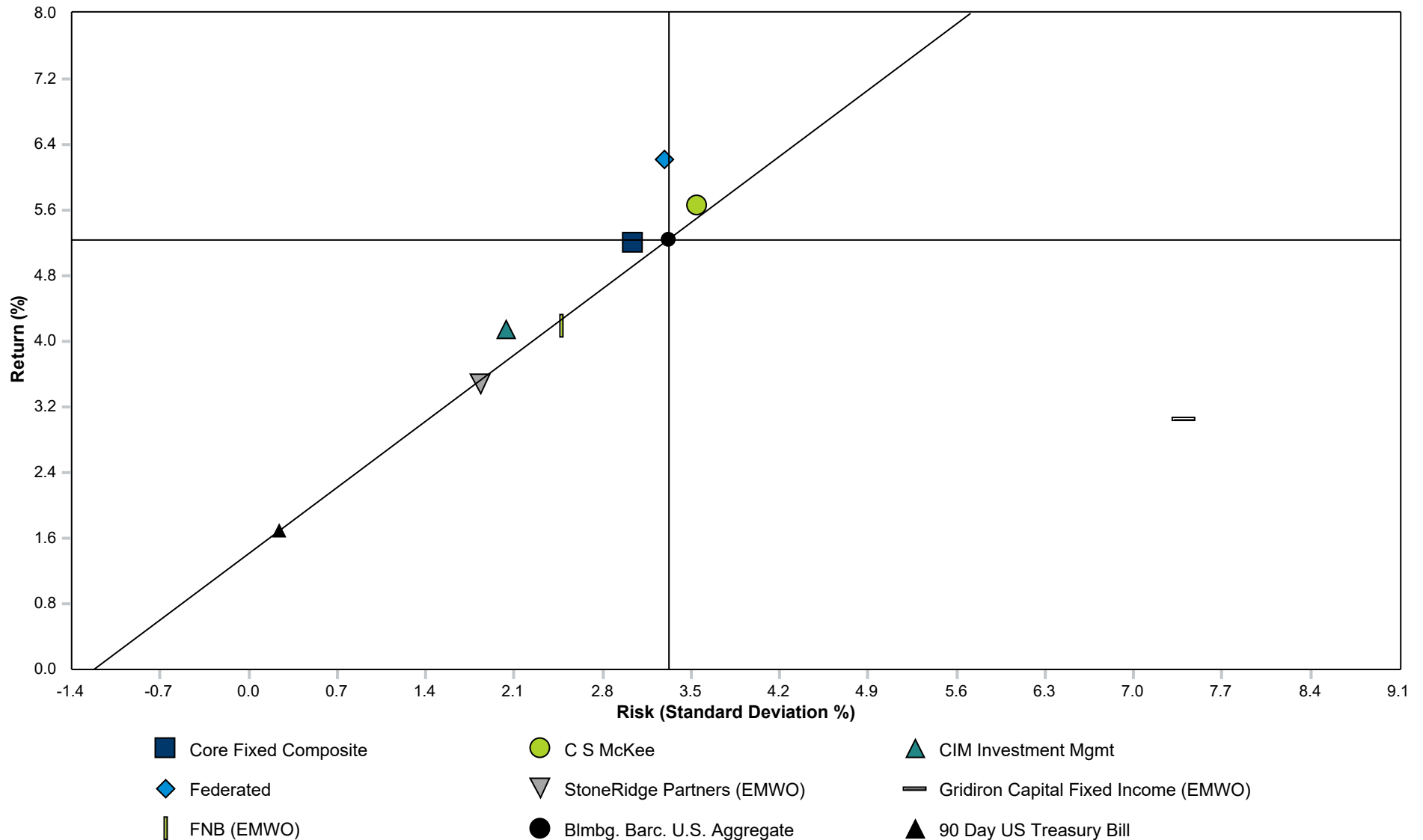


	Market Value \$	Allocation (%)
■ CIM Investment Mgmt	13,899,925	15.2
■ C S McKee	34,471,981	37.6
■ Federated	29,768,091	32.5
■ Gridiron Capital Fixed Income (EMWO)	4,457,249	4.9
■ FNB (EMWO)	2,824,114	3.1
■ StoneRidge Partners (EMWO)	6,189,972	6.8

# Risk vs. Return

Core Fixed Composite

Periods Ended 3 Years Ending September 30, 2020



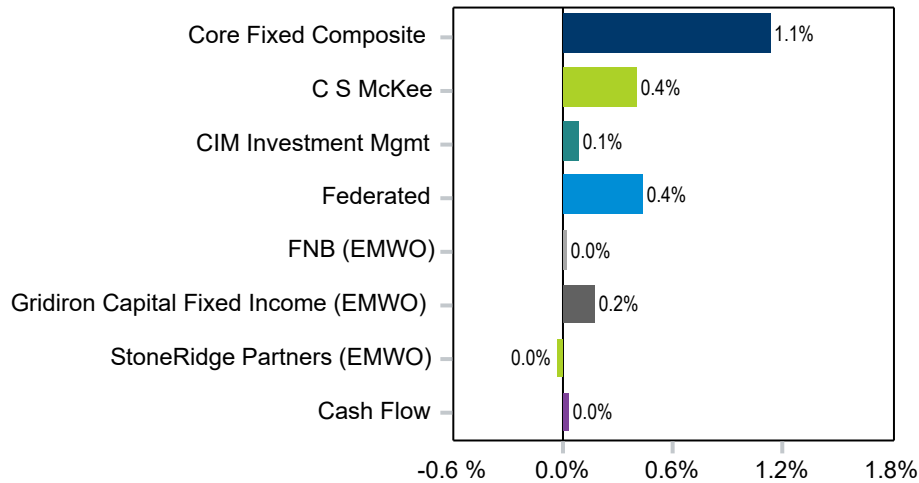
Calculation based on monthly periodicity.

# Return and Risk Contribution

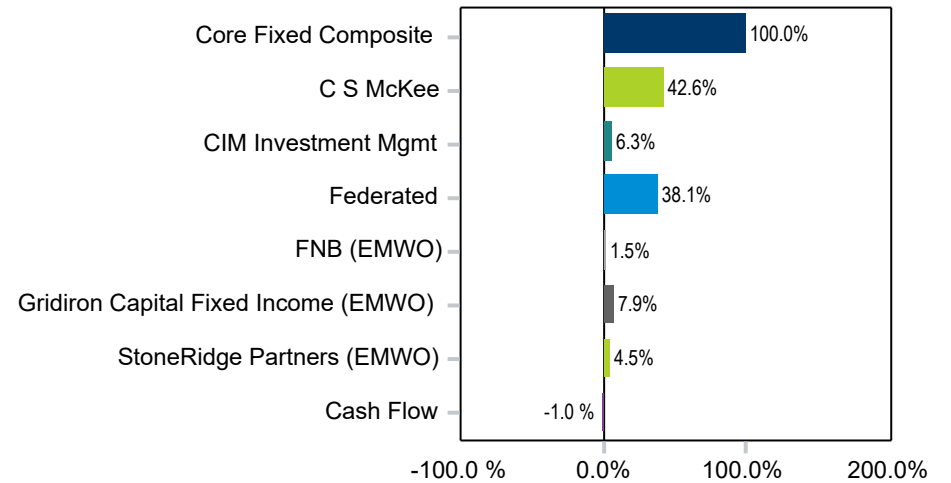
Core Fixed Composite

Periods Ended 1 Quarter September 30, 2020

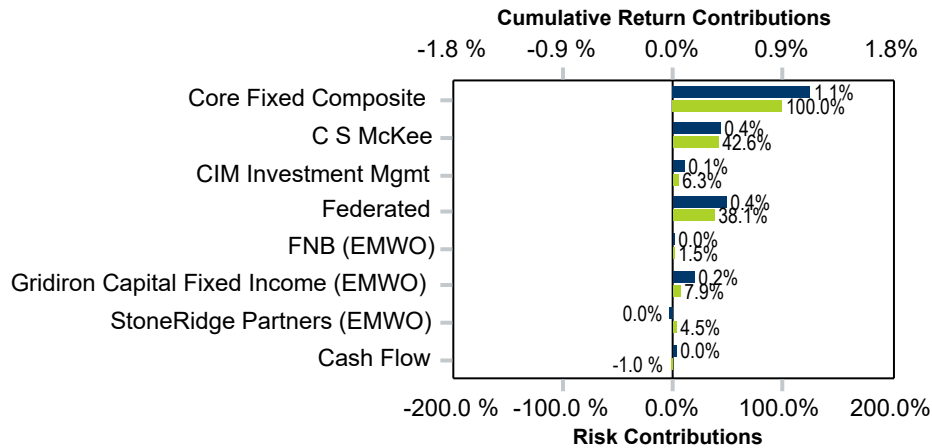
**Cumulative Return Contributions**



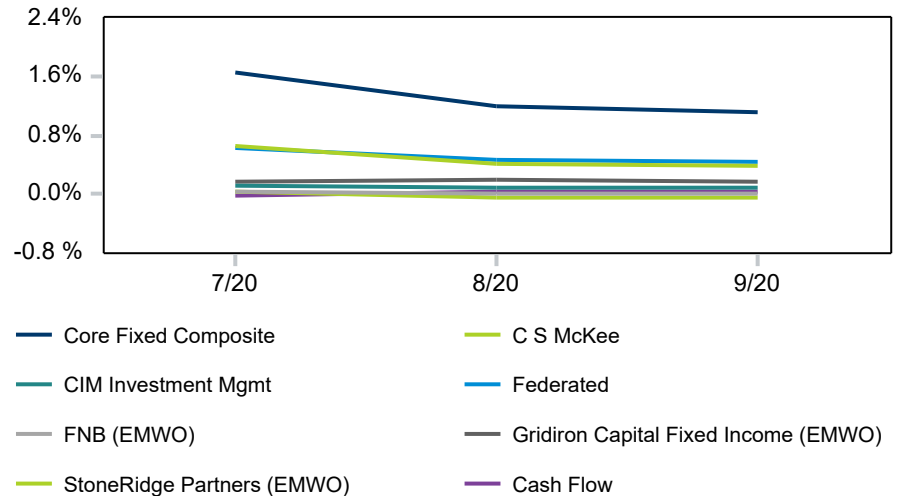
**Risk Contributions**



**Cumulative Return and Risk Contributions**



**Cumulative Return Contributions History**



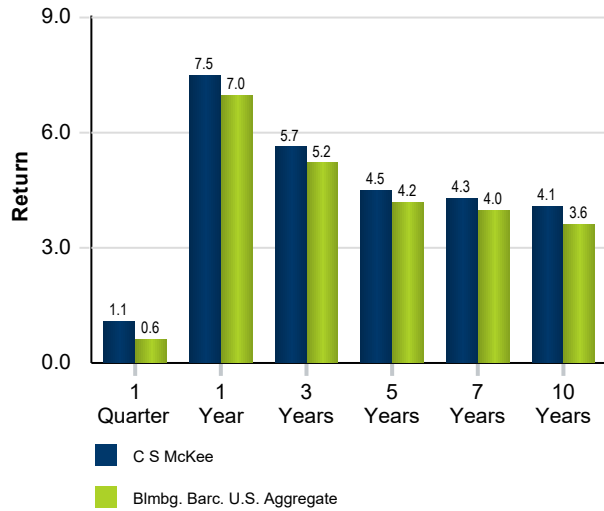
■ Cumulative Return Contributions ■ Risk Contributions

# Performance Summary

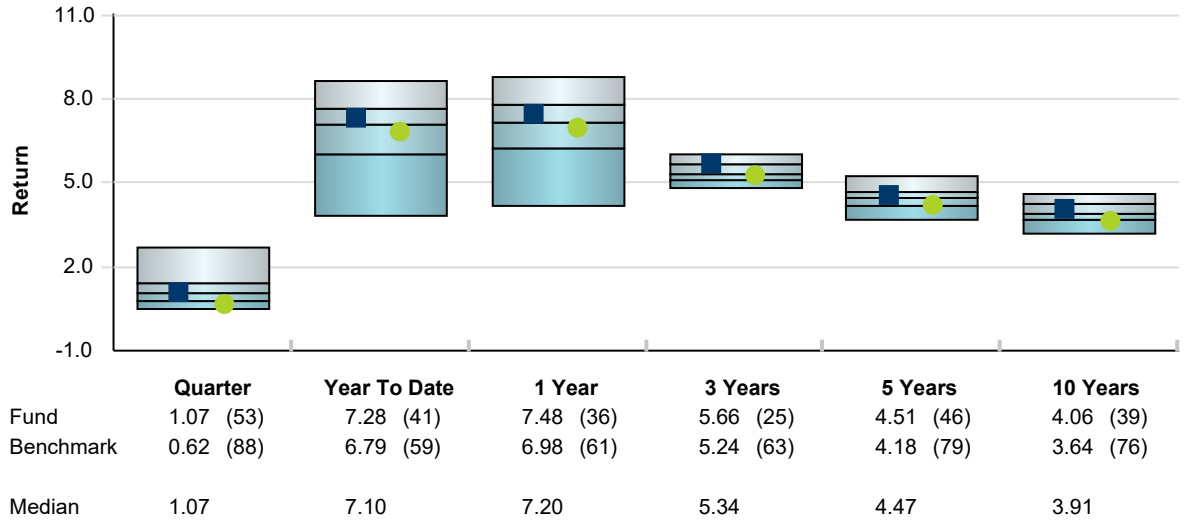
C S McKee

Periods Ended September 30, 2020

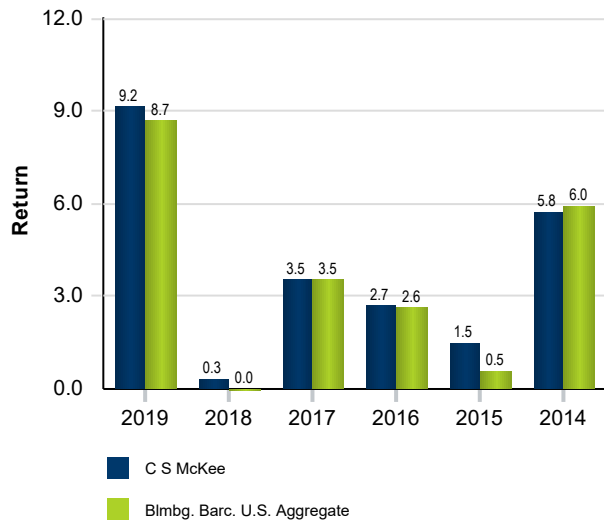
## Comparative Performance



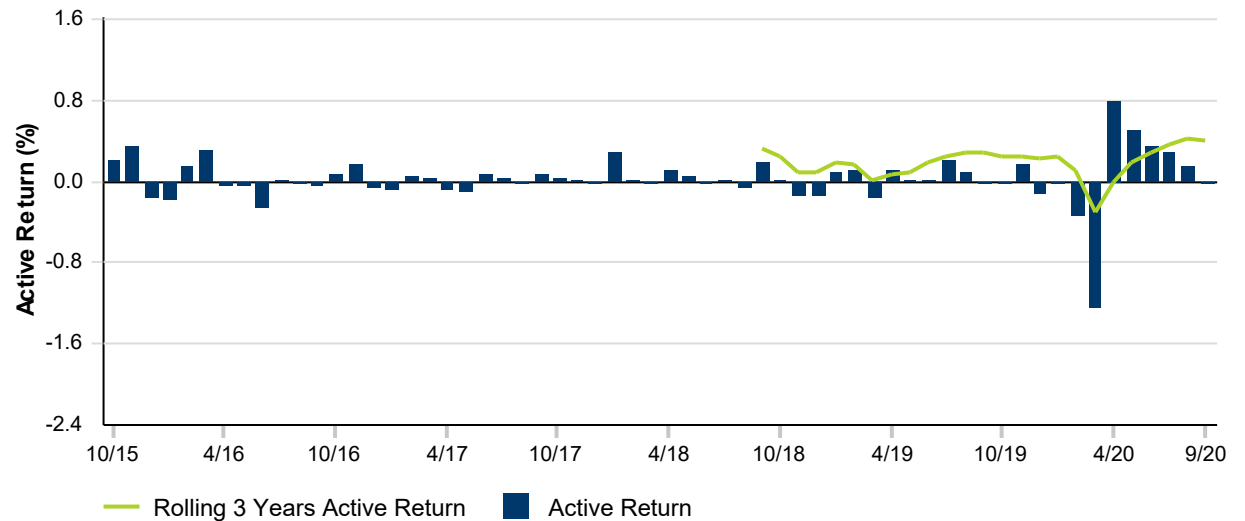
## Peer Group Analysis: IM U.S. Broad Market Core Fixed Income (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

C S McKee

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>C S McKee</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
Maximum Return	2.57	1.92
Minimum Return	-1.82	-0.81
Return	7.48	6.98
Cumulative Return	7.48	6.98
Active Return	0.50	0.00
Excess Return	6.22	5.72

## Risk Summary Statistics

	<u>C S McKee</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
Upside Risk	1.21	1.04
Downside Risk	1.95	1.00
Beta	1.19	1.00

## Risk/Return Summary Statistics

	<u>C S McKee</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
Standard Deviation	4.11	3.19
Alpha	-0.82	0.00
Active Return/Risk	0.12	0.00
Tracking Error	1.67	0.00
Information Ratio	0.30	
Sharpe Ratio	1.46	1.76

## Correlation Statistics

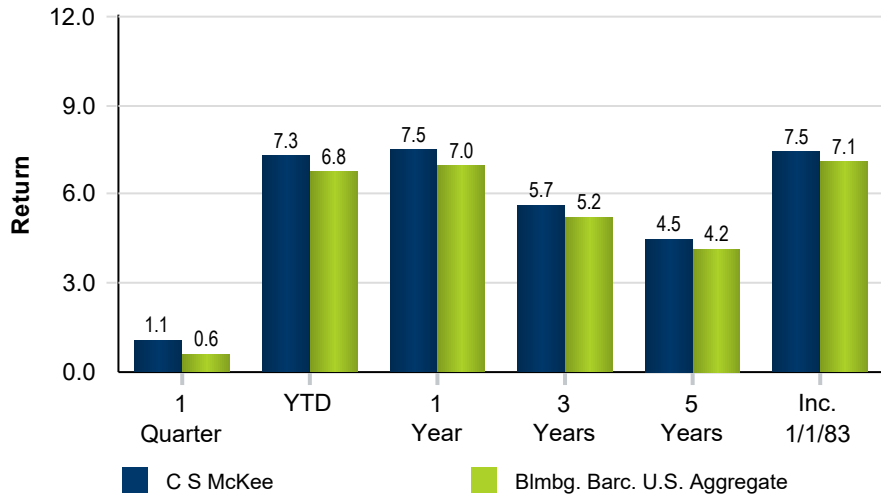
	<u>C S McKee</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
R-Squared	0.86	1.00
Actual Correlation	0.93	1.00

# Manager Summary

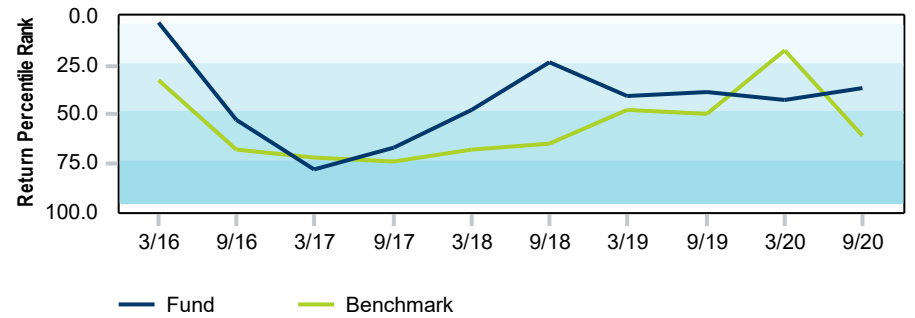
C S McKee vs IM U.S. Broad Market Core Fixed Income (SA+CF)

Periods Ended September 30, 2020

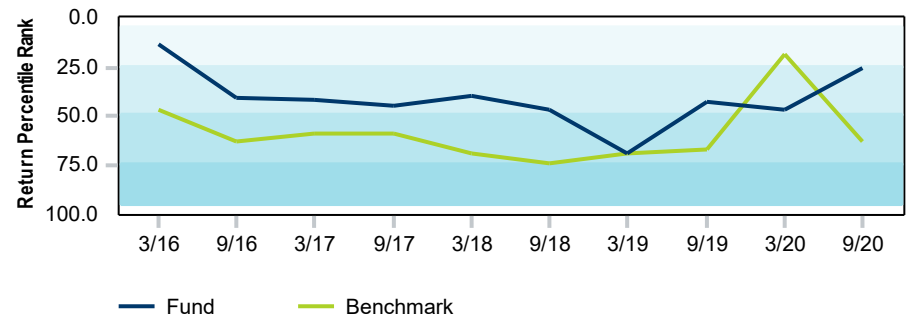
## Comparative Performance



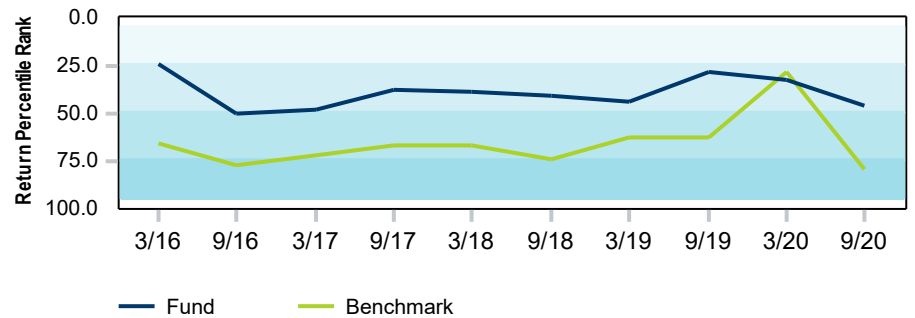
## 1 Year Rolling Percentile Ranking



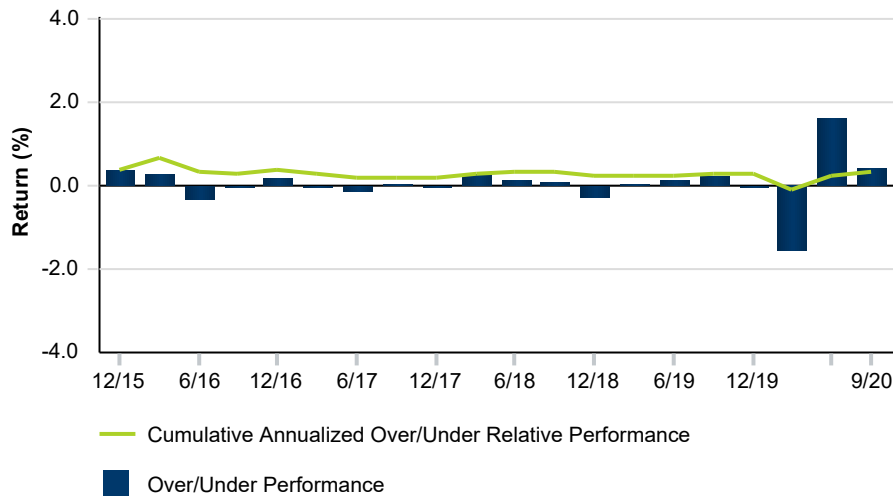
## 3 Year Rolling Percentile Ranking



## 5 Year Rolling Percentile Ranking



## Relative Performance

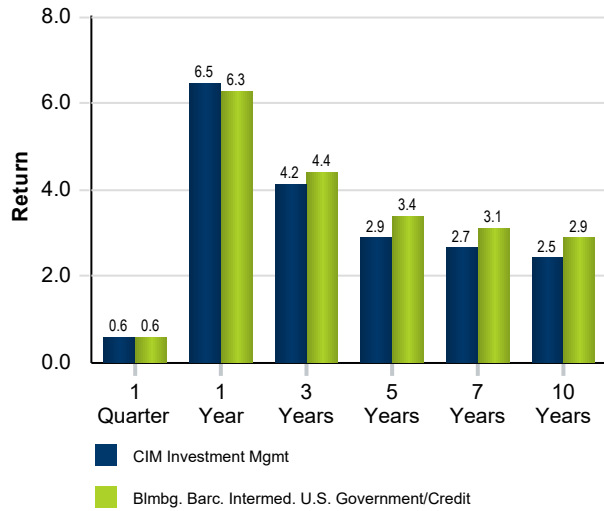


# Performance Summary

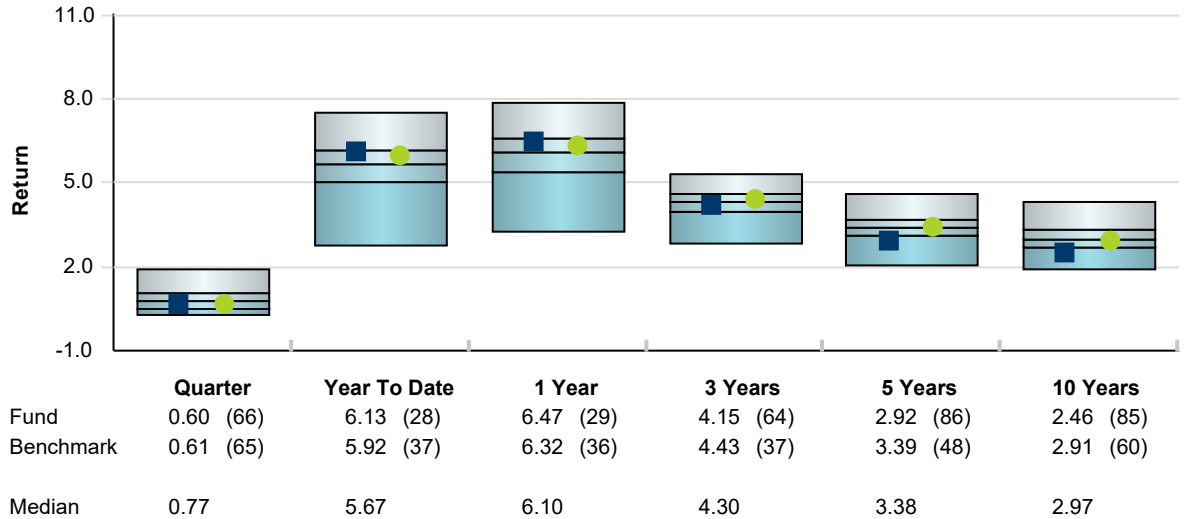
CIM Investment Mgmt

Periods Ended September 30, 2020

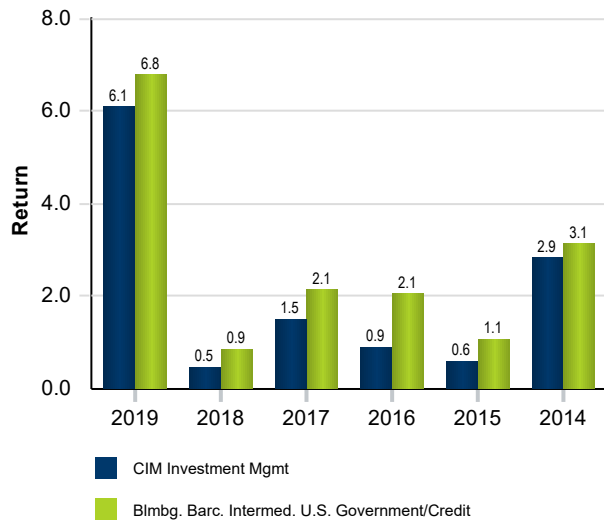
## Comparative Performance



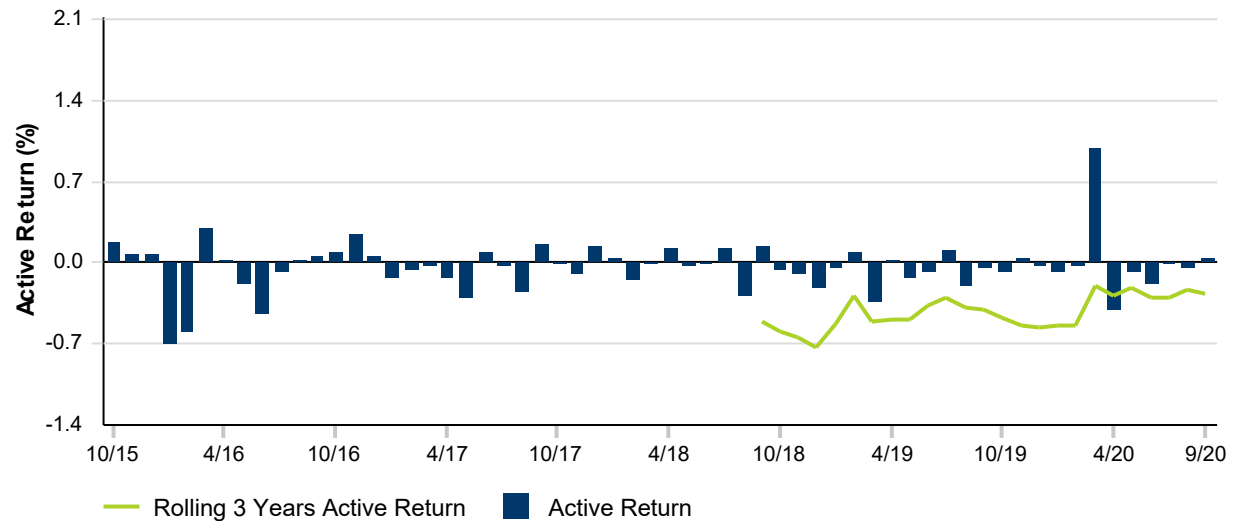
## Peer Group Analysis: IM U.S. Intermediate Duration (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance





# Summary Statistics

CIM Investment Mgmt

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>CIM Investment Mgmt</u>	<u>Blmbg. Barc. Intermed. U.S. Government/Credit</u>
Maximum Return	1.38	1.42
Minimum Return	-0.15	-0.44
Return	6.47	6.32
Cumulative Return	6.47	6.32
Active Return	0.13	0.00
Excess Return	5.20	5.07

## Risk Summary Statistics

	<u>CIM Investment Mgmt</u>	<u>Blmbg. Barc. Intermed. U.S. Government/Credit</u>
Upside Risk	0.72	0.80
Downside Risk	0.19	0.48
Beta	0.69	1.00

## Risk/Return Summary Statistics

	<u>CIM Investment Mgmt</u>	<u>Blmbg. Barc. Intermed. U.S. Government/Credit</u>
Standard Deviation	1.74	2.18
Alpha	2.04	0.00
Active Return/Risk	0.08	0.00
Tracking Error	1.09	0.00
Information Ratio	0.12	
Sharpe Ratio	3.00	2.22

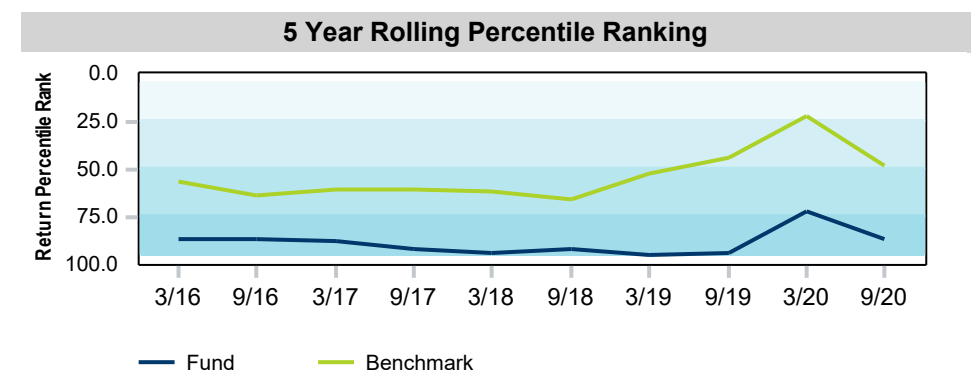
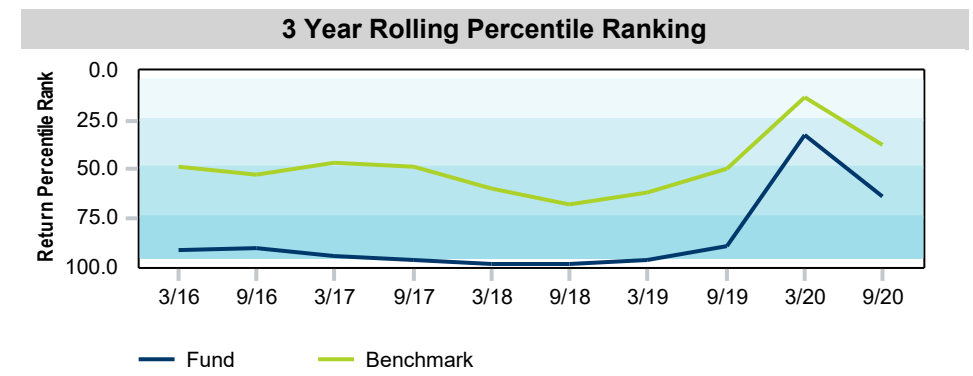
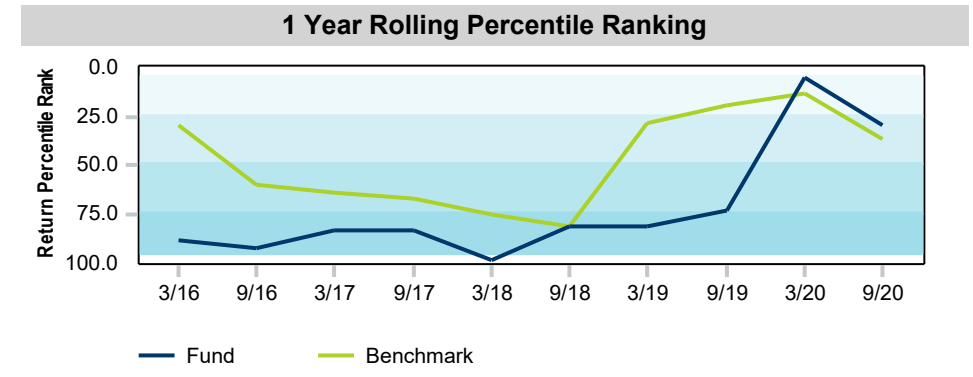
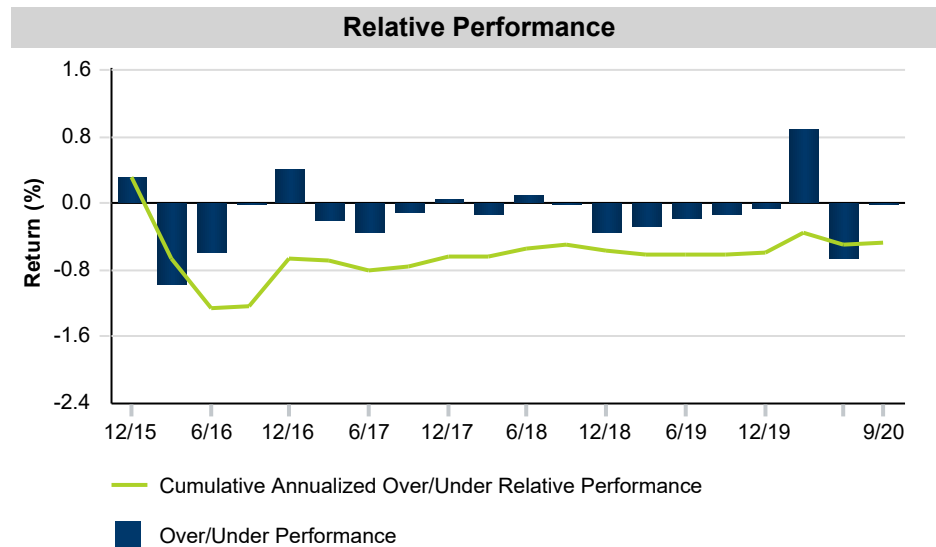
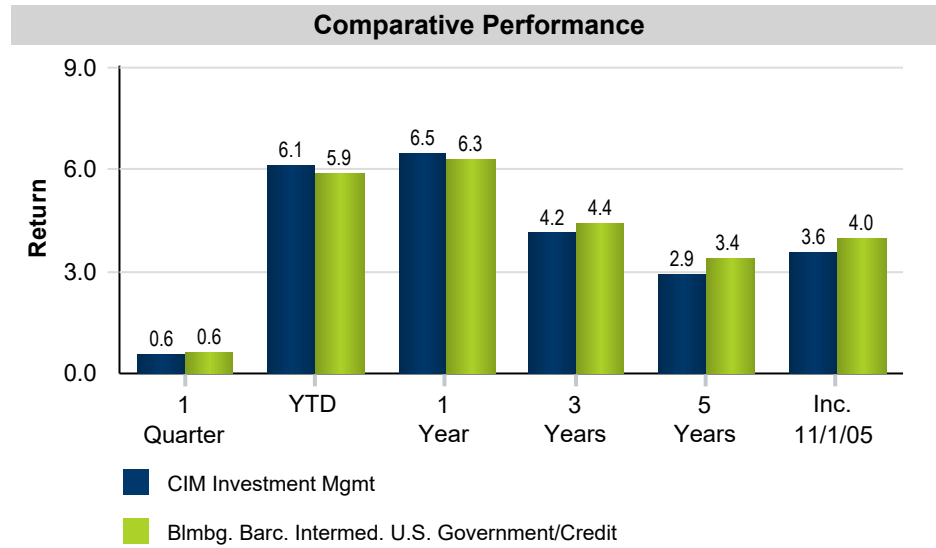
## Correlation Statistics

	<u>CIM Investment Mgmt</u>	<u>Blmbg. Barc. Intermed. U.S. Government/Credit</u>
R-Squared	0.75	1.00
Actual Correlation	0.87	1.00

# Manager Summary

CIM Investment Mgmt vs IM U.S. Intermediate Duration (SA+CF)

Periods Ended September 30, 2020

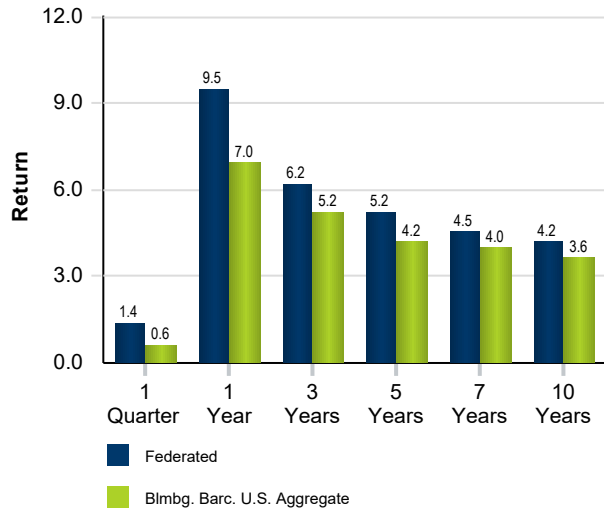


# Performance Summary

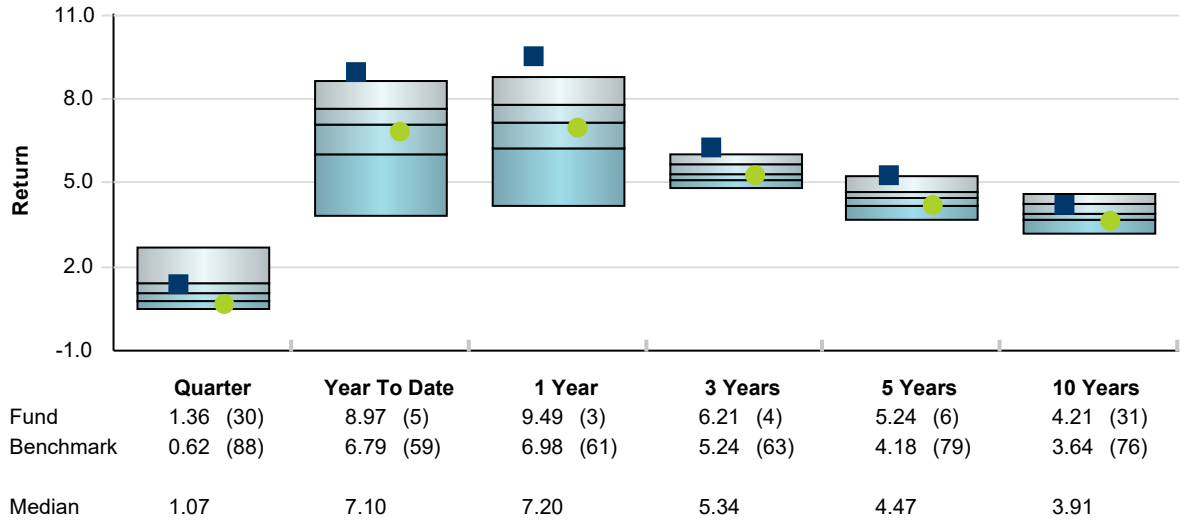
Federated

Periods Ended September 30, 2020

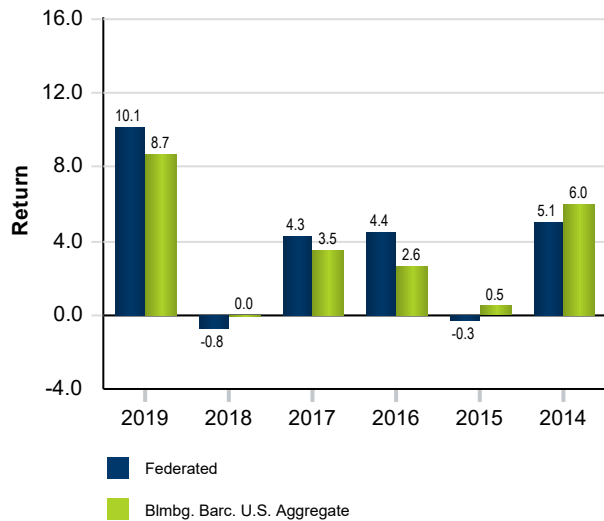
## Comparative Performance



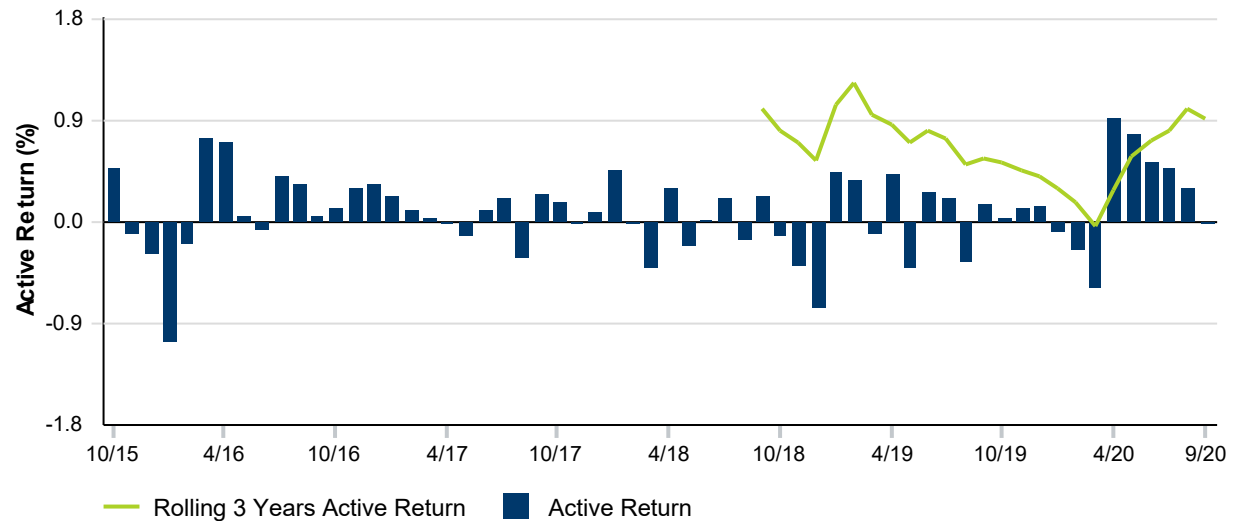
## Peer Group Analysis: IM U.S. Broad Market Core Fixed Income (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Federated

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Federated</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
Maximum Return	2.70	1.92
Minimum Return	-1.17	-0.81
Return	9.49	6.98
Cumulative Return	9.49	6.98
Active Return	2.35	0.00
Excess Return	8.08	5.72

## Risk Summary Statistics

	<u>Federated</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
Upside Risk	1.29	1.04
Downside Risk	1.28	1.00
Beta	1.12	1.00

## Risk/Return Summary Statistics

	<u>Federated</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
Standard Deviation	3.82	3.19
Alpha	1.58	0.00
Active Return/Risk	0.62	0.00
Tracking Error	1.43	0.00
Information Ratio	1.65	
Sharpe Ratio	2.04	1.76

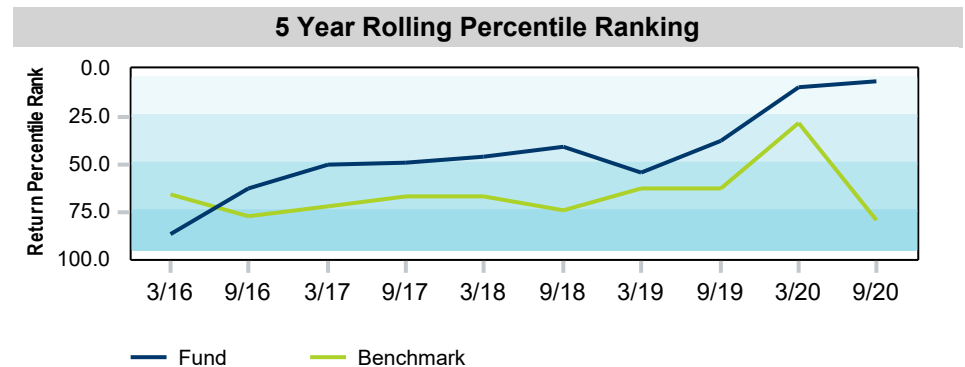
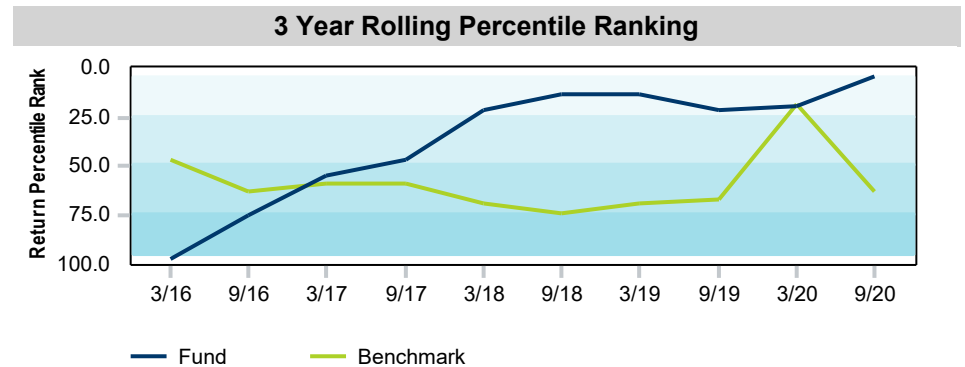
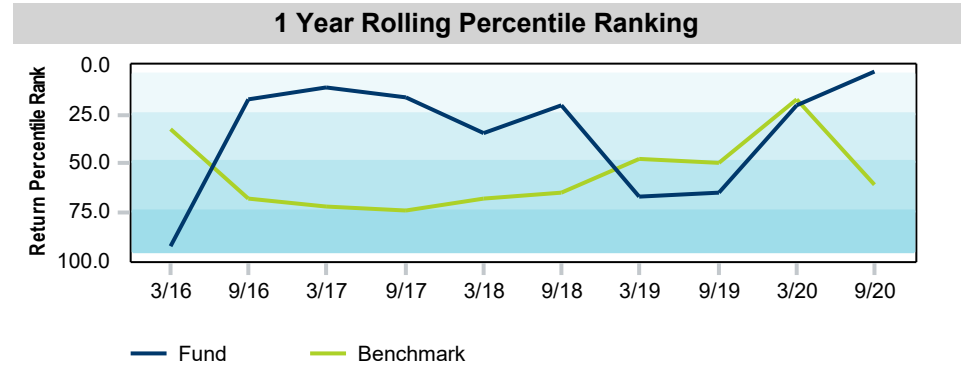
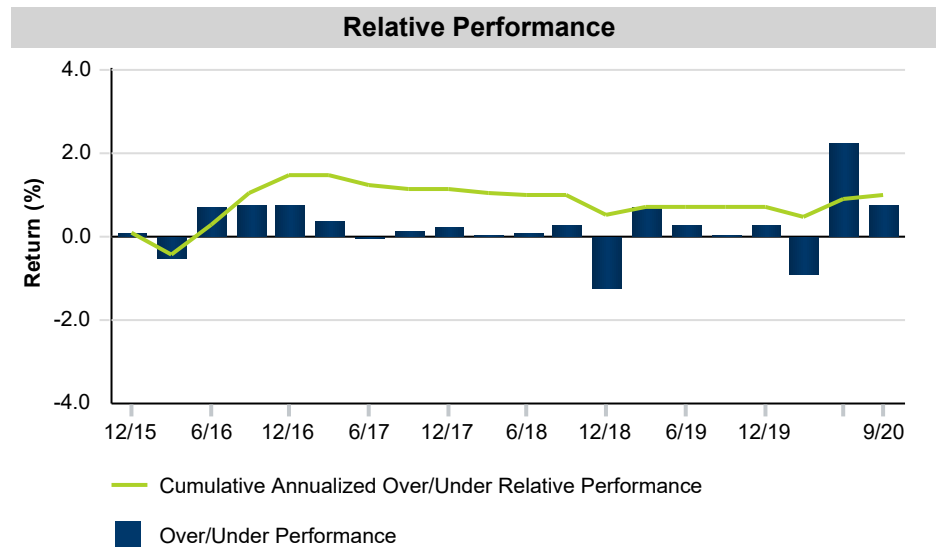
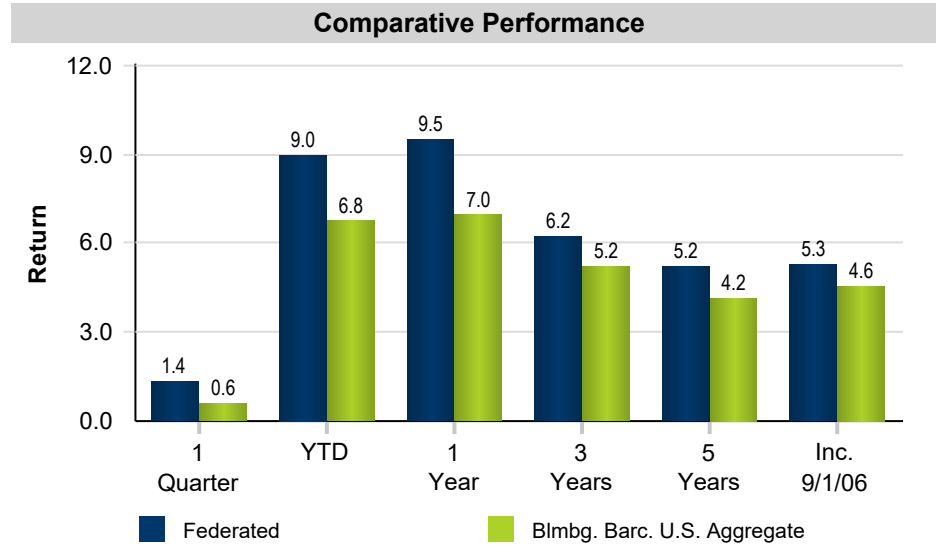
## Correlation Statistics

	<u>Federated</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
R-Squared	0.87	1.00
Actual Correlation	0.93	1.00

# Manager Summary

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

Periods Ended September 30, 2020

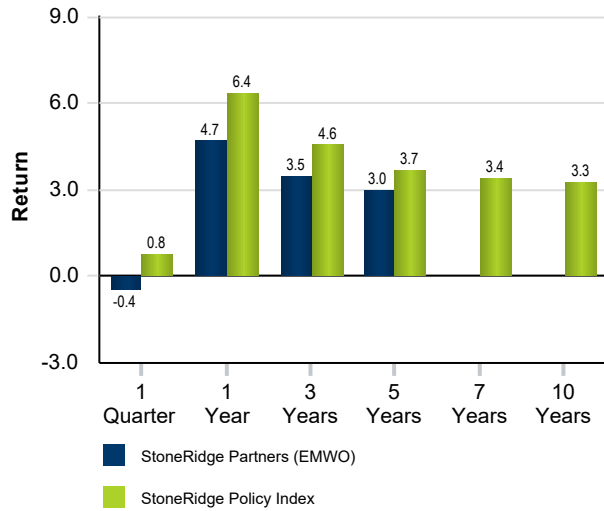


# Performance Summary

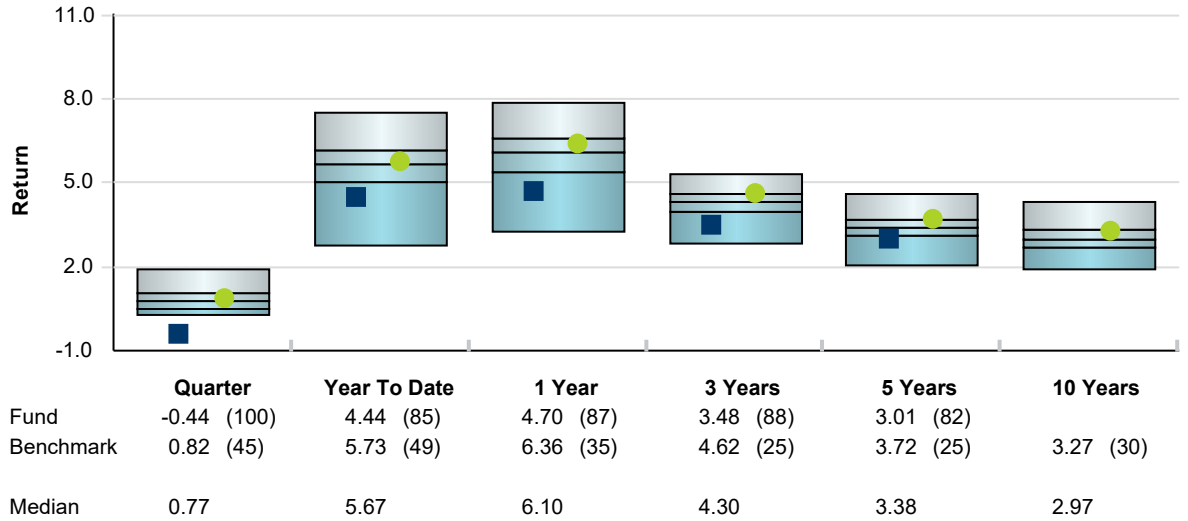
StoneRidge Partners (EMWO)

Periods Ended September 30, 2020

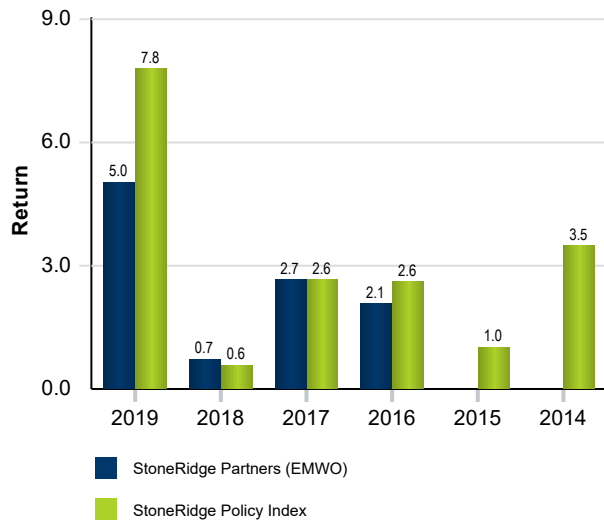
## Comparative Performance



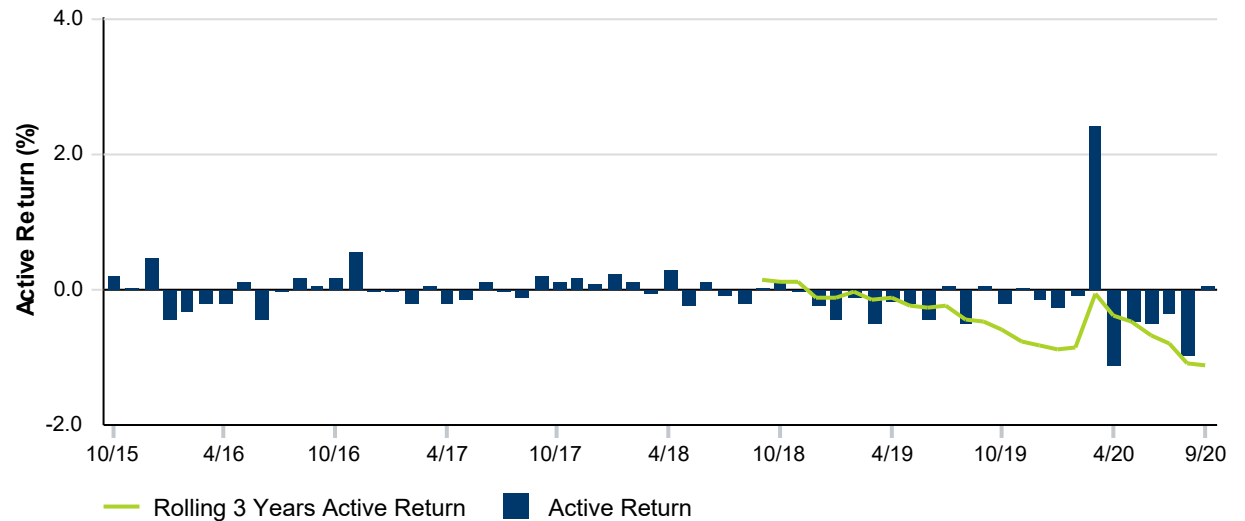
## Peer Group Analysis: IM U.S. Intermediate Duration (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

StoneRidge Partners (EMWO)

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>StoneRidge Partners (EMWO)</u>	<u>StoneRidge Policy Index</u>
Maximum Return	1.19	2.18
Minimum Return	-1.04	-2.01
Return	4.70	6.36
Cumulative Return	4.70	6.36
Active Return	-1.62	0.00
Excess Return	3.53	5.15

## Risk Summary Statistics

	<u>StoneRidge Partners (EMWO)</u>	<u>StoneRidge Policy Index</u>
Upside Risk	0.65	0.98
Downside Risk	1.04	2.01
Beta	0.33	1.00

## Risk/Return Summary Statistics

	<u>StoneRidge Partners (EMWO)</u>	<u>StoneRidge Policy Index</u>
Standard Deviation	2.08	3.51
Alpha	2.59	0.00
Active Return/Risk	-0.78	0.00
Tracking Error	2.91	0.00
Information Ratio	-0.56	
Sharpe Ratio	1.72	1.39

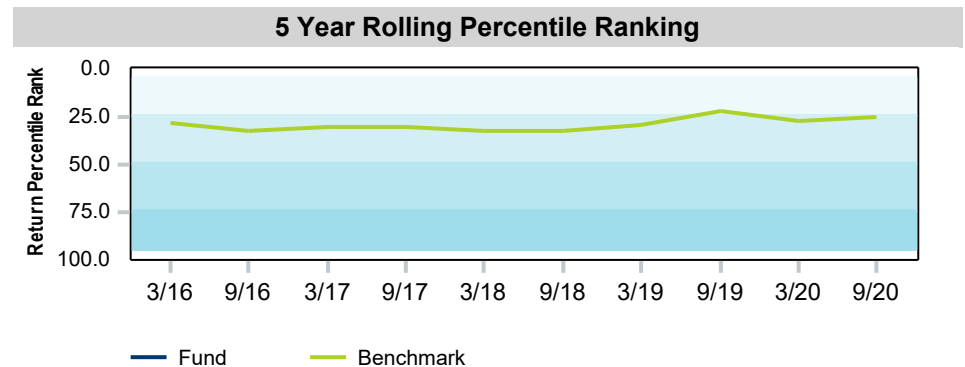
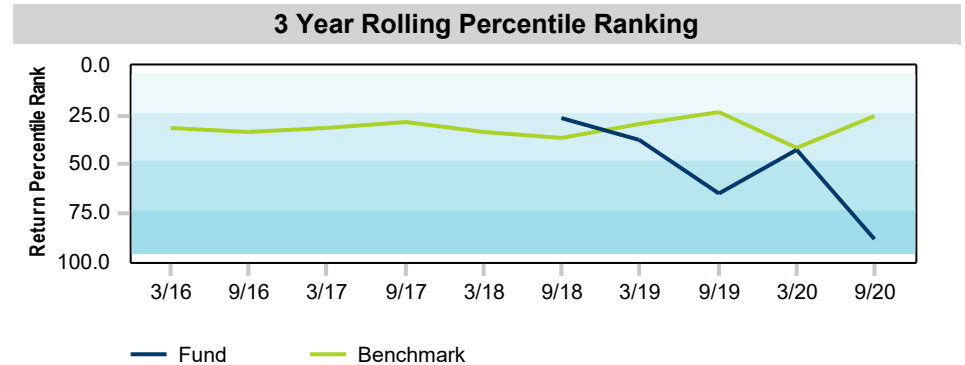
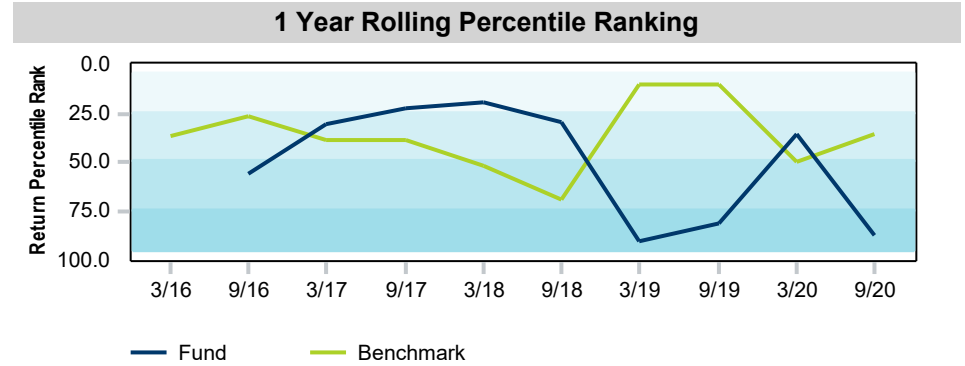
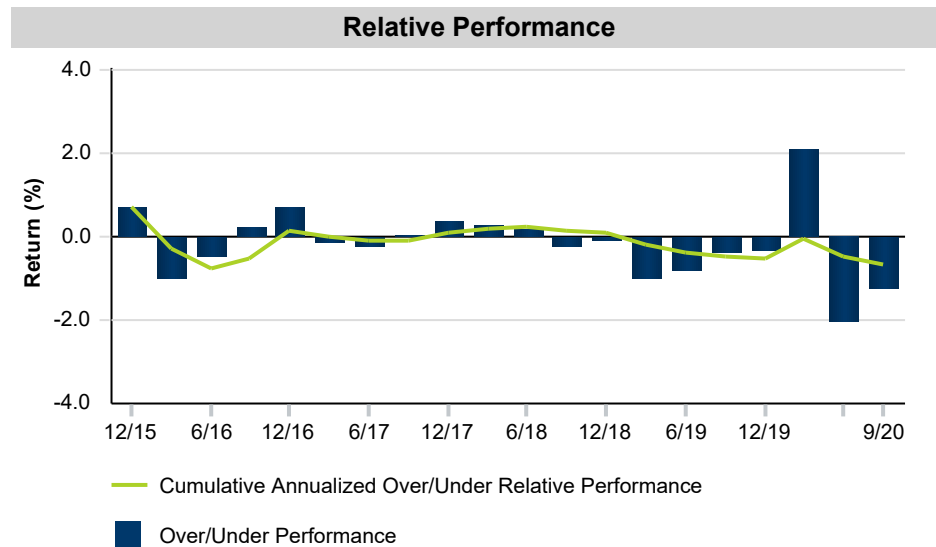
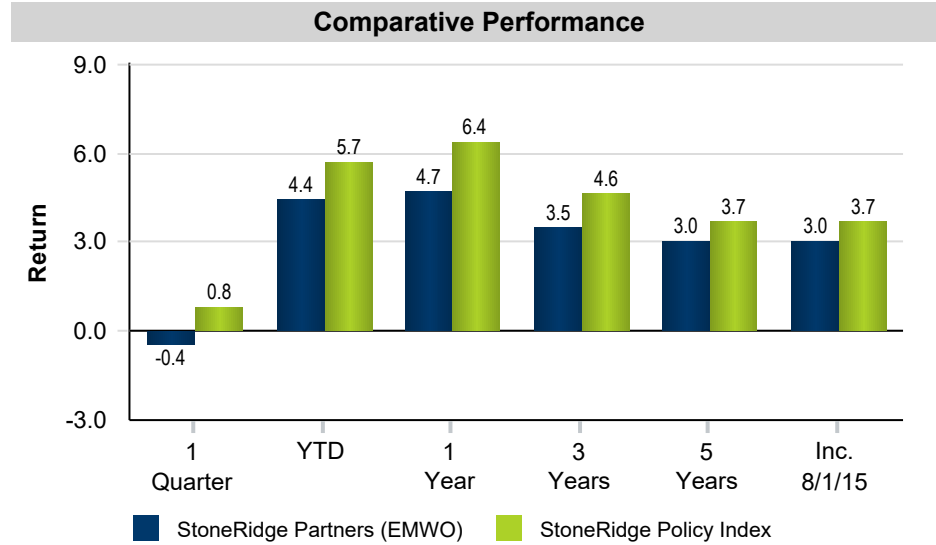
## Correlation Statistics

	<u>StoneRidge Partners (EMWO)</u>	<u>StoneRidge Policy Index</u>
R-Squared	0.31	1.00
Actual Correlation	0.56	1.00

# Manager Summary

StoneRidge Partners (EMWO) vs IM U.S. Intermediate Duration (SA+CF)

Periods Ended September 30, 2020

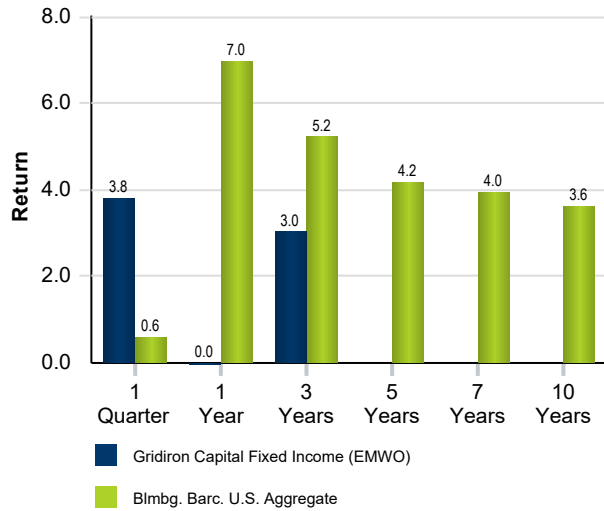




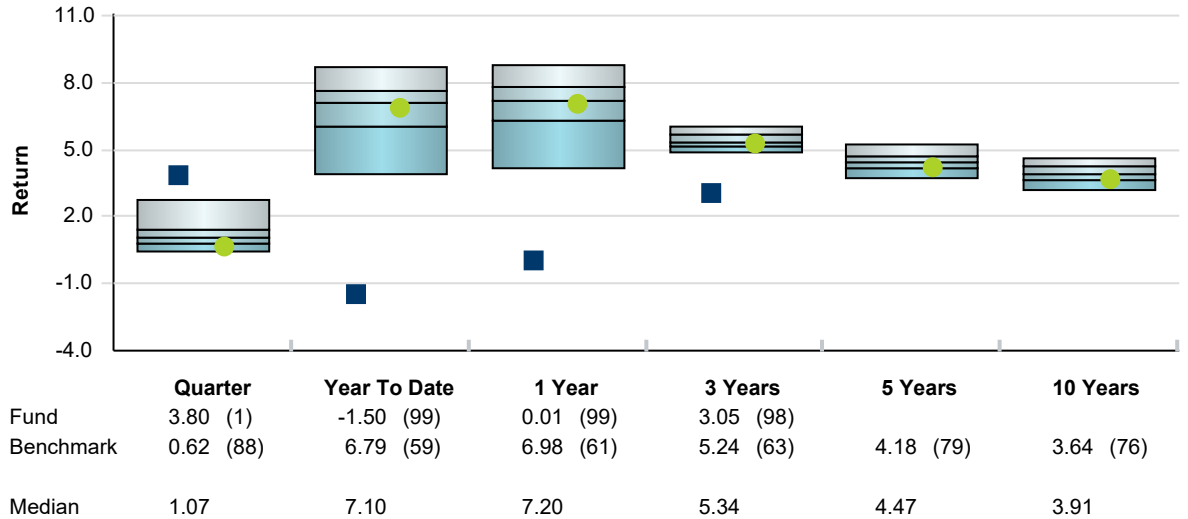
# Performance Summary

Gridiron Capital Fixed Income (EMWO)  
 Periods Ended September 30, 2020

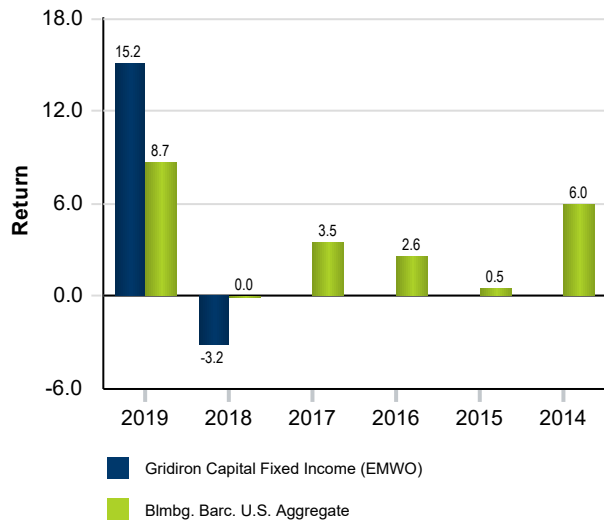
## Comparative Performance



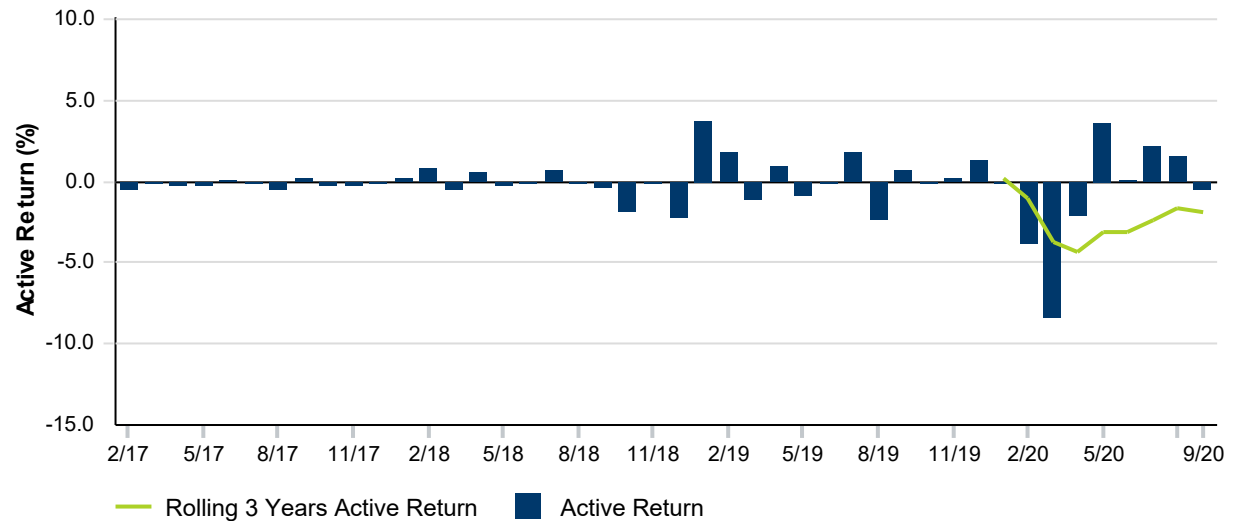
## Peer Group Analysis: IM U.S. Broad Market Core Fixed Income (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Gridiron Capital Fixed Income (EMWO)

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Gridiron Capital Fixed Income (EMWO)</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
Maximum Return	4.13	1.92
Minimum Return	-8.99	-0.81
Return	0.01	6.98
Cumulative Return	0.01	6.98
Active Return	-6.18	0.00
Excess Return	-0.46	5.72

## Risk Summary Statistics

	<u>Gridiron Capital Fixed Income (EMWO)</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
Upside Risk	1.74	1.04
Downside Risk	9.26	1.00
Beta	1.11	1.00

## Risk/Return Summary Statistics

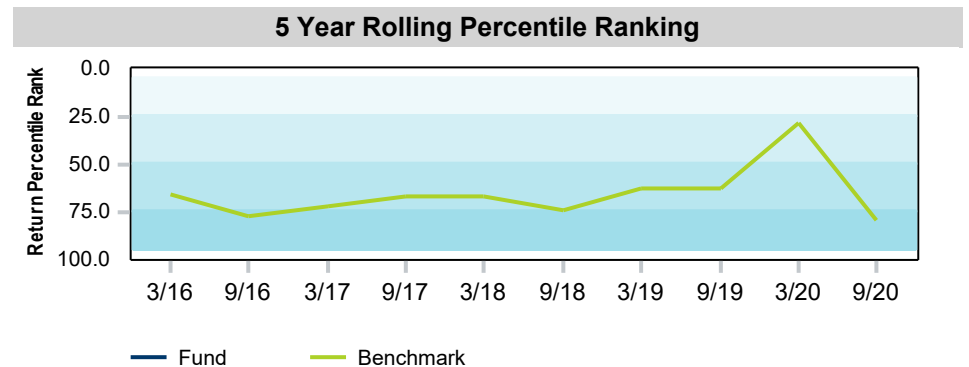
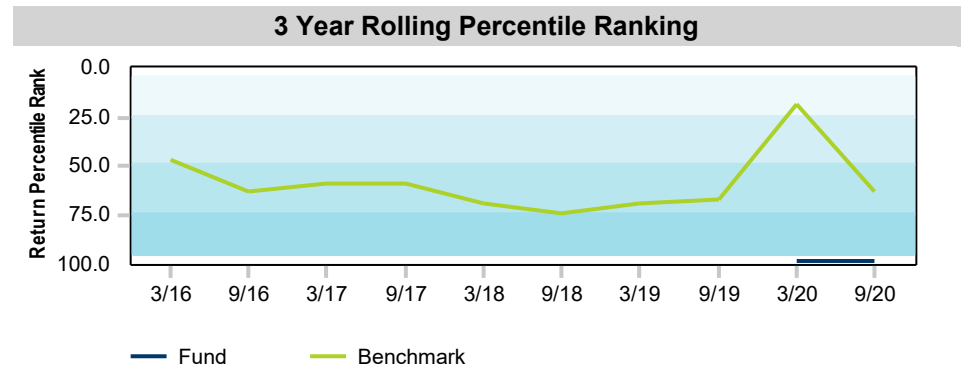
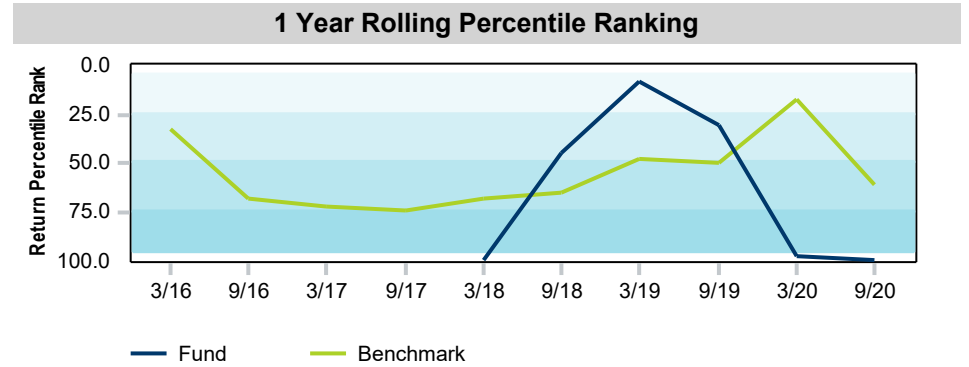
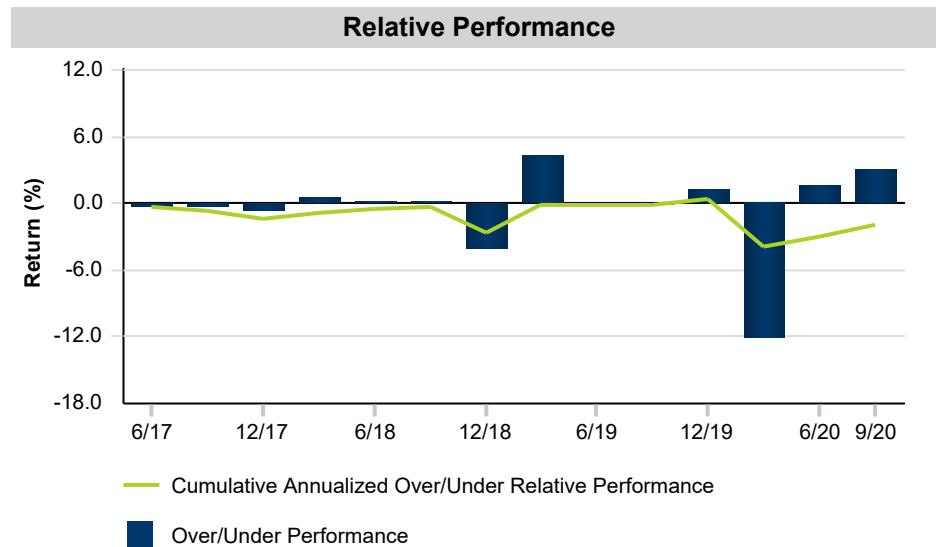
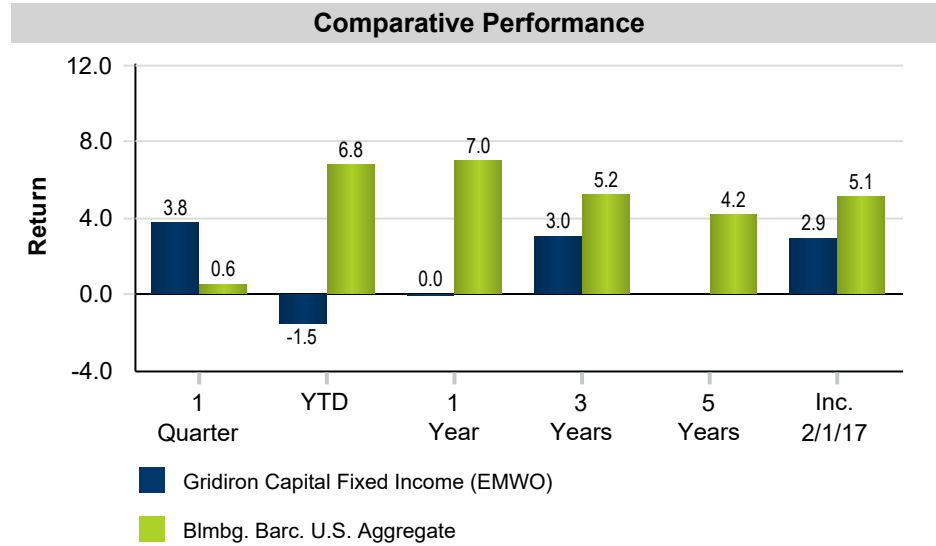
	<u>Gridiron Capital Fixed Income (EMWO)</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
Standard Deviation	11.04	3.19
Alpha	-6.71	0.00
Active Return/Risk	-0.56	0.00
Tracking Error	10.46	0.00
Information Ratio	-0.59	
Sharpe Ratio	-0.04	1.76

## Correlation Statistics

	<u>Gridiron Capital Fixed Income (EMWO)</u>	<u>Blmbg. Barc. U.S. Aggregate</u>
R-Squared	0.10	1.00
Actual Correlation	0.32	1.00

# Manager Summary

Gridiron Capital Fixed Income (EMWO) vs IM U.S. Broad Market Core Fixed Income  
 Periods Ended September 30, 2020



# Summary Statistics

FNB (EMWO)

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>FNB (EMWO)</u>	<u>Blmbg. Barc. U.S. Intermediate Aggregate</u>
Maximum Return	1.82	1.30
Minimum Return	-1.51	-0.08
Return	5.63	5.66
Cumulative Return	5.63	5.66
Active Return	0.01	0.00
Excess Return	4.44	4.43

## Risk Summary Statistics

	<u>FNB (EMWO)</u>	<u>Blmbg. Barc. U.S. Intermediate Aggregate</u>
Upside Risk	0.85	0.67
Downside Risk	1.51	0.11
Beta	1.43	1.00

## Risk/Return Summary Statistics

	<u>FNB (EMWO)</u>	<u>Blmbg. Barc. U.S. Intermediate Aggregate</u>
Standard Deviation	2.92	1.70
Alpha	-2.35	0.00
Active Return/Risk	0.00	0.00
Tracking Error	1.76	0.00
Information Ratio	0.00	
Sharpe Ratio	1.43	2.52

## Correlation Statistics

	<u>FNB (EMWO)</u>	<u>Blmbg. Barc. U.S. Intermediate Aggregate</u>
R-Squared	0.70	1.00
Actual Correlation	0.84	1.00



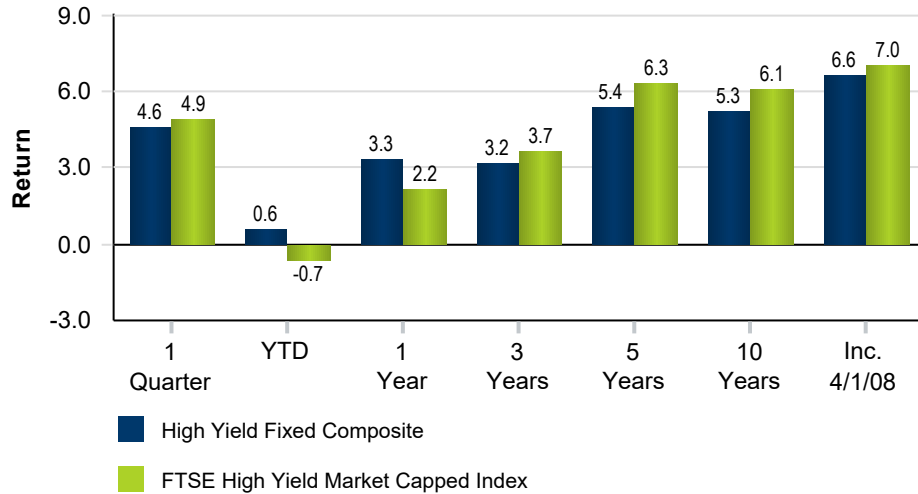
# High Yield Fixed Composite

# Composite Performance Summary

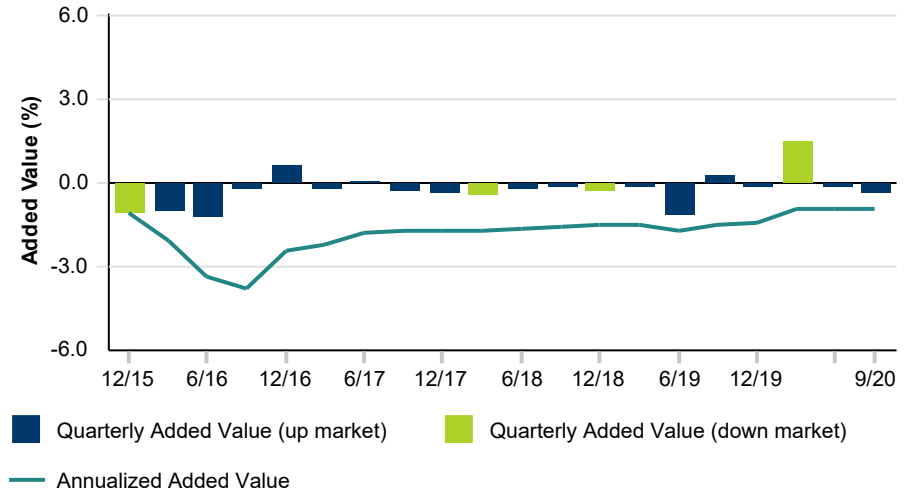
High Yield Fixed Composite

Periods Ended September 30, 2020

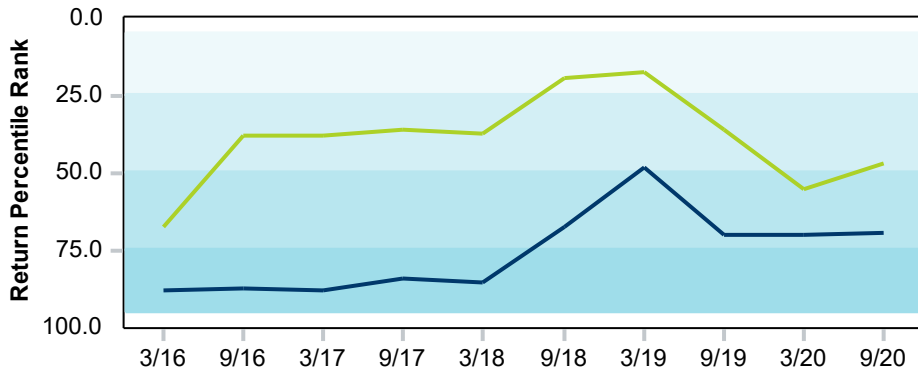
**Comparative Performance**



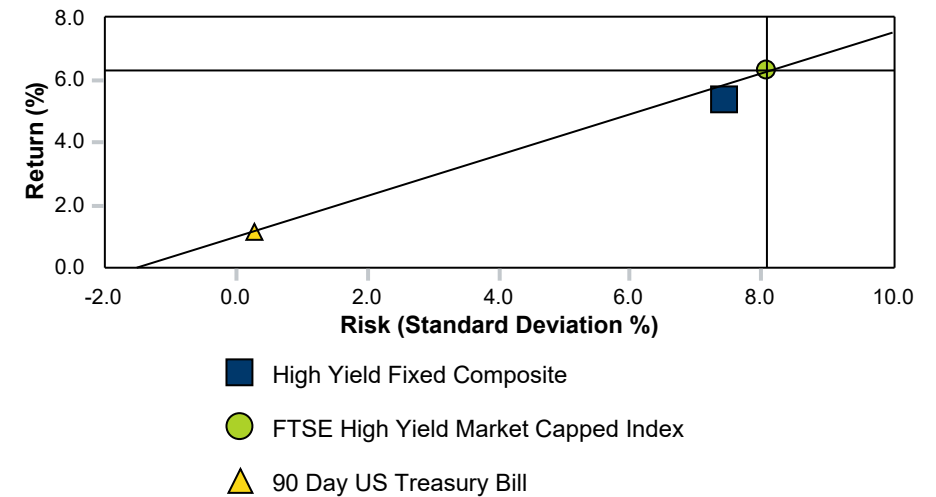
**Added Value History**



**Rolling Percentile Rank: IM U.S. High Yield Bonds (SA+CF)**



**Risk and Return 10/1/15 - 09/30/20**



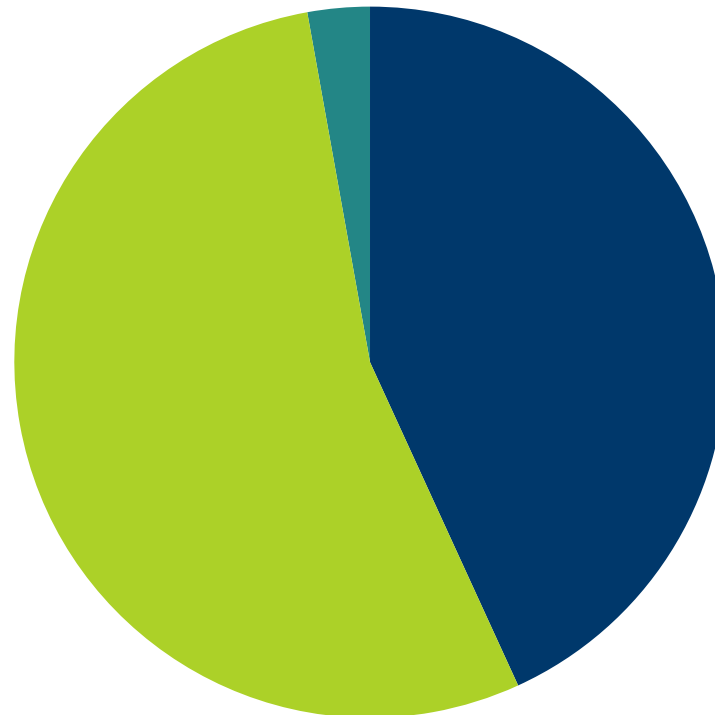
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
High Yield Fixed Composite	10	0 (0%)	1 (10%)	4 (40%)	5 (50%)
Benchmark	10	2 (20%)	6 (60%)	2 (20%)	0 (0%)

# Asset Allocation By Manager

High Yield Fixed Composite

Periods Ended September 30, 2020

Sep-2020 : 115,189,754

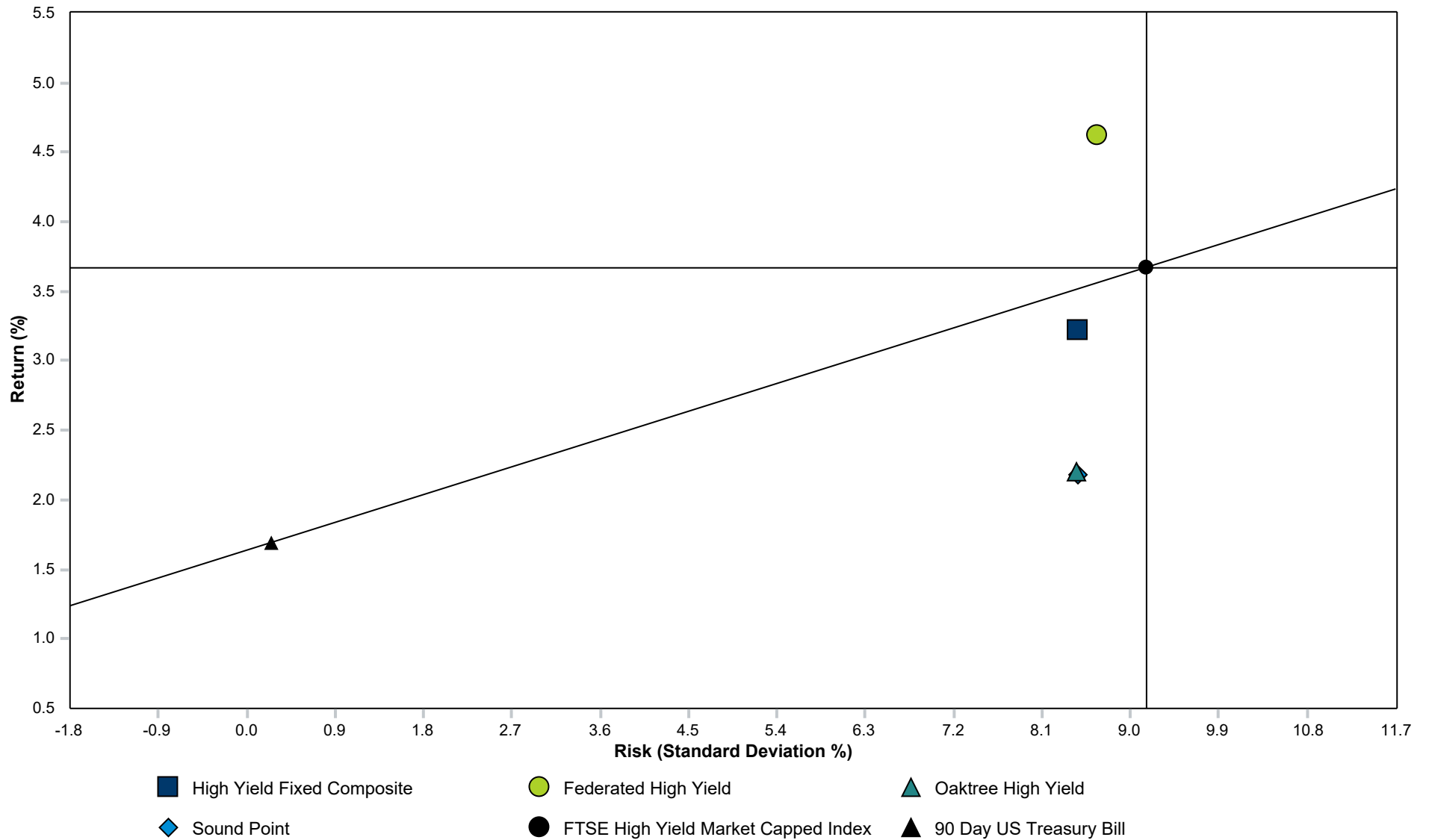


	Market Value \$	Allocation (%)
■ Federated High Yield	49,725,242	43.2
■ Oaktree High Yield	62,205,149	54.0
■ Sound Point	3,259,363	2.8

# Risk vs. Return

High Yield Fixed Composite

Periods Ended 3 Years Ending September 30, 2020



Calculation based on monthly periodicity.

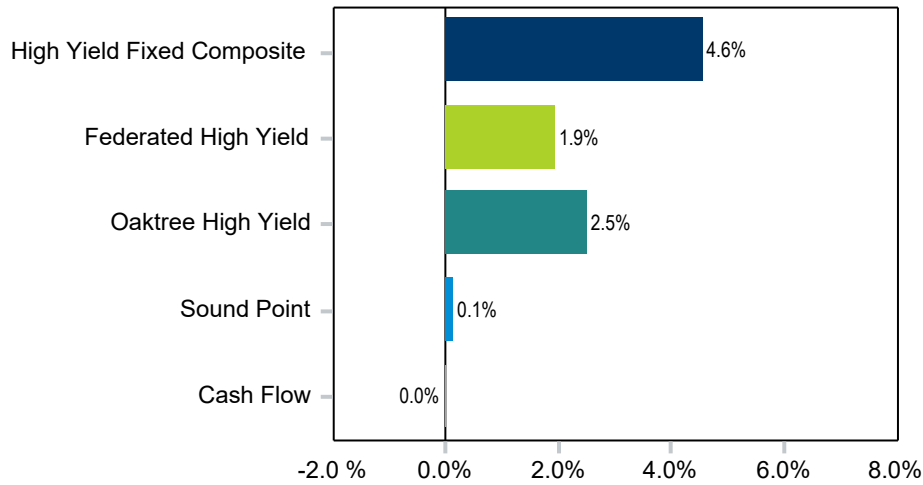


# Return and Risk Contribution

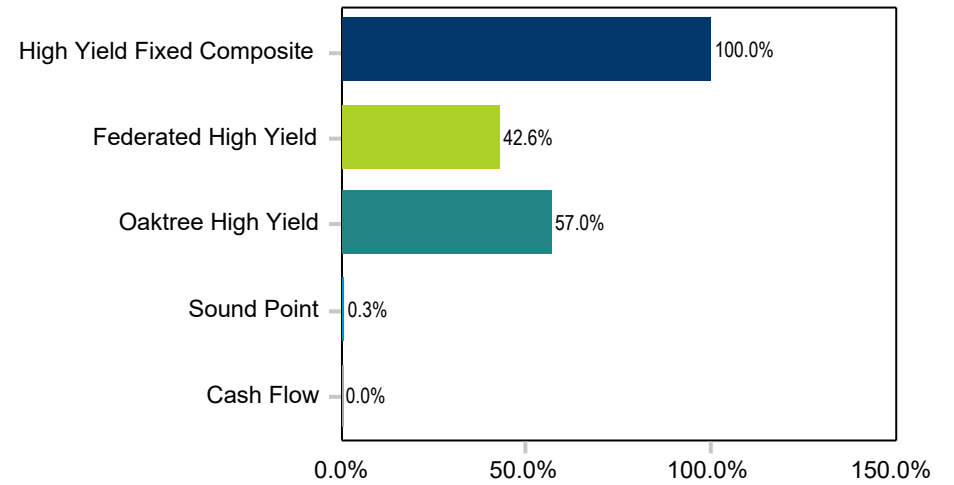
High Yield Fixed Composite

Periods Ended 1 Quarter September 30, 2020

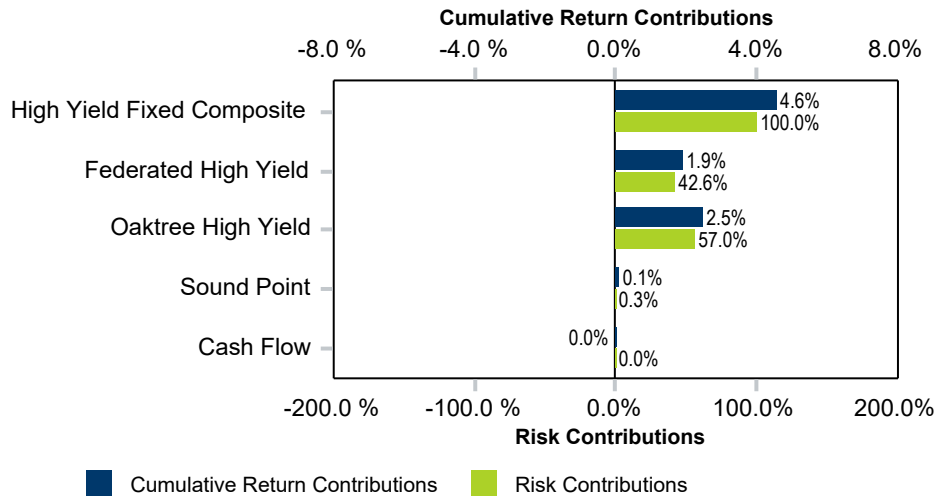
**Cumulative Return Contributions**



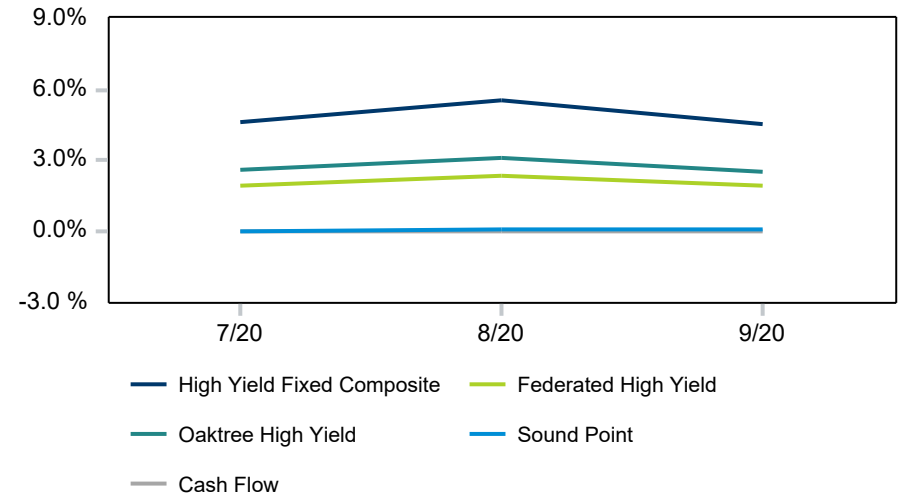
**Risk Contributions**



**Cumulative Return and Risk Contributions**



**Cumulative Return Contributions History**

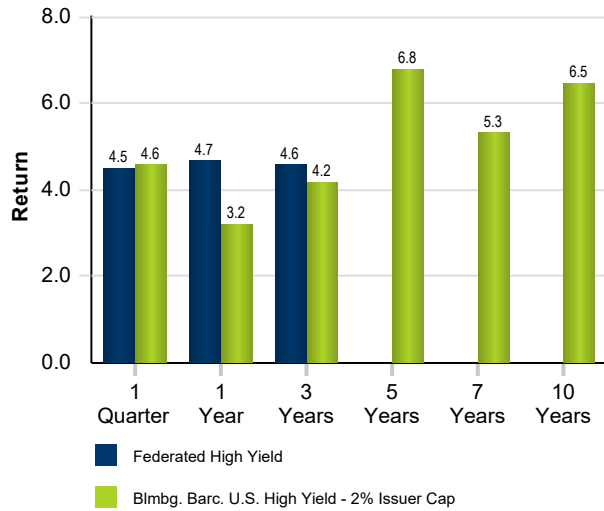


# Performance Summary

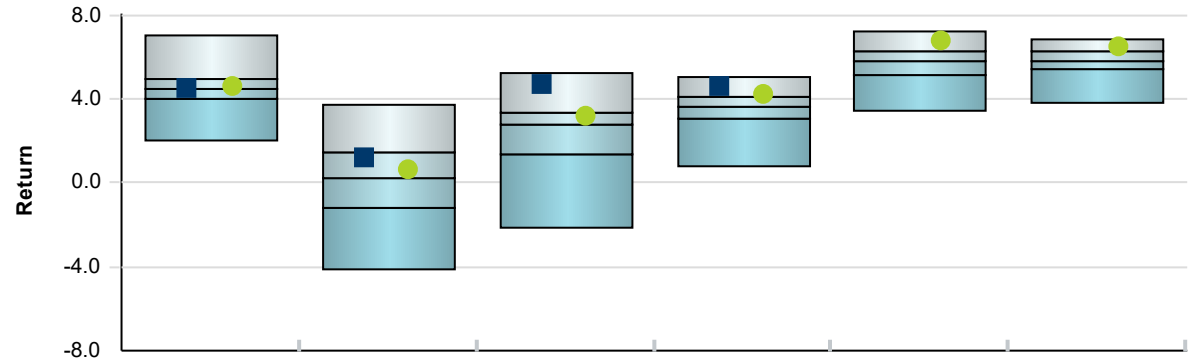
Federated High Yield

Periods Ended September 30, 2020

## Comparative Performance

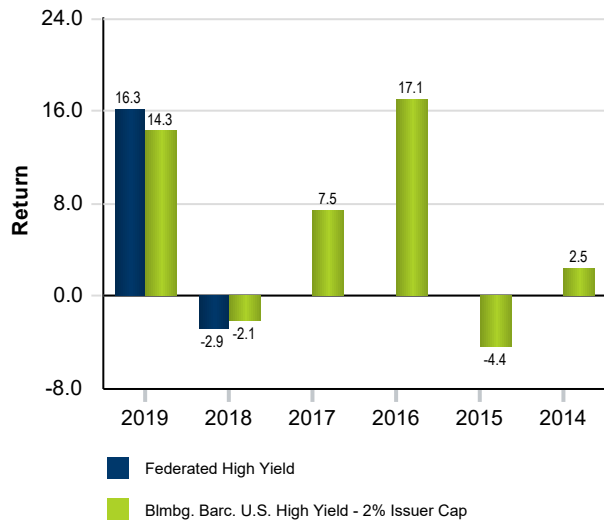


## Peer Group Analysis: IM U.S. High Yield Bonds (SA+CF)

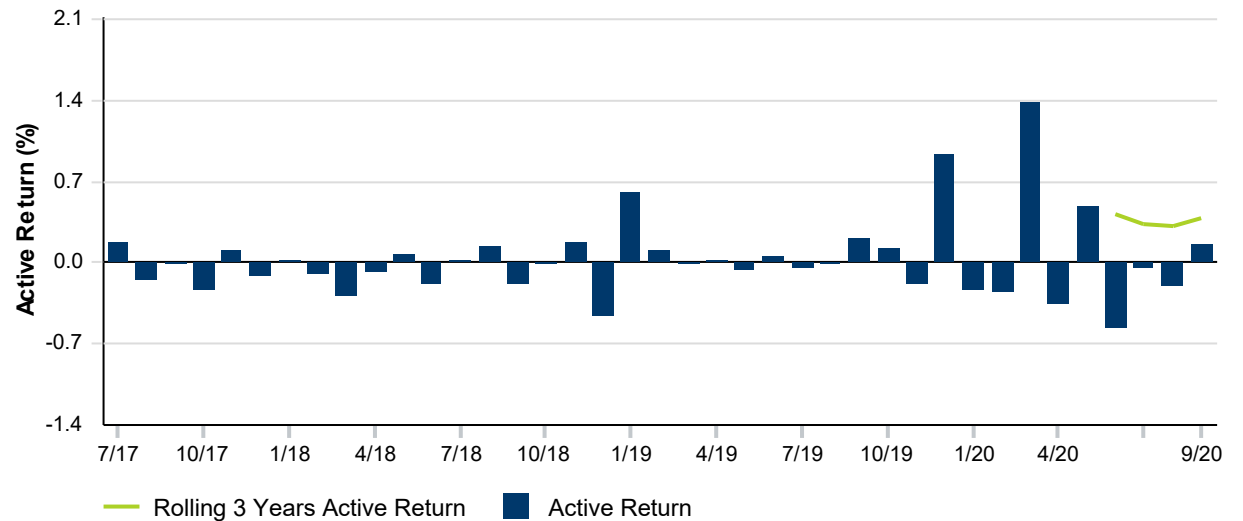


	Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years
<span style="color: blue;">■</span> Fund	4.51 (50)	1.16 (29)	4.69 (11)	4.62 (14)	-	-
<span style="color: green;">●</span> Benchmark	4.58 (48)	0.57 (44)	3.20 (35)	4.19 (25)	6.78 (9)	6.46 (17)
Median	4.49	0.23	2.77	3.61	5.87	5.86

## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Federated High Yield

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Federated High Yield</u>	<u>Blmbg. Barc. U.S. High Yield - 2% Issuer Cap</u>
Maximum Return	4.85	4.66
Minimum Return	-10.08	-11.46
Return	4.69	3.20
Cumulative Return	4.69	3.20
Active Return	1.29	0.00
Excess Return	4.40	3.11

## Risk Summary Statistics

	<u>Federated High Yield</u>	<u>Blmbg. Barc. U.S. High Yield - 2% Issuer Cap</u>
Upside Risk	2.44	2.37
Downside Risk	10.25	11.59
Beta	0.93	1.00

## Risk/Return Summary Statistics

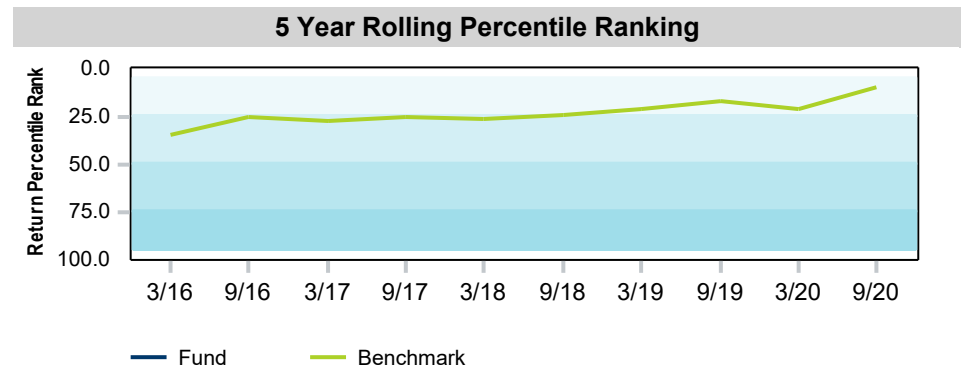
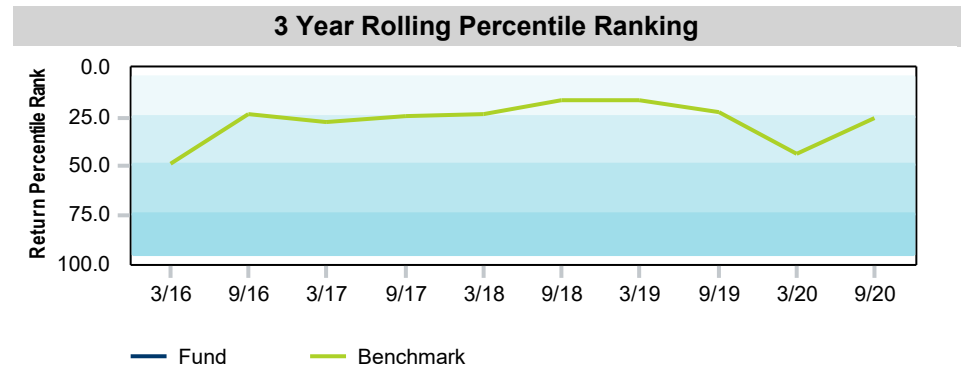
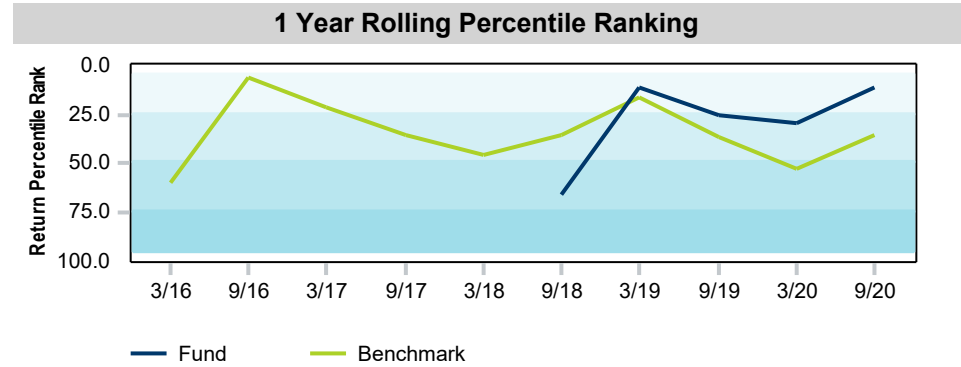
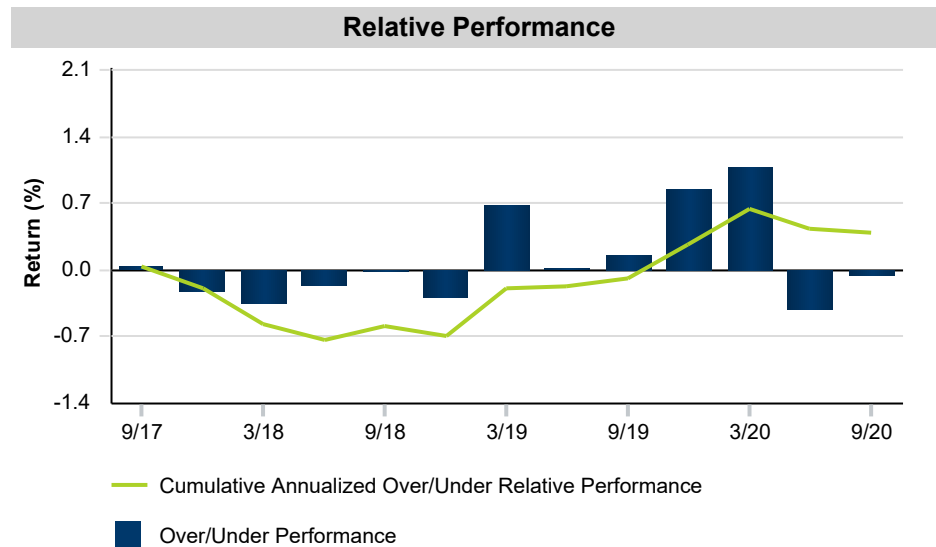
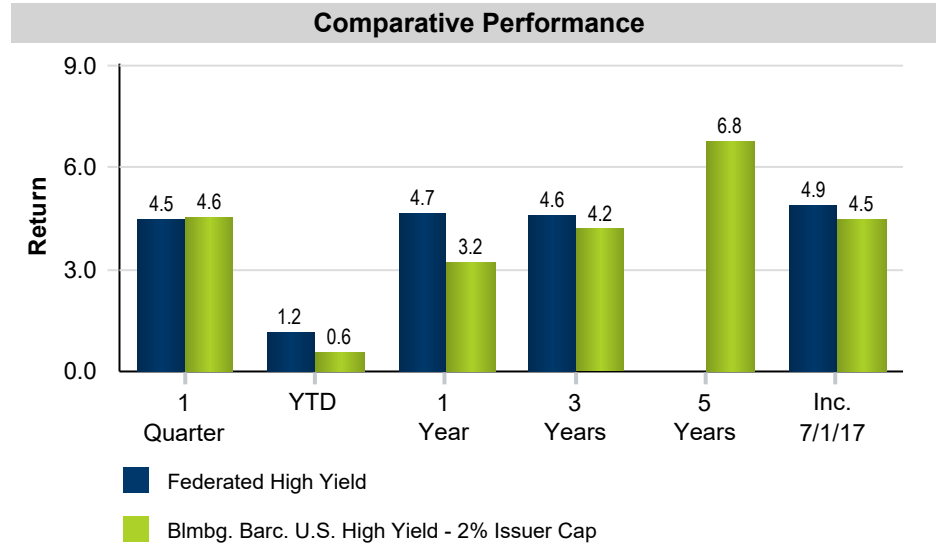
	<u>Federated High Yield</u>	<u>Blmbg. Barc. U.S. High Yield - 2% Issuer Cap</u>
Standard Deviation	13.20	14.15
Alpha	1.61	0.00
Active Return/Risk	0.10	0.00
Tracking Error	1.88	0.00
Information Ratio	0.69	
Sharpe Ratio	0.33	0.22

## Correlation Statistics

	<u>Federated High Yield</u>	<u>Blmbg. Barc. U.S. High Yield - 2% Issuer Cap</u>
R-Squared	0.99	1.00
Actual Correlation	0.99	1.00

# Manager Summary

Federated High Yield vs IM U.S. High Yield Bonds (SA+CF)  
 Periods Ended September 30, 2020

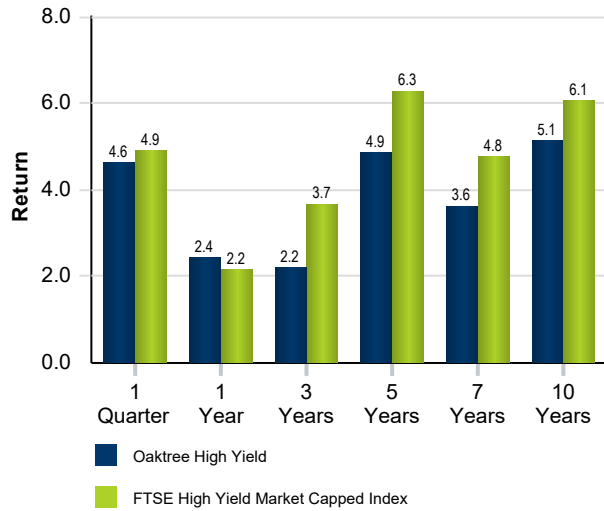


# Performance Summary

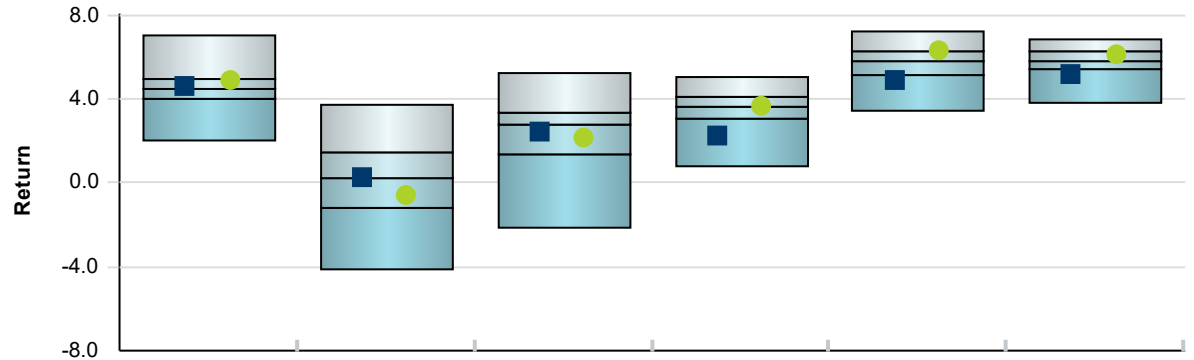
Oaktree High Yield

Periods Ended September 30, 2020

## Comparative Performance

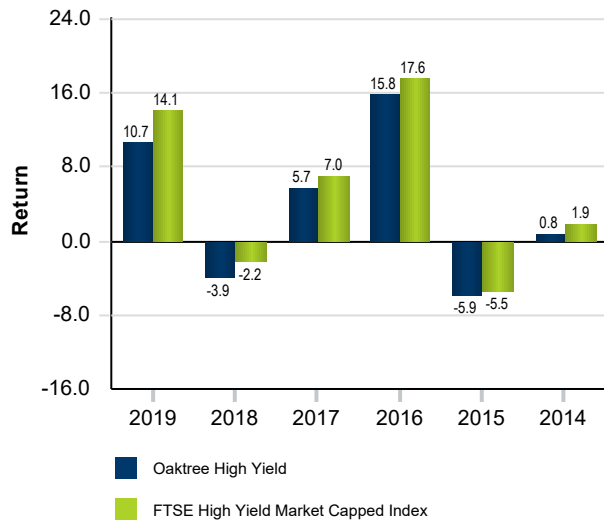


## Peer Group Analysis: IM U.S. High Yield Bonds (SA+CF)

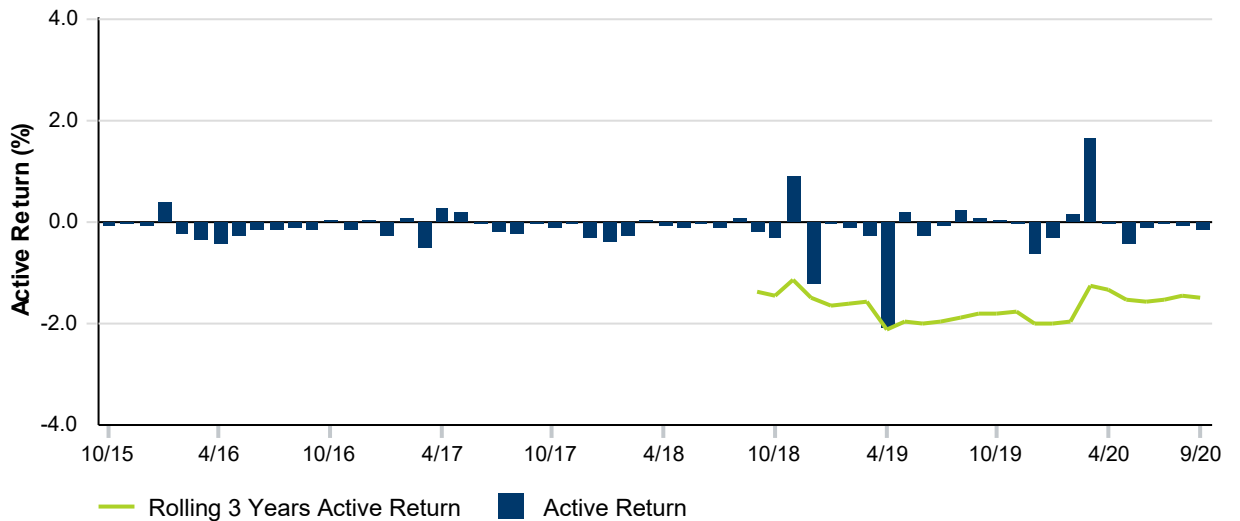


	Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years
<b>Fund</b>	4.63 (43)	0.25 (50)	2.45 (57)	2.20 (91)	4.88 (78)	5.15 (80)
<b>Benchmark</b>	4.92 (27)	-0.66 (72)	2.17 (61)	3.67 (47)	6.32 (23)	6.07 (42)
<b>Median</b>	4.49	0.23	2.77	3.61	5.87	5.86

## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Oaktree High Yield

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Oaktree High Yield</u>	<u>FTSE High Yield Market Capped Index</u>
Maximum Return	4.81	4.88
Minimum Return	-10.14	-11.78
Return	2.45	2.17
Cumulative Return	2.45	2.17
Active Return	0.03	0.00
Excess Return	2.18	2.14

## Risk Summary Statistics

	<u>Oaktree High Yield</u>	<u>FTSE High Yield Market Capped Index</u>
Upside Risk	2.20	2.33
Downside Risk	10.32	11.95
Beta	0.89	1.00

## Risk/Return Summary Statistics

	<u>Oaktree High Yield</u>	<u>FTSE High Yield Market Capped Index</u>
Standard Deviation	12.81	14.39
Alpha	0.40	0.00
Active Return/Risk	0.00	0.00
Tracking Error	1.86	0.00
Information Ratio	0.02	
Sharpe Ratio	0.17	0.15

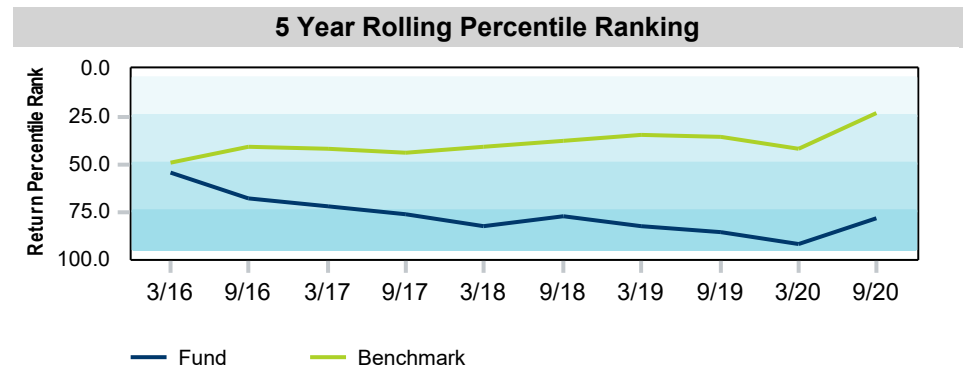
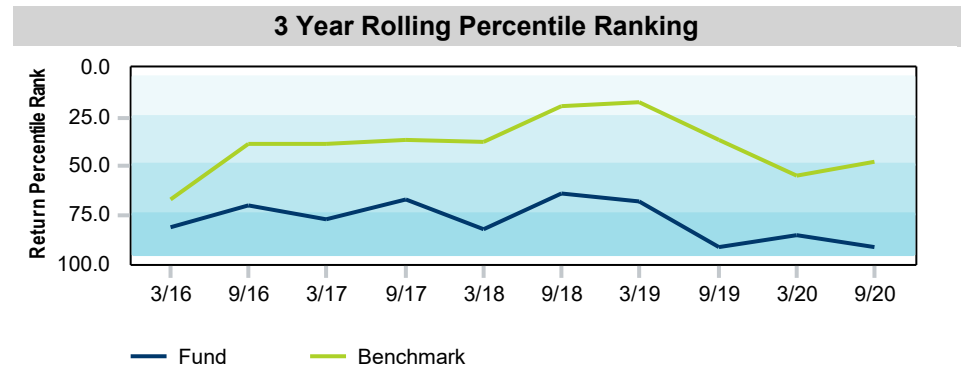
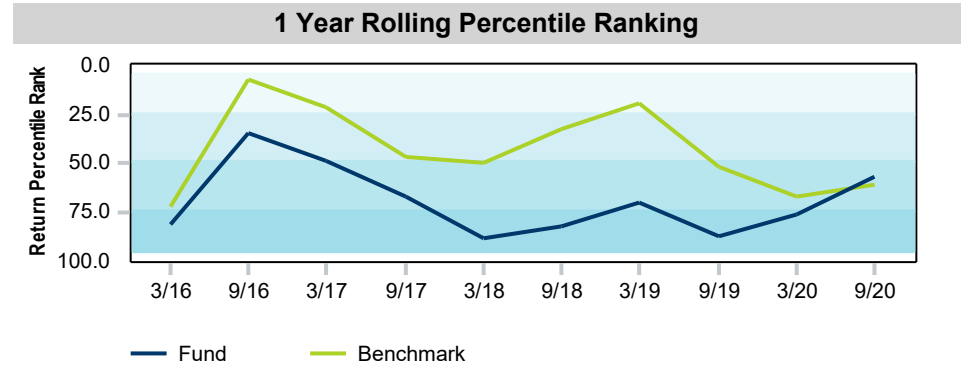
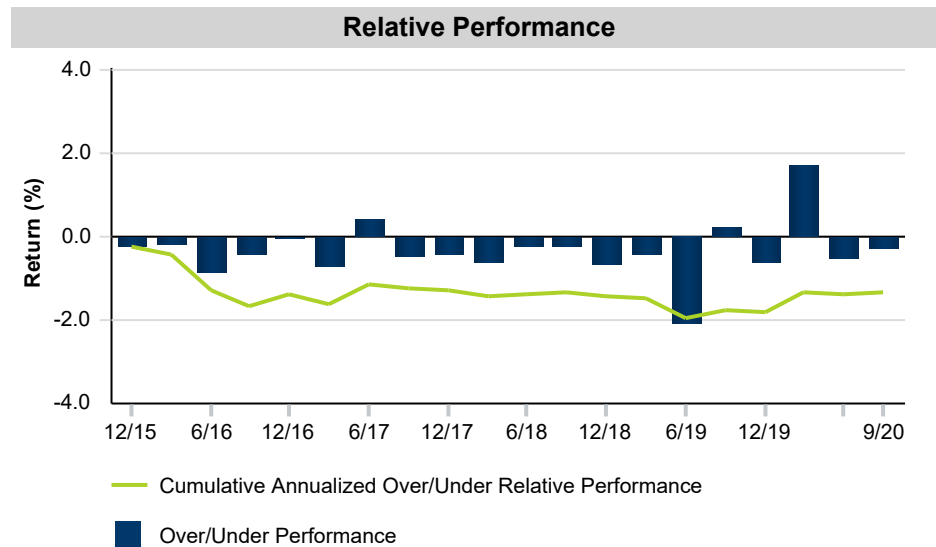
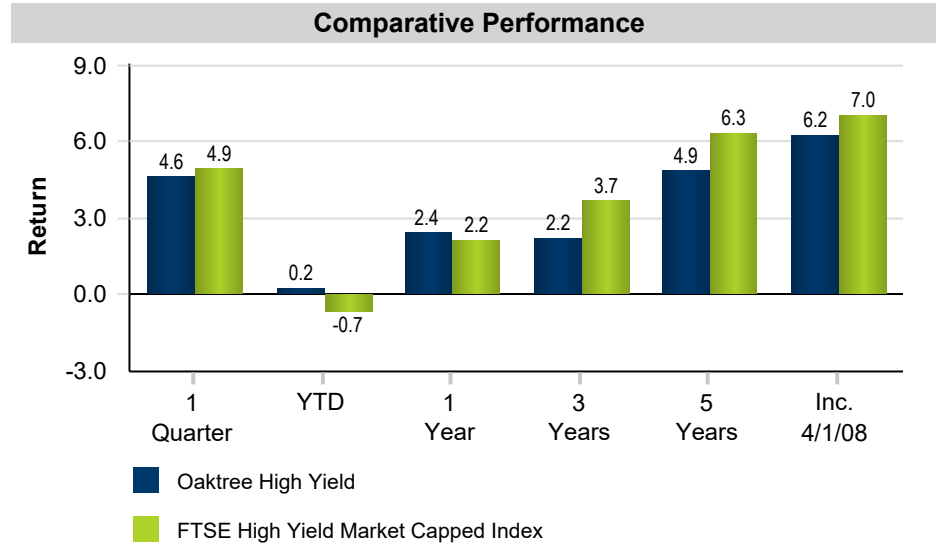
## Correlation Statistics

	<u>Oaktree High Yield</u>	<u>FTSE High Yield Market Capped Index</u>
R-Squared	0.99	1.00
Actual Correlation	1.00	1.00

# Manager Summary

Oaktree High Yield vs IM U.S. High Yield Bonds (SA+CF)

Periods Ended September 30, 2020

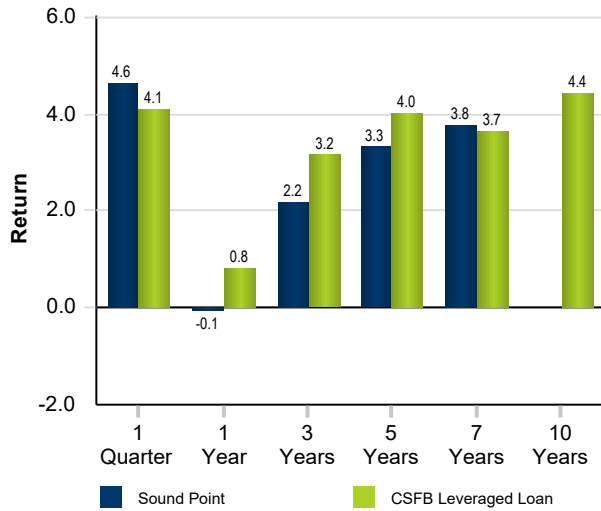


# Performance Summary

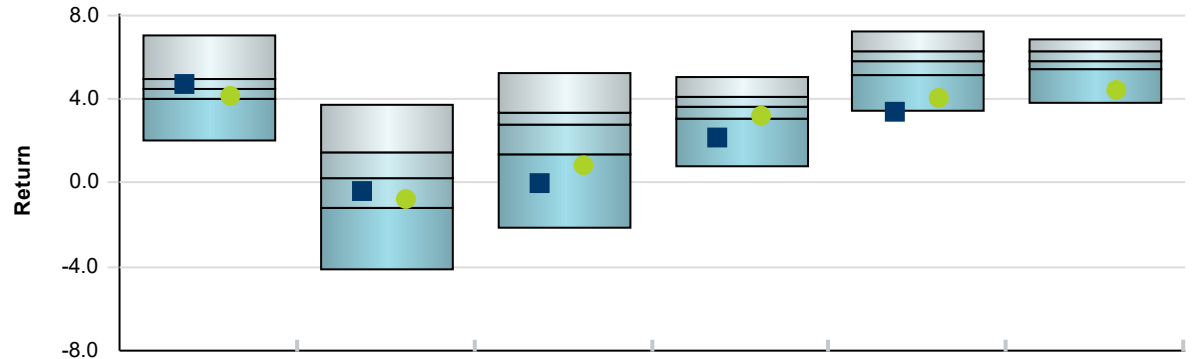
Sound Point

Periods Ended September 30, 2020

## Comparative Performance

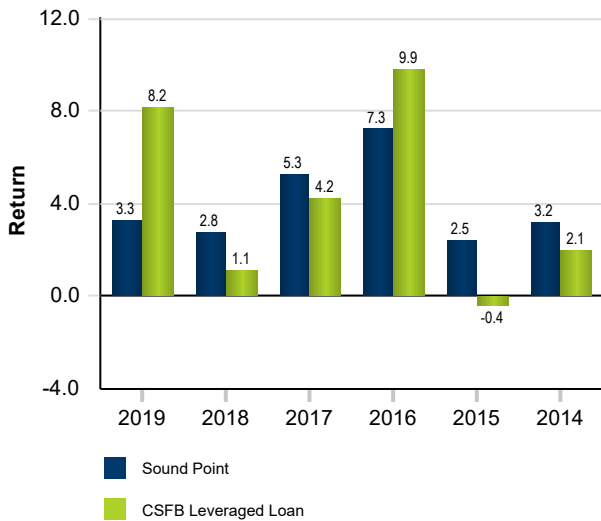


## Peer Group Analysis: IM U.S. High Yield Bonds (SA+CF)

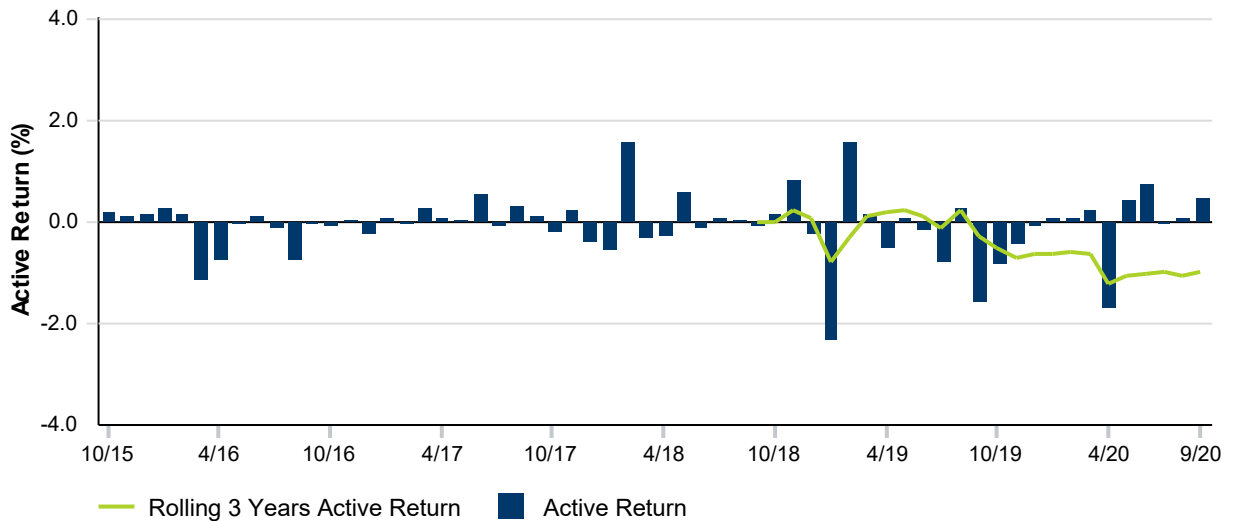


	Quarter	Year To Date	1 Year	3 Years	5 Years	10 Years
■ Fund	4.64 (43)	-0.39 (68)	-0.08 (86)	2.18 (92)	3.33 (97)	
● Benchmark	4.13 (73)	-0.83 (73)	0.83 (79)	3.16 (70)	4.03 (90)	4.44 (92)
Median	4.49	0.23	2.77	3.61	5.87	5.86

## Comparative Performance



## Rolling 3 Years Performance





# Summary Statistics

Sound Point

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Sound Point</u>	<u>CSFB Leveraged Loan</u>
Maximum Return	4.25	4.29
Minimum Return	-12.24	-12.46
Return	-0.08	0.83
Cumulative Return	-0.08	0.83
Active Return	-0.95	0.00
Excess Return	-0.15	0.81

## Risk Summary Statistics

	<u>Sound Point</u>	<u>CSFB Leveraged Loan</u>
Upside Risk	1.81	1.92
Downside Risk	12.38	12.55
Beta	0.97	1.00

## Risk/Return Summary Statistics

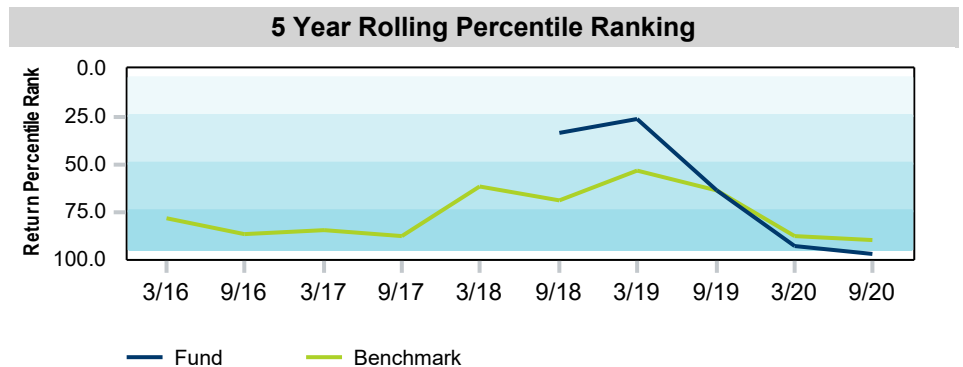
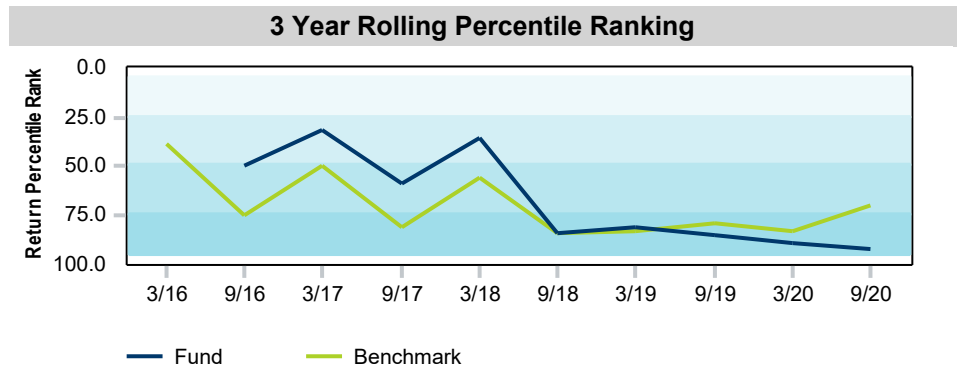
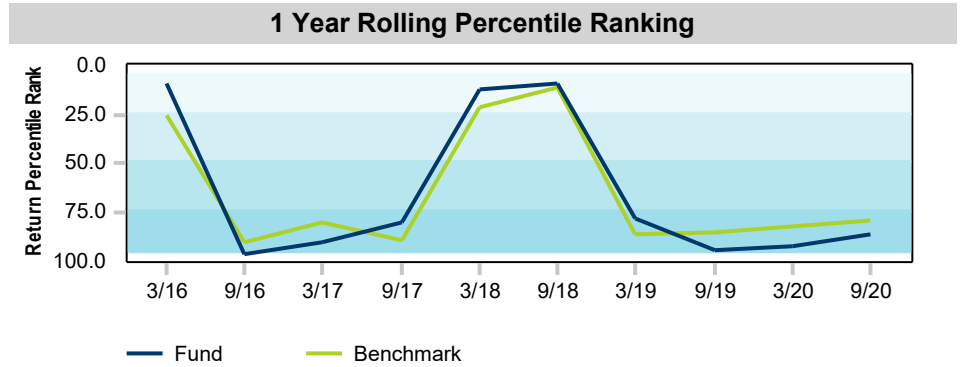
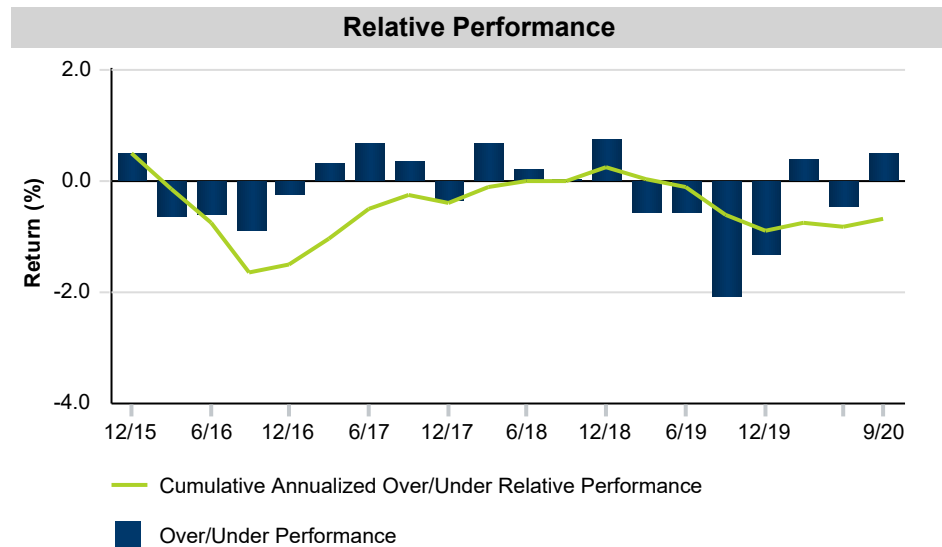
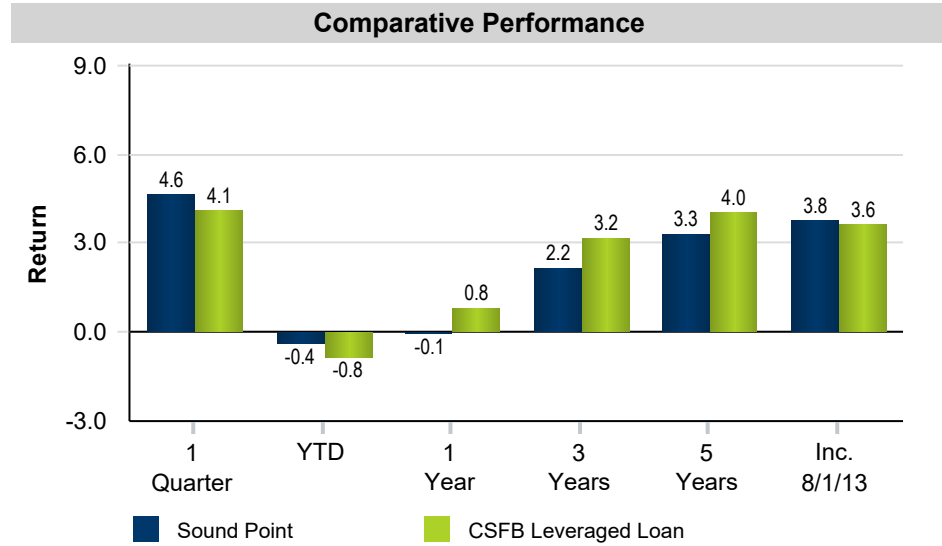
	<u>Sound Point</u>	<u>CSFB Leveraged Loan</u>
Standard Deviation	13.87	14.19
Alpha	-0.89	0.00
Active Return/Risk	-0.07	0.00
Tracking Error	2.18	0.00
Information Ratio	-0.44	
Sharpe Ratio	-0.01	0.06

## Correlation Statistics

	<u>Sound Point</u>	<u>CSFB Leveraged Loan</u>
R-Squared	0.98	1.00
Actual Correlation	0.99	1.00

# Manager Summary

Sound Point vs IM U.S. High Yield Bonds (SA+CF)  
 Periods Ended September 30, 2020





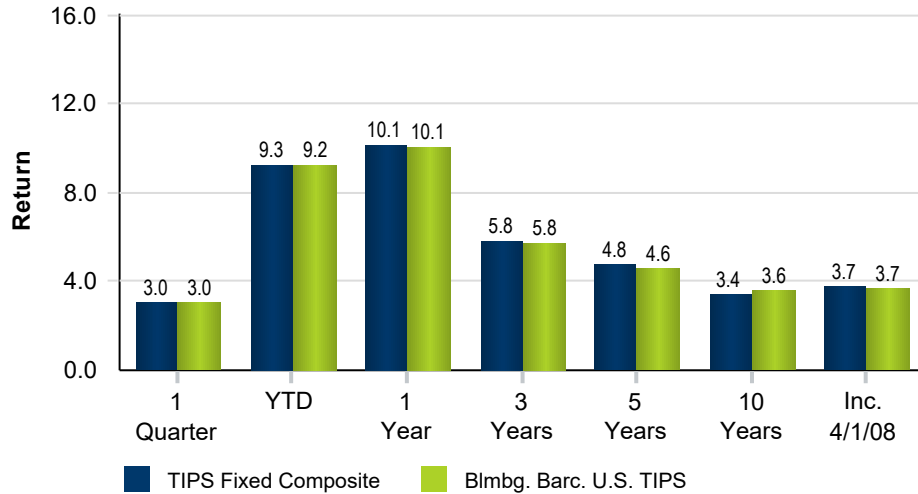
# TIPS Fixed Composite

# Composite Performance Summary

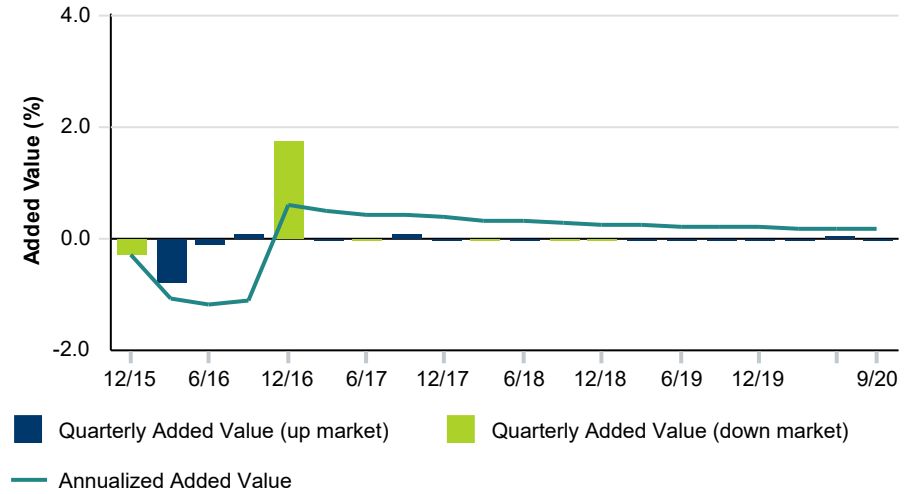
TIPS Fixed Composite

Periods Ended September 30, 2020

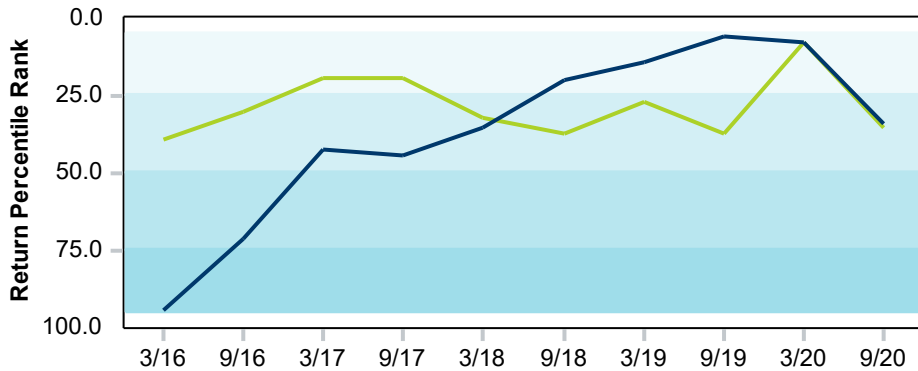
**Comparative Performance**



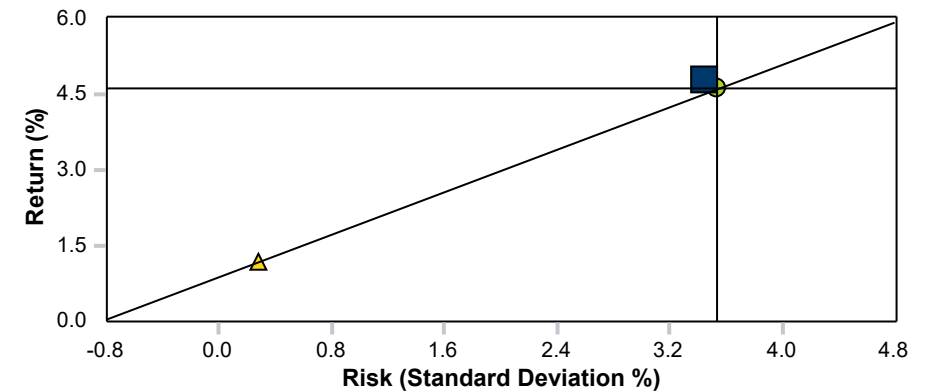
**Added Value History**



**Rolling Percentile Rank: IM U.S. TIPS (SA+CF)**



**Risk and Return 10/1/15 - 09/30/20**



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
TIPS Fixed Composite	10	4 (40%)	4 (40%)	1 (10%)	1 (10%)
Benchmark	10	3 (30%)	7 (70%)	0 (0%)	0 (0%)

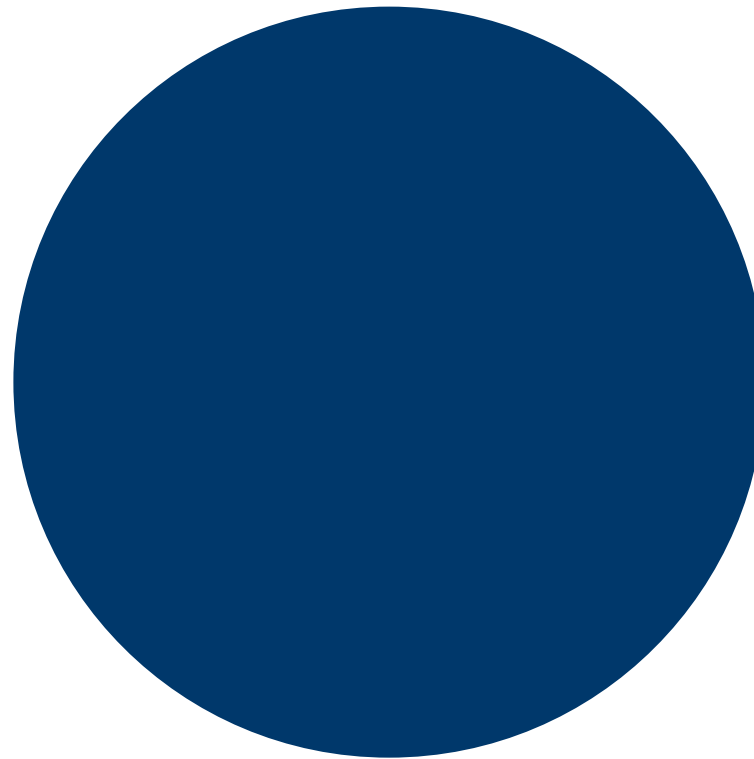
■ TIPS Fixed Composite    ● Blmbg. Barc. U.S. TIPS  
▲ 90 Day US Treasury Bill

# Asset Allocation By Manager

TIPS Fixed Composite

Periods Ended September 30, 2020

Sep-2020 : 39,894,926

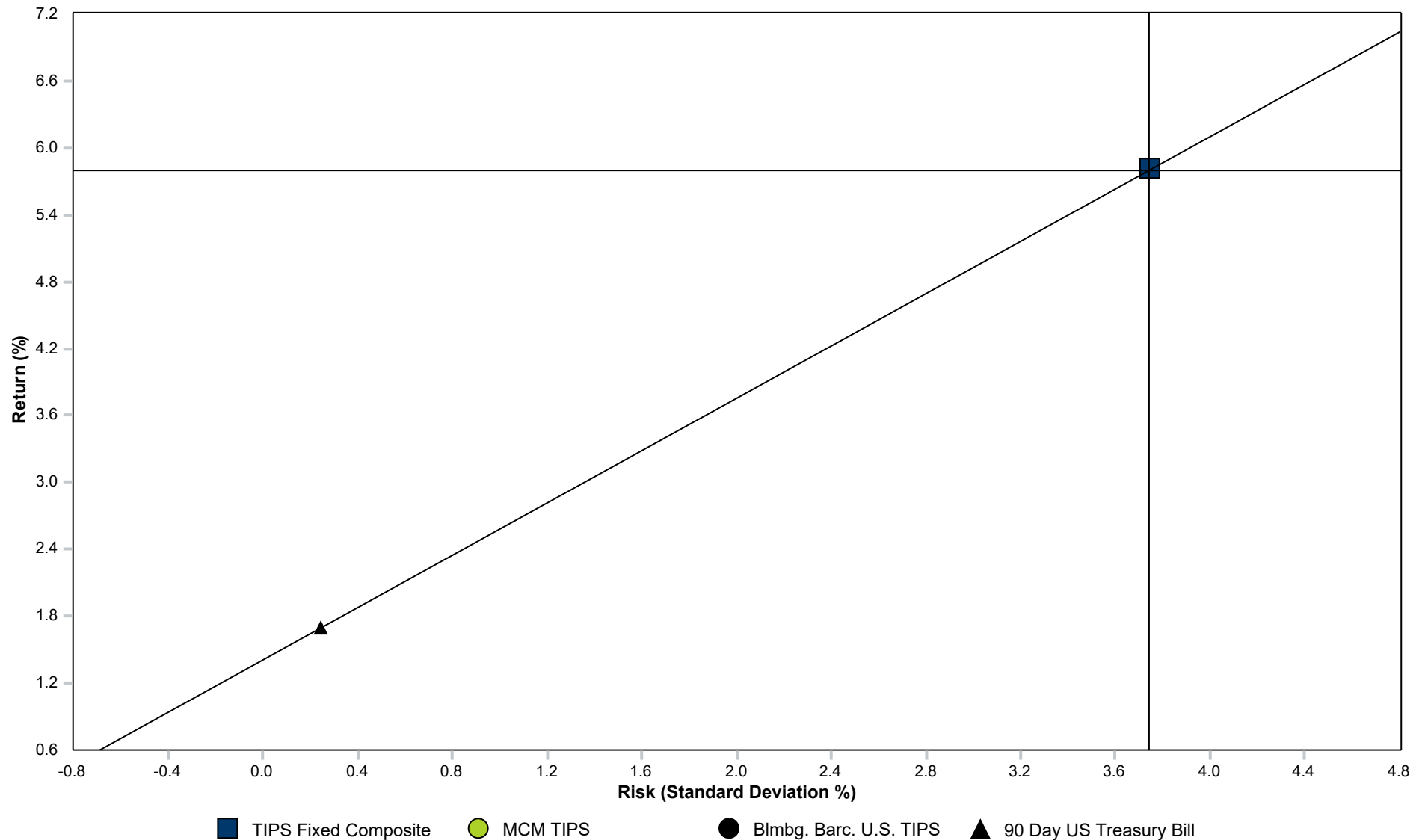


	Market Value \$	Allocation (%)
■ MCM TIPS	39,894,926	100.0

# Risk vs. Return

TIPS Fixed Composite

Periods Ended 3 Years Ending September 30, 2020

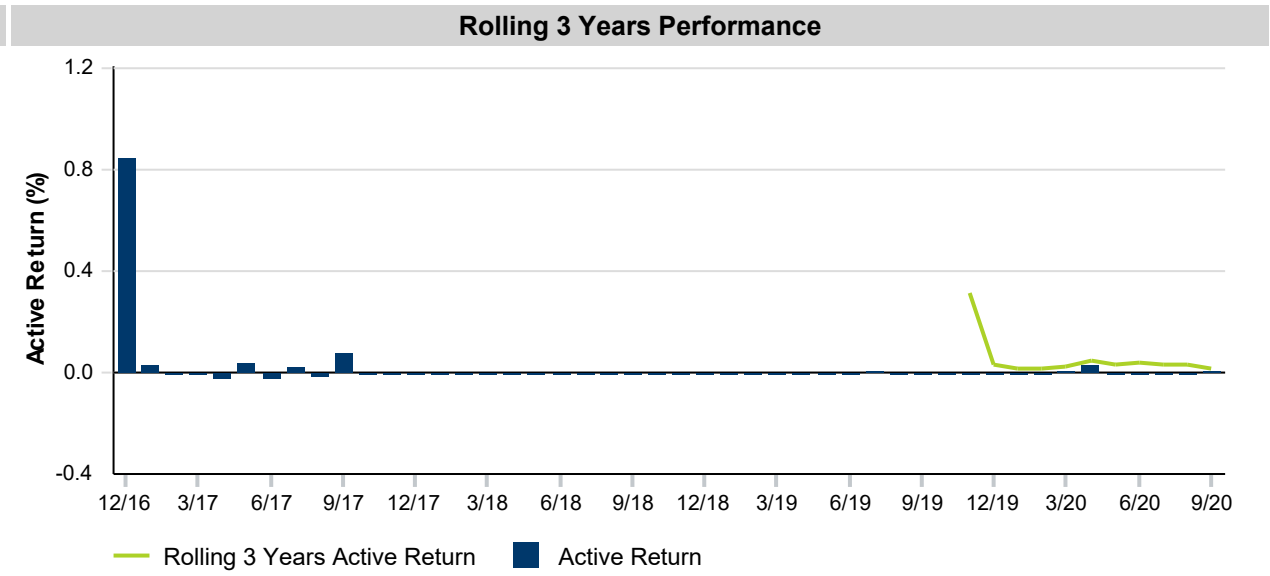
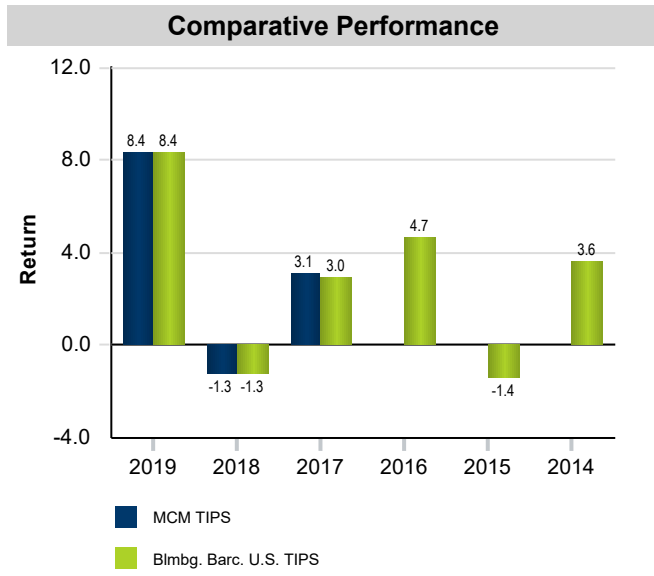
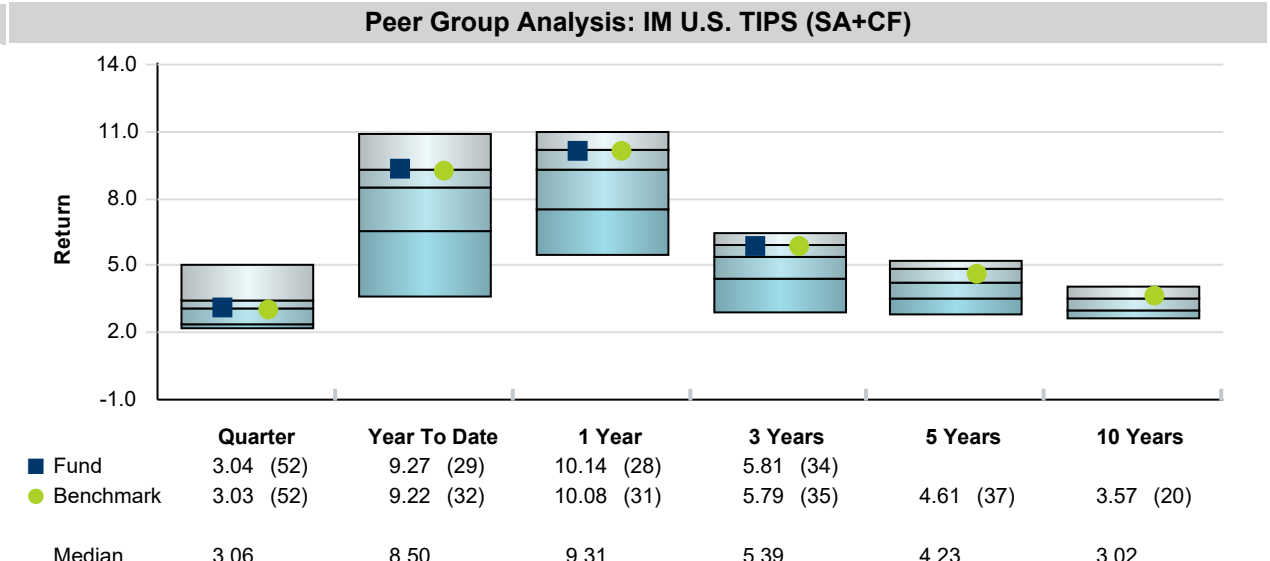
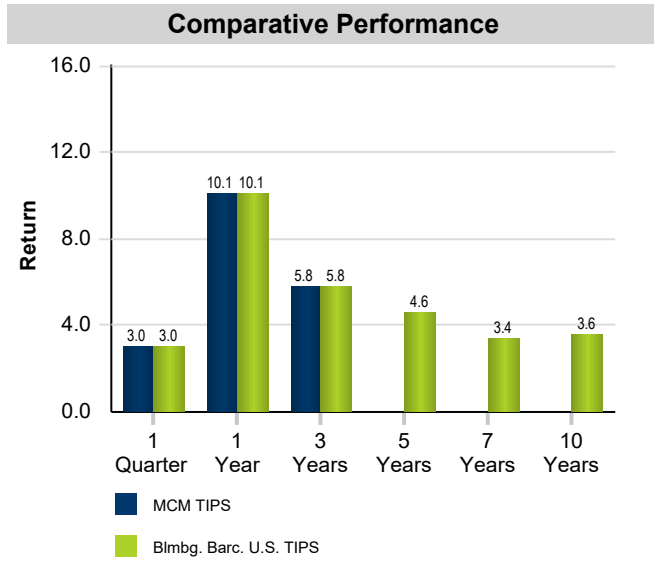


Calculation based on monthly periodicity.

# Performance Summary

MCM TIPS

Periods Ended September 30, 2020



# Summary Statistics

## MCM TIPS

Periods Ended 1 Year Ending September 30, 2020

### Return Summary Statistics

	<u>MCM TIPS</u>	<u>Blmbg. Barc. U.S. TIPS</u>
Maximum Return	2.81	2.78
Minimum Return	-1.75	-1.76
Return	10.14	10.08
Cumulative Return	10.14	10.08
Active Return	0.05	0.00
Excess Return	8.68	8.64

### Risk Summary Statistics

	<u>MCM TIPS</u>	<u>Blmbg. Barc. U.S. TIPS</u>
Upside Risk	1.36	1.36
Downside Risk	1.79	1.80
Beta	1.00	1.00

### Risk/Return Summary Statistics

	<u>MCM TIPS</u>	<u>Blmbg. Barc. U.S. TIPS</u>
Standard Deviation	4.18	4.18
Alpha	0.03	0.00
Active Return/Risk	0.01	0.00
Tracking Error	0.03	0.00
Information Ratio	1.52	
Sharpe Ratio	1.99	1.98

### Correlation Statistics

	<u>MCM TIPS</u>	<u>Blmbg. Barc. U.S. TIPS</u>
R-Squared	1.00	1.00
Actual Correlation	1.00	1.00

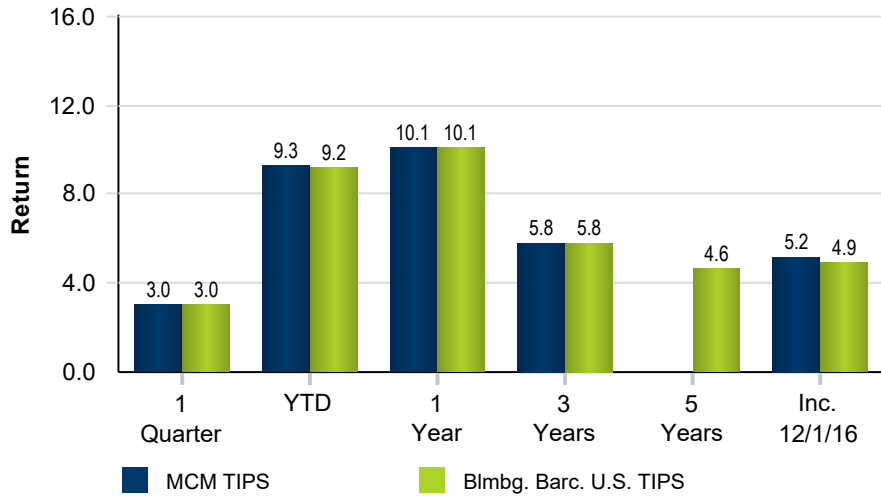


# Manager Summary

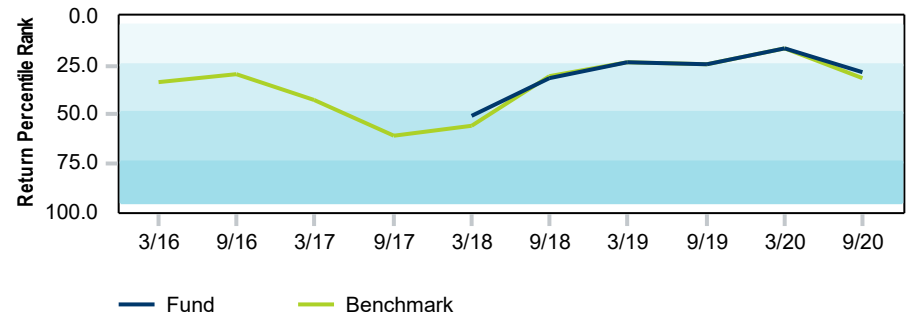
MCM TIPS vs IM U.S. TIPS (SA+CF)

Periods Ended September 30, 2020

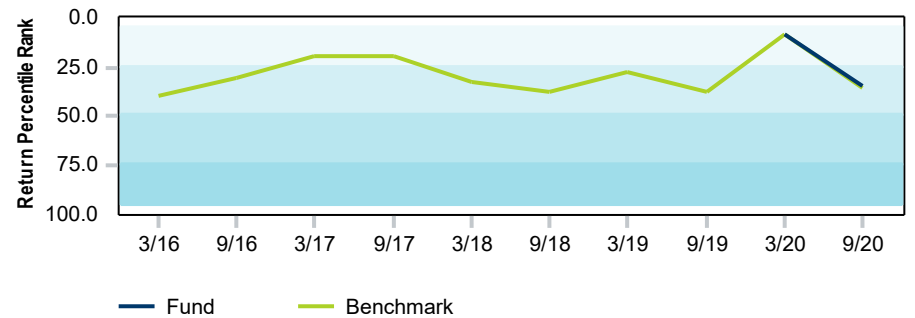
## Comparative Performance



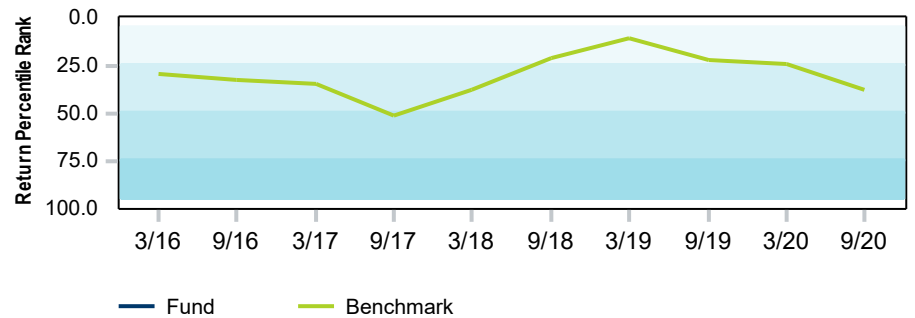
## 1 Year Rolling Percentile Ranking



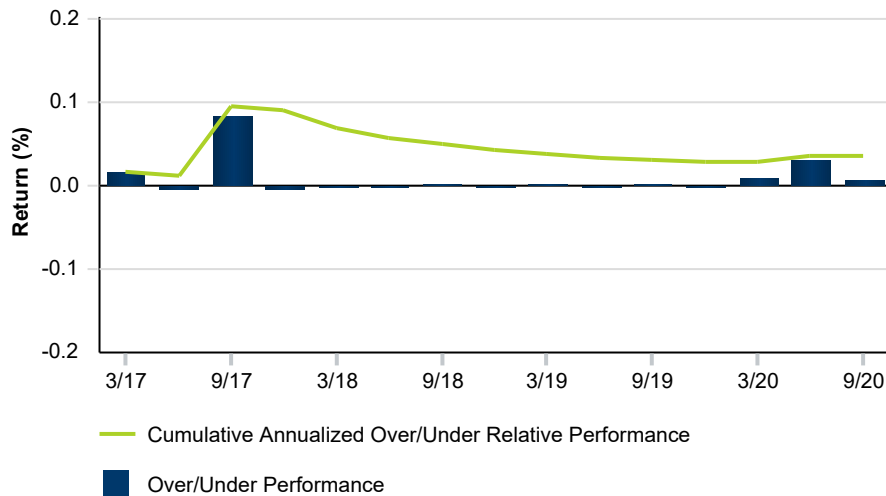
## 3 Year Rolling Percentile Ranking



## 5 Year Rolling Percentile Ranking



## Relative Performance





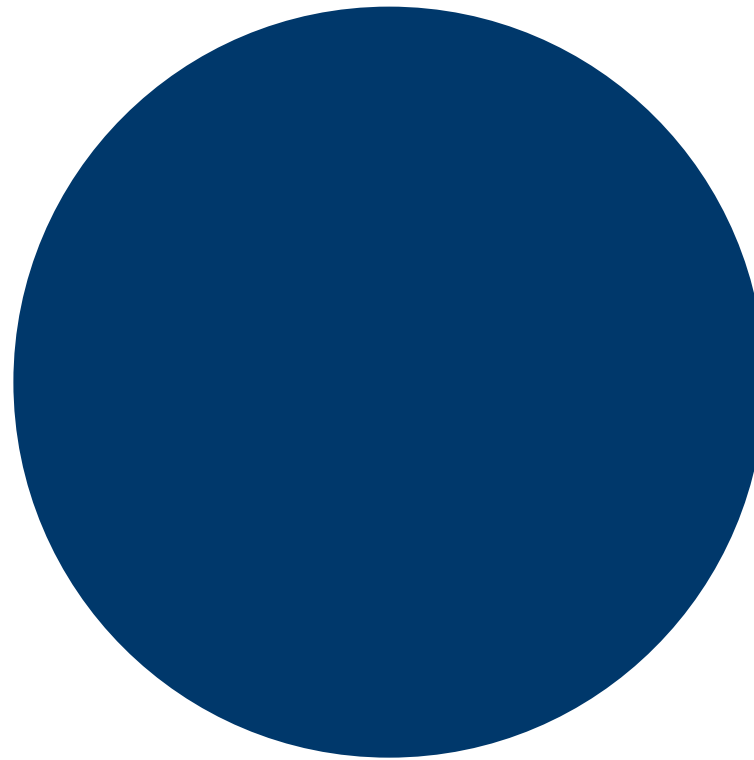
# ERECT Composite

# Asset Allocation By Manager

ERECT Composite

Periods Ended September 30, 2020

Sep-2020 : 9,851,930

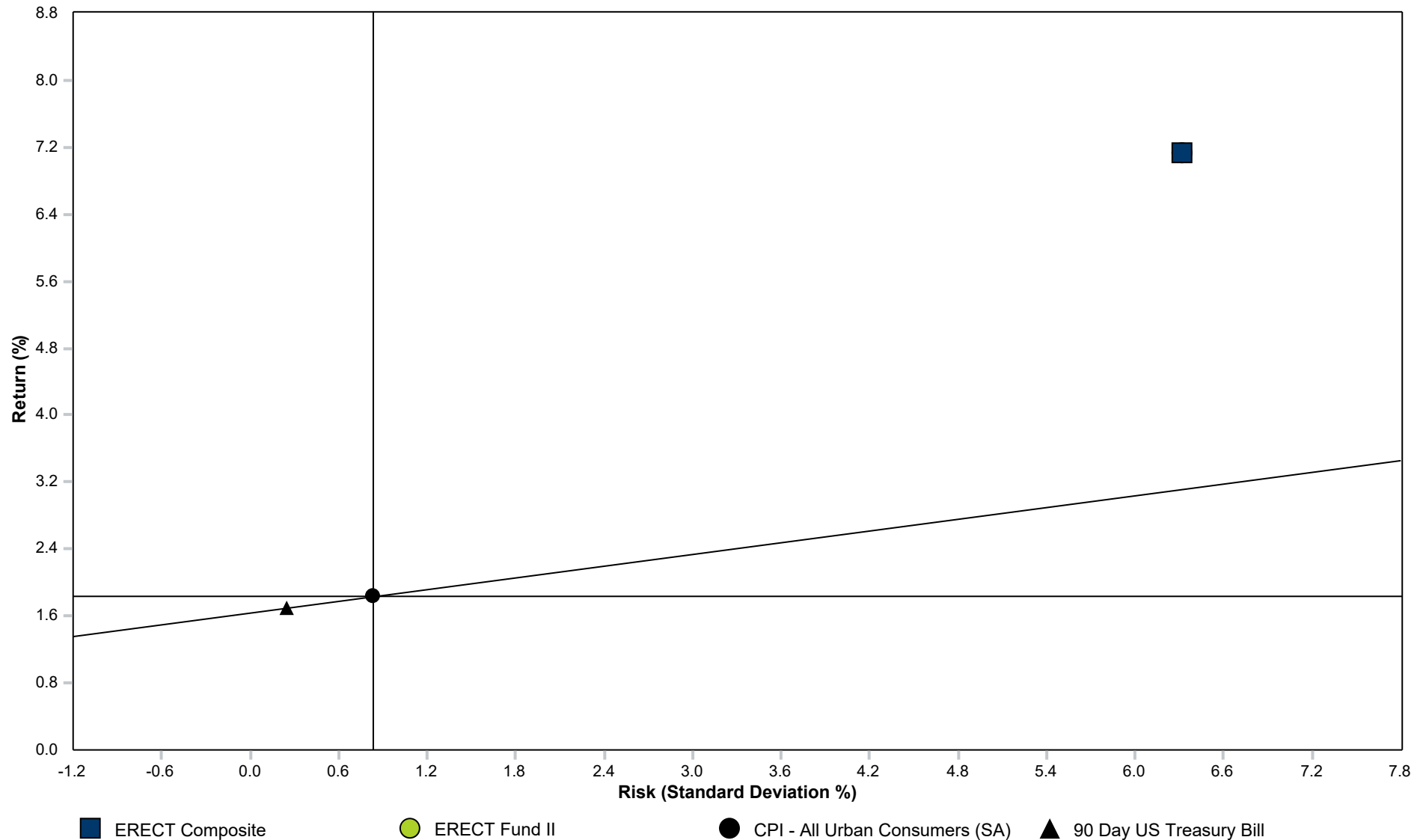


	Market Value \$	Allocation (%)
■ ERECT Fund II	9,851,930	100.0

# Risk vs. Return

ERECT Composite

Periods Ended 3 Years Ending September 30, 2020



Calculation based on monthly periodicity.

# Summary Statistics

## ERECT Fund II

Periods Ended 1 Year Ending September 30, 2020

### Return Summary Statistics

	<u>ERECT Fund II</u>	<u>CPI - All Urban Consumers (SA)</u>
Maximum Return	1.38	0.59
Minimum Return	-1.14	-0.80
Return	1.95	1.41
Cumulative Return	1.95	1.41
Active Return	0.55	0.00
Excess Return	0.86	0.31

### Risk Summary Statistics

	<u>ERECT Fund II</u>	<u>CPI - All Urban Consumers (SA)</u>
Upside Risk	0.53	0.29
Downside Risk	1.14	0.90
Beta	0.70	1.00

### Risk/Return Summary Statistics

	<u>ERECT Fund II</u>	<u>CPI - All Urban Consumers (SA)</u>
Standard Deviation	2.09	1.30
Alpha	0.97	0.00
Active Return/Risk	0.26	0.00
Tracking Error	1.92	0.00
Information Ratio	0.29	
Sharpe Ratio	0.38	0.22

### Correlation Statistics

	<u>ERECT Fund II</u>	<u>CPI - All Urban Consumers (SA)</u>
R-Squared	0.19	1.00
Actual Correlation	0.44	1.00



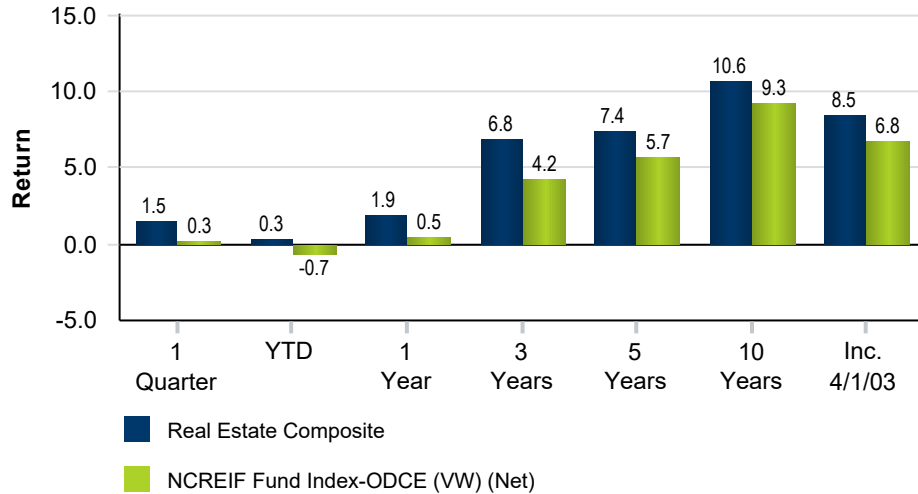
# Real Estate Composite

# Composite Performance Summary

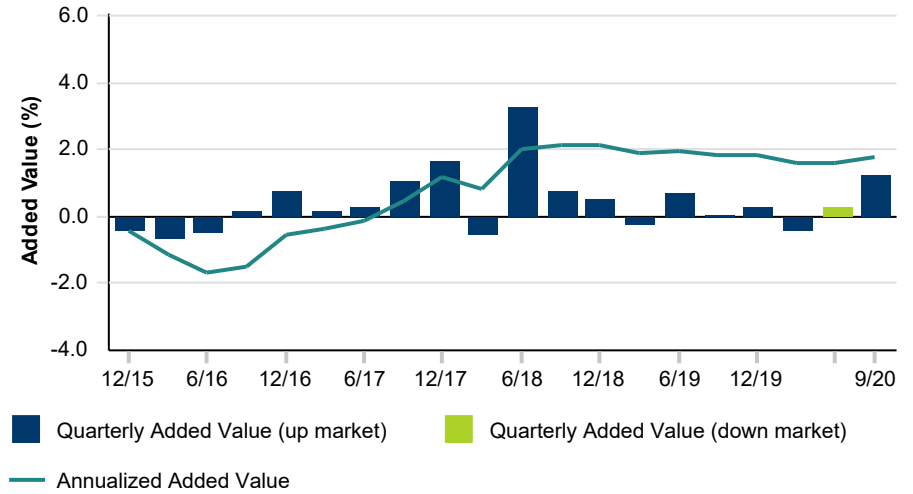
Real Estate Composite

Periods Ended September 30, 2020

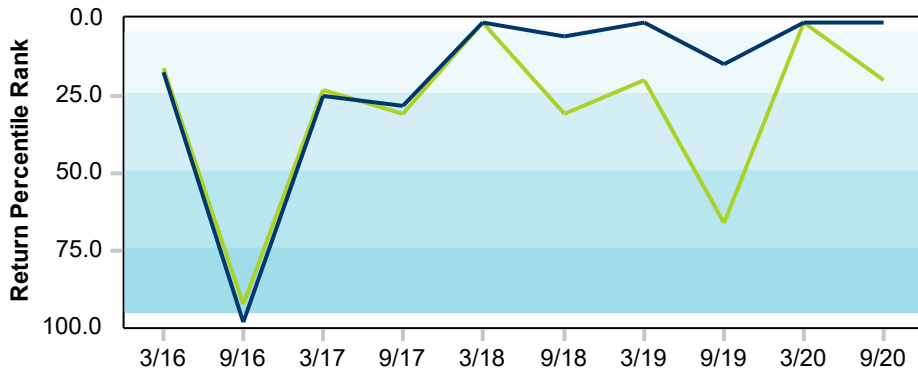
**Comparative Performance**



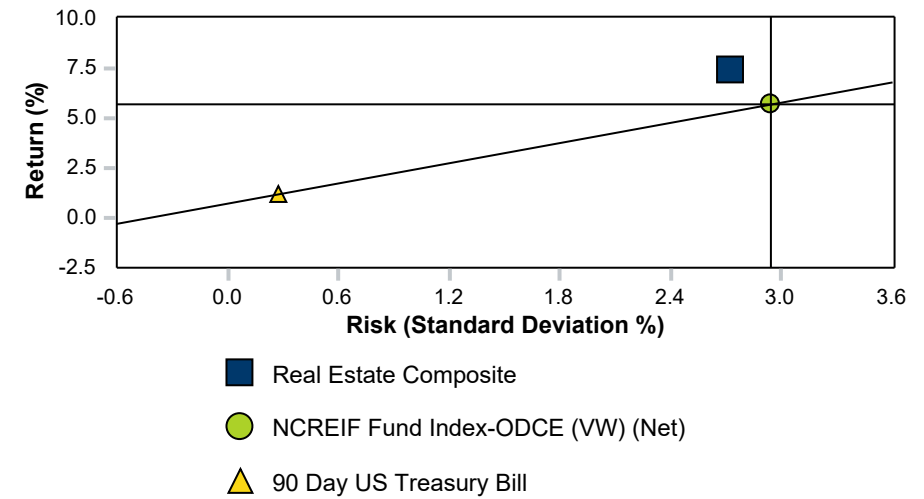
**Added Value History**



**Rolling Percentile Rank: IM U.S. REIT (SA+CF)**



**Risk and Return 10/1/15 - 09/30/20**



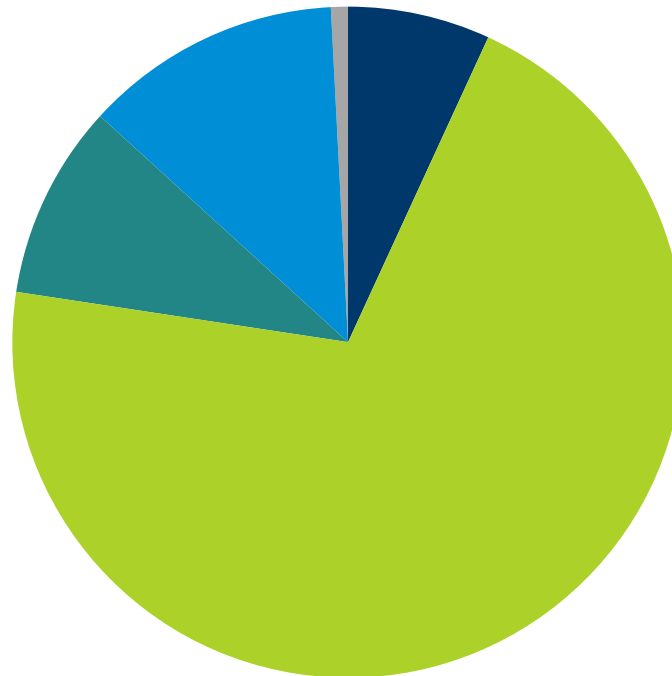
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Real Estate Composite	10	8 (80%)	1 (10%)	0 (0%)	1 (10%)
Benchmark	10	6 (60%)	2 (20%)	1 (10%)	1 (10%)

# Asset Allocation By Manager

Real Estate Composite

Periods Ended September 30, 2020

Sep-2020 : 102,119,746



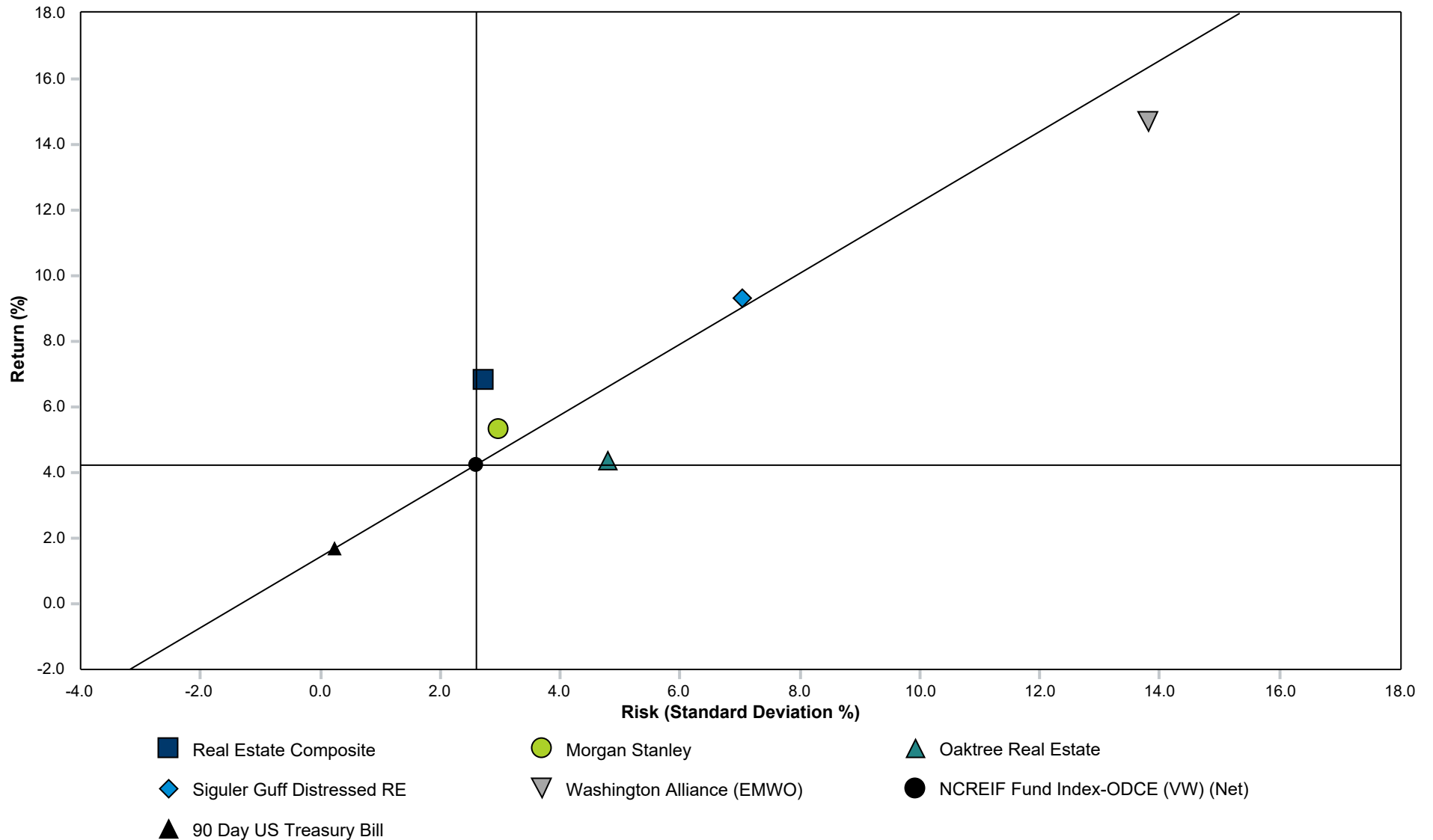
	Market Value \$	Allocation (%)
■ Oaktree Real Estate	7,002,697	6.9
■ Morgan Stanley	72,035,433	70.5
■ Siguler Guff Distressed RE	9,571,966	9.4
■ Washington Alliance (EMWO)	12,672,926	12.4
■ Washington Alliance II (EMWO)	836,723	0.8



# Risk vs. Return

Real Estate Composite

Periods Ended 3 Years Ending September 30, 2020



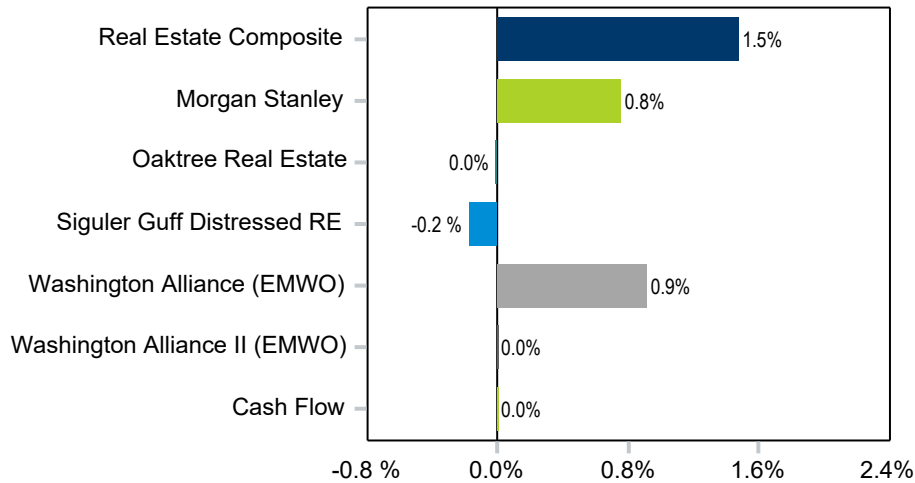
Calculation based on monthly periodicity.

# Return and Risk Contribution

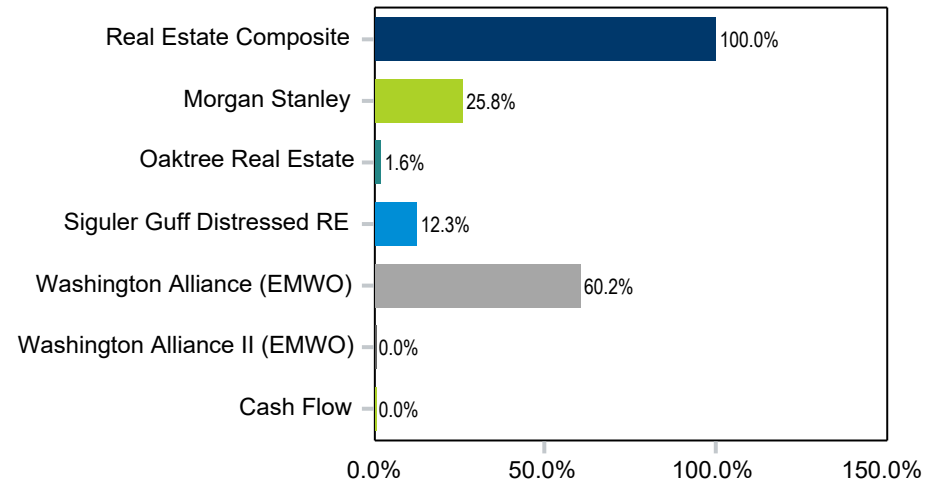
Real Estate Composite

Periods Ended 1 Quarter September 30, 2020

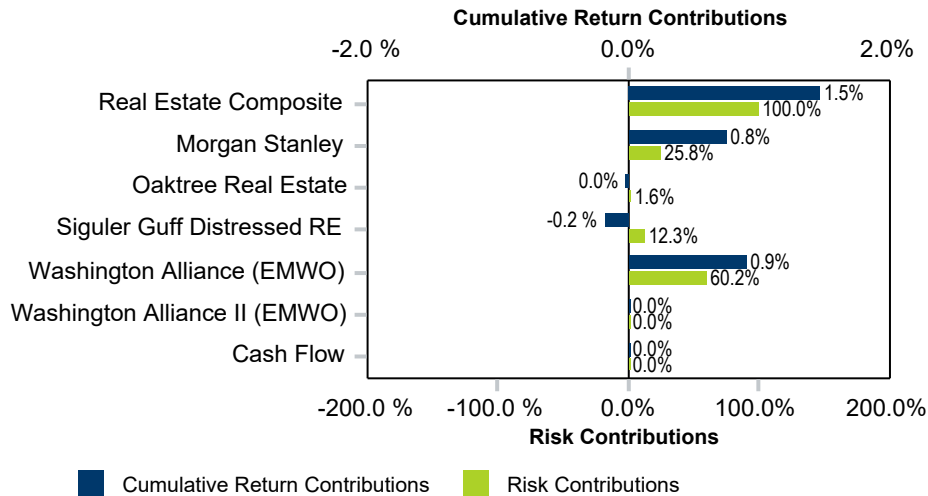
**Cumulative Return Contributions**



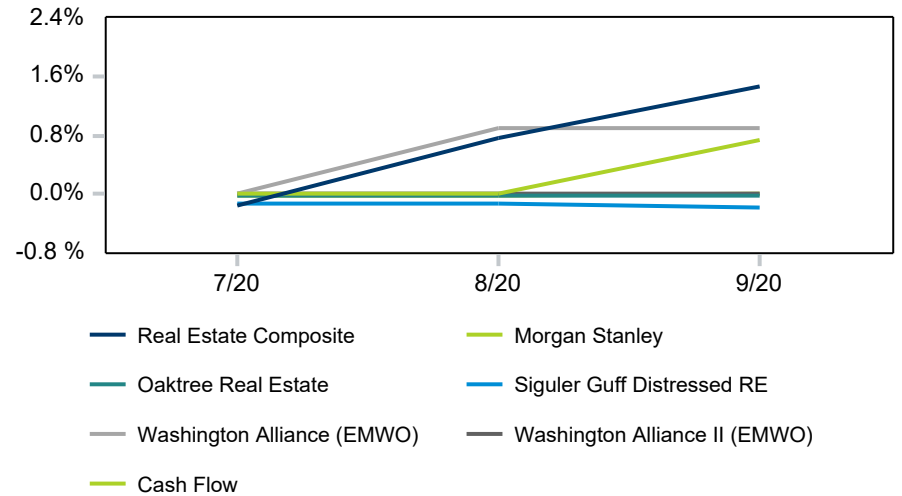
**Risk Contributions**



**Cumulative Return and Risk Contributions**



**Cumulative Return Contributions History**

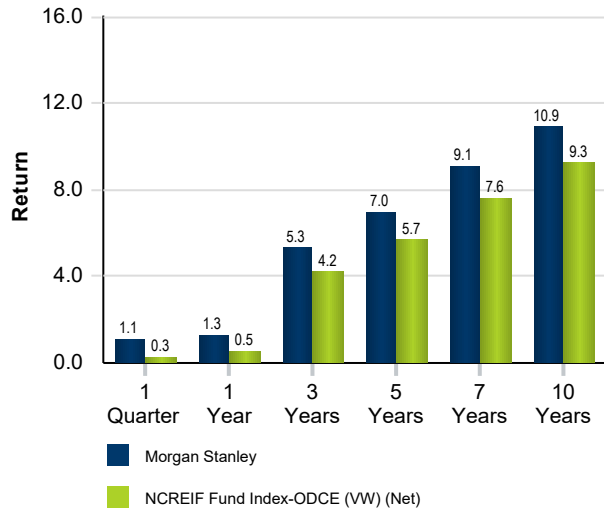


# Performance Summary

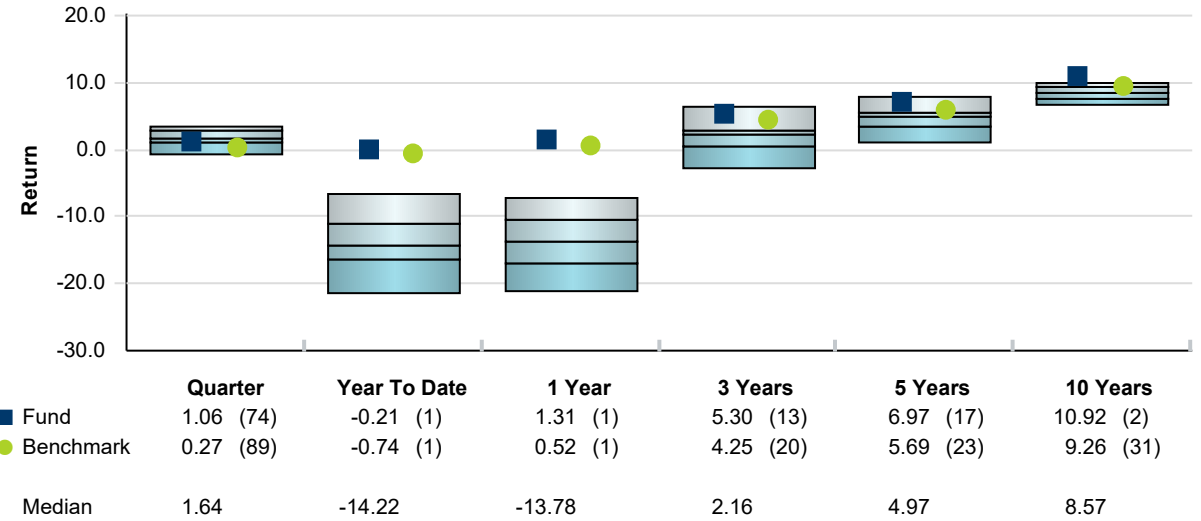
Morgan Stanley

Periods Ended September 30, 2020

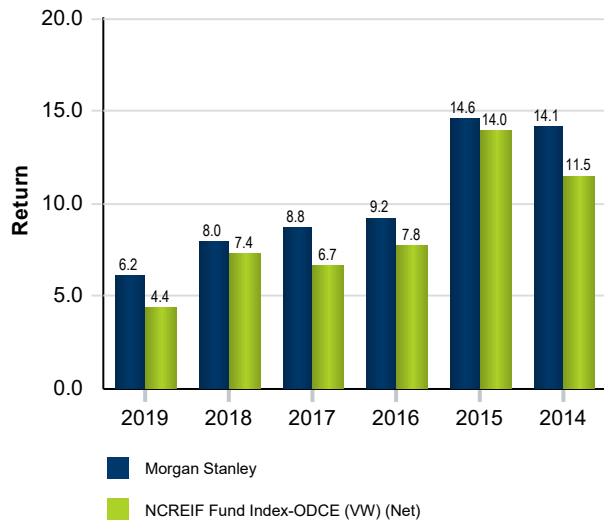
## Comparative Performance



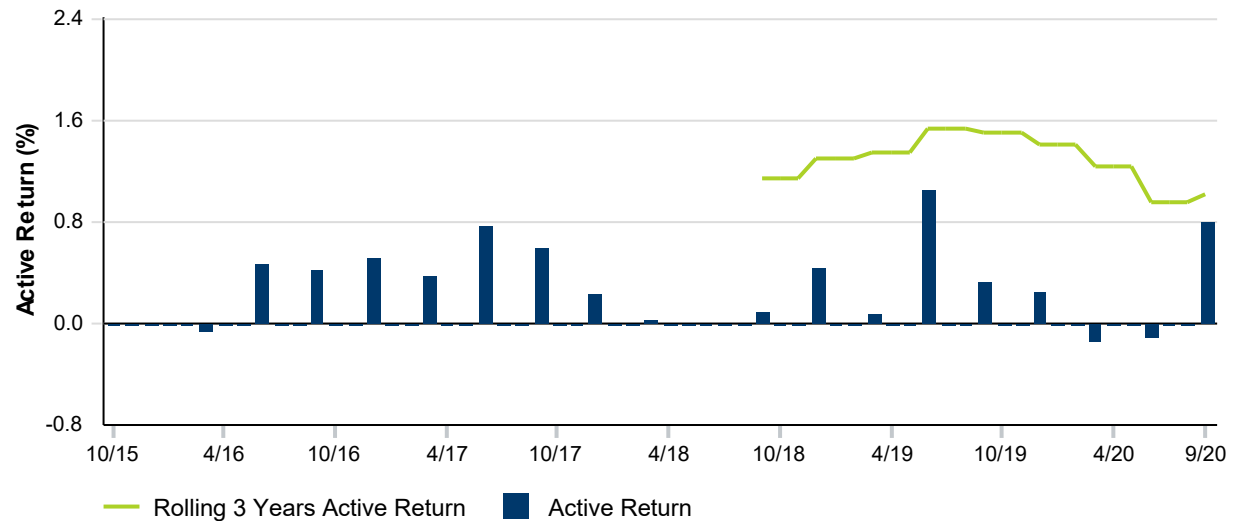
## Peer Group Analysis: IM U.S. REIT (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Morgan Stanley

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Morgan Stanley</u>	<u>NCREIF Fund Index-ODCE (VW) (Net)</u>
Maximum Return	1.53	1.27
Minimum Return	-1.85	-1.75
Return	1.31	0.52
Cumulative Return	1.31	0.52
Active Return	0.80	0.00
Excess Return	0.25	-0.55

## Risk Summary Statistics

	<u>Morgan Stanley</u>	<u>NCREIF Fund Index-ODCE (VW) (Net)</u>
Upside Risk	0.57	0.43
Downside Risk	1.85	1.75
Beta	1.11	1.00

## Risk/Return Summary Statistics

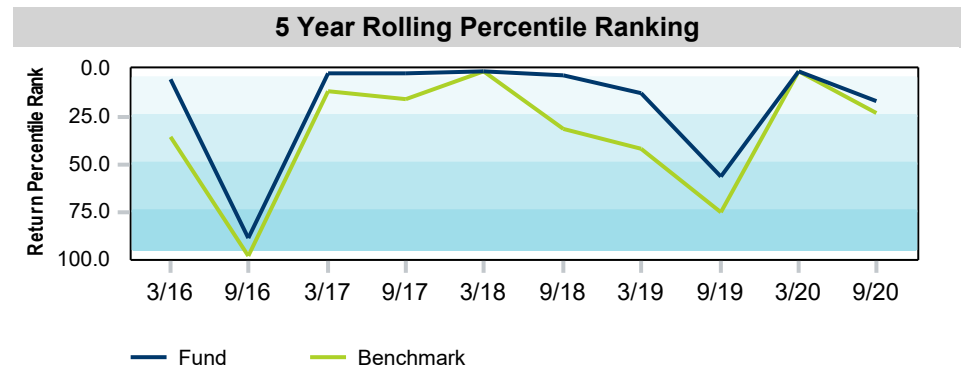
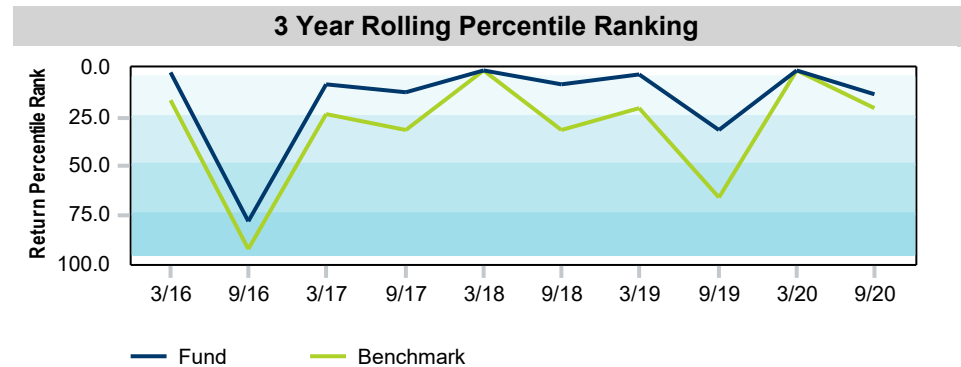
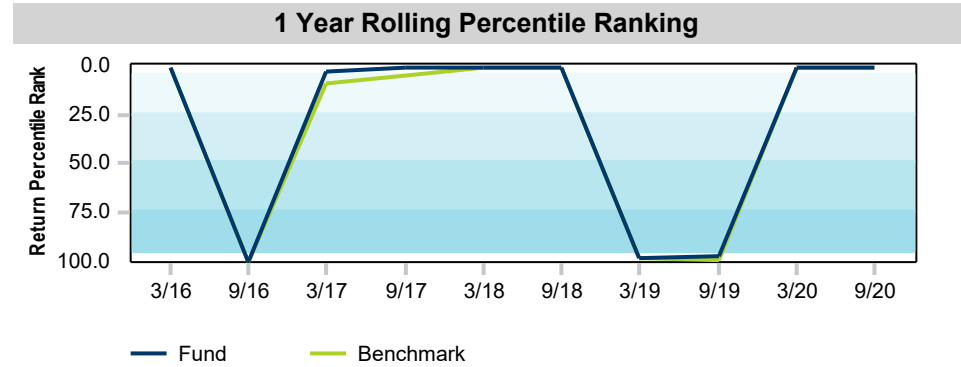
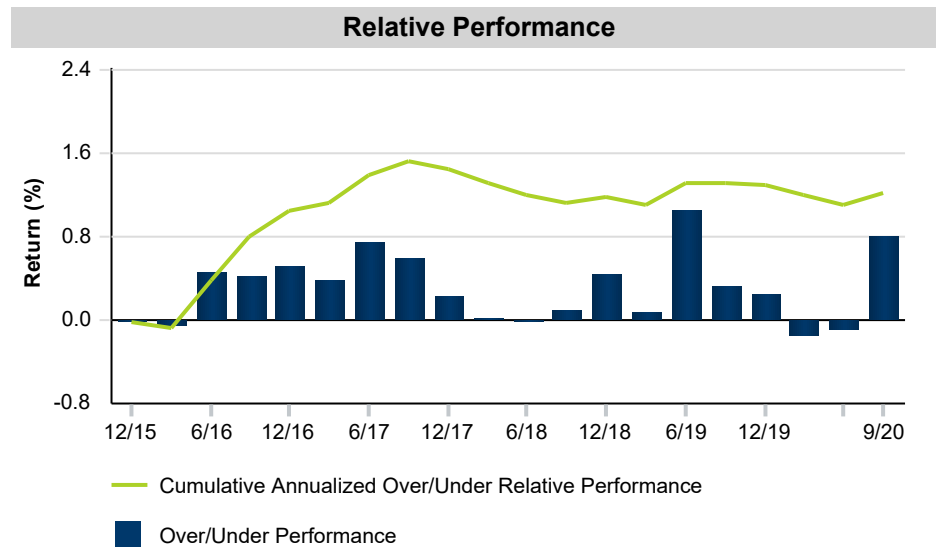
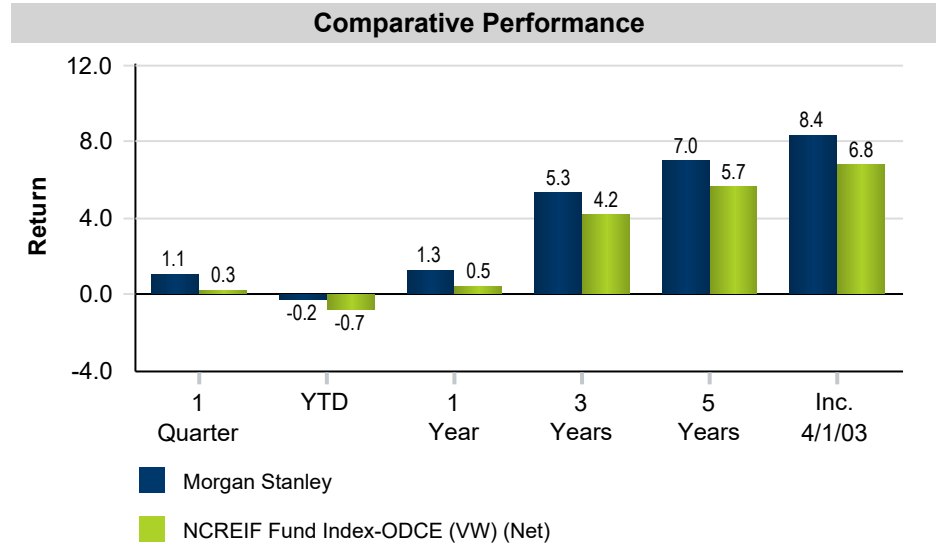
	<u>Morgan Stanley</u>	<u>NCREIF Fund Index-ODCE (VW) (Net)</u>
Standard Deviation	2.67	2.30
Alpha	0.74	0.00
Active Return/Risk	0.30	0.00
Tracking Error	0.82	0.00
Information Ratio	0.97	
Sharpe Ratio	0.09	-0.25

## Correlation Statistics

	<u>Morgan Stanley</u>	<u>NCREIF Fund Index-ODCE (VW) (Net)</u>
R-Squared	0.91	1.00
Actual Correlation	0.96	1.00

# Manager Summary

Morgan Stanley vs IM U.S. REIT (SA+CF)  
 Periods Ended September 30, 2020





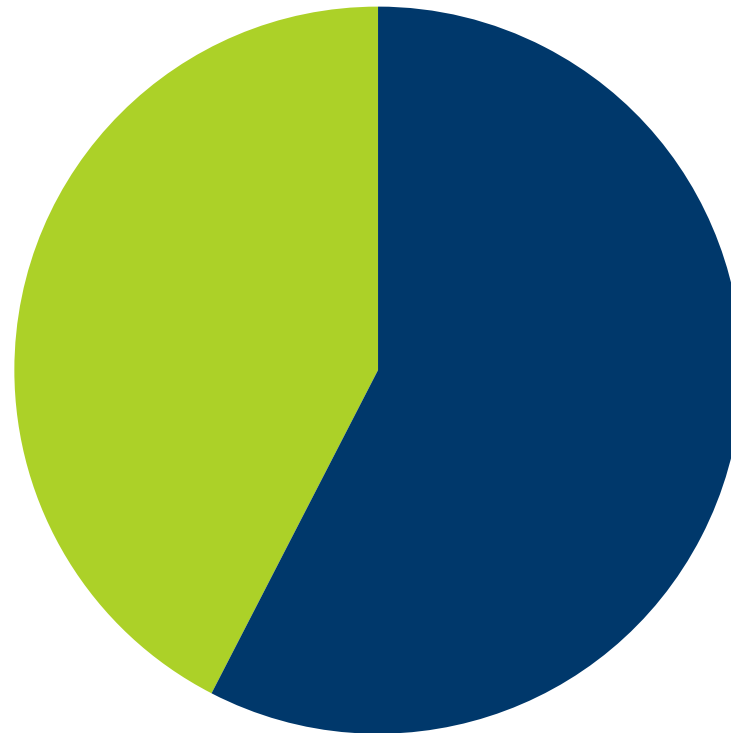
# MLP Composite

# Asset Allocation By Manager

MLP Composite

Periods Ended September 30, 2020

Sep-2020 : 25,310,206

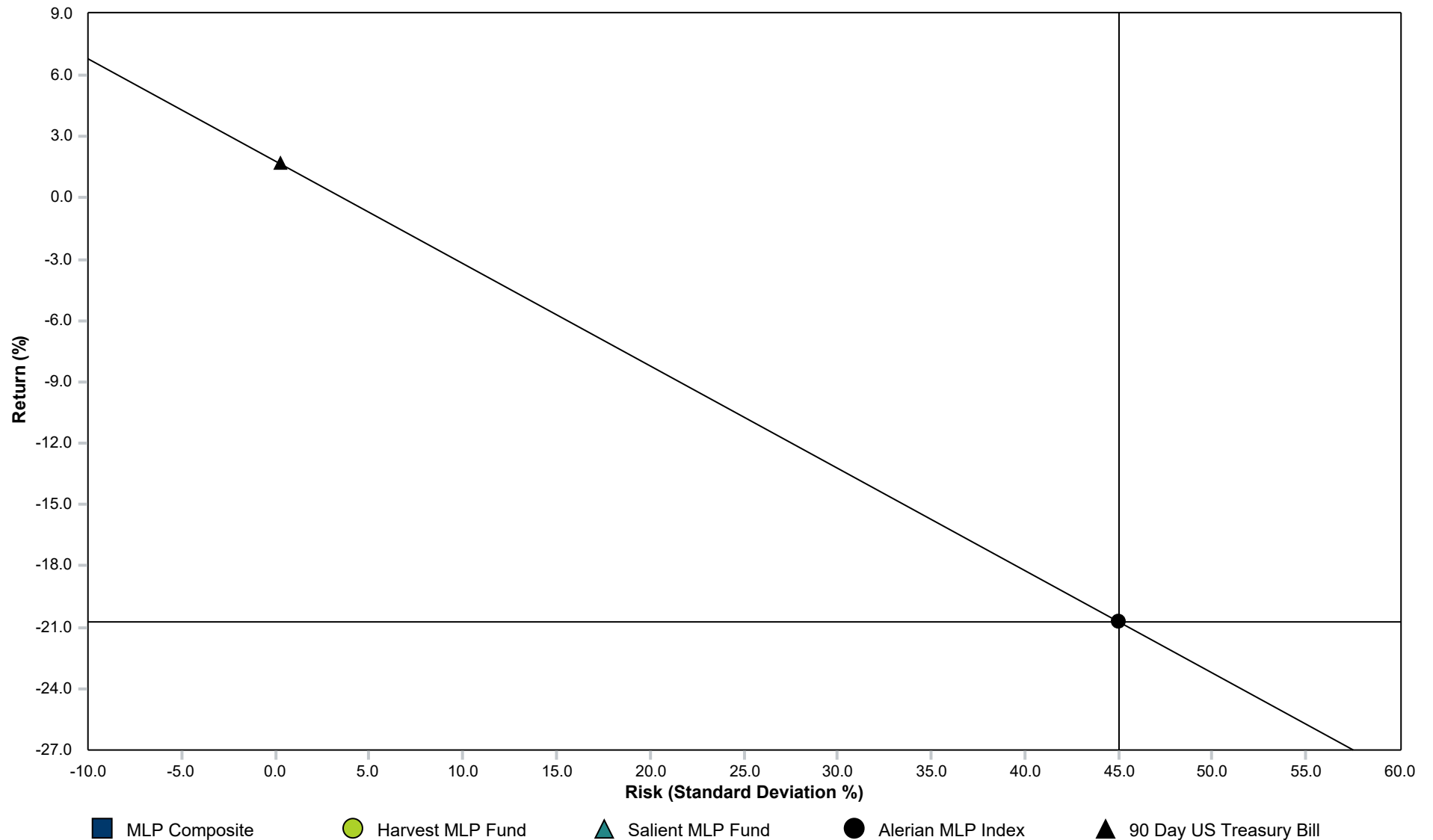


	Market Value \$	Allocation (%)
■ Harvest MLP Fund	14,571,910	57.6
■ Salient MLP Fund	10,738,297	42.4

# Risk vs. Return

MLP Composite

Periods Ended 3 Years Ending September 30, 2020



Calculation based on monthly periodicity.

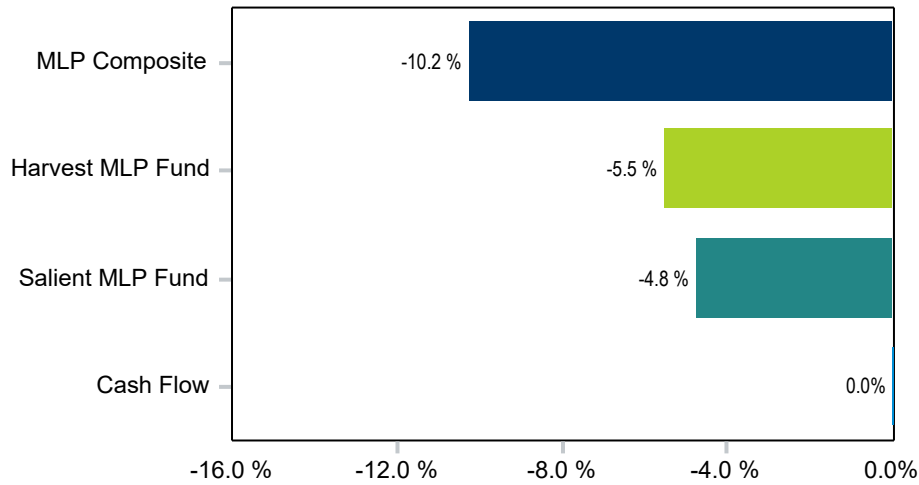


# Return and Risk Contribution

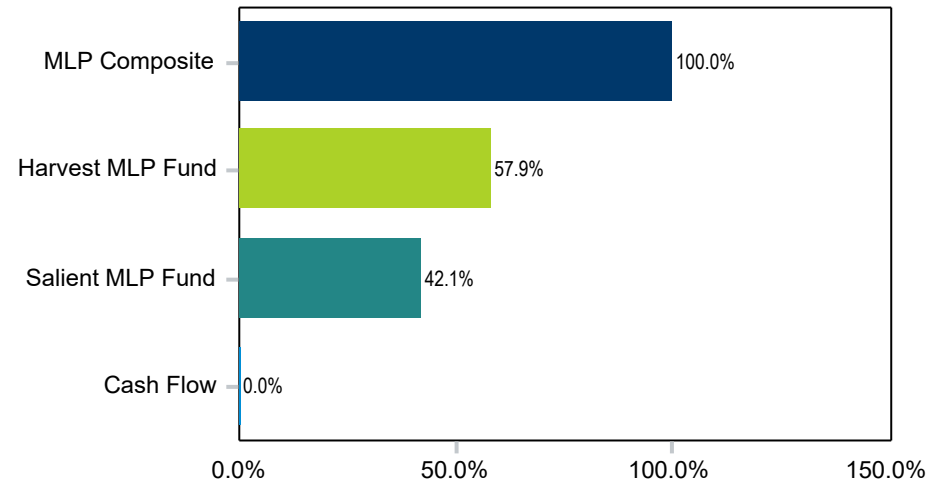
MLP Composite

Periods Ended 1 Quarter September 30, 2020

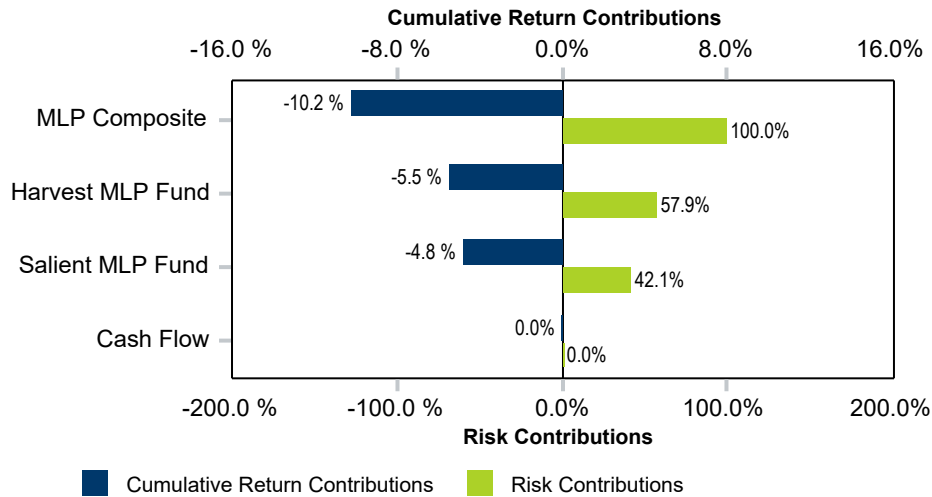
**Cumulative Return Contributions**



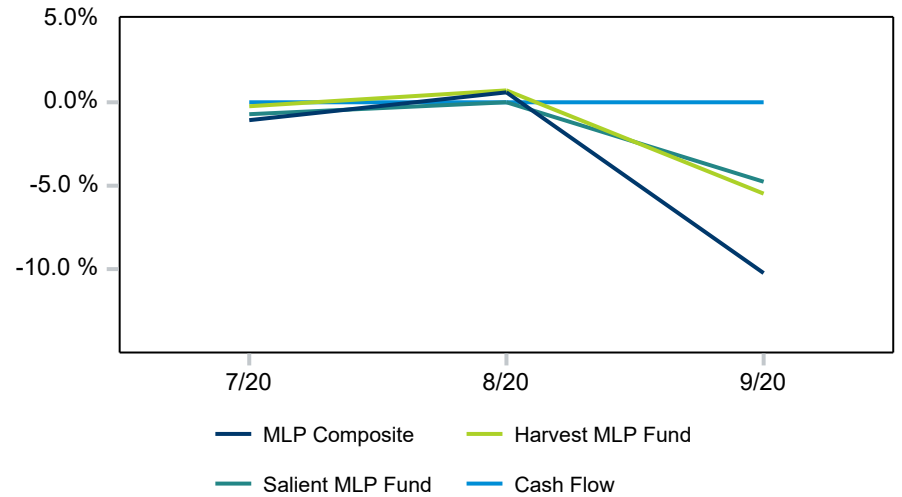
**Risk Contributions**



**Cumulative Return and Risk Contributions**



**Cumulative Return Contributions History**

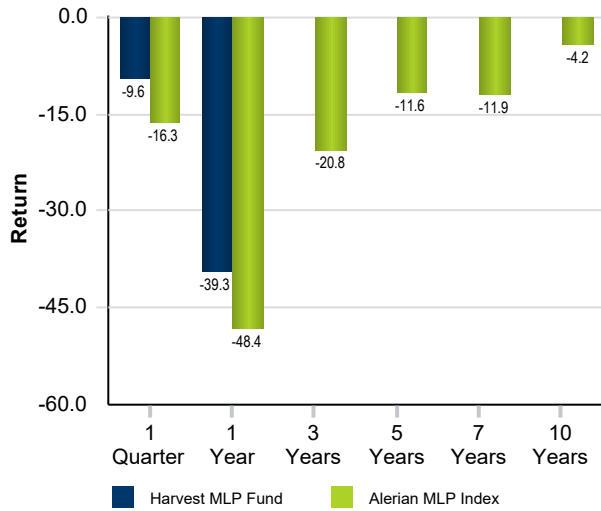


# Performance Summary

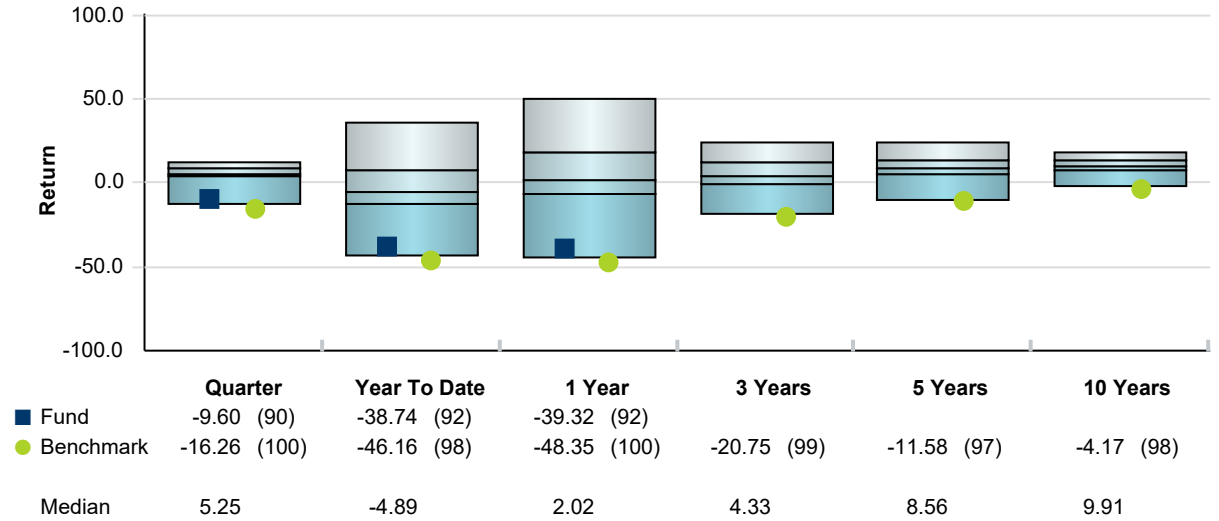
Harvest MLP Fund

Periods Ended September 30, 2020

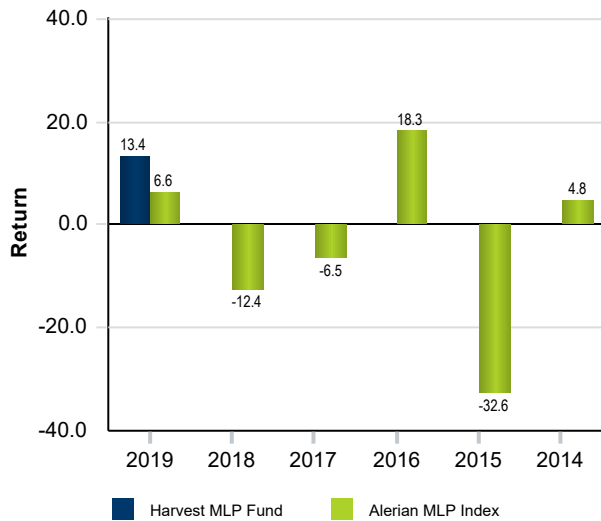
## Comparative Performance



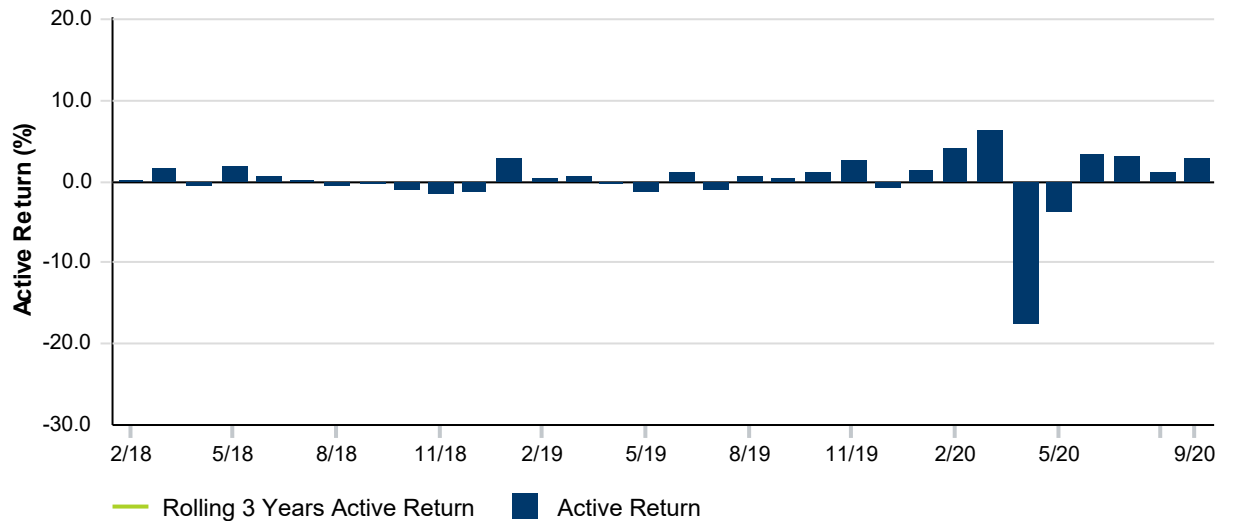
## Peer Group Analysis: IM U.S. Other Equity (SA+CF)



## Comparative Performance



## Rolling 3 Years Performance



# Summary Statistics

Harvest MLP Fund

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Harvest MLP Fund</u>	<u>Alerian MLP Index</u>
Maximum Return	32.14	49.62
Minimum Return	-40.88	-47.23
Return	-39.32	-48.35
Cumulative Return	-39.32	-48.35
Active Return	4.24	0.00
Excess Return	-33.14	-37.39

## Risk Summary Statistics

	<u>Harvest MLP Fund</u>	<u>Alerian MLP Index</u>
Upside Risk	9.68	14.76
Downside Risk	44.25	52.83
Beta	0.74	1.00

## Risk/Return Summary Statistics

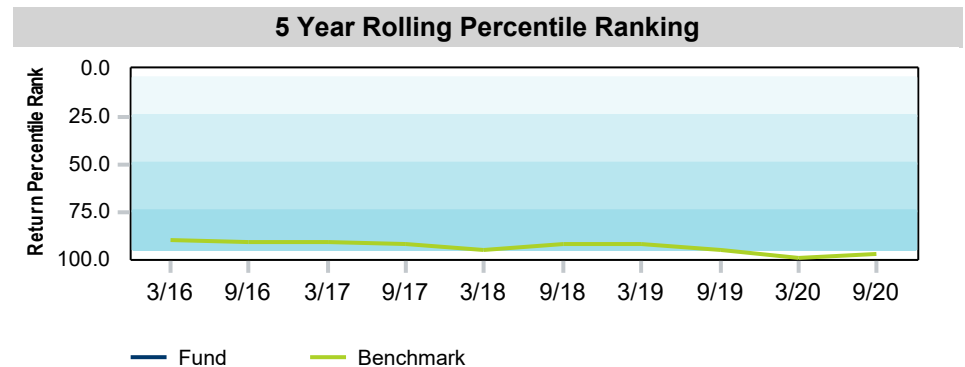
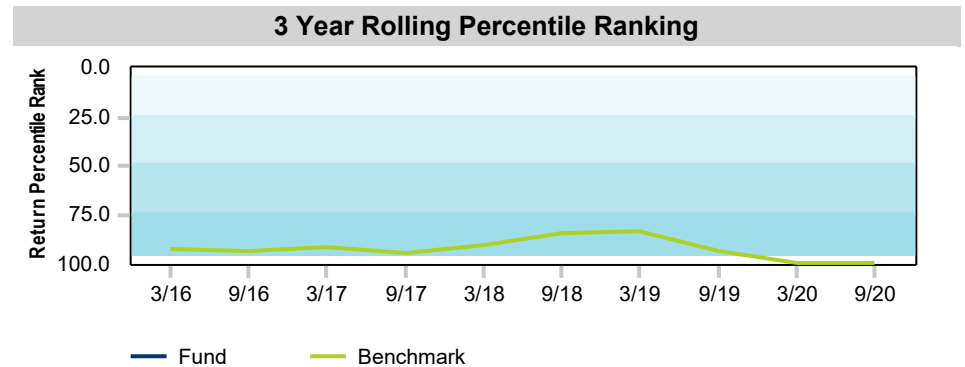
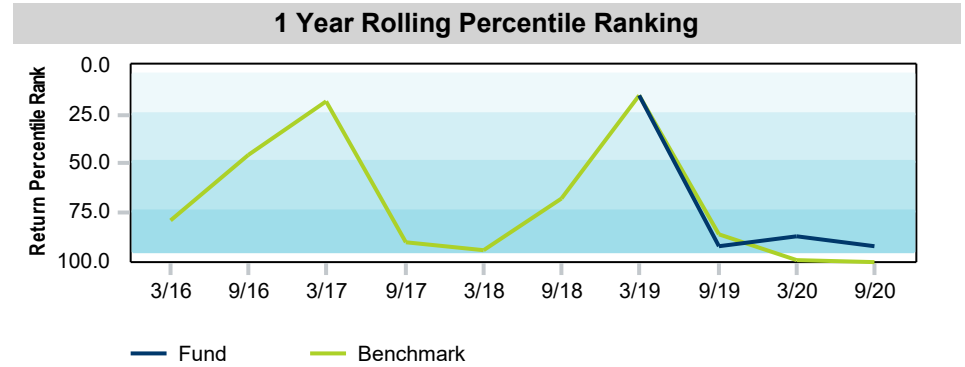
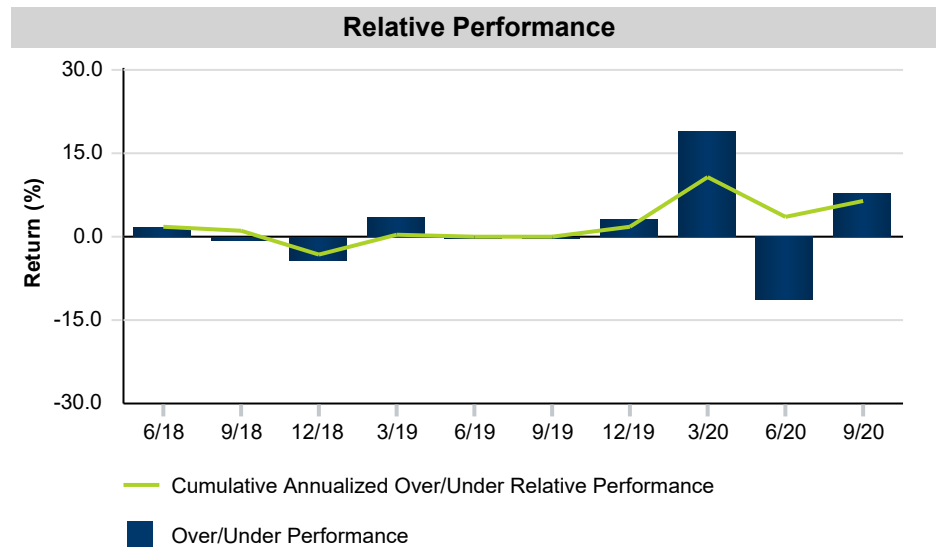
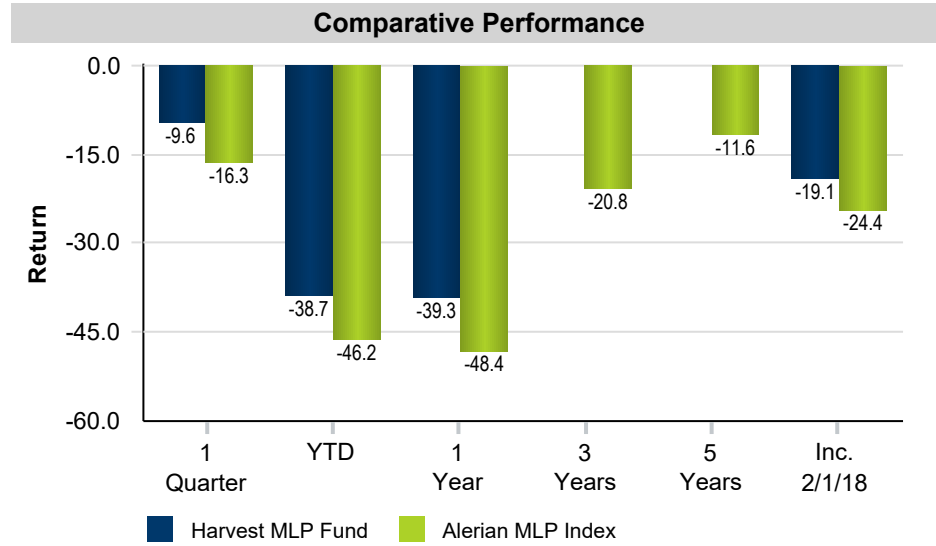
	<u>Harvest MLP Fund</u>	<u>Alerian MLP Index</u>
Standard Deviation	54.73	72.78
Alpha	-4.95	0.00
Active Return/Risk	0.08	0.00
Tracking Error	20.41	0.00
Information Ratio	0.21	
Sharpe Ratio	-0.60	-0.51

## Correlation Statistics

	<u>Harvest MLP Fund</u>	<u>Alerian MLP Index</u>
R-Squared	0.98	1.00
Actual Correlation	0.99	1.00

# Manager Summary

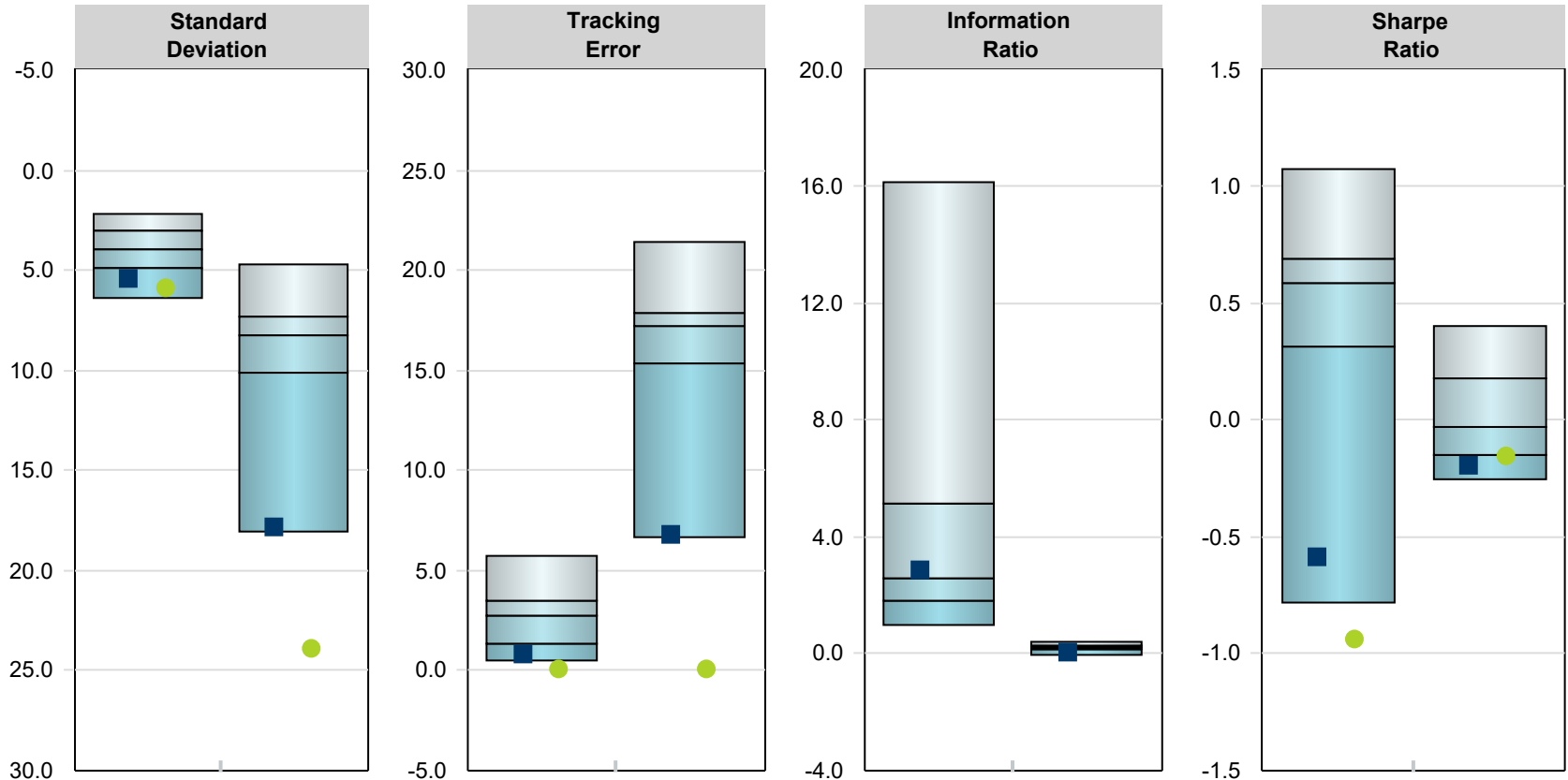
Harvest MLP Fund vs IM U.S. Other Equity (SA+CF)  
 Periods Ended September 30, 2020



# Peer Group Analysis - Multi Statistics

Harvest MLP Fund

Periods Ended September 30, 2020



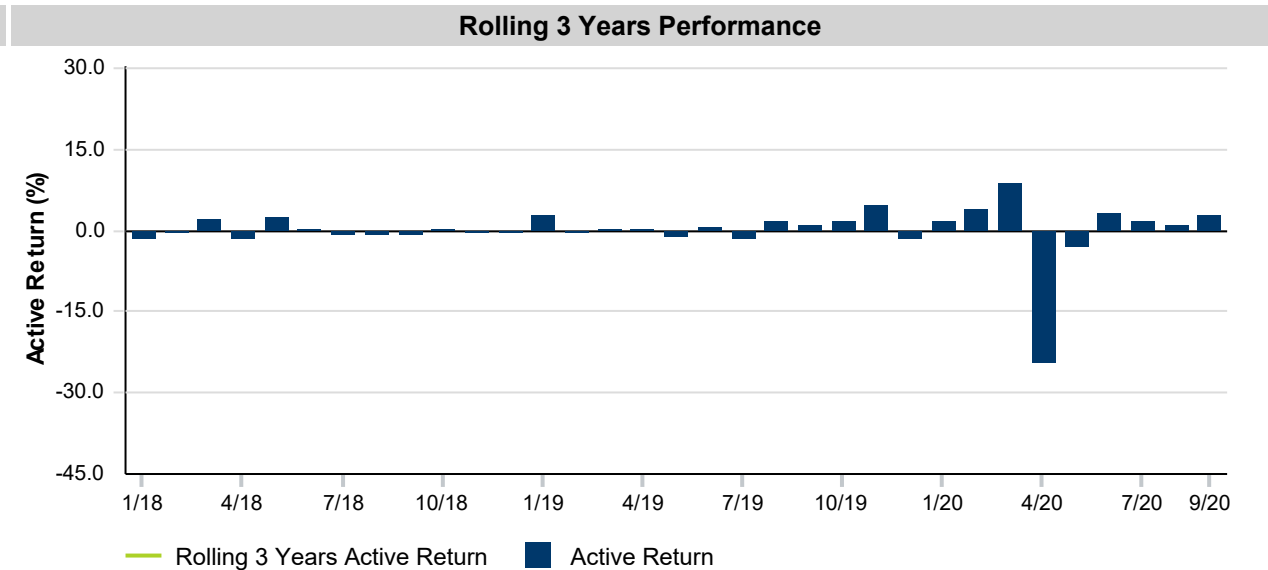
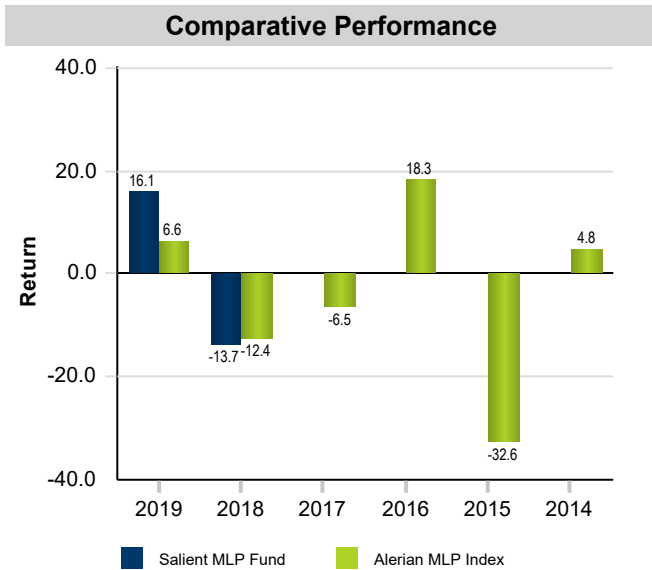
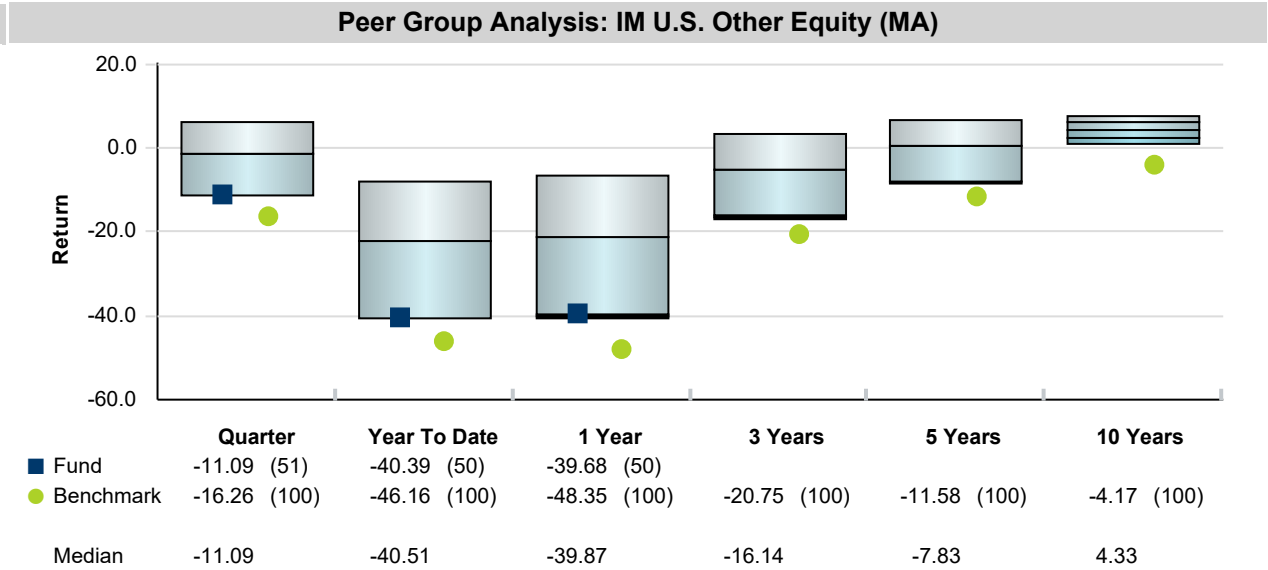
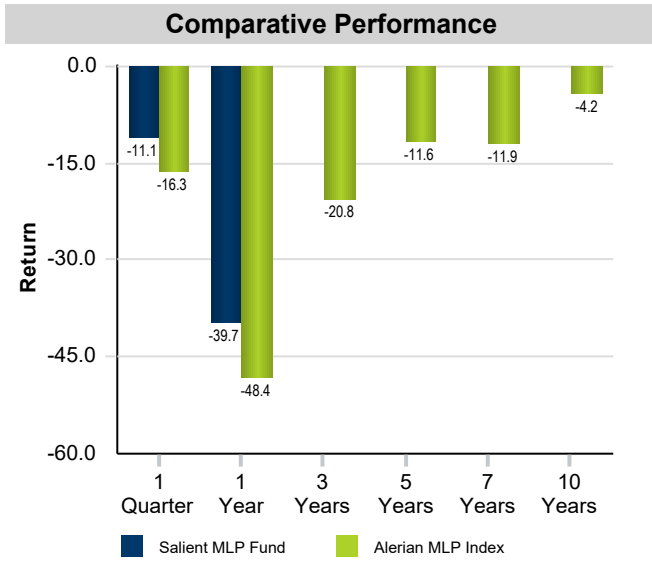
	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
Harvest MLP Fund	5.42 (82)	17.87 (94)	0.83 (89)	6.75 (95)	2.88 (42)	0.02 (90)	-0.58 (88)	-0.20 (86)
Alerian MLP Index	5.94 (91)	23.90 (100)	0.00 (100)	0.00 (100)			-0.94 (97)	-0.16 (78)
5th Percentile	2.14	4.74	5.73	21.44	16.19	0.41	1.08	0.41
1st Quartile	3.04	7.31	3.51	17.86	5.13	0.26	0.69	0.18
Median	3.93	8.22	2.71	17.23	2.60	0.20	0.59	-0.03
3rd Quartile	4.86	10.15	1.36	15.39	1.85	0.15	0.32	-0.15
95th Percentile	6.34	18.03	0.49	6.71	1.01	-0.06	-0.78	-0.25

Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

# Performance Summary

Salient MLP Fund

Periods Ended September 30, 2020



# Summary Statistics

Salient MLP Fund

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Salient MLP Fund</u>	<u>Alerian MLP Index</u>
Maximum Return	25.17	49.62
Minimum Return	-38.58	-47.23
Return	-39.68	-48.35
Cumulative Return	-39.68	-48.35
Active Return	0.55	0.00
Excess Return	-36.84	-37.39

## Risk Summary Statistics

	<u>Salient MLP Fund</u>	<u>Alerian MLP Index</u>
Upside Risk	7.75	14.76
Downside Risk	42.09	52.83
Beta	0.65	1.00

## Risk/Return Summary Statistics

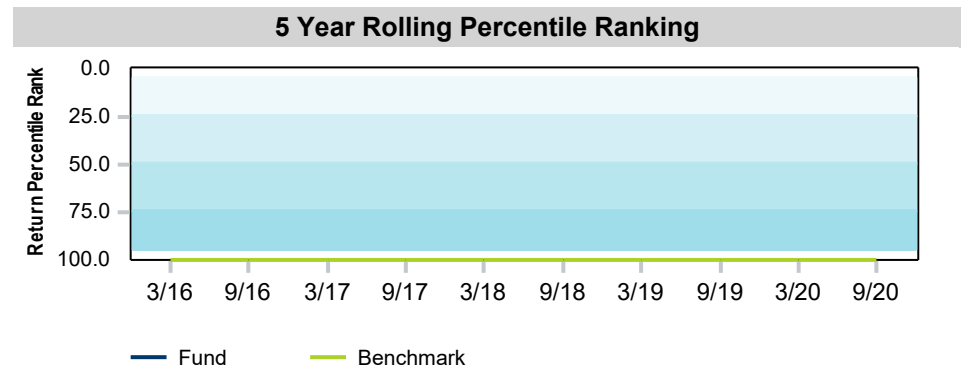
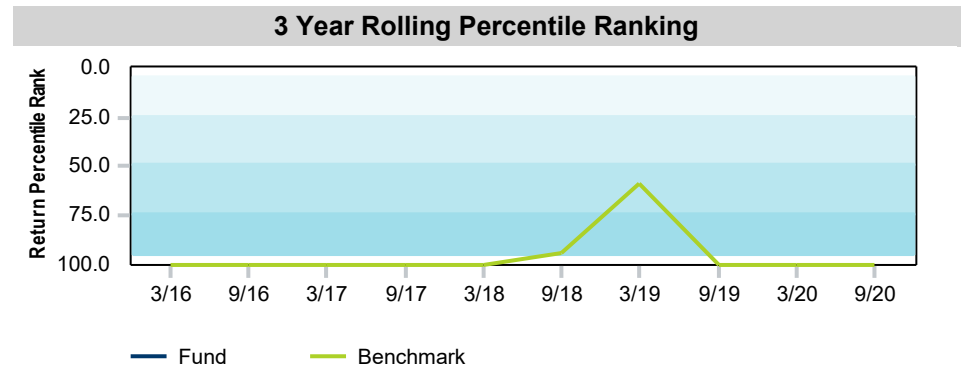
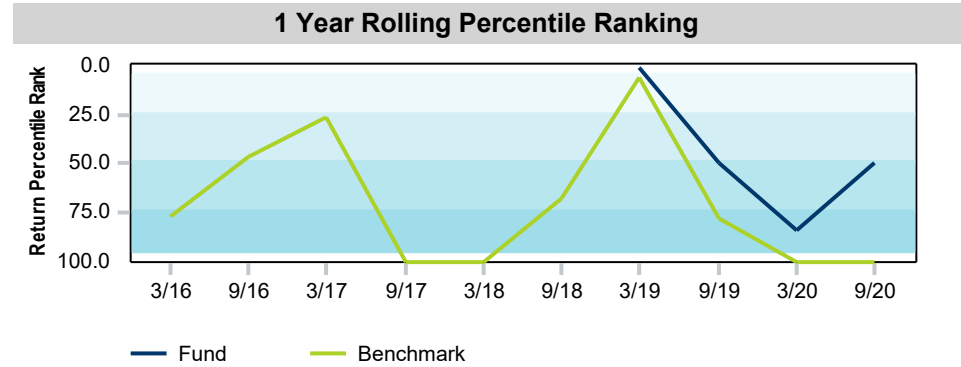
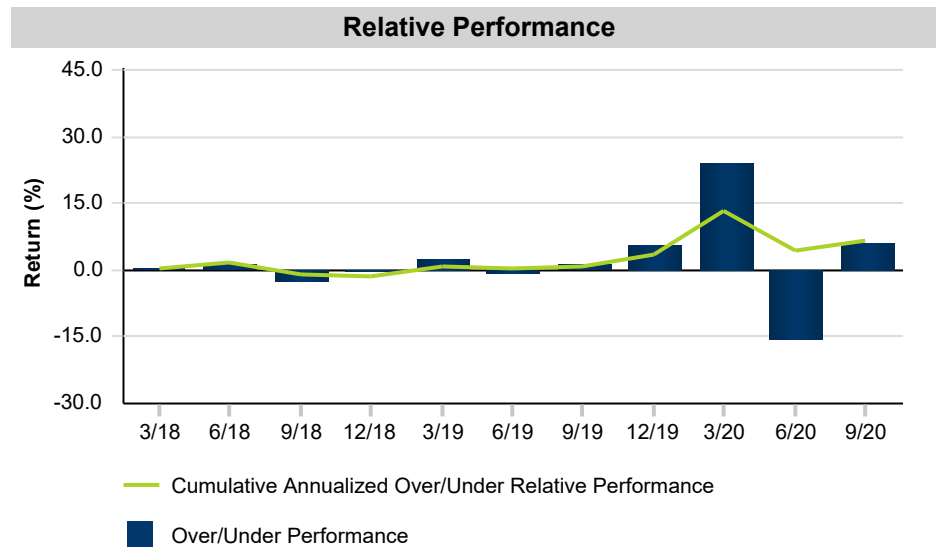
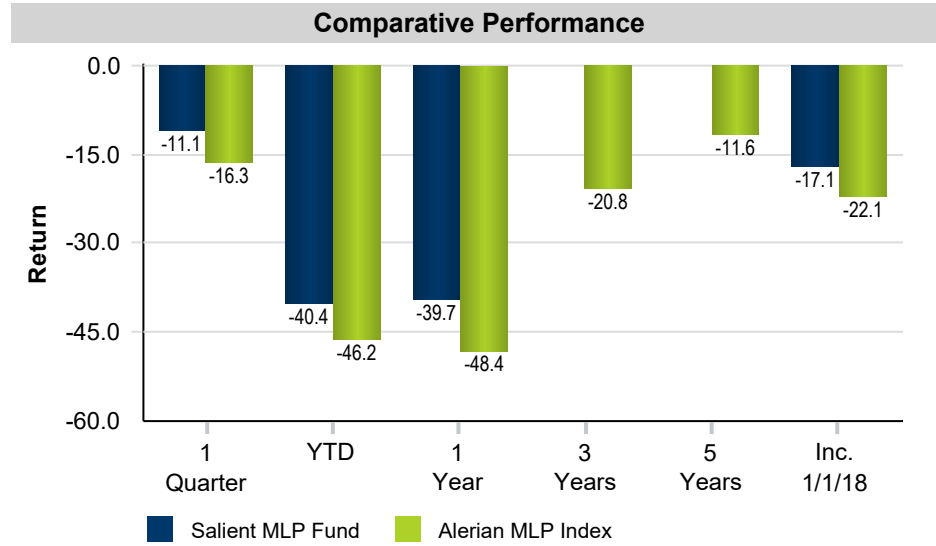
	<u>Salient MLP Fund</u>	<u>Alerian MLP Index</u>
Standard Deviation	48.84	72.78
Alpha	-11.35	0.00
Active Return/Risk	0.01	0.00
Tracking Error	27.38	0.00
Information Ratio	0.02	
Sharpe Ratio	-0.75	-0.51

## Correlation Statistics

	<u>Salient MLP Fund</u>	<u>Alerian MLP Index</u>
R-Squared	0.95	1.00
Actual Correlation	0.98	1.00

# Manager Summary

Salient MLP Fund vs IM U.S. Other Equity (MA)  
 Periods Ended September 30, 2020

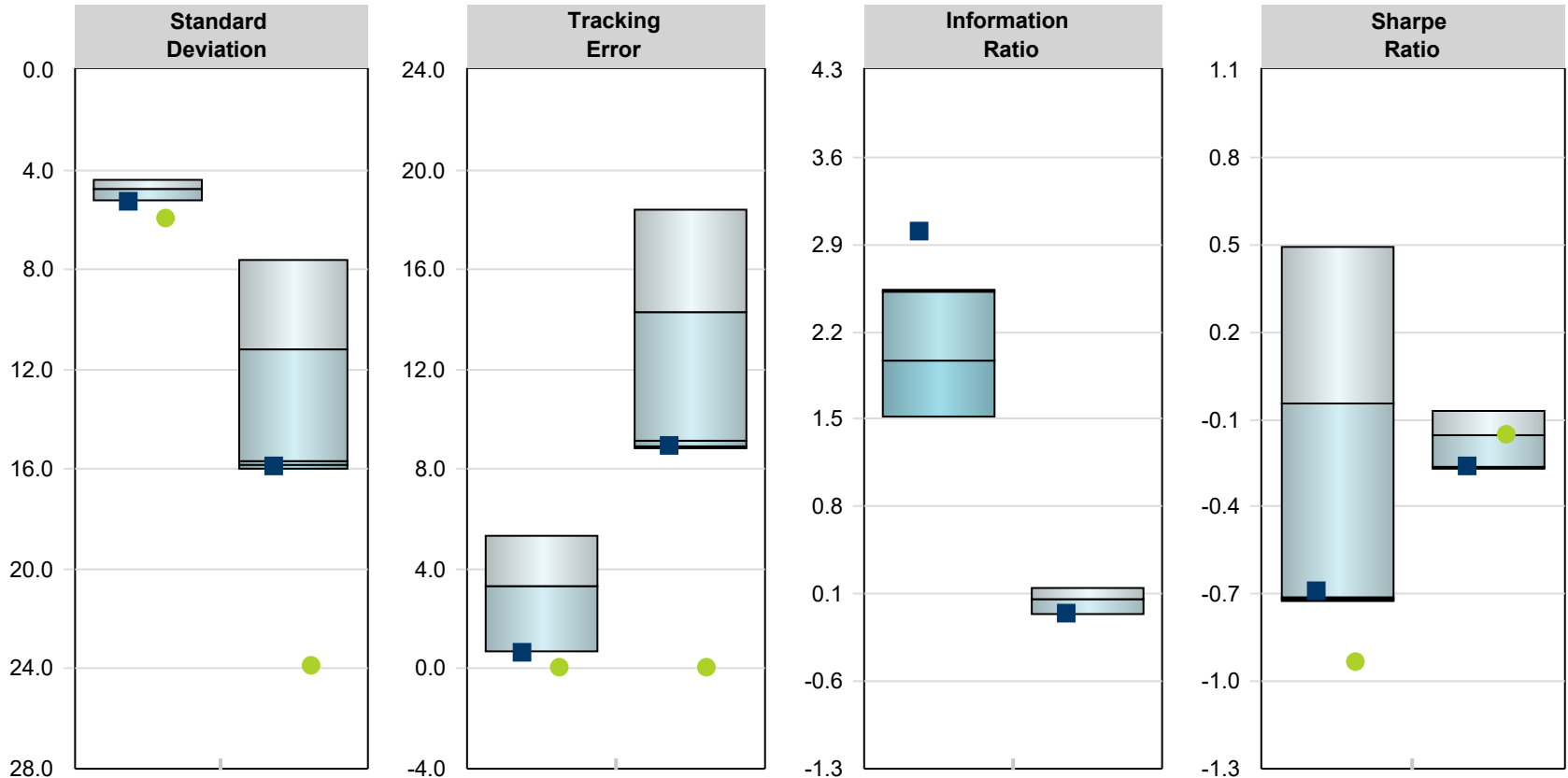




# Peer Group Analysis - Multi Statistics

Salient MLP Fund

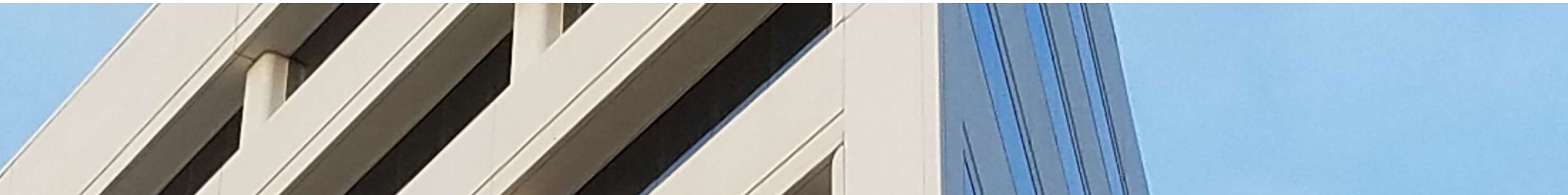
Periods Ended September 30, 2020



	Standard Deviation		Tracking Error		Information Ratio		Sharpe Ratio	
	QTD	YTD	QTD	YTD	QTD	YTD	QTD	YTD
■ Salient MLP Fund	5.33 (100)	15.88 (79)	0.62 (100)	8.94 (76)	2.99 (1)	-0.05 (50)	-0.69 (50)	-0.26 (50)
● Alerian MLP Index	5.94 (100)	23.90 (100)	0.00 (100)	0.00 (100)			-0.94 (100)	-0.16 (25)

5th Percentile	4.41	7.58	5.32	18.41	2.54	0.15	0.49	-0.07
1st Quartile	4.77	11.19	3.28	14.28	2.53	0.06	-0.04	-0.16
Median	5.22	15.71	0.73	9.10	2.53	-0.06	-0.71	-0.27
3rd Quartile	5.24	15.85	0.71	8.94	1.97	-0.06	-0.72	-0.27
95th Percentile	5.26	15.96	0.70	8.82	1.53	-0.06	-0.72	-0.27

Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.



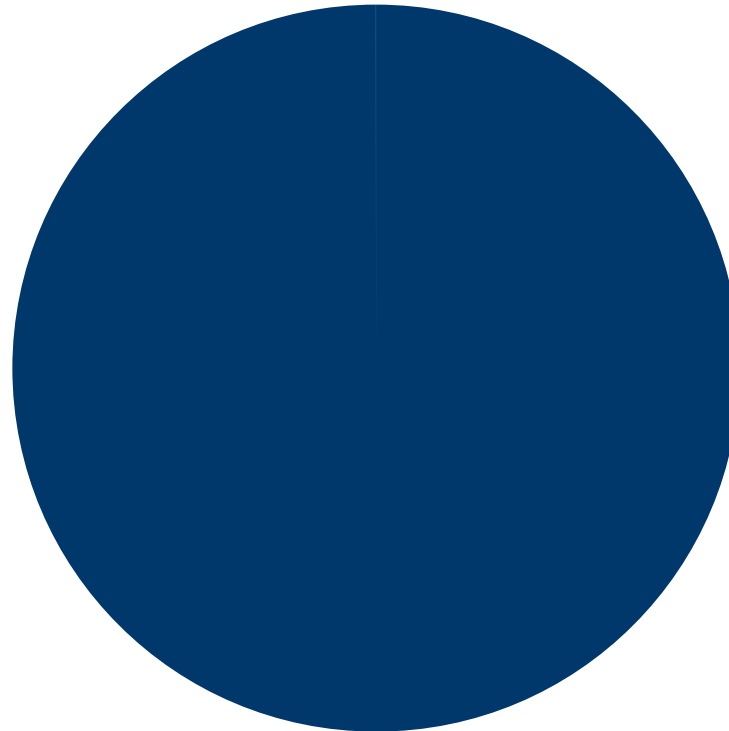
# Hedge Fund Composite

# Asset Allocation By Manager

Hedge Fund Composite

Periods Ended September 30, 2020

Sep-2020 : 2,762,835

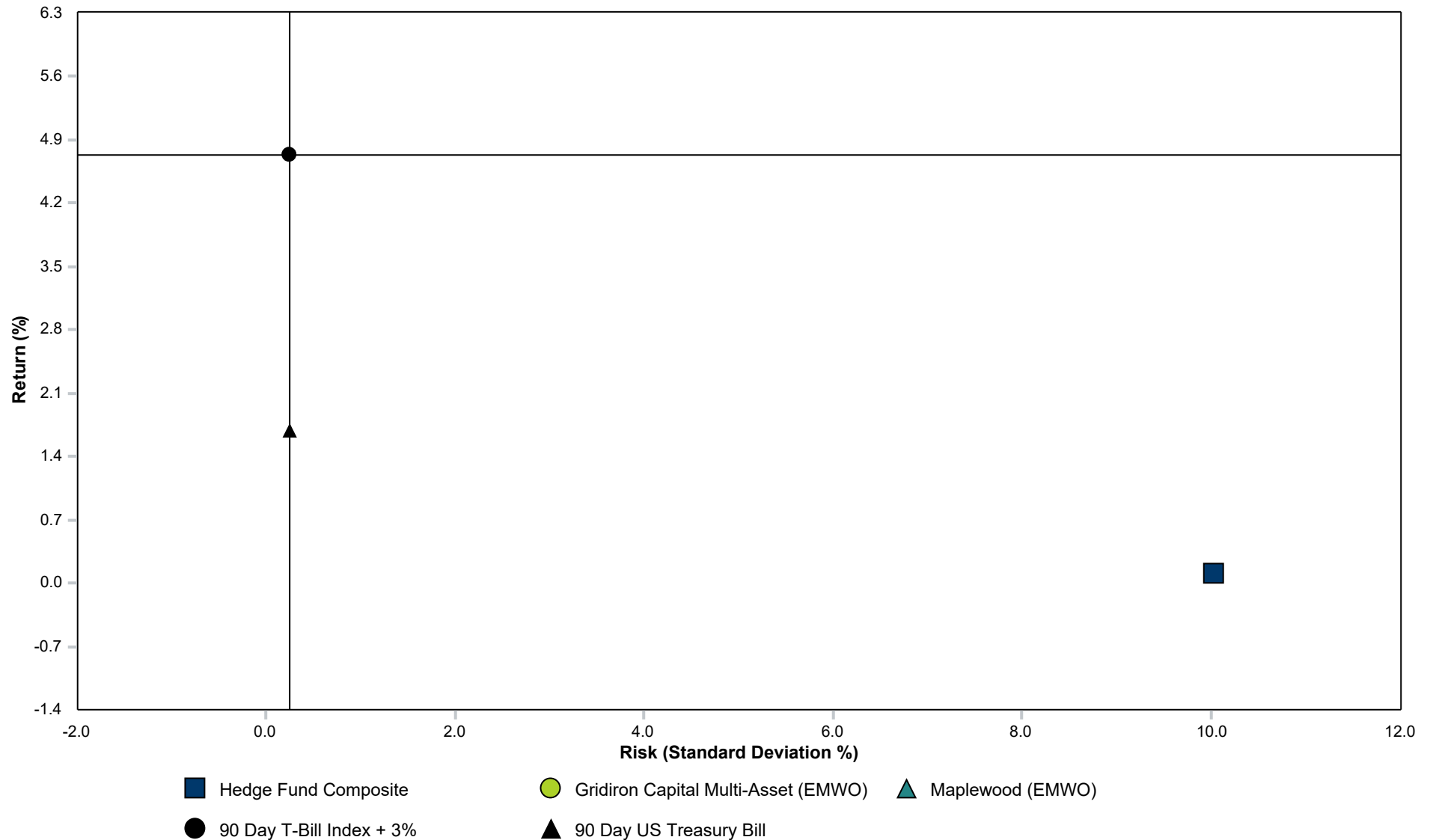


	Market Value \$	Allocation (%)
■ Gridiron Capital Multi-Asset (EMWO)	2,762,667	100.0
■ Maplewood (EMWO)	168	0.0

# Risk vs. Return

Hedge Fund Composite

Periods Ended 3 Years Ending September 30, 2020



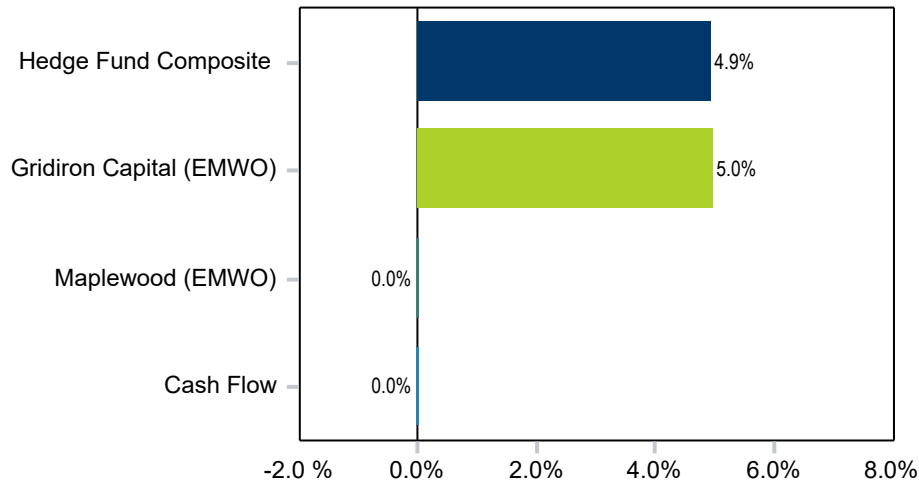
Calculation based on monthly periodicity.

# Return and Risk Contribution

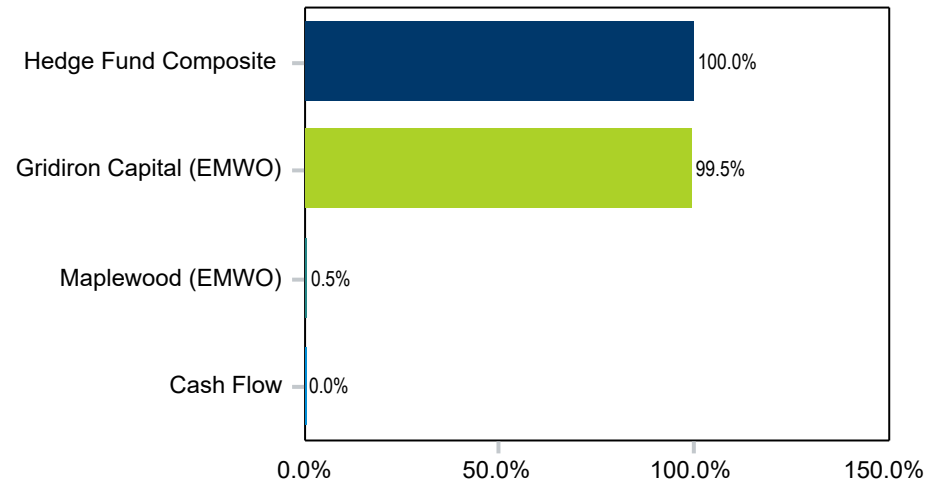
Hedge Fund Composite

Periods Ended 1 Quarter September 30, 2020

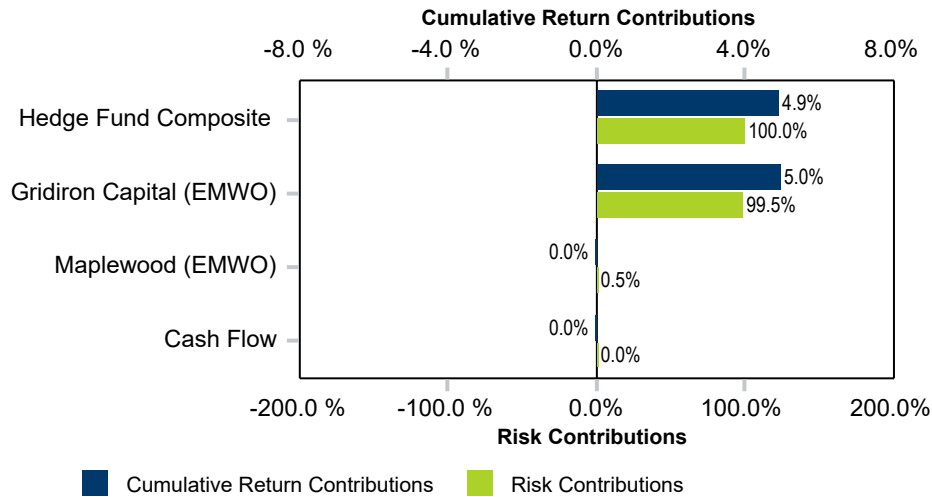
**Cumulative Return Contributions**



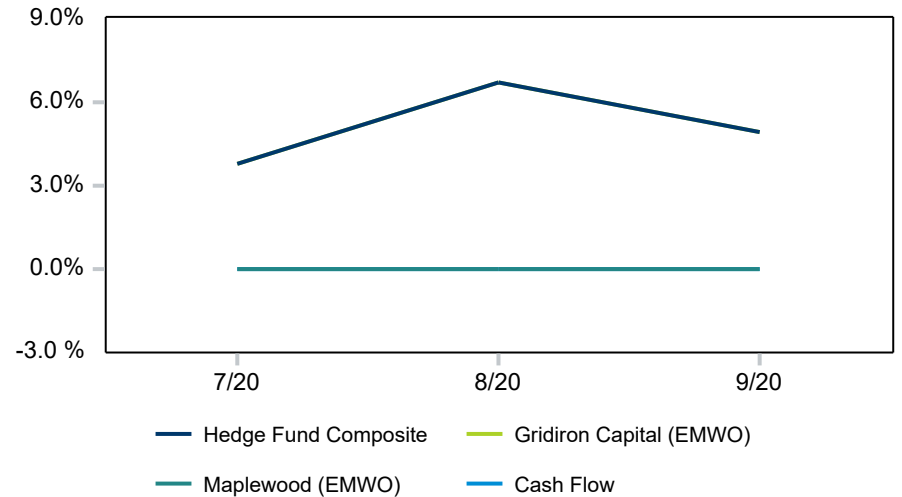
**Risk Contributions**



**Cumulative Return and Risk Contributions**



**Cumulative Return Contributions History**



# Summary Statistics

Gridiron Capital (EMWO)

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Gridiron Capital (EMWO)</u>	<u>HFRI FoF Composite Lagged</u>
Maximum Return	6.46	3.40
Minimum Return	-12.83	-7.63
Return	4.56	5.45
Cumulative Return	4.56	5.45
Active Return	0.19	0.00
Excess Return	4.89	4.70

## Risk Summary Statistics

	<u>Gridiron Capital (EMWO)</u>	<u>HFRI FoF Composite Lagged</u>
Upside Risk	2.89	1.69
Downside Risk	13.82	7.79
Beta	-0.01	1.00

## Risk/Return Summary Statistics

	<u>Gridiron Capital (EMWO)</u>	<u>HFRI FoF Composite Lagged</u>
Standard Deviation	16.97	9.60
Alpha	6.22	0.00
Active Return/Risk	0.01	0.00
Tracking Error	19.55	0.00
Information Ratio	0.01	
Sharpe Ratio	0.28	0.49

## Correlation Statistics

	<u>Gridiron Capital (EMWO)</u>	<u>HFRI FoF Composite Lagged</u>
R-Squared	0.00	1.00
Actual Correlation	-0.01	1.00

# Summary Statistics

Maplewood (EMWO)

Periods Ended 1 Year Ending September 30, 2020

## Return Summary Statistics

	<u>Maplewood (EMWO)</u>	<u>HFRX Macro Index</u>
Maximum Return	0.64	1.78
Minimum Return	-12.81	-1.40
Return	-18.02	-0.09
Cumulative Return	-18.02	-0.09
Active Return	-18.83	0.00
Excess Return	-19.96	-1.14

## Risk Summary Statistics

	<u>Maplewood (EMWO)</u>	<u>HFRX Macro Index</u>
Upside Risk	0.21	0.66
Downside Risk	13.57	2.40
Beta	1.44	1.00

## Risk/Return Summary Statistics

	<u>Maplewood (EMWO)</u>	<u>HFRX Macro Index</u>
Standard Deviation	12.45	3.31
Alpha	-17.27	0.00
Active Return/Risk	-1.51	0.00
Tracking Error	11.59	0.00
Information Ratio	-1.62	
Sharpe Ratio	-1.58	-0.33

## Correlation Statistics

	<u>Maplewood (EMWO)</u>	<u>HFRX Macro Index</u>
R-Squared	0.15	1.00
Actual Correlation	0.38	1.00