



# Board of Retirement Regular Meeting

## Sacramento County Employees' Retirement System

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### Agenda Item 18

**MEETING DATE:** December 19, 2018

**SUBJECT:** Total Fund Investment Performance Report  
Third Quarter 2018

**SUBMITTED FOR:**  Consent  Deliberation and Action  Receive and File

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#### **RECOMMENDATION**

Staff and Verus recommend the Board receive and file the SCERS Total Fund Investment Performance Review report, prepared by Verus, for the quarter ending September 30, 2018.

#### **PURPOSE**

This agenda item does not specifically support the 2018-19 Strategic Management Plan, but complies with SCERS' investment policy statement reporting requirements and provides a summary of SCERS' Total Fund investment returns and market environment discussion as of the quarter ending September 30, 2018. This item contributes to the effective management and oversight of investment activities.

#### **SCERS TOTAL FUND RETURNS**

This item summarizes SCERS' Total Fund investment returns as presented in Verus' Investment Performance Review for the period ending September 30, 2018. Please note that returns for SCERS' private equity, private credit, non-core real estate, and real assets portfolios are lagged one-quarter.

Verus' report has been reformatted to reflect SCERS' strategic asset allocation, including the Growth, Diversifying, and Real Return asset categories. Please note that new composites were added for the asset categories and several segments of the portfolio, so the performance of these segments includes the current quarter, YTD, 1-Year, and since inception March 2017 performance for this report, without a historical track record (3-Year and 5-Year).

**SCERS TOTAL FUND PERFORMANCE SUMMARY**  
**Quarter Reporting Periods Ending September 30, 2018**

SCERS ASSET CLASS	Quarter	Year-to-Date	1-Year	3-Year	5-Year	Since Inception	Since Inception Date
<b>SCERS TOTAL FUND Return w/Overlay</b>	2.5%	4.5%	8.8%	10.4%	7.7%	8.4%	Jun-86
Policy Index	2.5%	4.0%	7.4%	9.4%	7.5%	8.6%	
InvestorForce Public DB > \$1B	2.3%	3.4%	7.3%	9.9%	7.6%	8.3%	
<b>SCERS TOTAL FUND Return w/o Overlay</b>	2.6%	4.7%	9.0%	10.5%	7.8%	8.3%	Jun-86
Policy Index	2.5%	4.0%	7.4%	9.4%	7.5%	8.6%	
<b>GROWTH ASSET CATEGORY</b>	4.3%	6.5%	12.3%			15.0%	Mar-17
Custom Benchmark	3.9%	5.4%	10.4%			12.8%	
<b>DIVERSIFYING ASSET CATEGORY</b>	-0.1%	-1.2%	-0.5%			1.6%	Mar-17
Custom Benchmark	-0.1%	-0.7%	-0.1%			1.7%	
<b>REAL RETURN ASSET CATEGORY</b>	0.4%	6.2%	9.8%			10.5%	Mar-17
Custom Benchmark	1.5%	6.1%	8.6%			7.8%	
<b>OPPORTUNITIES PORTFOLIO</b>	1.9%	-1.0%	-1.3%	5.4%	5.7%	15.8%	Oct-07
Custom Benchmark	2.5%	4.0%	7.4%	9.4%	7.5%	8.0%	

The SCERS portfolio returned +2.5% in the third quarter matching the policy index benchmark for the quarter and outperforming the median public fund return of +2.3%.

### Growth Asset Category

During the quarter, growth assets continued to lead the market higher, with SCERS' Public Equity portfolio up +4.4% and the Private Equity portfolio up +6.7%. U.S. equity markets continued to outperform international markets, with the Russell 3000 up +7.1% in the quarter compared to the MSCI ACWI ex-U.S. Index up +0.8%. Emerging markets declined in the quarter, down -0.9%. All segments of SCERS' Growth Asset Category delivered positive returns during the quarter.

SCERS GROWTH Performance Summary for the periods ending 9/30/18	Quarter	Year-to-Date	1-Year	Since Inception	Since Inception Date
<b>SCERS GROWTH ASSET CATEGORY</b>	4.3%	6.5%	12.3%	15.0%	Mar-17
Custom Benchmark	3.9%	5.4%	10.4%	12.8%	
<b>Public Equity</b>	4.4%	5.1%	11.5%	9.7%	Jun-11
MSCI ACWI	4.3%	3.8%	9.8%	8.3%	
<b>Private Equity (lagged 1 quarter)</b>	6.7%	17.4%	24.2%	2.1%	Feb-08
Cambridge All PE	5.2%	12.8%	16.8%	10.3%	
<b>Public Credit</b>	2.3%	5.2%	5.2%	4.9%	Nov-13
Custom Benchmark	2.2%	3.4%	4.3%	4.7%	
<b>Private Credit (lagged 1 quarter)</b>	1.3%	4.8%	6.1%	7.1%	Mar-17
Credit Suisse Leveraged Loan + 2%	2.5%	5.8%	7.6%	7.2%	
<b>Growth Absolute Return</b>	0.7%	2.8%	4.4%	5.0%	Aug-04
HFRI FoF Composite +1%	0.4%	1.7%	4.0%	6.2%	

### Diversifying Asset Category

The Diversifying Asset Category detracted from overall Plan performance, declining -0.1% for the quarter, in line with the category benchmark. Falling bond prices, specifically in Treasuries, were a significant headwind in the quarter as the Federal Reserve increased interest rates in September by 0.25% and signaled for another hike in December. SCERS' U.S. Treasury asset class declined -0.6% in the quarter. The U.S. dollar strengthened during the quarter, impacting global fixed income returns. SCERS' Global Fixed Income portfolio declined -0.8% in the quarter, outperforming the asset class benchmark, which declined -1.6%.

SCERS DIVERSIFYING Performance Summary for the periods ending 9/30/18	Quarter	Year-to-Date	1-Year	Since Inception	Since Inception Date
<b>SCERS DIVERSIFYING ASSET CATEGORY</b>	<b>-0.1%</b>	<b>-1.2%</b>	<b>-0.5%</b>	<b>1.6%</b>	Mar-17
Custom Benchmark	-0.1%	-0.7%	-0.1%	1.7%	
<b>Core/Core Plus Fixed Income</b>	<b>0.3%</b>	<b>-1.0%</b>	<b>-0.3%</b>	<b>2.8%</b>	Jun-11
Barclays US Aggregate TR	0.0%	-1.6%	-1.2%	2.5%	
<b>U.S. Treasury</b>	<b>-0.6%</b>	<b>N/A</b>	<b>N/A</b>	<b>0.4%</b>	Feb-18
Barclays US Treasury TR	-0.6%	-1.7%	-1.6%	0.4%	
<b>Global Fixed Income</b>	<b>-0.8%</b>	<b>-3.7%</b>	<b>-4.0%</b>	<b>1.9%</b>	May-13
Custom Benchmark	-1.6%	-3.6%	-2.7%	0.1%	
<b>Diversifying Absolute Return</b>	<b>0.1%</b>	<b>-0.7%</b>	<b>0.9%</b>	<b>2.2%</b>	Nov-11
HFRI FoF Conservative Index	0.8%	2.4%	3.6%	4.9%	

### Real Return Asset Category

SCERS' Real Return portfolio was slightly positive in the quarter, up +0.4% including the Real Return Overlay Proxy, compared to the asset class benchmark return of +1.5%. Positive contributors during the quarter were the Real Assets portfolio +2.3%, Core Real Estate Commingled Funds +1.7%, and the Non-Core Real Estate Opportunistic portfolio +0.8%. The primary detractor from performance was the Core Real Estate Separate Account portfolio, which declined -3.6%. SCERS completed the sale and transition of its separate account portfolio during the quarter. SCERS' Real Return Overlay Proxy also detracted from performance in the quarter, down -0.6%, due to negative performance from Commodities and Treasury Inflation Protected Securities (TIPS).

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SCERS REAL RETURN Performance Summary	Quarter	Year-to-Date	1-Year	Since Inception	Since Inception Date
<b>SCERS REAL RETURN ASSET CATEGORY</b>					
SCERS Real Return w/ SSgA Proxy	0.4%	6.2%	9.8%	10.5%	Mar-17
SCERS Real Return w/o SSgA Proxy	0.6%	8.0%	11.6%	12.3%	Mar-17
Custom Benchmark	1.5%	6.1%	8.6%	7.8%	Mar-17
<b>SCERS Real Estate</b>	<b>-0.1%</b>	<b>7.2%</b>	<b>10.6%</b>	<b>12.1%</b>	Jun-11
Custom Benchmark	2.2%	7.3%	8.6%	10.4%	
<b>Core Real Estate (as of 9/30/18)</b>					
Separate Account	-3.6%	3.9%	8.7%	6.0%	Sep-08
Commingled Funds	1.7%	7.0%	10.8%	4.9%	Sep-08
NFI-ODCE	2.1%	6.5%	8.7%	5.6%	
<b>Non-Core Real Estate (as of 6/30/18)</b>					
Opportunistic	0.8%	14.0%	20.3%	30.1%	Feb-14
Value Add	0.4%	6.9%	-1.8%	-3.1%	Sep-08
NFI-ODCE net +1%	2.4%	8.8%	8.5%	11.3%	Feb-14
				8.1%	Sep-08
<b>SCERS Real Assets (as of 6/30/18)</b>	<b>2.3%</b>	<b>10.3%</b>	<b>15.4%</b>	<b>4.8%</b>	Jan-13
Custom Benchmark	1.9%	7.2%	10.2%	6.9%	
<b>SCERS Commodities (as of 9/30/18)</b>					
Bloomberg Commodity Index	-0.7%	1.6%	0.5%	-6.0%	May-08
	-2.0%	-2.0%	2.6%	-8.2%	
<b>SSgA Real Return Proxy (as of 9/30/18)</b>					
SSgA Real Assets	-0.6%	-2.0%	1.3%	1.2%	Jan-08
	-0.7%	-2.0%	1.3%	N/A	

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SCERS’ policy index benchmark includes a blended weighted average of the individual asset class benchmarks, as defined within SCERS’ Master IPS, and as shown below.

SCERS BENCHMARK SUMMARY As of September 30, 2018	
Asset Class	Policy Index Benchmark
<b>Growth Asset Category</b>	Blended Weighted Average of Asset Class Benchmarks
US Equities	Russell 3000
International Equities	MSCI ACWI ex.-U.S. IMI
Private Equity	Cambridge All PE
Public Credit	50% (BofA High Yield) + 50% (CS High Yield)
Private Credit	CS Leveraged Loan + 2%
Growth Absolute Return	HFRI FoF Composite Index + 1%
<b>Diversifying Asset Category</b>	Blended Weighted Average of Asset Class Benchmarks
Core/Core Plus Fixed Income	Barclays U.S. Aggregate
U.S. Treasury	Barclays U.S. Treasury
Global Fixed Income	80% Citi WGBI + 20% JPMorgan GBI EM
Diversifying Absolute Return	HFRI FoF Conservative Index
<b>Real Return Asset Category</b>	Blended Weighted Average of Asset Class Benchmarks
Real Estate	65% (NFI-ODCE) + 35% (NFI-ODCE + 1%)
Real Assets	45% (Cambridge Infrastructure) + 35% (Cambridge Energy) + 10% (NCREIF Agriculture) + 10% (NCREIF Timber)
Commodities	Bloomberg Commodity Index
SSgA Real Assets Proxy	20% (Barclays U.S. TIPS) + 30% (Dow Jones U.S. Select REIT) + 25% (MSCI World Natural Resources) + 25% (S&P Goldman Sachs Commodities)
<b>Opportunities Portfolio</b>	SCERS Total Fund

**ATTACHMENT**

Verus' Investment Performance Review for SCERS for the period ending September 30, 2018.

Prepared by:

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Brian Miller  
Investment Officer

Reviewed by:

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Steve Davis  
Chief Investment Officer

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Chief Executive Officer



**PERSPECTIVES  
THAT DRIVE  
ENTERPRISE  
SUCCESS**



**PERIOD ENDING: SEPTEMBER 30, 2018**

Investment Performance Review for

**Sacramento County Employees' Retirement System**

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Market Environment

TAB I

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Total Fund

TAB II

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Policy Index and  
Benchmark History

TAB III



# 3<sup>rd</sup> quarter summary

## THE ECONOMIC CLIMATE

- The U.S., Mexico, and Canada reached a new trade agreement. The new deal, USMCA, involves few changes to NAFTA, but may create mildly more favorable terms for U.S. businesses.
- The U.S. continued to outshine other developed economies in Q2 with its strongest quarterly growth since 2014. A few smaller emerging market economies experienced idiosyncratic weakness that led to concerns of economic contagion, but fundamentals in most countries still appear strong.

## PORTFOLIO IMPACTS

- Emerging market equities delivered slight losses in Q3, but seem to have stabilized as currency depreciation recently subsided (MSCI Emerging Markets Index -1.1%, JP Morgan EM Currency Index -1.6%). We maintain a positive outlook on emerging market equities.
- The Fed raised the target range for the fed funds rate by 0.25% to a range of 2.00%-2.25%. The probability of a December rate hike was 78%, as of October 8th.
- U.S. trade discussions have narrowed in on China. Negotiations between the two countries in recent months do not appear to have produced tangible results.

## THE INVESTMENT CLIMATE

- Another strong quarter of U.S. corporate earnings is expected in Q3 on both an absolute and relative basis. S&P 500 earnings and revenue growth are forecast to be 19.3% and 6.9% YoY, respectively.
- Fixed income yields around the world rose slightly. The U.S. Treasury yield hit a 7-year high of 3.23%, reigniting investor concerns over rising interest rates.
- The Italian coalition government sparred with the European Commission over its fiscal spending plans. Fading ECB stimulus will likely lift interest rates on European bonds, which is creating doubts around the sustainability of Italy's debt.

## ASSET ALLOCATION ISSUES

- Capital market returns have been largely flat-to-negative in 2018, with U.S. equities being the exception. Diversification remains important, but has been painful for investors in this environment.
- Trade conflicts between the U.S. and its trading partners appear to be mostly resolved. All eyes are on negotiations between U.S. and Chinese representatives, though it increasingly appears that these negotiations are broader in nature than trade alone.

A neutral to mild risk overweight may be warranted in today's environment

# U.S. economics summary

- Real GDP growth was 2.9% year-over-year in the second quarter. Expectations for third quarter growth have risen alongside recently strengthening U.S. economic data.
- U.S. inflation fell slightly to 2.3% YoY, moving closer to the U.S. Core CPI rate of 2.2% YoY.
- Non-farm payrolls added 134,000 jobs in September, missing the consensus estimate of 185,000. Hurricane Florence likely contributed to the miss, as leisure and hospitality employment fell by 17,000, the largest drop in a year.
- The U3 unemployment rate fell from 3.9% to 3.7% in September, the lowest rate since 1969. The U6 unemployment increased from 7.4% to 7.5%.
- The United States, Mexico, and Canada reached an agreement on a new trade deal to replace NAFTA.

The new deal, USMCA, included provisions aimed towards protecting the business interests of North American auto manufacturers as well as workers' wages. The deal also partially opened the Canadian dairy market to U.S. farmers.

- The U.S. imposed 10% tariffs on \$200 billion of Chinese goods on September 24<sup>th</sup>. The White House claimed that the tariff rate will advance from 10% to 25% at year-end if no progress is made through negotiations in the meantime. China retaliated with tariffs of 10% on \$60 billion of U.S. imports.
- As expected, the Federal Open Market Committee raised the target range for the fed funds rate by 0.25%, moving the new range to 2.00%-2.25%. The market implied odds for an additional December rate hike were 78%, as of October 8th.

	Most Recent	12 Months Prior
GDP (YoY)	2.9% <i>6/30/18</i>	2.1% <i>6/30/17</i>
Inflation (CPI YoY, Core)	2.2% <i>9/30/18</i>	1.7% <i>9/30/17</i>
Expected Inflation (5yr-5yr forward)	2.2% <i>9/30/18</i>	2.0% <i>9/30/17</i>
Fed Funds Target Range	2.00 – 2.25% <i>9/30/18</i>	1.00 – 1.25% <i>9/30/17</i>
10 Year Rate	3.1% <i>9/30/18</i>	2.3% <i>9/30/17</i>
U-3 Unemployment	3.7% <i>9/30/18</i>	4.2% <i>9/30/17</i>
U-6 Unemployment	7.5% <i>9/30/18</i>	8.3% <i>9/30/17</i>

# International economics summary

- The U.S., Mexico, and Canada reached an agreement on a trade deal to replace NAFTA. The new U.S.-Mexico-Canada Agreement (USMCA) involves few material changes to NAFTA, but the terms appear mildly more favorable for U.S. businesses.
- U.S. negotiations with China, its largest trading partner, continued with little apparent progress. The U.S. imposed 10% tariffs on \$200 billion of Chinese goods on September 24<sup>th</sup>. The White House claimed that the tariff rate will advance from 10% to 25% at year-end if no progress is made in the meantime. China responded with retaliatory tariffs of 10% on \$60 billion of U.S. imports.
- Trade negotiations with other trading partners appear to be mostly resolved, easing concerns of a global trade war.
- Developed market economies are expected to grow less quickly in the coming years, while emerging economy growth rates are expected to rise.
- PMI readings around the globe have weakened during 2018, led by the Eurozone. U.S. PMIs remain very high, indicating expansion in the manufacturing and services sectors.
- The Italian coalition government sparred with the European Commission over its fiscal spending plans. Fading ECB stimulus will likely lift interest rates on European bonds, creating doubts around the sustainability of Italy's debt.
- The U.S. dollar appreciated by 1% during the quarter. A stable dollar would help dampen the volatility of unhedged equity investments, particularly in emerging markets where currency moves have been larger.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.9% <i>6/30/18</i>	2.7% <i>8/31/18</i>	3.8% <i>9/30/18</i>
Eurozone	2.1% <i>6/30/18</i>	2.1% <i>9/30/18</i>	8.3% <i>6/30/18</i>
Japan	1.3% <i>6/30/18</i>	1.3% <i>8/31/18</i>	2.4% <i>6/30/18</i>
BRICS Nations	5.8% <i>6/30/18</i>	2.5% <i>6/30/18</i>	5.5% <i>6/30/18</i>
Brazil	1.0% <i>6/30/18</i>	4.5% <i>9/30/18</i>	12.2% <i>9/30/18</i>
Russia	1.9% <i>6/30/18</i>	3.4% <i>9/30/18</i>	4.6% <i>8/31/18</i>
India	8.2% <i>6/30/18</i>	3.7% <i>8/31/18</i>	8.8% <i>12/31/17</i>
China	6.7% <i>6/30/18</i>	2.3% <i>8/31/18</i>	3.8% <i>6/30/18</i>

# Equity environment

- U.S. equities delivered strong returns during the quarter (S&P 500 +7.7%), and have outperformed year-to-date. We remain concerned about the large valuation difference between U.S. and international equities, though the relatively positive outlook for the domestic economy should justify some of the valuation difference.
- Emerging market equities delivered slight losses in Q3, but seem to have stabilized as currency depreciation subsided (MSCI Emerging Markets Index -1.1%, JP Morgan EM Currency Index -1.6%). Many emerging market currencies have rebounded from their lows. We maintain a positive outlook on emerging market equities.
- Developed non-U.S. equities have remained range bound following the selloff in the first quarter. International equity performance outside of emerging markets has been flat (MSCI EAFE +1.4% unhedged, +2.9% hedged).
- Another strong quarter of U.S. corporate earnings is expected in Q3 on both an absolute and relative basis. S&P 500 earnings and revenue growth is expected to be 19.3% and 6.9% YoY, respectively. Earnings growth in 2019 is expected to be 10.2% YoY.
- Large cap equities (Russell 1000 7.4%) outperformed small cap (Russell 2000 3.6%) during the quarter. Value stocks lagged growth by a similar margin (Russell 1000 Value 5.7% vs. Russell 1000 Growth 9.2%).
- The performance gap between growth and value equities widened further in Q3. The differential continued to be driven by strong returns generated by large names in the tech sector.

	QTD TOTAL RETURN		YTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	7.4%		10.5%		17.8%	
US Small Cap (Russell 2000)	3.6%		11.5%		15.2%	
US Large Value (Russell 1000 Value)	5.7%		3.9%		9.5%	
US Large Growth (Russell 1000 Growth)	9.2%		17.1%		26.3%	
International Large (MSCI EAFE)	1.4%	2.9%	0.1%	2.9%	2.7%	7.1%
Eurozone (Euro Stoxx 50)	(0.2%)	1.2%	(2.5%)	1.6%	(4.6%)	(0.3%)
U.K. (FTSE 100)	(1.8%)	(0.2%)	(2.7%)	2.0%	3.2%	7.4%
Japan (NIKKEI 225)	6.2%	8.7%	6.8%	7.4%	19.7%	20.7%
Emerging Markets (MSCI Emerging Markets)	(1.1%)	(0.2%)	(7.7%)	(3.8%)	(0.8%)	1.9%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 9/30/18

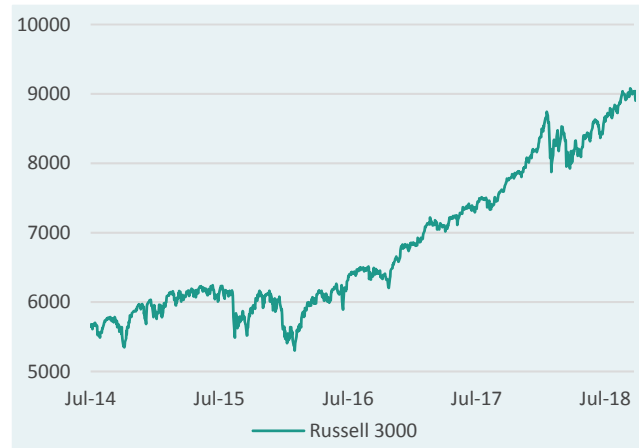
# Domestic equity

U.S. equities delivered strong returns during the quarter (S&P 500 +7.7%), and have outperformed year-to-date. Fears of trade conflict crowded the headlines, with the focus nearly all on China as the U.S. successfully concluded negotiations with other trading partners. Equity markets on both sides have generally rallied on news of potential resolution, though the performance gap between U.S. and Chinese equities has trended wider. Trade frictions will likely remain a headwind to performance.

Another strong quarter of U.S. corporate earnings is expected in Q3 on both an absolute and relative basis. S&P 500 earnings and revenue growth are expected to be 19.3% and 6.9% YoY, respectively. Earnings growth in 2019 is expected to be 10.2% YoY. If analyst forecasts are as overly optimistic as they typically are, this would put 2019 earnings growth at a more average rate of 5-6%. While average earnings growth can be conducive to moderate positive equity returns, current relatively high valuations could case concerns once growth rates decelerate.

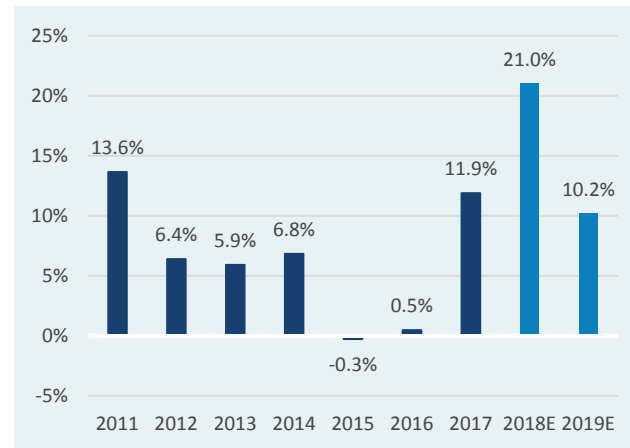
U.S. equities have risen with earnings growth and strong fundamentals, despite trade concerns

## U.S. EQUITIES



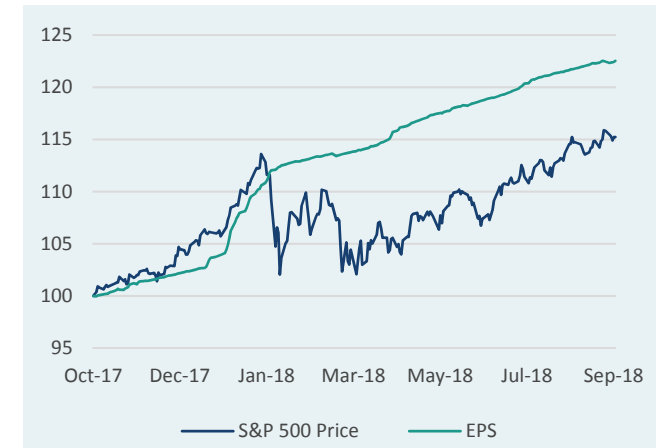
Source: Russell Investments, as of 9/30/18

## CALENDAR YEAR EARNINGS GROWTH



Source: FactSet, as of 10/12/18

## S&P 500 PRICE & EARNINGS



Source: Bloomberg, as of 9/30/18

# Domestic equity size & style

Large cap equities (Russell 1000 7.4%) outperformed small cap equities (Russell 2000 3.6%) during the quarter.

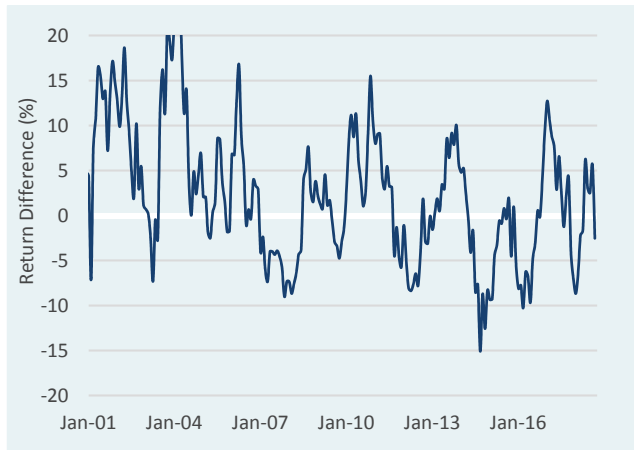
Growth stocks outpaced value stocks by a similar margin (Russell 1000 Growth 9.2% vs. Russell 1000 Value 5.7%).

Differences between sector composition in large-cap style benchmarks have explained much of the recent growth outperformance. Nearly 50% of the Russell 1000 Growth Index is in the more cyclical Information Technology and Consumer Discretionary sectors, which have been by far

and away the best performing sectors over the past year.

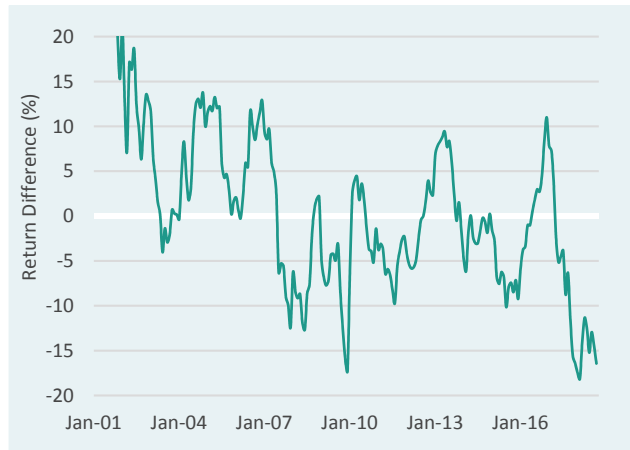
Size and value factor performance continues to frustrate investors. While the extent of underperformance is not anomalous, it may be testament to the long-term nature of factor investing. Unless an investor believes that these risk premia no longer exist, maintaining exposure and avoiding capitulation should be the primary goal.

**SMALL CAP VS LARGE CAP (YOY)**



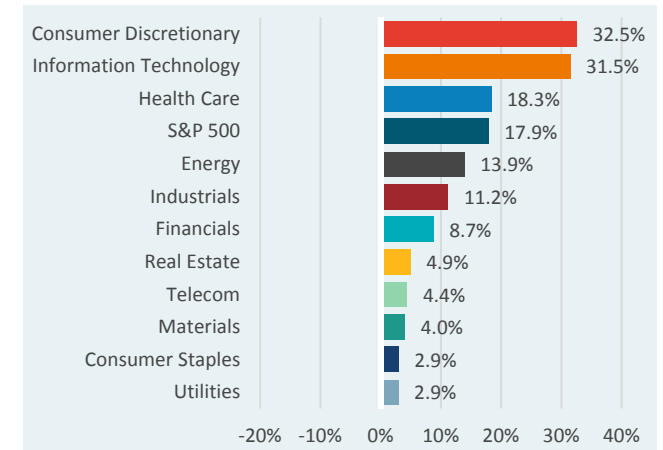
Source: FTSE, as of 9/30/18

**VALUE VS GROWTH (YOY)**



Source: FTSE, as of 9/30/18

**1-YEAR S&P 500 SECTOR RETURNS**



Source: Morningstar, as of 9/30/18

# International developed equity

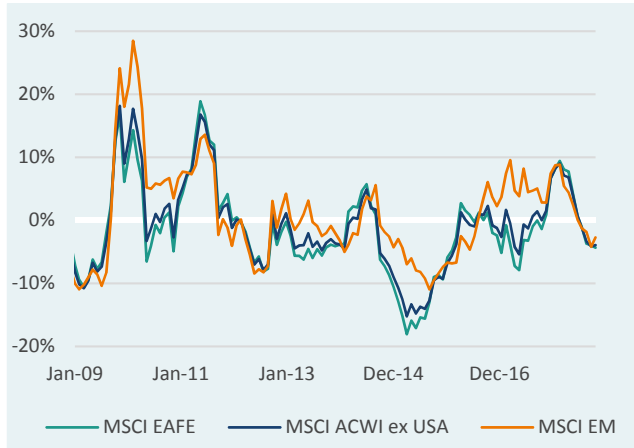
Unhedged international equities underperformed U.S. equities during Q3 (MSCI EAFE +1.4% vs. S&P 500 +7.7%). On a currency hedged basis, international equities delivered returns of 2.9%.

Currency movement continued to create losses for unhedged equity investors. U.S. investors that hedged their international equity exposure outperformed their unhedged peers by approximately 5% year-to-date (MSCI EAFE Index).

Regional divergence in earnings remained a story in Q3. Year-over-year growth in forward earnings reached 23% for U.S. equities, while estimates fell from 14% to 9% in emerging markets and from 12% to 10% in international developed markets, according to MSCI estimates.

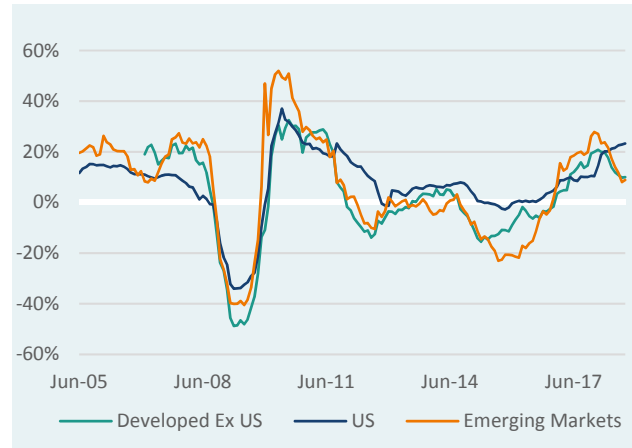
Differences in forward P/E multiples between U.S. and non-U.S. equities remained high. At quarter-end, this valuation gap relative to international developed equity ranked in the 96<sup>th</sup> percentile since 2005. The U.S.-EM valuation gap ranked in the 89<sup>th</sup> percentile over the same period.

**EFFECT OF CURRENCY (1-YEAR ROLLING)**



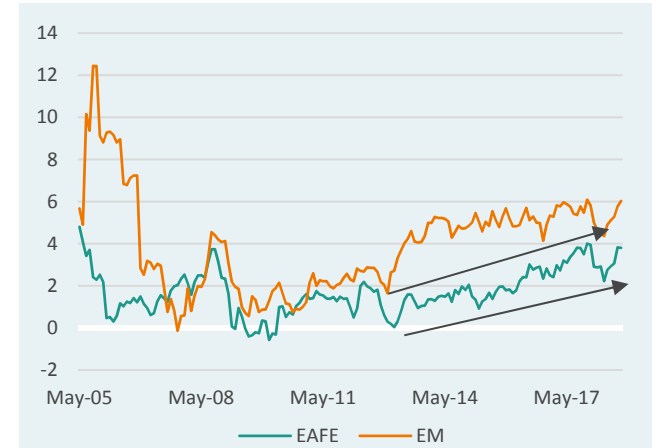
Source: MSCI, as of 9/30/18

**EARNINGS GROWTH (YOY)**



Source: MSCI, as of 9/30/18 – YoY growth in forward earnings

**FORWARD P/E SPREADS RELATIVE TO U.S.**



Source: MSCI, as of 9/30/18

# Emerging market equity

Emerging market equities delivered a slight loss in Q3 but seem to have stabilized as currency depreciation subsided (MSCI Emerging Markets Index -1.1%, JP Morgan EM Currency Index -1.6%). Many of these currencies have rebounded from their lows.

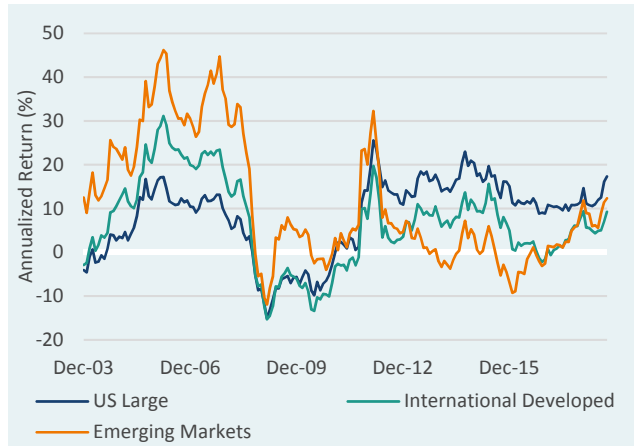
Developed markets are expected to grow less quickly in the coming years while emerging economic growth is expected to rise. A positive growth premium of emerging economies relative to developed economies has

historically acted as a tailwind for EM outperformance.

We believe positive emerging economy growth trends, attractive valuations, a strong earnings environment, and depressed currencies should provide an environment of strong relative equity performance across these markets.

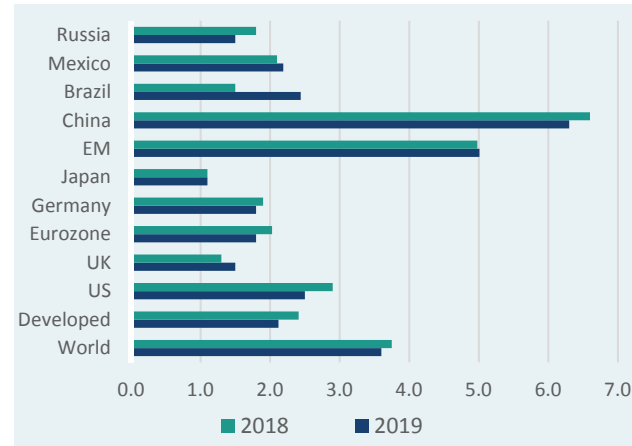
Conditions remain positive for medium-term EM equity performance, though volatility may persist

**EQUITY PERFORMANCE (3YR ROLLING)**



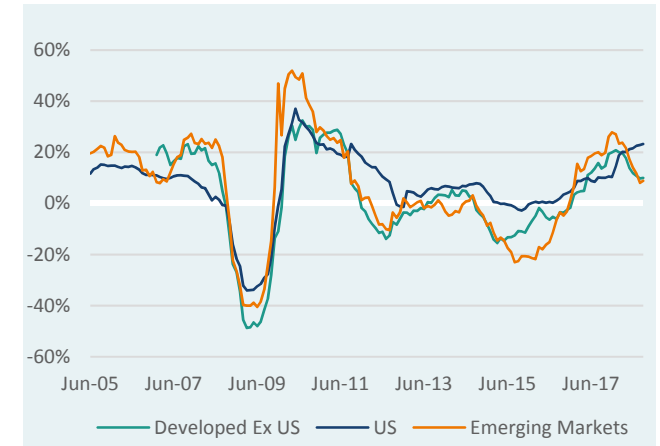
Source: Standard & Poor's, MSCI, as of 9/30/18

**GDP GROWTH EXPECTATIONS (%)**



Source: Bloomberg, as of 9/30/18

**EARNINGS GROWTH (YOY)**



Source: MSCI, as of 9/30/18 – YoY growth in forward earnings



# Interest rate environment

- The Federal Reserve raised the target range for the fed funds rate by 0.25%, to a range of 2.00%-2.25%. The odds for a December rate hike were 78%, as of October 8th.
- Fixed income yields around the world moved slightly higher during the quarter. The U.S. Treasury yield rose to a 7-year high of 3.23%, reigniting investor concerns over rising interest rates. The spread between 2- and 10-year yields has remained steady at around 30 bps.
- In September, the European Central Bank left interest rates unchanged, and confirmed its intent to leave rates at current levels “at least through the summer of 2019, and in any case for as long as necessary to ensure the continued sustained convergence of inflation to levels that are below, but close to, 2% over the medium term.” The ECB

also stated that bond purchases of \$30 billion euros per month would be cut in half beginning in October, and would stop altogether at the end of the year.

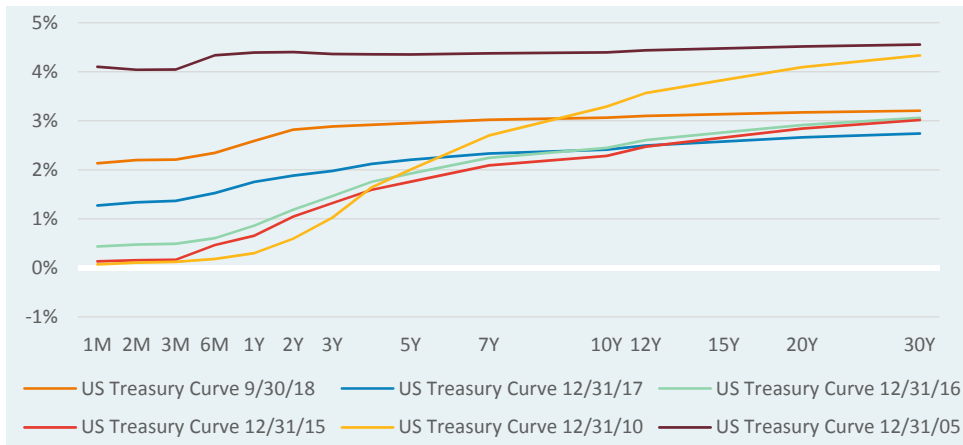
- The yield spread between Italian and German 10-year bonds has exhibited significant volatility following Italy’s political shakeup in the second quarter. Discussions around compliance with European Union budget rules, and the general fear that Italy may push either for structural monetary policy changes, or to leave the Eurozone, contributed to a tumultuous quarter.
- Emerging market local and hard yields were rangebound in Q3, but remained elevated due to continued idiosyncratic risks in countries such as Turkey and Argentina.

Area	Short Term (3M)	10 Year
United States	2.19%	3.06%
Germany	(0.56%)	0.47%
France	(0.56%)	0.80%
Spain	(0.39%)	1.50%
Italy	0.01%	3.15%
Greece	1.12%	4.18%
U.K.	0.77%	1.57%
Japan	(0.13%)	0.13%
Australia	1.89%	2.67%
China	2.97%	3.63%
Brazil	6.58%	11.76%
Russia	7.02%	8.69%

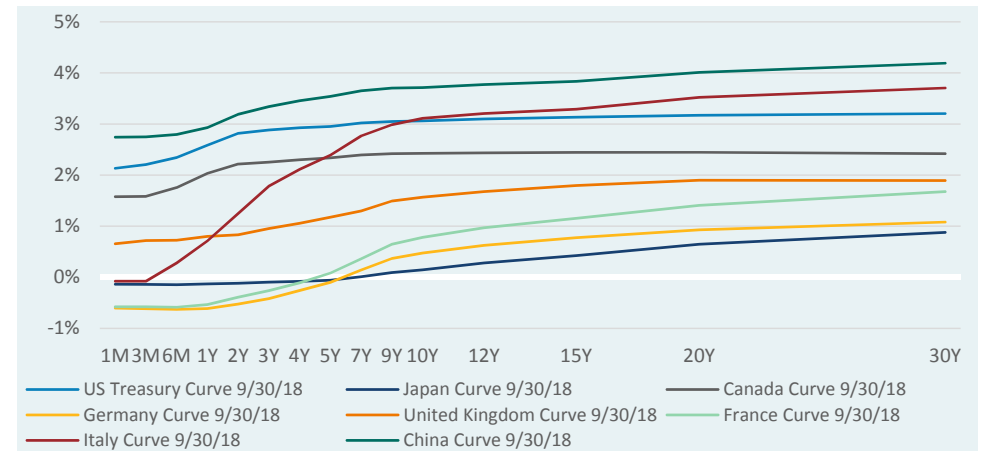
Source: Bloomberg, as of 9/30/18

# Yield environment

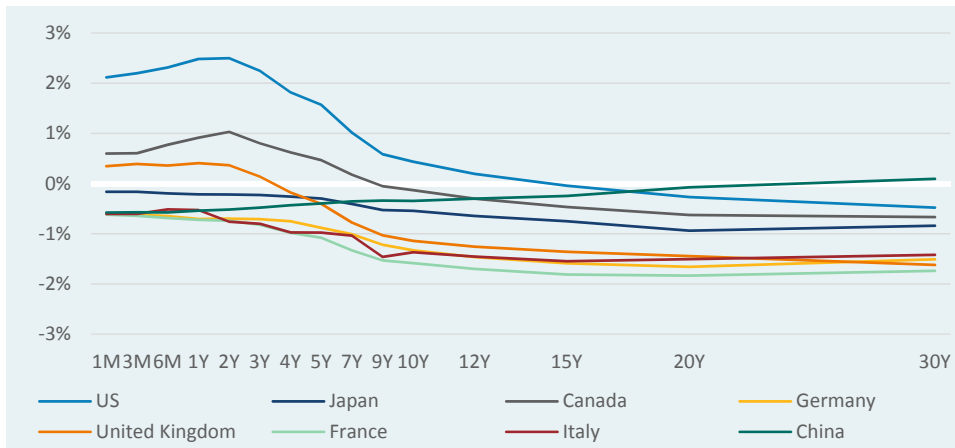
## U.S. YIELD CURVE



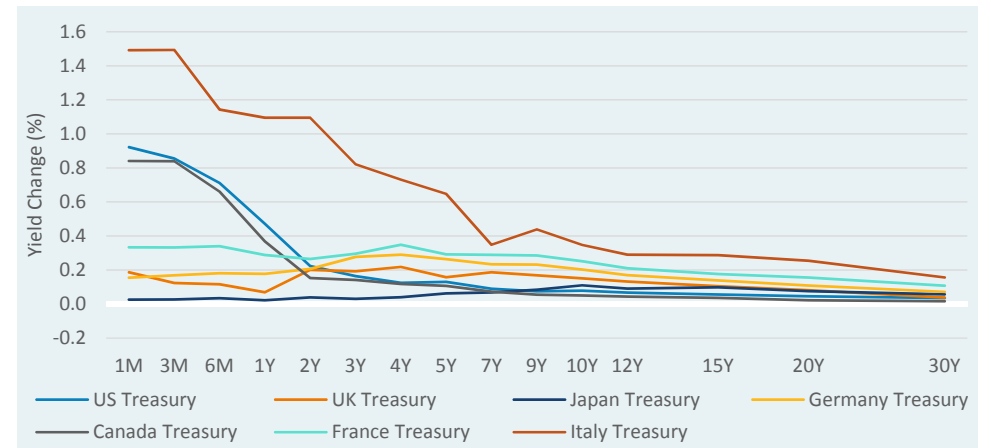
## GLOBAL GOVERNMENT YIELD CURVES



## YIELD CURVE CHANGES OVER LAST FIVE YEARS



## IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/18

# Currency

The U.S. dollar appreciated 1% during the quarter on a trade-weighted dollar basis. A stable dollar going forward would help dampen the volatility of unhedged equity investments, particularly in emerging markets where currency moves have been larger. Some of the worst performing emerging market currencies have partially recovered from 2<sup>nd</sup> quarter losses.

Major currencies have fluctuated widely relative to the U.S. dollar in 2018. Most currencies strengthened through the first quarter, but this trend reversed when international economic growth began to show weakness, which helped

push up the value of the dollar. Because foreign currencies have been positively correlated with equity markets, these movements have added to total volatility.

Wide short-term interest rate differentials between the U.S. and the rest of the world have created a tailwind for those hedging U.S. dollar exposures. For example, based on current FX forward pricing, an investor would lock in an annualized gain of 3.3% when hedging the euro, which is typically the biggest foreign currency exposure in portfolios.

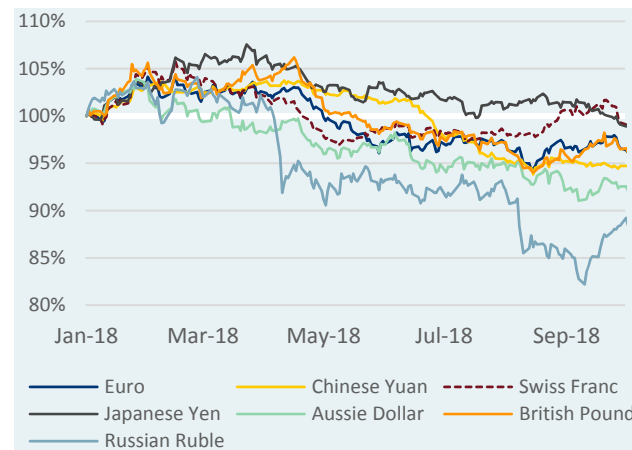
The U.S. dollar materially appreciated, reversing a multi-year downtrend

U.S. DOLLAR TRADE WEIGHTED INDEX



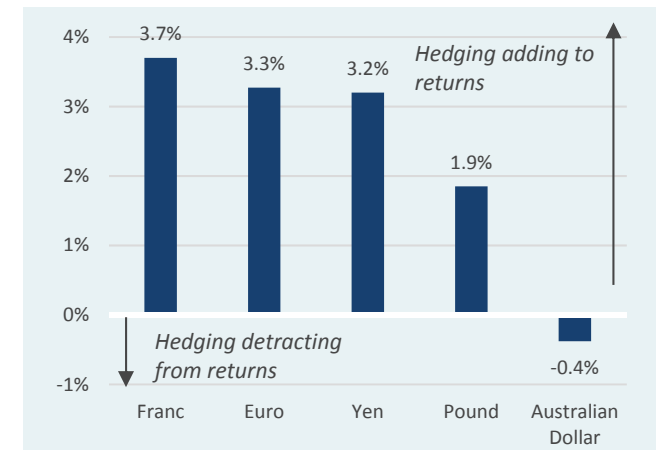
Source: Federal Reserve, as of 9/30/18

USD MOVES VS MAJOR CURRENCIES



Source: Verus, Bloomberg, as of 9/30/18

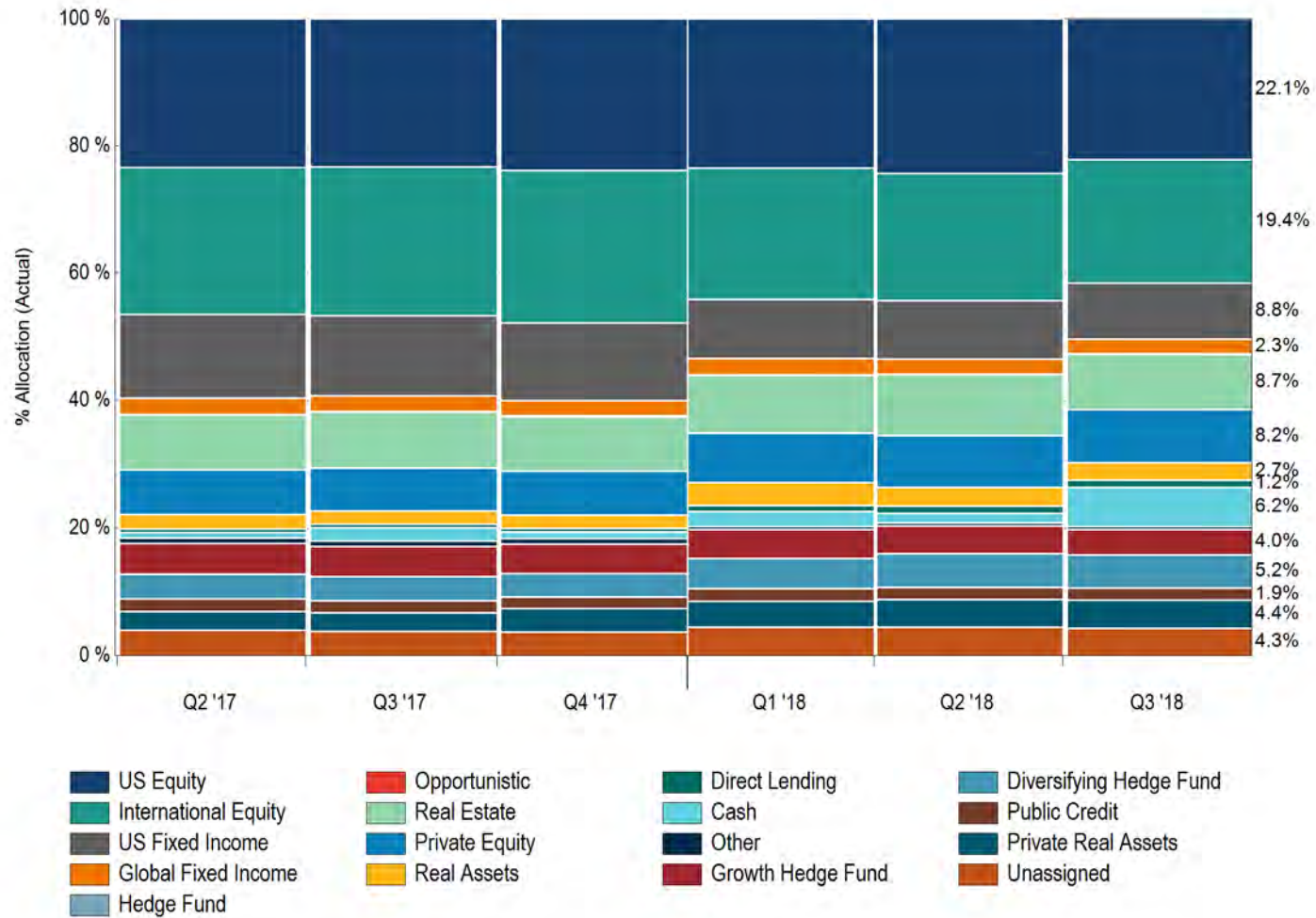
ANNUALIZED FX HEDGING COSTS (GAINS)



Source: Bloomberg, as of 9/30/18, based on 3-month FX forwards

Total Fund  
Quarterly Asset Allocation

Period Ending: September 30, 2018

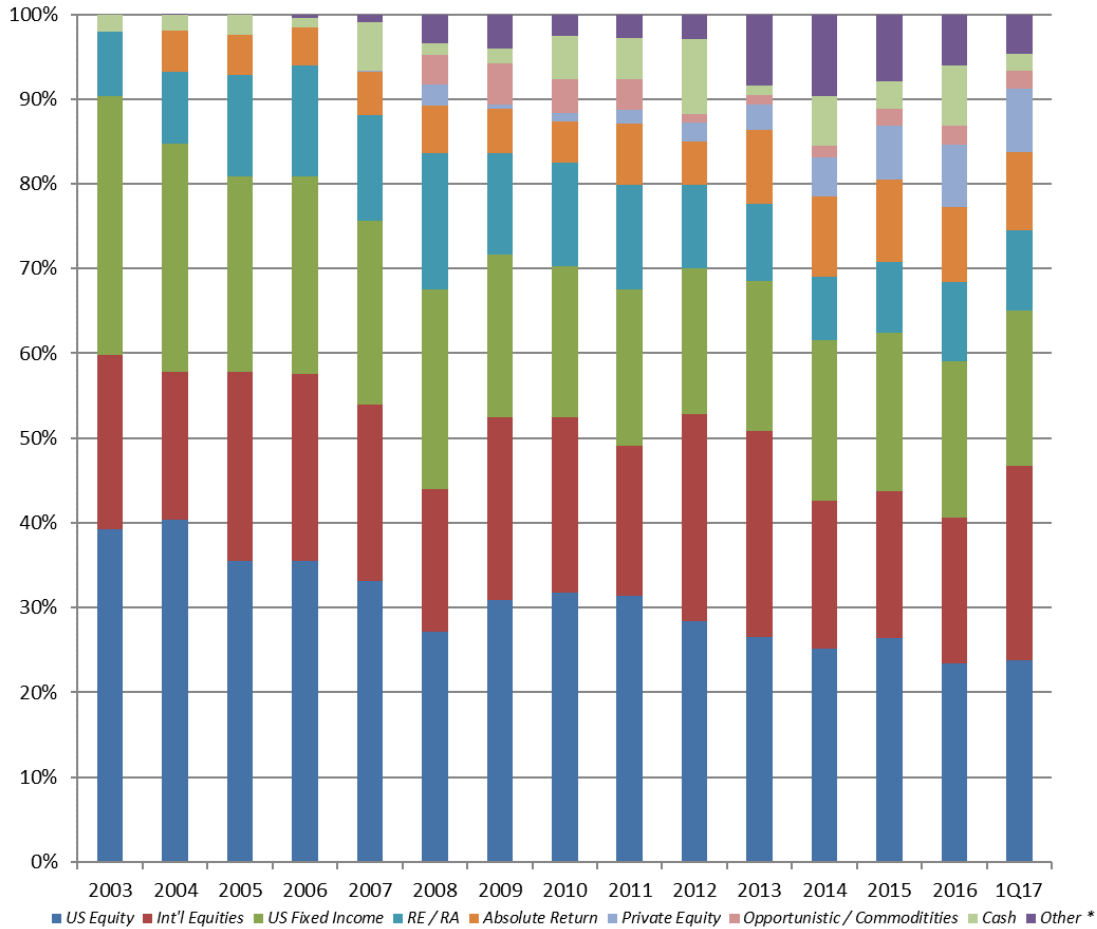


\* Other includes SSgA Overlay and closing accounts.

# Total Fund

## Actual Yearly and Quarterly Asset Allocation

Period Ending: September 30, 2018



	2003	2004	2005	2006	2007	2008
US Equity	39.2	40.4	35.4	35.5	33.1	27.2
International Equity	20.6	17.5	22.3	22.0	20.9	16.8
US Fixed Income	30.6	26.9	23.1	23.3	21.7	23.5
Real Estate	7.5	8.5	11.9	13.1	12.4	16.1
Absolute Return	-	4.9	4.8	4.4	5.1	5.6
Private Equity	-	-	-	-	0.1	2.5
Opportunistic / Commodities	-	-	-	-	-	3.5
Cash	2.1	1.8	2.4	1.2	5.8	1.4
Other *	-	0.1	-	0.4	0.9	3.4

	2009	2010	2011	2012	2013	2014
US Equity	30.9	31.7	31.4	28.4	26.5	25.2
International Equity	21.5	20.7	17.6	24.5	24.3	17.5
US Fixed Income	19.3	17.8	18.4	17.1	17.7	18.9
Real Assets	11.9	12.2	12.4	9.9	9.0	7.6
Absolute Return	5.3	4.9	7.3	5.2	8.8	9.4
Private Equity	0.5	0.9	1.6	2.2	3.0	4.6
Opportunistic / Commodities	4.8	4.1	3.7	1.1	1.0	1.4
Cash	1.7	5.0	4.9	8.8	1.2	5.9
Other *	4.1	2.6	2.7	2.9	8.4	9.6

	2015	2016	2017 1Q+
US Equity	26.4	23.4	23.8
International Equity	17.3	17.2	22.9
US Fixed Income	18.7	18.5	18.2
Real Assets	8.3	9.3	9.5
Absolute Return	9.7	8.8	9.2
Private Equity	6.3	7.4	7.5
Opportunistic / Commodities	2.1	2.2	2.1
Cash	3.2	7.1	2.0
Other *	7.9	6.0	4.7

\* Allocations without overlay.

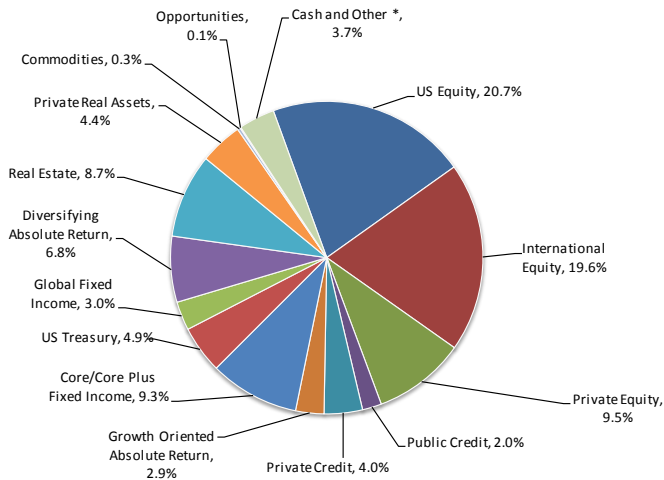
\* Other includes SSgA Overlay, SSgA Real Assets and closing accounts.

# Total Fund

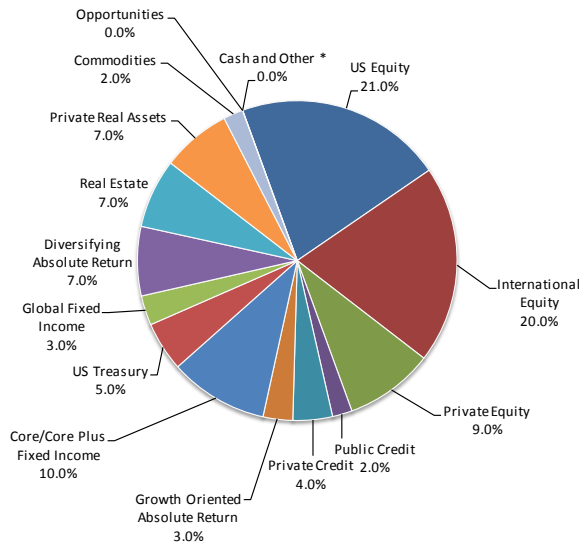
## Asset Allocation Analysis

Period Ending: September 30, 2018

Current w/Overlay



Target



ASSET ALLOCATION	MARKET VALUE W/OVERLAY	W/OVERLAY	W/O OVERLAY
US Equity	1,989,095,507	20.7%	22.1%
International Equity	1,883,440,468	19.6%	19.4%
Private Equity	916,909,946	9.5%	8.2%
Public Credit	190,703,374	2.0%	1.9%
Private Credit	380,875,784	4.0%	1.2%
Growth Oriented Absolute Return	281,445,780	2.9%	3.4%
Core/Core Plus Fixed Income	892,520,459	9.3%	8.8%
US Treasury	472,260,253	4.9%	4.3%
Global Fixed Income	285,312,983	3.0%	2.3%
Diversifying Absolute Return	654,633,163	6.8%	5.8%
Real Estate	836,021,724	8.7%	8.7%
Private Real Assets	424,277,039	4.4%	4.4%
Commodities	27,477,461	0.3%	0.3%
Opportunities	8,902,111	0.1%	0.1%
Cash and Other *	357,884,402	3.7%	9.1%
<b>TOTAL</b>	<b>9,601,760,454</b>	<b>100.0%</b>	<b>100.0%</b>

ASSET ALLOCATION	ACTUAL	TARGET	DIFF
US Equity	20.7%	21.0%	-0.3%
International Equity	19.6%	20.0%	-0.4%
Private Equity	9.5%	9.0%	0.5%
Public Credit	2.0%	2.0%	0.0%
Private Credit	4.0%	4.0%	0.0%
Growth Oriented Absolute Return	2.9%	3.0%	-0.1%
Core/Core Plus Fixed Income	9.3%	10.0%	-0.7%
US Treasury	4.9%	5.0%	-0.1%
Global Fixed Income	3.0%	3.0%	0.0%
Diversifying Absolute Return	6.8%	7.0%	-0.2%
Real Estate	8.7%	7.0%	1.7%
Private Real Assets	4.4%	7.0%	-2.6%
Commodities	0.3%	2.0%	-1.7%
Opportunities	0.1%	0.0%	0.1%
Cash and Other *	3.7%	0.0%	3.7%

\* Other includes closing accounts (Heitman), Transition Account, SSgA Overlay of \$45 million and SSgA Real Asset of \$233 million, which serve as overlay proxy for Real Assets.

- The Total Plan returned 2.5% net in the third quarter of 2018 and ranked in the 35<sup>th</sup> percentile among other public funds greater than \$1 billion (2.3% median). The Fund matched its policy index (2.5%) during this time period. The Total Plan w/o Overlay returned 2.6% for the quarter, net of fees. Longer term, the three-year return of 10.1% beat the median large public plan peer group (9.9%) and five-year returns of 7.4% ranked in the third quartile of the large public plan peer group.
  
- Third quarter results (net) were enhanced by the following factors:
  1. For a second quarter in a row, Weatherbie had a 5% outperformance over the index. Weatherbie gained 10.5%, beating the Russell 2000 growth (5.5%). Stock selection in consumer discretionary, industrials, and information technology contributed to relative performance.
  2. Private Equity returned 6.7% on strong performance in growth equity and venture capital.
  3. Baillie Gifford Emerging All Cap rose 0.8% outperforming the MSCI Emerging Markets index (-0.9%) and ranked in the top quartile of its peers. Stock selection in China has been the main driver of performance.
  4. Mondrian Emerging all cap beat the MSCI Emerging Markets (0.4% vs -0.9%). The main positive contributors were the UK, Singapore, the Netherlands, and Canada mainly due to stock selection.
  5. Dalton, Greiner gained 3.2% topping the Russell 2000 Value (+1.6%). Outperformance for the quarter came from stock selection, particularly in the industrial cyclicals and consumer cyclicals sectors.
  
- Third quarter results (net) were hindered by the following factors:
  1. William Blair Developed Small Cap lost -2.3% trailing the MSCI World ex US Small Cap (-0.8%). Relative underperformance was primarily driven by stock selection in health care, consumer discretionary and real estate.
  2. Detracting from performance was the portfolios Diversifying Asset Category which returned -0.1%. Falling bond prices in Treasuries and a strengthening dollar were headwinds to the diversifying category.

# Total Fund Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date <sup>+</sup>
<b>Total Fund- Gross*</b>	9,601,760,454	100.0	2.5	34	4.5	21	8.8	15	10.4	26	7.7	48	8.4	Jun-86
<b>Total Fund- Net</b>			2.5	35	4.3	27	8.5	21	10.1	41	7.4	61	8.2	
<i>Policy Index<sup>1</sup></i>			2.5	35	4.0	34	7.4	45	9.4	64	7.5	57	8.6	Jun-86
<i>InvestorForce Public DB &gt; \$1B Gross Median</i>			2.3		3.4		7.3		9.9		7.6		8.3	Jun-86
<b>Total Fund ex Overlay- Gross**</b>	9,323,859,496	97.1	2.6	31	4.7	16	9.0	13	10.5	23	7.8	45	8.3	Jun-86
<b>Total Fund ex Overlay- Net</b>			2.6	32	4.5	19	8.8	15	10.2	37	7.5	53	8.1	
<i>Policy Index</i>			2.5	35	4.0	34	7.4	45	9.4	64	7.5	57	8.6	Jun-86
<i>Allocation ex Overlay Index</i>			2.5	35	4.0	34	7.6	37	--	--	--	--	--	Jun-86
<b>Growth Asset Category- Gross</b>	5,398,338,193	56.2	4.3	--	6.5	--	12.3	--	--	--	--	--	15.0	Mar-17
<b>Growth Asset Category- Net</b>			4.3	--	6.3	--	12.1	--	--	--	--	--	14.7	
<i>Growth Custom<sup>1</sup></i>			3.9	--	5.4	--	10.4	--	--	--	--	--	12.8	Mar-17
<b>Equities- Gross Public</b>	3,984,737,763	41.5	4.4	--	5.1	--	11.5	--	14.8	--	9.7	--	9.7	Jun-11
<b>Equities- Net</b>			4.3	--	4.9	--	11.2	--	14.4	--	9.3	--	9.4	
<i>MSCI ACWI</i>			4.3	--	3.8	--	9.8	--	13.4	--	8.7	--	8.3	Jun-11
<b>US Equity- Gross</b>	2,119,775,200	22.1	7.1	23	11.0	28	18.2	24	17.0	39	13.2	42	10.3	Jun-86
<b>US Equity- Net</b>			7.0	27	10.8	33	17.9	32	16.6	56	12.8	57	10.1	
<i>Russell 3000</i>			7.1	21	10.6	44	17.6	39	17.1	35	13.5	26	10.4	Jun-86
<i>InvestorForce All DB US Eq Gross Median</i>			6.7		10.4		17.2		16.7		13.0		10.3	Jun-86

\*Total Fund and asset class composites are ranked against InvestorForce universes. Managers are ranked against eVest manager universes. Net Returns are ranked against gross universe. Ranking of 1 is a top ranking and ranking of 100 is a bottom rating.

\*\*Total Fund ex Overlay returns from 2/1/2006-12/31/2010 were calculated using the overlay impact provided by SSgA.

+ Since inception date denotes last day of the month.

1. See Policy Index and Benchmark History



Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Large Cap- Gross	1,912,558,140	19.9	7.2	--	10.6	--	18.2	--	17.0	--	13.5	--	6.6	Mar-98
Large Cap- Net			7.1	--	10.5	--	18.0	--	16.8	--	13.2	--	6.4	
<i>Russell 1000</i>			7.4	--	10.5	--	17.8	--	17.1	--	13.7	--	7.1	Mar-98
Large Cap - Index- Gross	1,278,364,101	13.3	7.4	--	10.4	--	17.7	--	17.0	--	13.6	--	12.1	Sep-08
Large Cap - Index- Net			7.4	--	10.4	--	17.6	--	17.0	--	13.6	--	12.0	
<i>Russell 1000</i>			7.4	--	10.5	--	17.8	--	17.1	--	13.7	--	12.1	Sep-08
AB- Gross	1,278,364,101	13.3	7.4	67	10.4	61	17.7	62	17.0	63	13.6	65	10.2	Apr-89
AB- Net			7.4	67	10.4	61	17.6	62	17.0	64	13.6	66	10.2	
<i>Russell 1000<sup>1</sup></i>			7.4	61	10.5	54	17.8	56	17.1	58	13.7	62	--	Apr-89
<i>eV US Passive Large Cap Equity Gross Median</i>			7.7		10.5		17.9		17.2		13.9		10.3	Apr-89
Large Cap - Enhanced- Gross	246,465,009	2.6	--	--	--	--	--	--	--	--	--	--	3.9	Jul-18
Large Cap - Enhanced- Net			--	--	--	--	--	--	--	--	--	--	3.9	
<i>Russell 1000</i>			7.4	--	10.5	--	17.8	--	17.1	--	13.7	--	3.8	Jul-18
AQR US Enhanced Equity- Gross*	246,465,009	2.6	--	--	--	--	--	--	--	--	--	--	3.9	Jul-18
AQR US Enhanced Equity- Net			--	--	--	--	--	--	--	--	--	--	3.9	
<i>Russell 1000</i>			7.4	--	10.5	--	17.8	--	17.1	--	13.7	--	3.8	Jul-18
Equity Active (130/30)- Gross	134,492,152	1.4	8.9	--	11.3	--	19.2	--	17.7	--	14.7	--	13.0	Sep-08
Equity Active (130/30)- Net			8.7	--	10.8	--	18.4	--	16.9	--	13.9	--	12.4	
<i>Russell 1000</i>			7.4	--	10.5	--	17.8	--	17.1	--	13.7	--	12.1	Sep-08
JP Morgan 130/30- Gross	134,492,152	1.4	8.9	9	11.3	25	19.2	22	17.7	26	14.7	43	12.7	Jul-08
JP Morgan 130/30- Net			8.7	11	10.8	31	18.4	28	16.9	51	13.9	70	11.9	
<i>Russell 1000</i>			7.4	45	10.5	33	17.8	33	17.1	48	13.7	72	10.9	Jul-08
<i>eV Extended US 130/30 Equity Gross Median</i>			6.5		8.8		17.1		17.0		14.6		11.8	Jul-08

1. See Policy Index and Benchmark History.

\* Funded in July 2018.

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Large Cap Value- Gross</b>	<b>253,212,520</b>	<b>2.6</b>	<b>6.3</b>	<b>--</b>	<b>7.4</b>	<b>--</b>	<b>15.3</b>	<b>--</b>	<b>16.2</b>	<b>--</b>	<b>12.2</b>	<b>--</b>	<b>11.5</b>	<b>Sep-08</b>
<b>Large Cap Value- Net</b>			<b>5.9</b>	<b>--</b>	<b>6.8</b>	<b>--</b>	<b>14.4</b>	<b>--</b>	<b>15.3</b>	<b>--</b>	<b>11.4</b>	<b>--</b>	<b>10.9</b>	
<i>Russell 1000 Value</i>			5.7	--	3.9	--	9.5	--	13.6	--	10.7	--	9.8	Sep-08
Eagle Capital- Gross	252,938,041	2.6	6.6	31	10.7	5	18.9	4	17.9	4	14.2	3	15.8	Feb-12
Eagle Capital- Net			6.2	40	10.1	6	18.0	5	16.9	10	13.3	9	15.0	
<i>Russell 1000</i>			7.4	15	10.5	5	17.8	6	17.1	9	13.7	6	14.5	Feb-12
<i>Russell 1000 Value</i>			5.7	53	3.9	71	9.5	76	13.6	73	10.7	68	12.6	Feb-12
<i>eV US Large Cap Value Equity Gross Median</i>			5.8		5.2		11.8		14.6		11.4		13.0	Feb-12
<b>Small Cap- Gross</b>	<b>207,071,205</b>	<b>2.2</b>	<b>7.0</b>	<b>--</b>	<b>16.8</b>	<b>--</b>	<b>23.0</b>	<b>--</b>	<b>20.0</b>	<b>--</b>	<b>12.2</b>	<b>--</b>	<b>12.5</b>	<b>Dec-90</b>
<b>Small Cap- Net</b>			<b>7.0</b>	<b>--</b>	<b>16.3</b>	<b>--</b>	<b>22.4</b>	<b>--</b>	<b>19.3</b>	<b>--</b>	<b>11.5</b>	<b>--</b>	<b>11.7</b>	
<i>Russell 2000</i>			3.6	--	11.5	--	15.2	--	17.1	--	11.1	--	11.2	Dec-90
<b>Small Cap - Growth- Gross</b>	<b>104,710,117</b>	<b>1.1</b>	<b>11.2</b>	<b>--</b>	<b>29.5</b>	<b>--</b>	<b>39.2</b>	<b>--</b>	<b>26.4</b>	<b>--</b>	<b>14.0</b>	<b>--</b>	<b>13.9</b>	<b>Sep-08</b>
<b>Small Cap - Growth- Net</b>			<b>11.2</b>	<b>--</b>	<b>29.0</b>	<b>--</b>	<b>38.6</b>	<b>--</b>	<b>25.9</b>	<b>--</b>	<b>13.4</b>	<b>--</b>	<b>13.2</b>	
<i>Russell 2000 Growth</i>			5.5	--	15.8	--	21.1	--	18.0	--	12.1	--	12.7	Sep-08
Weatherbie- Gross	104,701,712	1.1	10.6	21	29.3	18	40.0	10	30.6	4	17.4	8	14.3	Dec-02
Weatherbie- Net			10.5	22	28.7	21	39.2	12	29.9	5	16.7	11	13.4	
<i>Russell 2000 Growth</i>			5.5	77	15.8	78	21.1	79	18.0	73	12.1	75	12.0	Dec-02
<i>eV US Small Cap Growth Equity Gross Median</i>			7.8		21.3		27.1		19.8		13.5		13.4	Dec-02
<b>Small Cap - Value- Gross</b>	<b>102,361,089</b>	<b>1.1</b>	<b>3.2</b>	<b>--</b>	<b>4.5</b>	<b>--</b>	<b>7.9</b>	<b>--</b>	<b>13.7</b>	<b>--</b>	<b>10.4</b>	<b>--</b>	<b>10.6</b>	<b>Sep-08</b>
<b>Small Cap - Value- Net</b>			<b>3.2</b>	<b>--</b>	<b>4.1</b>	<b>--</b>	<b>7.3</b>	<b>--</b>	<b>12.7</b>	<b>--</b>	<b>9.5</b>	<b>--</b>	<b>9.7</b>	
<i>Russell 2000 Value</i>			1.6	--	7.1	--	9.3	--	16.1	--	9.9	--	9.5	Sep-08
Dalton, Greiner- Gross	102,246,278	1.1	3.2	24	3.4	75	7.9	65	13.4	76	9.7	71	10.8	Dec-00
Dalton, Greiner- Net			3.2	24	3.1	79	7.4	69	12.6	85	9.1	83	10.0	
<i>Russell 2000 Value</i>			1.6	49	7.1	33	9.3	49	16.1	35	9.9	66	9.4	Dec-00
<i>eV US Small Cap Value Equity Gross Median</i>			1.6		5.4		9.1		15.1		10.7		11.4	Dec-00

# Total Fund Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
<b>International Equity- Gross</b>	<b>1,864,962,563</b>	<b>19.4</b>	<b>1.4</b>	<b>15</b>	<b>-1.2</b>	<b>21</b>	<b>4.5</b>	<b>13</b>	<b>11.7</b>	<b>18</b>	<b>5.4</b>	<b>30</b>	<b>6.5</b>	<b>Dec-87</b>
<b>International Equity- Net</b>			<b>1.3</b>	<b>17</b>	<b>-1.5</b>	<b>23</b>	<b>4.1</b>	<b>15</b>	<b>11.3</b>	<b>23</b>	<b>5.0</b>	<b>45</b>	<b>6.2</b>	
<i>MSCI ACWI ex US<sup>1</sup></i>			0.8	28	-2.7	41	2.3	34	10.5	37	4.6	62	6.3	Dec-87
<i>InvestorForce All DB ex-US Eq Gross Median</i>			0.3		-3.1		1.6		10.1		4.9		7.0	Dec-87
<b>International - Developed- Gross</b>	<b>1,520,633,373</b>	<b>15.8</b>	<b>1.6</b>	<b>12</b>	<b>0.6</b>	<b>17</b>	<b>5.9</b>	<b>13</b>	<b>12.2</b>	<b>21</b>	<b>6.3</b>	<b>36</b>	<b>4.8</b>	<b>Mar-98</b>
<b>International - Developed- Net</b>			<b>1.5</b>	<b>15</b>	<b>0.3</b>	<b>20</b>	<b>5.5</b>	<b>16</b>	<b>11.7</b>	<b>26</b>	<b>5.8</b>	<b>45</b>	<b>4.4</b>	
<i>MSCI World ex US Gross</i>			1.4	22	-1.0	37	3.2	45	9.9	60	4.8	74	4.9	Mar-98
<i>InvestorForce All DB Dev Mkt ex-US Eq Gross Median</i>			0.8		-2.0		2.7		10.2		5.6		5.4	Mar-98
Lazard- Gross	373,139,041	3.9	0.8	37	-0.6	29	6.0	24	10.3	58	6.3	43	9.9	Jun-12
Lazard- Net			0.8	37	-0.7	30	5.9	25	10.1	64	6.0	51	9.7	
<i>MSCI ACWI ex USA Gross</i>			0.8	39	-2.7	56	2.3	53	10.5	57	4.6	77	7.5	Jun-12
<i>eV All ACWI ex-US Equity Gross Median</i>			0.5		-2.4		2.5		11.0		6.1		9.2	Jun-12
Walter Scott & Partners Limited- Gross	505,000,047	5.3	3.2	6	5.1	10	11.2	14	--	--	--	--	16.7	Mar-17
Walter Scott & Partners Limited- Net			3.1	7	4.9	11	10.9	14	--	--	--	--	16.4	
<i>MSCI World ex USA Growth GR USD</i>			1.5	44	1.0	42	6.1	31	10.4	36	5.8	50	12.7	Mar-17
<i>eV EAFE Large Cap Growth Gross Median</i>			1.2		0.3		4.6		9.9		5.7		12.2	Mar-17
LSV- Gross	454,748,769	4.7	1.5	42	-2.4	40	1.1	58	11.6	15	6.0	13	5.0	Dec-04
LSV- Net			1.4	44	-2.7	46	0.6	64	11.1	22	5.6	25	4.6	
<i>MSCI World ex US Value Gross</i>			1.2	45	-2.9	50	0.5	65	9.3	52	3.7	94	4.8	Dec-04
<i>eV EAFE Large Cap Value Gross Median</i>			1.0		-2.9		1.4		9.4		4.7		5.4	Dec-04

1. See Policy Index and Benchmark History.

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Mondrian Dev Small Cap- Gross	97,359,201	1.0	0.3	22	1.1	24	7.3	27	13.3	44	7.1	59	10.3	Aug-10
Mondrian Dev Small Cap- Net			0.1	28	0.5	29	6.5	33	12.6	64	6.4	66	9.6	
<i>MSCI World ex US Small Cap GD</i>			-0.8	42	-1.9	50	3.8	56	12.7	63	7.5	57	9.9	Aug-10
<i>eV ACWI ex-US Small Cap Equity Gross Median</i>			-1.4		-2.0		4.9		13.2		8.2		10.8	Aug-10
William Blair Dev Small Cap- Gross	90,386,314	0.9	-2.0	66	-5.1	77	0.1	78	10.4	79	6.5	63	10.2	Sep-08
William Blair Dev Small Cap- Net			-2.3	70	-6.1	86	-1.0	81	9.4	89	5.6	89	9.2	
<i>MSCI World ex US Small Cap GD</i>			-0.8	42	-1.9	50	3.8	56	12.7	63	7.5	57	9.4	Sep-08
<i>eV ACWI ex-US Small Cap Equity Gross Median</i>			-1.4		-2.0		4.9		13.2		8.2		11.1	Sep-08
<b>International - Emerging- Gross</b>	<b>344,261,495</b>	<b>3.6</b>	<b>0.7</b>	<b>9</b>	<b>-8.2</b>	<b>36</b>	<b>-1.2</b>	<b>24</b>	<b>11.0</b>	<b>53</b>	<b>2.8</b>	<b>68</b>	<b>6.3</b>	<b>Jan-00</b>
<b>International - Emerging- Net</b>			<b>0.6</b>	<b>9</b>	<b>-8.4</b>	<b>39</b>	<b>-1.6</b>	<b>30</b>	<b>10.6</b>	<b>58</b>	<b>2.5</b>	<b>79</b>	<b>5.9</b>	
<i>MSCI Emerging Markets Gross</i>			-0.9	27	-7.4	17	-0.4	14	12.8	28	4.0	34	7.0	Jan-00
<i>InvestorForce All DB Emg Mkt Eq Gross Median</i>			-1.6		-8.8		-3.0		11.1		3.5		6.5	Jan-00
Baillie Gifford Emg All Cap- Gross	182,394,794	1.9	0.8	15	-7.2	30	-0.2	30	--	--	--	--	17.3	Mar-16
Baillie Gifford Emg All Cap- Net			0.8	15	-7.2	30	-0.2	30	--	--	--	--	17.3	
<i>MSCI Emerging Markets Gross</i>			-0.9	34	-7.4	33	-0.4	31	12.8	46	4.0	64	12.6	Mar-16
<i>eV Emg Mkts Equity Gross Median</i>			-2.1		-8.5		-1.9		12.5		4.5		12.3	Mar-16
Mondrian Emg All Cap- Gross	161,866,701	1.7	0.6	17	-8.6	52	-2.8	59	--	--	--	--	7.4	Mar-16
Mondrian Emg All Cap- Net			0.4	18	-9.0	56	-3.3	64	--	--	--	--	6.8	
<i>MSCI Emerging Markets Gross</i>			-0.9	34	-7.4	33	-0.4	31	12.8	46	4.0	64	12.6	Mar-16
<i>eV Emg Mkts Equity Gross Median</i>			-2.1		-8.5		-1.9		12.5		4.5		12.3	Mar-16

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Private Equity- Gross***</b>	<b>789,213,698</b>	<b>8.2</b>	<b>6.7</b>	<b>9</b>	<b>17.4</b>	<b>10</b>	<b>24.2</b>	<b>4</b>	<b>14.9</b>	<b>15</b>	<b>15.5</b>	<b>17</b>	<b>2.1</b>	<b>Feb-08</b>
<b>Private Equity- Net</b>			<b>6.7</b>	<b>9</b>	<b>17.4</b>	<b>10</b>	<b>24.2</b>	<b>4</b>	<b>14.9</b>	<b>15</b>	<b>15.5</b>	<b>17</b>	<b>2.3</b>	
<i>Thomson Reuters CJA All PE 1 Qtr Lag<sup>1</sup></i>			5.2	22	12.8	32	16.8	29	13.1	30	15.3	18	10.3	Feb-08
<i>Russell 3000 +3% 1Q Lag</i>			3.9	39	11.5	43	17.8	24	14.6	15	16.3	12	11.4	Feb-08
<i>InvestorForce All DB Private Eq Net Median</i>			3.3		10.7		14.5		10.8		11.2		8.0	Feb-08
Abbott VI- Gross	55,028,302	0.6	6.0	--	15.8	--	21.3	--	17.0	--	16.4	--	4.2	Jul-08
Abbott VI- Net			6.0	--	15.8	--	21.3	--	17.0	--	16.4	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	11.3	Jul-08
Accel-KKR IV- Gross	12,302,077	0.1	22.7	--	33.1	--	60.3	--	29.6	--	6.8	--	-0.5	Jun-13
Accel-KKR IV- Net			22.7	--	33.1	--	60.3	--	29.6	--	6.8	--	-0.5	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	15.2	Jun-13
Accel-KKR V- Gross	7,867,691	0.1	3.7	--	9.9	--	9.3	--	--	--	--	--	11.9	Jan-17
Accel-KKR V- Net			3.7	--	9.9	--	9.3	--	--	--	--	--	11.9	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	18.3	Jan-17
Accel-KKR Growth Partners II- Gross	7,627,439	0.1	2.0	--	21.3	--	24.6	--	6.2	--	--	--	-3.7	Feb-15
Accel-KKR Growth Partners II- Net			2.0	--	21.3	--	24.6	--	6.2	--	--	--	-3.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	11.8	Feb-15
Atalaya Special Opp VI- Gross	23,870,830	0.2	4.0	--	9.8	--	11.3	--	--	--	--	--	7.1	Apr-16
Atalaya Special Opp VI- Net			4.0	--	9.8	--	11.3	--	--	--	--	--	7.1	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	18.6	Apr-16
Davidson Kempner LT Dist Opp- Gross	9,402,639	0.1	8.3	--	--	--	--	--	--	--	--	--	9.0	Mar-18
Davidson Kempner LT Dist Opp- Net			8.3	--	--	--	--	--	--	--	--	--	9.0	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	8.1	Mar-18
Dyal Capital Partners II- Gross	14,920,121	0.2	1.9	--	-4.2	--	-4.9	--	-7.6	--	--	--	-6.5	Dec-14
Dyal Capital Partners II- Net			1.9	--	-4.2	--	-4.9	--	-7.6	--	--	--	-6.5	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	12.7	Dec-14

1. See Policy Index and Benchmark History.

\*\* Private Equity Composite includes the historical returns of Summit Credit and Athyrum Opportunities up to 4/1/17.

++ Returns are one-quarter lag.

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Dyal Capital Partners III- Gross	16,721,734	0.2	15.8	--	30.0	--	40.4	--	--	--	--	--	27.9	Dec-16
Dyal Capital Partners III- Net			15.8	--	30.0	--	40.4	--	--	--	--	--	27.9	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	16.2	Dec-16
Garrison Investment Group- Gross	13,913,016	0.1	7.2	--	11.0	--	9.8	--	-10.7	--	-0.2	--	1.2	May-12
Garrison Investment Group- Net			7.2	--	11.0	--	9.8	--	-10.7	--	-0.2	--	1.2	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	16.0	May-12
Harbourvest VIII- Gross	19,085,945	0.2	6.3	--	15.1	--	20.2	--	14.1	--	16.1	--	10.1	Dec-07
Harbourvest VIII- Net			6.3	--	15.1	--	20.2	--	14.1	--	16.1	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	9.9	Dec-07
Harbourvest Intl VI- Gross	36,237,305	0.4	4.7	--	16.0	--	19.9	--	14.3	--	17.1	--	-8.1	Mar-09
Harbourvest Intl VI- Net			4.7	--	16.0	--	19.9	--	14.3	--	17.1	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	16.8	Mar-09
H.I.G. Bayside Loan III- Gross	20,655,709	0.2	4.2	--	11.1	--	14.1	--	9.9	--	10.6	--	6.8	Jan-13
H.I.G. Bayside Loan III- Net			4.2	--	11.1	--	14.1	--	9.9	--	10.6	--	6.8	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	16.7	Jan-13
H.I.G. Capital V- Gross	10,101,441	0.1	10.2	--	33.3	--	73.7	--	24.1	--	9.0	--	8.7	Jul-13
H.I.G. Capital V- Net			10.2	--	33.3	--	73.7	--	24.1	--	9.0	--	8.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	15.0	Jul-13
H.I.G. Europe Capital II- Gross*	10,835,007	0.1	3.0	--	21.2	--	16.8	--	--	--	--	--	--	Jan-14
H.I.G. Europe Capital II- Net			3.0	--	21.2	--	16.8	--	--	--	--	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	13.8	Jan-14
Khosla IV- Gross	17,025,023	0.2	19.0	--	28.4	--	42.5	--	21.4	--	23.3	--	17.4	Jul-11
Khosla IV- Net			19.0	--	28.4	--	42.5	--	21.4	--	23.3	--	17.4	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	14.6	Jul-11

\* Unable to calculate a since inception return due to system limitations when HIG Europe Capital II experienced 2 quarters of negative fund values in 2016.

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Khosla V- Gross	18,096,494	0.2	0.7	--	2.1	--	18.5	--	10.6	--	--	--	8.1	Nov-14
Khosla V- Net			0.7	--	2.1	--	18.5	--	10.6	--	--	--	8.1	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	12.0	Nov-14
Khosla VI- Gross*	2,205,000	0.0	--	--	--	--	--	--	--	--	--	--	0.0	Aug-18
Khosla VI- Net			--	--	--	--	--	--	--	--	--	--	0.0	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	5.2	Aug-18
Linden Capital- Gross	37,907,120	0.4	3.9	--	11.6	--	18.2	--	--	--	--	--	8.6	Jun-16
Linden Capital- Net			3.9	--	11.6	--	18.2	--	--	--	--	--	8.6	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	16.3	Jun-16
Linden Capital Partners IV- Gross**	1,886,101	0.0	--	--	--	--	--	--	--	--	--	--	--	Sep-18
Linden Capital Partners IV- Net			--	--	--	--	--	--	--	--	--	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	--	Sep-18
Marlin Equity IV- Gross	13,351,178	0.1	3.1	--	2.6	--	2.9	--	5.9	--	--	--	1.4	Nov-13
Marlin Equity IV- Net			3.1	--	2.6	--	2.9	--	5.9	--	--	--	1.4	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	15.2	Nov-13
Marlin Equity V- Gross	4,593,293	0.0	-2.3	--	--	--	--	--	--	--	--	--	-7.6	Feb-18
Marlin Equity V- Net			-2.3	--	--	--	--	--	--	--	--	--	-7.6	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	12.8	Feb-18
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	12.8	Feb-18
Marlin Heritage- Gross	8,531,692	0.1	0.3	--	10.5	--	47.9	--	40.7	--	--	--	20.8	Jul-14
Marlin Heritage- Net			0.3	--	10.5	--	47.9	--	40.7	--	--	--	20.8	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	13.0	Jul-14
Marlin Heritage II- Gross	3,344,861	0.0	-1.7	--	-16.3	--	--	--	--	--	--	--	-16.3	Oct-17
Marlin Heritage II- Net			-1.7	--	-16.3	--	--	--	--	--	--	--	-16.3	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	16.8	Oct-17

\* Funded in August 2018.

\*\* Funded in September 2018.

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Marlin Heritage Europe- Gross	4,704,202	0.0	-2.7	--	-5.4	--	-5.4	--	--	--	--	--	-5.0	Aug-17
Marlin Heritage Europe- Net			-2.7	--	-5.4	--	-5.4	--	--	--	--	--	-5.0	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	18.7	Aug-17
New Enterprise 14- Gross	33,581,201	0.3	2.0	--	17.7	--	17.3	--	17.0	--	19.7	--	13.7	May-12
New Enterprise 14- Net			2.0	--	17.7	--	17.3	--	17.0	--	19.7	--	13.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	16.0	May-12
New Enterprise 15- Gross	38,196,318	0.4	0.2	--	19.9	--	23.9	--	18.2	--	--	--	15.9	Apr-15
New Enterprise 15- Net			0.2	--	19.9	--	23.9	--	18.2	--	--	--	15.9	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	13.2	Apr-15
New Enterprise 16- Gross	9,775,221	0.1	-1.5	--	1.2	--	-0.5	--	--	--	--	--	-6.3	May-17
New Enterprise 16- Net			-1.5	--	1.2	--	-0.5	--	--	--	--	--	-6.3	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	17.9	May-17
Private Equity X- Gross	32,614,645	0.3	14.5	--	18.6	--	26.4	--	16.5	--	13.6	--	-1.5	Jun-08
Private Equity X- Net			14.5	--	18.6	--	26.4	--	16.5	--	13.6	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	11.8	Jun-08
RRJ Capital Master Fund II- Gross	19,084,972	0.2	2.6	--	12.7	--	19.2	--	4.5	--	10.0	--	13.0	May-13
RRJ Capital Master Fund II- Net			2.6	--	12.7	--	19.2	--	4.5	--	10.0	--	13.0	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	15.8	May-13
RRJ Capital Master Fund III- Gross	29,351,061	0.3	1.5	--	6.6	--	12.2	--	--	--	--	--	-18.1	Dec-15
RRJ Capital Master Fund III- Net			1.5	--	6.6	--	12.2	--	--	--	--	--	-18.1	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	16.8	Dec-15
Spectrum Equity- Gross	28,573,762	0.3	15.3	--	42.1	--	64.2	--	33.0	--	--	--	5.3	Dec-14
Spectrum Equity- Net			15.3	--	42.1	--	64.2	--	33.0	--	--	--	5.3	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	12.7	Dec-14



Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Spectrum Equity Fund VIII- Gross	195,668	0.0	-55.2	--	--	--	--	--	--	--	--	--	-55.2	Jun-18
Spectrum Equity Fund VIII- Net			-55.2	--	--	--	--	--	--	--	--	--	-55.2	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	5.2	Jun-18
Summit EUR Growth Equity II- Gross	5,951,218	0.1	378.4	--	--	--	--	--	--	--	--	--	205.2	Jan-18
Summit EUR Growth Equity II- Net			378.4	--	--	--	--	--	--	--	--	--	205.2	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	12.8	Jan-18
Summit Ventures III- Gross	16,350,639	0.2	1.4	--	12.9	--	29.4	--	24.5	--	17.2	--	12.5	Jun-12
Summit Ventures III- Net			1.4	--	12.9	--	29.4	--	24.5	--	17.2	--	12.5	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	15.6	Jun-12
Summit Ventures IV- Gross	19,481,865	0.2	8.1	--	11.9	--	47.2	--	--	--	--	--	31.6	May-16
Summit Ventures IV- Net			8.1	--	11.9	--	47.2	--	--	--	--	--	31.6	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	19.2	May-16
Thoma Bravo XI- Gross	42,060,034	0.4	21.8	--	62.0	--	62.3	--	29.2	--	--	--	18.8	Jun-14
Thoma Bravo XI- Net			21.8	--	62.0	--	62.3	--	29.2	--	--	--	18.8	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	12.9	Jun-14
Thoma Bravo XII- Gross	28,705,148	0.3	4.7	--	13.6	--	13.6	--	--	--	--	--	-0.3	May-16
Thoma Bravo XII- Net			4.7	--	13.6	--	13.6	--	--	--	--	--	-0.3	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	19.2	May-16
TPG Opp Partners III- Gross	22,713,826	0.2	5.1	--	15.5	--	17.7	--	13.9	--	--	--	-18.4	Mar-14
TPG Opp Partners III- Net			5.1	--	15.5	--	17.7	--	13.9	--	--	--	-18.4	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	12.9	Mar-14
Trinity Ventures XI- Gross	28,820,699	0.3	12.1	--	23.0	--	18.4	--	10.6	--	8.4	--	4.3	Apr-13
Trinity Ventures XI- Net			12.1	--	23.0	--	18.4	--	10.6	--	8.4	--	4.3	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	15.9	Apr-13
Trinity Ventures XII- Gross	18,328,759	0.2	0.3	--	19.1	--	17.1	--	--	--	--	--	8.3	Apr-16
Trinity Ventures XII- Net			0.3	--	19.1	--	17.1	--	--	--	--	--	8.3	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	18.6	Apr-16

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
TSG7 A LP- Gross*	10,013,299	0.1	6.4	--	17.0	--	19.8	--	--	--	--	--	--	Mar-16
TSG7 A LP- Net			6.4	--	17.0	--	19.8	--	--	--	--	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	15.5	Mar-16
TSG7 B LP- Gross	995,220	0.0	7.4	--	-10.1	--	-20.8	--	--	--	--	--	-25.7	Jan-16
TSG7 B LP- Net			7.4	--	-10.1	--	-20.8	--	--	--	--	--	-25.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	14.0	Jan-16
Waterland V- Gross	11,247,084	0.1	-2.1	--	9.9	--	38.5	--	59.3	--	67.8	--	21.7	Aug-11
Waterland V- Net			-2.1	--	9.9	--	38.5	--	59.3	--	67.8	--	21.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	15.0	Aug-11
Waterland VI- Gross	16,561,841	0.2	-2.6	--	-0.6	--	15.7	--	-15.4	--	--	--	-15.2	Jul-15
Waterland VI- Net			-2.6	--	-0.6	--	15.7	--	-15.4	--	--	--	-15.2	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	12.2	Jul-15
Waterland VI Over- Gross	936	0.0	-14.8	--	-41.7	--	-61.6	--	--	--	--	--	-72.9	Dec-15
Waterland VI Over- Net			-14.8	--	-41.7	--	-61.6	--	--	--	--	--	-72.9	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	16.8	Dec-15
Wayzata Opportunities III- Gross	6,396,062	0.1	-6.6	--	-7.6	--	-6.1	--	-0.2	--	-3.4	--	-5.8	Feb-13
Wayzata Opportunities III- Net			-6.6	--	-7.6	--	-6.1	--	-0.2	--	-3.4	--	-5.8	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			5.2	--	12.8	--	16.8	--	13.1	--	15.3	--	16.8	Feb-13
<b>Public Credit- Gross</b>	<b>182,200,301</b>	<b>1.9</b>	<b>2.3</b>	<b>--</b>	<b>5.2</b>	<b>--</b>	<b>5.2</b>	<b>--</b>	<b>8.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>4.9</b>	<b>Nov-13</b>
<b>Public Credit- Net</b>			<b>2.3</b>	<b>--</b>	<b>5.2</b>	<b>--</b>	<b>5.2</b>	<b>--</b>	<b>8.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>4.9</b>	
<i>Brigade Custom<sup>1</sup></i>			2.2	--	3.4	--	4.3	--	6.8	--	--	--	4.7	Nov-13
Brigade Capital- Gross	182,200,301	1.9	2.3	52	5.2	5	5.2	10	8.9	11	--	--	4.9	Nov-13
Brigade Capital- Net			2.3	52	5.2	5	5.2	10	8.9	11	--	--	4.9	
<i>Brigade Custom</i>			2.2	62	3.4	17	4.3	20	6.8	68	--	--	4.7	Nov-13
<i>eV US High Yield Fixed Inc Gross Median</i>			2.3		2.5		3.1		7.3		5.4		5.0	Nov-13

\* Unable to calculate a since inception return due to system limitations when account experienced 1 quarter of negative fund value in 2016.

1. See Policy Index and Benchmark History.

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Private Credit- Gross**</b>	<b>114,446,139</b>	<b>1.2</b>	<b>1.3</b>	<b>--</b>	<b>4.8</b>	<b>--</b>	<b>6.1</b>	<b>--</b>	<b>8.0</b>	<b>--</b>	<b>8.3</b>	<b>--</b>	<b>7.1</b>	<b>Oct-11</b>
<b>Private Credit- Net</b>			<b>1.3</b>	<b>--</b>	<b>4.8</b>	<b>--</b>	<b>6.1</b>	<b>--</b>	<b>8.0</b>	<b>--</b>	<b>8.3</b>	<b>--</b>	<b>7.1</b>	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.5	--	5.8	--	7.6	--	7.5	--	6.4	--	7.2	Oct-11
Athyrium Opp II- Gross	14,674,766	0.2	0.8	--	5.9	--	7.2	--	6.9	--	--	--	5.3	Jun-15
Athyrium Opp II- Net			0.8	--	5.9	--	7.2	--	6.9	--	--	--	5.3	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.5	--	5.8	--	7.6	--	7.5	--	6.4	--	6.6	Jun-15
Athyrium Opp III- Gross	9,446,667	0.1	1.2	--	1.5	--	-0.1	--	--	--	--	--	-6.8	May-17
Athyrium Opp III- Net			1.2	--	1.5	--	-0.1	--	--	--	--	--	-6.8	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.5	--	5.8	--	7.6	--	7.5	--	6.4	--	7.0	May-17
Benefit St Pr Sr Secure Opp- Gross	38,857,084	0.4	0.8	--	--	--	--	--	--	--	--	--	3.7	Jan-18
Benefit St Pr Sr Secure Opp- Net			0.8	--	--	--	--	--	--	--	--	--	3.7	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.5	--	5.8	--	7.6	--	7.5	--	6.4	--	4.5	Jan-18
Summit Credit- Gross	3,483,535	0.0	7.2	--	8.8	--	7.6	--	10.7	--	10.2	--	8.4	Oct-11
Summit Credit- Net			7.2	--	8.8	--	7.6	--	10.7	--	10.2	--	8.4	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.5	--	5.8	--	7.6	--	7.5	--	6.4	--	7.2	Oct-11
Summit Credit II- Gross	21,183,602	0.2	2.2	--	6.2	--	8.6	--	8.4	--	--	--	6.8	Nov-14
Summit Credit II- Net			2.2	--	6.2	--	8.6	--	8.4	--	--	--	6.8	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.5	--	5.8	--	7.6	--	7.5	--	6.4	--	6.4	Nov-14
TCP Direct Lending VIII- Gross	26,800,485	0.3	0.8	--	--	--	--	--	--	--	--	--	0.2	Feb-18
TCP Direct Lending VIII- Net			0.8	--	--	--	--	--	--	--	--	--	0.2	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.5	--	5.8	--	7.6	--	7.5	--	6.4	--	4.1	Feb-18

\*\* Returns are one-quarter lag.

# Total Fund Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Growth Oriented Absolute Return- Gross<sup>++</sup></b>	<b>327,740,293</b>	<b>3.4</b>	<b>0.7</b>	<b>--</b>	<b>2.8</b>	<b>--</b>	<b>4.4</b>	<b>--</b>	<b>6.4</b>	<b>--</b>	<b>4.9</b>	<b>--</b>	<b>5.0</b>	<b>Aug-04</b>
<b>Growth Oriented Absolute Return- Net</b>			<b>0.7</b>	<b>--</b>	<b>2.8</b>	<b>--</b>	<b>4.4</b>	<b>--</b>	<b>6.4</b>	<b>--</b>	<b>4.9</b>	<b>--</b>	<b>5.0</b>	
<i>HFRI FoF Composite Index + 1%<sup>1</sup></i>			0.4	--	1.7	--	4.0	--	5.4	--	5.2	--	6.2	Aug-04
Grosvenor SCARF Growth- Gross	141,462,347	1.5	0.7	54	3.7	42	6.2	27	6.1	19	4.6	45	6.5	Nov-11
Grosvenor SCARF Growth- Net			0.7	54	3.7	42	6.2	27	6.1	19	4.6	45	6.5	
<i>HFRI FoF Composite Index + 1%</i>			0.4	62	1.7	66	4.0	51	5.4	28	5.2	30	5.2	Nov-11
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>			0.8		2.7		4.1		3.9		4.3		5.5	Nov-11
Grosvenor SCARF B Growth- Gross	190,043	0.0	3.5	6	6.2	15	7.9	20	6.3	18	4.7	42	5.6	Jan-13
Grosvenor SCARF B Growth- Net			3.5	6	6.2	15	7.9	20	6.3	18	4.7	42	5.6	
<i>HFRI FoF Composite Index + 1%</i>			0.4	62	1.7	66	4.0	51	5.4	28	5.2	30	5.2	Jan-13
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>			0.8		2.7		4.1		3.9		4.3		4.7	Jan-13
JANA Partners- Gross	44,826,244	0.5	4.6	9	9.4	9	8.4	19	6.6	49	4.3	57	4.7	Jul-13
JANA Partners- Net			4.6	9	9.4	9	8.4	19	6.6	49	4.3	57	4.7	
<i>HFRI FoF Composite Index + 1%</i>			0.4	63	1.7	59	4.0	50	5.4	61	5.2	49	5.2	Jul-13
<i>eV Alt All Event Driven Median</i>			0.8		2.4		4.0		6.5		4.9		5.3	Jul-13
Lakewood- Gross	43,288,642	0.5	-0.3	56	-4.8	76	-4.7	85	6.6	60	6.1	53	5.7	Jun-13
Lakewood- Net			-0.3	56	-4.8	76	-4.7	85	6.6	60	6.1	53	5.7	
<i>HFRI FoF Composite Index + 1%</i>			0.4	51	1.7	52	4.0	54	5.4	68	5.2	62	5.2	Jun-13
<i>eV Alt Fundamental - Long/Short Equity Median</i>			0.4		2.1		4.6		7.8		6.4		7.0	Jun-13
OZ Domestic II- Gross	48,219,388	0.5	-1.1	79	3.1	37	4.4	43	6.7	38	5.4	47	7.3	Dec-11
OZ Domestic II- Net			-1.1	79	3.1	37	4.4	43	6.7	38	5.4	47	7.3	
<i>HFRI FoF Composite Index + 1%</i>			0.4	60	1.7	47	4.0	45	5.4	46	5.2	48	5.2	Dec-11
<i>eV Alt All Multi-Strategy Median</i>			0.8		1.2		3.3		4.6		4.9		5.5	Dec-11

<sup>++</sup> Absolute Return managers are ranked in the eVest net of fee universe.

\* Composite reflects net returns from Cliffwater up to March 2017.

1. See Policy Index and Benchmark History.

# Total Fund Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Third Point Offshore Fund- Gross	49,753,629	0.5	-0.1	70	0.9	67	3.9	51	9.3	30	7.2	29	10.3	Apr-12
Third Point Offshore Fund- Net			-0.1	70	0.9	67	3.9	51	9.3	30	7.2	29	10.3	
<i>HFRI FoF Composite Index + 1%</i>			0.5	63	1.7	59	4.1	49	5.4	61	5.2	49	5.2	Apr-12
<i>eV Alt All Event Driven Median</i>			0.8		2.4		4.0		6.5		4.9		6.1	Apr-12
<b>Diversifying Asset Category- Gross</b>	<b>2,037,524,370</b>	<b>21.2</b>	<b>-0.1</b>	<b>--</b>	<b>-1.2</b>	<b>--</b>	<b>-0.5</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>1.6</b>	<b>Mar-17</b>
<b>Diversifying Asset Category- Net</b>			<b>-0.1</b>	<b>--</b>	<b>-1.3</b>	<b>--</b>	<b>-0.6</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>1.4</b>	
<i>Diversifying Custom<sup>1</sup></i>			-0.1	--	-0.7	--	-0.1	--	--	--	--	--	1.7	Mar-17
<b>Core/Core Plus Fixed Income- Gross</b>	<b>846,397,889</b>	<b>8.8</b>	<b>0.3</b>	<b>--</b>	<b>-1.0</b>	<b>--</b>	<b>-0.3</b>	<b>--</b>	<b>2.4</b>	<b>--</b>	<b>2.7</b>	<b>--</b>	<b>2.8</b>	<b>Jun-11</b>
<b>Core/Core Plus Fixed Income- Net</b>			<b>0.3</b>	<b>--</b>	<b>-1.1</b>	<b>--</b>	<b>-0.5</b>	<b>--</b>	<b>2.3</b>	<b>--</b>	<b>2.5</b>	<b>--</b>	<b>2.7</b>	
<i>BBgBarc US Aggregate TR</i>			0.0	--	-1.6	--	-1.2	--	1.3	--	2.2	--	2.5	Jun-11
Prudential- Gross	434,750,057	4.5	0.6	6	-0.8	15	0.2	8	3.5	4	--	--	3.5	Jul-14
Prudential- Net			0.5	9	-1.0	21	0.0	9	3.3	4	--	--	3.3	
<i>BBgBarc US Aggregate TR</i>			0.0	87	-1.6	82	-1.2	89	1.3	90	2.2	91	1.7	Jul-14
<i>eV US Core Fixed Inc Gross Median</i>			0.2		-1.3		-0.8		1.8		2.6		2.1	Jul-14
TCW MetWest Fixed- Gross	411,647,832	4.3	0.0	88	-1.0	25	-0.4	21	1.9	39	2.6	49	5.7	Dec-01
TCW MetWest Fixed- Net			0.0	91	-1.2	36	-0.7	39	1.8	53	2.4	72	5.5	
<i>BBgBarc US Aggregate TR</i>			0.0	87	-1.6	82	-1.2	89	1.3	90	2.2	91	4.2	Dec-01
<i>eV US Core Fixed Inc Gross Median</i>			0.2		-1.3		-0.8		1.8		2.6		4.7	Dec-01
<b>U.S. Treasury- Gross</b>	<b>416,517,881</b>	<b>4.3</b>	<b>-0.6</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.4</b>	<b>Feb-18</b>
<b>U.S. Treasury- Net</b>			<b>-0.6</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.4</b>	
<i>BBgBarc US Treasury TR</i>			-0.6	--	-1.7	--	-1.6	--	0.2	--	1.3	--	0.4	Feb-18
Neuberger Berman- Gross <sup>+</sup>	416,517,881	4.3	-0.6	99	-1.7	96	-1.3	87	1.4	1	2.3	1	6.4	Jun-88
Neuberger Berman- Net			-0.6	99	-1.7	97	-1.3	89	1.4	1	2.3	1	6.3	
<i>BBgBarc US Govt TR</i>			-0.6	99	-1.6	95	-1.6	94	0.3	98	1.3	79	5.7	Jun-88
<i>eV US Government Fixed Inc Gross Median</i>			-0.2		-0.8		-0.8		0.7		1.6		--	Jun-88

1. See Policy Index and Benchmark History.

+ Account converted to U.S. Treasury from Core Fixed Income in February 2018. Reflects linked historical returns up to February 2018.

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Global Fixed Income- Gross</b>	<b>219,177,965</b>	<b>2.3</b>	<b>-0.8</b>	<b>--</b>	<b>-3.7</b>	<b>--</b>	<b>-4.0</b>	<b>--</b>	<b>4.7</b>	<b>--</b>	<b>2.5</b>	<b>--</b>	<b>1.9</b>	<b>May-13</b>
<b>Global Fixed Income- Net</b>			<b>-0.9</b>	<b>--</b>	<b>-4.0</b>	<b>--</b>	<b>-4.4</b>	<b>--</b>	<b>4.3</b>	<b>--</b>	<b>2.1</b>	<b>--</b>	<b>1.6</b>	
<i>Brandywine Custom<sup>1</sup></i>			-1.6	--	-3.6	--	-2.7	--	2.4	--	-0.1	--	0.1	May-13
Brandywine Global- Gross	219,177,965	2.3	-0.8	79	-3.7	87	-4.0	95	4.7	34	2.5	54	1.9	May-13
Brandywine Global- Net			-0.9	82	-4.0	88	-4.4	96	4.3	39	2.1	58	1.6	
<i>Brandywine Custom</i>			-1.6	95	-3.6	86	-2.7	88	2.4	73	-0.1	91	0.1	May-13
<i>eV All Global Fixed Inc Gross Median</i>			0.4		-1.0		-0.1		3.7		2.7		2.5	May-13
<b>Diversifying Absolute Return- Gross<sup>++</sup></b>	<b>555,430,636</b>	<b>5.8</b>	<b>0.1</b>	<b>--</b>	<b>-0.7</b>	<b>--</b>	<b>0.9</b>	<b>--</b>	<b>0.9</b>	<b>--</b>	<b>1.8</b>	<b>--</b>	<b>2.2</b>	<b>Nov-11</b>
<b>Diversifying Absolute Return- Net</b>			<b>0.1</b>	<b>--</b>	<b>-0.7</b>	<b>--</b>	<b>0.9</b>	<b>--</b>	<b>0.9</b>	<b>--</b>	<b>1.8</b>	<b>--</b>	<b>2.2</b>	
<i>HFRI FoF Conservative Index<sup>1</sup></i>			0.8	--	2.4	--	3.6	--	4.8	--	4.9	--	4.9	Nov-11
AQR DELTA II- Gross	64,145,979	0.7	-2.1	83	-11.6	92	-10.7	93	-1.3	87	3.3	63	2.8	May-13
AQR DELTA II- Net			-2.1	83	-11.6	92	-10.7	93	-1.3	87	3.3	63	2.8	
<i>HFRI FoF Conservative Index</i>			0.8	51	2.4	43	3.6	48	4.8	50	4.9	50	4.9	May-13
<i>eV Alt All Multi-Strategy Median</i>			0.8		1.2		3.3		4.6		4.9		4.6	May-13
Brevan Howard US- Gross	18,750,481	0.2	1.6	28	10.0	5	9.1	17	1.6	50	--	--	1.4	Feb-14
Brevan Howard US- Net			1.6	28	10.0	5	9.1	17	1.6	50	--	--	1.4	
<i>HFRI FoF Conservative Index</i>			0.8	39	2.4	29	3.6	40	4.8	26	4.9	29	4.9	Feb-14
<i>HFRI Fund of Funds Composite Index</i>			0.2	47	0.9	40	3.0	46	3.3	33	3.2	43	2.4	Feb-14
<i>eV Alt All Macro Median</i>			0.1		-0.4		2.2		1.5		2.4		2.0	Feb-14
Elliot Associates- Gross	54,211,208	0.6	-0.7	75	2.5	50	4.4	46	7.6	41	6.7	33	7.6	Apr-12
Elliot Associates- Net			-0.7	75	2.5	50	4.4	46	7.6	41	6.7	33	7.6	
<i>HFRI FoF Conservative Index</i>			0.8	51	2.4	50	3.6	53	4.8	66	4.9	51	4.9	Apr-12
<i>eV Alt All Event Driven Median</i>			0.8		2.4		4.0		6.5		4.9		6.1	Apr-12

1. See Policy Index and Benchmark History.

\* Composite reflects net returns from Cliffwater up to March 2017.

++Absolute Return managers are ranked in the eVest net of fees universe.

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Graham Global Inv II- Gross	34,425,038	0.4	5.6	12	-2.5	64	6.7	29	--	--	--	--	-0.3	Feb-17
Graham Global Inv II- Net			5.6	12	-2.5	64	6.7	29	--	--	--	--	-0.3	
<i>HFRI FoF Conservative Index</i>			0.8	52	2.4	28	3.6	45	4.8	20	4.9	30	4.4	Feb-17
<i>eV Alt All Managed Futures Median</i>			0.9		-0.4		2.4		-0.1		2.5		-0.7	Feb-17
Grosvenor SCARF Diversifying- Gross	131,005,665	1.4	0.2	68	0.0	82	-1.5	93	-1.1	98	0.3	98	1.6	Nov-11
Grosvenor SCARF Diversifying- Net			0.2	68	0.0	82	-1.5	93	-1.1	98	0.3	98	1.6	
<i>HFRI FoF Conservative Index</i>			0.8	51	2.4	54	3.6	60	4.8	36	4.9	37	4.9	Nov-11
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>			0.8		2.7		4.1		3.9		4.3		5.5	Nov-11
Grosvenor SCARF B Diversifying- Gross	169,173,500	1.8	-0.4	80	-1.2	88	-2.0	94	-3.0	99	-0.5	99	0.4	Jan-13
Grosvenor SCARF B Diversifying- Net			-0.4	80	-1.2	88	-2.0	94	-3.0	99	-0.5	99	0.4	
<i>HFRI FoF Conservative Index</i>			0.8	51	2.4	54	3.6	60	4.8	36	4.9	37	4.9	Jan-13
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>			0.8		2.7		4.1		3.9		4.3		4.7	Jan-13
Laurion Capital- Gross	45,878,792	0.5	0.1	79	6.7	40	10.5	27	5.9	37	--	--	6.1	Mar-14
Laurion Capital- Net			0.1	79	6.7	40	10.5	27	5.9	37	--	--	6.1	
<i>HFRI FoF Conservative Index</i>			0.8	77	2.4	62	3.6	63	4.8	53	4.9	56	4.9	Mar-14
<i>eV Alt Relative Value - Equity Relative Value Median</i>			2.4		6.2		8.7		4.9		5.7		4.9	Mar-14
Winton Diversified Futures- Gross	37,839,972	0.4	1.0	49	1.7	32	8.9	17	--	--	--	--	4.6	Dec-16
Winton Diversified Futures- Net			1.0	49	1.7	32	8.9	17	--	--	--	--	4.6	
<i>HFRI FoF Conservative Index</i>			0.8	52	2.4	28	3.6	45	4.8	20	4.9	30	4.5	Dec-16
<i>eV Alt All Managed Futures Median</i>			0.9		-0.4		2.4		-0.1		2.5		-0.6	Dec-16

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Real Return (with SSgA RA Overlay Proxy)- Gross	1,520,381,265	15.8	0.4	--	6.2	--	9.8	--	--	--	--	--	10.5	Mar-17
Real Return (with SSgA RA Overlay Proxy)- Net			0.4	--	6.1	--	9.5	--	--	--	--	--	10.3	
<i>Real Return Custom<sup>1</sup></i>			1.5	--	6.1	--	8.6	--	--	--	--	--	7.8	Mar-17
Real Return Asset Category- Gross	1,287,776,223	13.4	0.6	--	8.0	--	11.6	--	--	--	--	--	12.3	Mar-17
Real Return Asset Category- Net			0.6	--	7.8	--	11.4	--	--	--	--	--	12.1	
<i>Real Return Custom</i>			1.5	--	6.1	--	8.6	--	--	--	--	--	7.8	Mar-17
Real Estate- Gross	836,021,724	8.7	-0.1	99	7.2	7	10.6	5	10.6	4	11.8	7	12.1	Jun-11
Real Estate- Net			-0.2	99	6.9	8	10.2	6	10.0	6	10.9	11	11.2	
<i>Real Estate Custom<sup>1</sup></i>			2.2	24	7.3	6	8.6	20	8.3	35	9.9	42	10.4	Jun-11
<i>InvestorForce All DB Real Estate Priv Net Median</i>			1.8		5.9		7.7		7.9		9.8		10.1	Jun-11
Core RE -Separate- Gross	213,503,788	2.2	-3.6	--	3.9	--	8.7	--	8.7	--	10.3	--	6.0	Sep-08
Core RE -Separate- Net			-3.7	--	3.4	--	8.0	--	7.9	--	9.2	--	5.1	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	5.6	Sep-08
BlackRock RE Leveraged- Gross	60,893,858	0.6	-6.1	--	0.9	--	3.9	--	8.6	--	11.0	--	9.6	Dec-98
BlackRock RE Leveraged- Net			-6.3	--	0.3	--	3.0	--	7.9	--	9.8	--	--	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	8.6	Dec-98
Cornerstone Leveraged- Gross	2,609,930	0.0	-6.2	--	1.7	--	10.7	--	11.7	--	11.2	--	8.2	May-04
Cornerstone Leveraged- Net			-6.2	--	1.4	--	9.9	--	10.7	--	10.2	--	--	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	8.3	May-04
Clarion Lion Properties- Gross*	150,000,000	1.6	--	--	--	--	--	--	--	--	--	--	--	Sep-18
Clarion Lion Properties- Net			--	--	--	--	--	--	--	--	--	--	--	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	--	Sep-18
BlackRock RE Unleveraged- Gross	--	--	-7.2	--	-1.0	--	1.4	--	7.6	--	9.8	--	9.9	Oct-95
BlackRock RE Unleveraged- Net			-6.4	--	-1.2	--	1.0	--	6.7	--	8.7	--	--	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	9.2	Oct-95

1. See Policy Index and Benchmark History.

\* Funded in September 2018.



# Total Fund Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Cornerstone Unleveraged- Gross	--	--	-4.0	--	2.0	--	8.1	--	8.7	--	8.4	--	7.0	Jun-04
Cornerstone Unleveraged- Net			-4.1	--	1.7	--	7.7	--	8.2	--	7.9	--	--	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	8.3	Jun-04
<b>Core RE -Limited Partnership- Gross</b>	<b>394,940,830</b>	<b>4.1</b>	<b>1.7</b>	<b>--</b>	<b>7.0</b>	<b>--</b>	<b>10.8</b>	<b>--</b>	<b>10.6</b>	<b>--</b>	<b>11.8</b>	<b>--</b>	<b>4.9</b>	<b>Sep-08</b>
<b>Core RE -Limited Partnership- Net</b>			<b>1.6</b>	<b>--</b>	<b>6.9</b>	<b>--</b>	<b>10.6</b>	<b>--</b>	<b>10.3</b>	<b>--</b>	<b>11.3</b>	<b>--</b>	<b>4.3</b>	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	5.6	Sep-08
Jamestown Premier Property- Gross	17,838,624	0.2	1.4	--	6.3	--	15.1	--	10.0	--	--	--	11.5	Dec-13
Jamestown Premier Property- Net			1.4	--	6.3	--	15.1	--	10.0	--	--	--	11.5	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	10.6	Dec-13
Metlife Core Property- Gross	58,478,094	0.6	1.6	--	6.6	--	9.9	--	9.6	--	--	--	12.2	Dec-13
Metlife Core Property- Net			1.4	--	6.2	--	9.4	--	9.1	--	--	--	11.7	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	10.6	Dec-13
Prime Property- Gross	59,108,130	0.6	2.2	--	6.7	--	9.1	--	10.2	--	12.4	--	12.4	Sep-13
Prime Property- Net			2.0	--	5.9	--	8.1	--	9.0	--	11.2	--	11.2	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	10.7	Sep-13
Principal US Property- Gross	45,247,954	0.5	2.5	--	6.8	--	8.7	--	--	--	--	--	9.2	Oct-15
Principal US Property- Net			2.5	--	6.8	--	8.7	--	--	--	--	--	9.2	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	9.1	Oct-15
Prologis Targeted Euro Logistics- Gross	38,364,235	0.4	2.4	--	8.4	--	15.6	--	--	--	--	--	13.0	Oct-15
Prologis Targeted Euro Logistics- Net			2.4	--	8.4	--	15.6	--	--	--	--	--	13.0	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	9.1	Oct-15
Prologis Targeted US Logistics- Gross	68,108,643	0.7	3.3	--	11.0	--	16.4	--	17.1	--	--	--	17.2	Jul-15
Prologis Targeted US Logistics- Net			3.3	--	11.0	--	16.4	--	17.1	--	--	--	17.2	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	9.6	Jul-15
Townsend Real Estate- Gross*	107,795,149	1.1	0.0	--	4.9	--	7.2	--	--	--	--	--	9.4	Mar-16
Townsend Real Estate- Net			0.0	--	4.9	--	7.2	--	--	--	--	--	9.4	
<i>NFI-ODCE</i>			2.1	--	6.5	--	8.7	--	8.8	--	10.7	--	8.3	Mar-16

+ Preliminary quarterly returns as of 9/30/2018 (Returns are not available at reporting period.)

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Non-Core RE -Opportunistic- Gross**</b>	<b>164,561,897</b>	<b>1.7</b>	<b>0.8</b>	<b>--</b>	<b>14.0</b>	<b>--</b>	<b>20.3</b>	<b>--</b>	<b>20.1</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>30.1</b>	<b>Feb-14</b>
<b>Non-Core RE -Opportunistic- Net</b>			<b>0.8</b>	<b>--</b>	<b>14.0</b>	<b>--</b>	<b>20.3</b>	<b>--</b>	<b>19.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>29.1</b>	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.4	--	--	--	11.3	Feb-14
Carlyle China Realty- Gross	6,311,395	0.1	62.7	--	80.0	--	77.3	--	--	--	--	--	37.3	Jun-17
Carlyle China Realty- Net			62.7	--	80.0	--	77.3	--	--	--	--	--	37.3	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.4	--	--	--	8.5	Jun-17
Carlyle China Rome Logistics- Gross	27,317,027	0.3	-16.9	--	-6.4	--	-6.9	--	--	--	--	--	-12.4	Jun-17
Carlyle China Rome Logistics- Net			-16.9	--	-6.4	--	-6.9	--	--	--	--	--	-12.4	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.4	--	--	--	8.5	Jun-17
CIM Opportunity VIII- Gross	33,505,354	0.3	4.1	--	7.7	--	9.3	--	11.0	--	--	--	7.1	Feb-15
CIM Opportunity VIII- Net			4.1	--	7.7	--	9.3	--	9.8	--	--	--	5.5	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.4	--	--	--	11.0	Feb-15
Kohlberg Kravis Roberts- Gross	34,863,114	0.4	4.1	--	11.4	--	21.3	--	25.5	--	--	--	35.8	Feb-14
Kohlberg Kravis Roberts- Net			4.1	--	11.4	--	21.3	--	25.4	--	--	--	35.4	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.4	--	--	--	11.3	Feb-14
NREP Nordic Strat FCP-FIS- Gross	15,419,059	0.2	-1.8	--	24.3	--	34.4	--	31.3	--	--	--	29.1	Dec-14
NREP Nordic Strat FCP-FIS- Net			-1.8	--	24.3	--	34.4	--	31.3	--	--	--	29.1	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.4	--	--	--	10.5	Dec-14
NREP Nordic Strat II- Gross	29,714,839	0.3	1.1	--	30.0	--	42.9	--	--	--	--	--	18.4	Jun-16
NREP Nordic Strat II- Net			1.1	--	30.0	--	42.9	--	--	--	--	--	18.4	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.4	--	--	--	8.5	Jun-16
NREP Nordic Strat III- Gross	1,658,973	0.0	--	--	--	--	--	--	--	--	--	--	0.0	Jul-18
NREP Nordic Strat III- Net			--	--	--	--	--	--	--	--	--	--	0.0	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.4	--	--	--	2.4	Jul-18
OZ RE III- Gross	15,772,135	0.2	2.2	--	22.1	--	27.0	--	21.2	--	--	--	4.8	Sep-14
OZ RE III- Net			2.2	--	22.1	--	27.0	--	17.6	--	--	--	-0.1	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.4	--	--	--	10.6	Sep-14

\*\* Returns are one-quarter lag.

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Non-Core RE -Value Added- Gross**</b>	<b>63,015,210</b>	<b>0.7</b>	<b>0.4</b>	<b>--</b>	<b>6.9</b>	<b>--</b>	<b>-1.8</b>	<b>--</b>	<b>5.7</b>	<b>--</b>	<b>8.6</b>	<b>--</b>	<b>-3.1</b>	<b>Sep-08</b>
<b>Non-Core RE -Value Added- Net</b>			<b>0.4</b>	<b>--</b>	<b>6.9</b>	<b>--</b>	<b>-1.8</b>	<b>--</b>	<b>5.2</b>	<b>--</b>	<b>7.8</b>	<b>--</b>	<b>-4.4</b>	
<i>NFI-ODCE net +1% 1Q Lag<sup>1</sup></i>			2.4	--	8.8	--	8.5	--	9.7	--	11.4	--	8.1	Sep-08
AEW II- Gross	59,166	0.0	30.1	--	20.0	--	18.7	--	-3.1	--	7.8	--	1.9	May-07
AEW II- Net			30.1	--	20.0	--	18.7	--	-3.6	--	7.1	--	0.4	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.7	--	11.4	--	--	May-07
ECE Euro Prime Shopping II- Gross	17,936,335	0.2	-0.7	--	11.1	--	16.0	--	19.8	--	--	--	18.7	Jul-15
ECE Euro Prime Shopping II- Net			-0.7	--	11.1	--	16.0	--	18.1	--	--	--	17.1	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.7	--	11.4	--	10.3	Jul-15
European RE Debt II- Gross	15,001,654	0.2	-4.3	--	9.7	--	12.0	--	5.5	--	--	--	5.7	Nov-13
European RE Debt II- Net			-4.3	--	9.7	--	12.0	--	5.5	--	--	--	5.7	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.7	--	11.4	--	11.8	Nov-13
Hammes II- Gross	22,667,858	0.2	5.2	--	10.1	--	-26.6	--	1.2	--	--	--	1.1	Jul-15
Hammes II- Net			5.2	--	10.1	--	-26.6	--	-2.0	--	--	--	-1.9	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.7	--	11.4	--	10.3	Jul-15
Hines US Office II- Gross	136,535	0.0												
Hines US Office II- Net														
UBS RE- Gross	7,213,661	0.1	-2.2	--	-3.0	--	-0.6	--	6.0	--	6.8	--	0.3	Sep-06
UBS RE- Net			-2.2	--	-3.0	--	-0.6	--	5.8	--	6.5	--	-1.1	
<i>NFI-ODCE net +1% 1Q Lag</i>			2.4	--	8.8	--	8.5	--	9.7	--	11.4	--	--	Sep-06
<b>Private Real Assets- Gross**</b>	<b>424,277,039</b>	<b>4.4</b>	<b>2.3</b>	<b>--</b>	<b>10.3</b>	<b>--</b>	<b>15.4</b>	<b>--</b>	<b>14.5</b>	<b>--</b>	<b>19.2</b>	<b>--</b>	<b>4.8</b>	<b>Jan-13</b>
<b>Private Real Assets- Net</b>			<b>2.3</b>	<b>--</b>	<b>10.3</b>	<b>--</b>	<b>15.4</b>	<b>--</b>	<b>14.5</b>	<b>--</b>	<b>19.2</b>	<b>--</b>	<b>4.8</b>	
<i>Private Real Assets Custom<sup>1</sup></i>			1.9	--	7.2	--	10.2	--	7.9	--	6.8	--	6.9	Jan-13
<i>CPI-U Headline +5%</i>			1.4	--	5.3	--	7.3	--	6.9	--	6.3	--	6.4	Jan-13

1. See Policy Index and Benchmark History.

\*\* Returns are one-quarter lag.

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
ACM II- Gross	12,902,816	0.1	-1.1	--	-3.7	--	-4.4	--	--	--	--	--	-6.8	Sep-16
ACM II- Net			-1.1	--	-3.7	--	-4.4	--	--	--	--	--	-6.8	
<i>NCREIF Farmland 1 Qtr Lag</i>			1.1	--	5.5	--	6.5	--	7.6	--	10.2	--	6.5	Sep-16
ArcLight Energy VI- Gross	32,676,768	0.3	14.2	--	16.9	--	18.9	--	8.7	--	--	--	8.5	Aug-15
ArcLight Energy VI- Net			14.2	--	16.9	--	18.9	--	8.7	--	--	--	8.5	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			0.9	--	7.5	--	12.5	--	12.3	--	11.0	--	14.0	Aug-15
Atalaya SMA- Gross	18,296,341	0.2	2.5	--	11.1	--	14.6	--	8.2	--	--	--	8.6	May-15
Atalaya SMA- Net			2.5	--	11.1	--	14.6	--	8.2	--	--	--	8.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			0.9	--	7.5	--	12.5	--	12.3	--	11.0	--	12.2	May-15
Brookfield Infra III- Gross	20,252,752	0.2	1.4	--	10.1	--	13.8	--	--	--	--	--	13.4	May-16
Brookfield Infra III- Net			1.4	--	10.1	--	13.8	--	--	--	--	--	13.4	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			0.9	--	7.5	--	12.5	--	12.3	--	11.0	--	13.9	May-16
Carlyle Power II- Gross	15,646,352	0.2	7.4	--	21.4	--	16.9	--	--	--	--	--	-2.9	Oct-15
Carlyle Power II- Net			7.4	--	21.4	--	16.9	--	--	--	--	--	-2.9	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			0.9	--	7.5	--	12.5	--	12.3	--	11.0	--	12.7	Oct-15
EnCap Energy IX- Gross	23,021,682	0.2	3.9	--	5.3	--	8.6	--	18.8	--	12.6	--	-0.3	Jan-13
EnCap Energy IX- Net			3.9	--	5.3	--	8.6	--	18.8	--	12.6	--	-0.3	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			3.7	--	8.4	--	10.2	--	3.1	--	1.4	--	2.3	Jan-13
EnCap Energy X- Gross	30,197,259	0.3	0.6	--	3.4	--	7.0	--	1.2	--	--	--	-2.9	Apr-15
EnCap Energy X- Net			0.6	--	3.4	--	7.0	--	1.2	--	--	--	-2.9	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			3.7	--	8.4	--	10.2	--	3.1	--	1.4	--	1.6	Apr-15
EnCap Flatrock Midstream IV- Gross	7,841,547	0.1	-9.2	--	--	--	--	--	--	--	--	--	-17.4	Feb-18
EnCap Flatrock Midstream IV- Net			-9.2	--	--	--	--	--	--	--	--	--	-17.4	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			0.9	--	7.5	--	12.5	--	12.3	--	11.0	--	7.5	Feb-18

Total Fund  
Performance Summary

Period Ending: September 30, 2018

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
EnCap Flatrock Midstream III- Gross	13,395,298	0.1	1.0	--	15.1	--	22.3	--	37.2	--	--	--	8.6	Jul-14
EnCap Flatrock Midstream III- Net			1.0	--	15.1	--	22.3	--	37.2	--	--	--	8.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			0.9	--	7.5	--	12.5	--	12.3	--	11.0	--	10.7	Jul-14
First Reserve- Gross	19,978,424	0.2	1.8	--	9.2	--	11.7	--	25.8	--	--	--	-3.8	Dec-14
First Reserve- Net			1.8	--	9.2	--	11.7	--	25.8	--	--	--	-3.8	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			0.9	--	7.5	--	12.5	--	12.3	--	11.0	--	11.2	Dec-14
IFM Global Infrastructure US LP- Gross	92,005,667	1.0	-0.1	--	11.9	--	13.8	--	--	--	--	--	11.6	Apr-17
IFM Global Infrastructure US LP- Net			-0.1	--	11.9	--	13.8	--	--	--	--	--	11.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			0.9	--	7.5	--	12.5	--	12.3	--	11.0	--	16.2	Apr-17
Meridiam Infra N America III- Gross	395,131	0.0	-36.4	--	-86.7	--	-92.9	--	--	--	--	--	-92.9	Sep-17
Meridiam Infra N America III- Net			-36.4	--	-86.7	--	-92.9	--	--	--	--	--	-92.9	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			0.9	--	7.5	--	12.5	--	12.3	--	11.0	--	12.5	Sep-17
Pantheon Ventures- Gross	72,495,717	0.8	2.9	--	7.9	--	29.7	--	17.3	--	--	--	29.9	Jul-14
Pantheon Ventures- Net			2.9	--	7.9	--	29.7	--	17.3	--	--	--	29.9	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			0.9	--	7.5	--	12.5	--	12.3	--	11.0	--	10.7	Jul-14
Quantum Energy VI- Gross	26,228,339	0.3	-0.3	--	20.6	--	20.4	--	48.6	--	--	--	23.5	Nov-14
Quantum Energy VI- Net			-0.3	--	20.6	--	20.4	--	48.6	--	--	--	23.5	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			3.7	--	8.4	--	10.2	--	3.1	--	1.4	--	-2.4	Nov-14
Quantum Energy VII- Gross	12,904,831	0.1	-2.2	--	5.0	--	-7.2	--	--	--	--	--	-6.7	Aug-17
Quantum Energy VII- Net			-2.2	--	5.0	--	-7.2	--	--	--	--	--	-6.7	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			3.7	--	8.4	--	10.2	--	3.1	--	1.4	--	9.0	Aug-17
Tailwater Energy Fund III- Gross*	14,404,694	0.2	--	--	--	--	--	--	--	--	--	--	--	Sep-18
Tailwater Energy Fund III- Net			--	--	--	--	--	--	--	--	--	--	--	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			3.7	--	8.4	--	10.2	--	3.1	--	1.4	--	--	Sep-18
Wastewater Opportunity- Gross	11,633,421	0.1	-1.7	--	-6.9	--	-9.4	--	--	--	--	--	-33.5	Dec-15
Wastewater Opportunity- Net			-1.7	--	-6.9	--	-9.4	--	--	--	--	--	-33.5	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			0.9	--	7.5	--	12.5	--	12.3	--	11.0	--	12.9	Dec-15

\* Funded in September 2018.

Total Fund  
Performance Summary

Period Ending: September 30, 2018

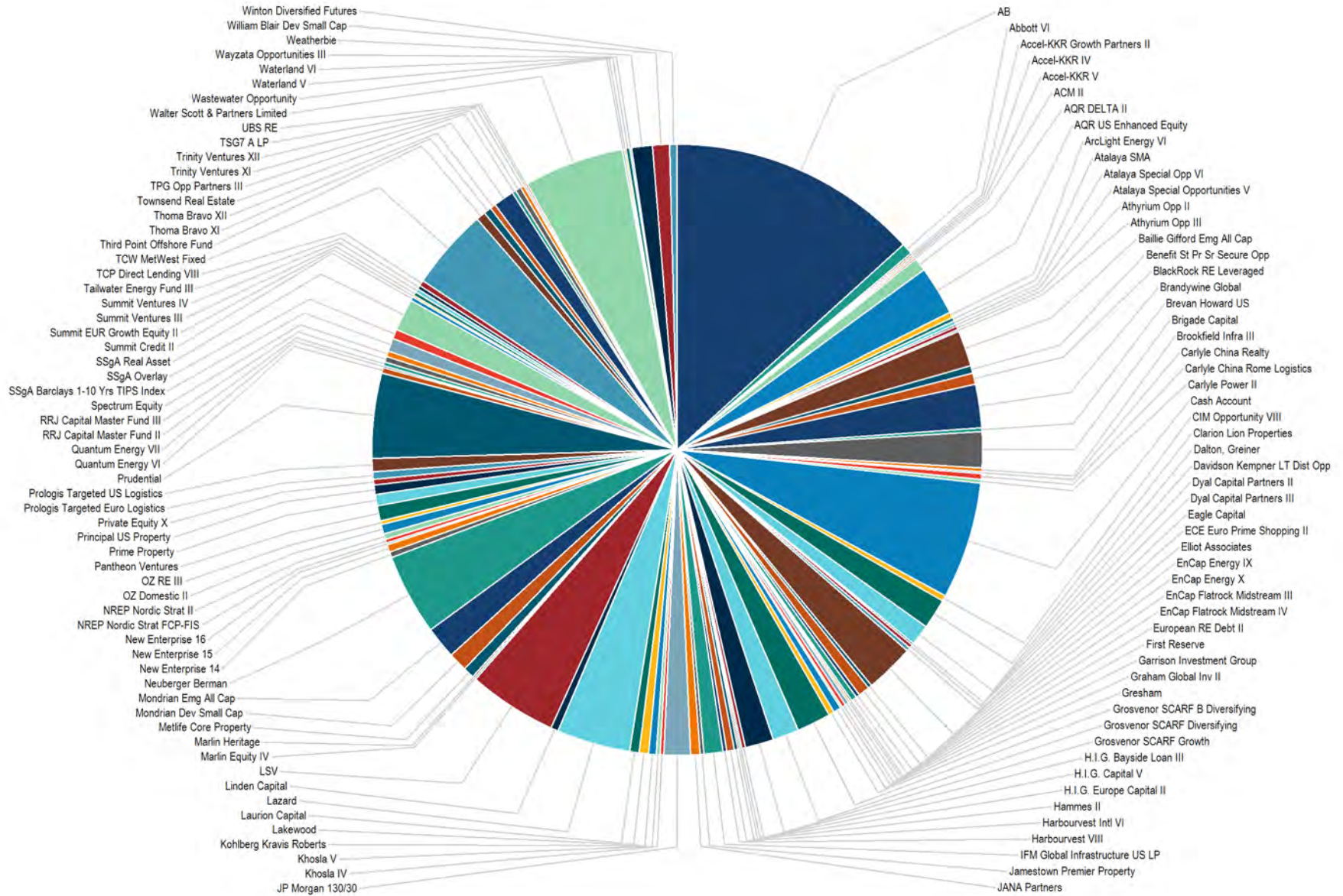
	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Commodities- Gross</b>	<b>27,477,461</b>	<b>0.3</b>	<b>-0.7</b>	<b>--</b>	<b>1.6</b>	<b>--</b>	<b>0.5</b>	<b>--</b>	<b>-1.1</b>	<b>--</b>	<b>-7.4</b>	<b>--</b>	<b>-6.0</b>	<b>May-08</b>
<b>Commodities- Net</b>			<b>-0.9</b>	<b>--</b>	<b>1.1</b>	<b>--</b>	<b>-0.1</b>	<b>--</b>	<b>-1.8</b>	<b>--</b>	<b>-8.1</b>	<b>--</b>	<b>--</b>	
<i>Bloomberg Commodity Index TR USD</i>			<b>-2.0</b>	<b>--</b>	<b>-2.0</b>	<b>--</b>	<b>2.6</b>	<b>--</b>	<b>-0.1</b>	<b>--</b>	<b>-7.2</b>	<b>--</b>	<b>-8.2</b>	<b>May-08</b>
<b>Gresham- Gross</b>	<b>27,477,461</b>	<b>0.3</b>	<b>-0.7</b>	<b>--</b>	<b>1.4</b>	<b>--</b>	<b>7.9</b>	<b>--</b>	<b>2.3</b>	<b>--</b>	<b>-5.9</b>	<b>--</b>	<b>-7.1</b>	<b>Apr-08</b>
<b>Gresham- Net</b>			<b>-0.9</b>	<b>--</b>	<b>0.9</b>	<b>--</b>	<b>7.1</b>	<b>--</b>	<b>1.6</b>	<b>--</b>	<b>-6.5</b>	<b>--</b>	<b>--</b>	
<i>Bloomberg Commodity Index TR USD</i>			<b>-2.0</b>	<b>--</b>	<b>-2.0</b>	<b>--</b>	<b>2.6</b>	<b>--</b>	<b>-0.1</b>	<b>--</b>	<b>-7.2</b>	<b>--</b>	<b>-7.9</b>	<b>Apr-08</b>
<b>Opportunities Asset Category- Gross*</b>	<b>8,902,111</b>	<b>0.1</b>	<b>1.9</b>	<b>--</b>	<b>-1.0</b>	<b>--</b>	<b>-1.3</b>	<b>--</b>	<b>5.4</b>	<b>--</b>	<b>5.7</b>	<b>--</b>	<b>15.8</b>	<b>Oct-07</b>
<b>Opportunities Asset Category- Net</b>			<b>1.9</b>	<b>--</b>	<b>-1.0</b>	<b>--</b>	<b>-1.3</b>	<b>--</b>	<b>5.4</b>	<b>--</b>	<b>5.7</b>	<b>--</b>	<b>15.8</b>	
<i>Policy Index</i>			<b>2.5</b>	<b>--</b>	<b>4.0</b>	<b>--</b>	<b>7.4</b>	<b>--</b>	<b>9.4</b>	<b>--</b>	<b>7.5</b>	<b>--</b>	<b>8.0</b>	<b>Oct-07</b>
<b>Atalaya Special Opportunities V- Gross</b>	<b>8,902,111</b>	<b>0.1</b>	<b>1.9</b>	<b>--</b>	<b>-1.0</b>	<b>--</b>	<b>-1.3</b>	<b>--</b>	<b>5.3</b>	<b>--</b>	<b>5.1</b>	<b>--</b>	<b>4.9</b>	<b>Jul-13</b>
<b>Atalaya Special Opportunities V- Net</b>			<b>1.9</b>	<b>--</b>	<b>-1.0</b>	<b>--</b>	<b>-1.3</b>	<b>--</b>	<b>5.3</b>	<b>--</b>	<b>5.1</b>	<b>--</b>	<b>4.9</b>	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			<b>5.2</b>	<b>--</b>	<b>12.8</b>	<b>--</b>	<b>16.8</b>	<b>--</b>	<b>13.1</b>	<b>--</b>	<b>15.3</b>	<b>--</b>	<b>15.0</b>	<b>Jul-13</b>
<b>SSgA Real Asset Overlay Proxy- Gross</b>	<b>232,605,042</b>	<b>2.4</b>	<b>-0.6</b>	<b>--</b>	<b>-2.0</b>	<b>--</b>	<b>1.3</b>	<b>--</b>	<b>5.6</b>	<b>--</b>	<b>1.5</b>	<b>--</b>	<b>1.2</b>	<b>Jan-08</b>
<b>SSgA Real Asset Overlay Proxy- Net</b>			<b>-0.6</b>	<b>--</b>	<b>-2.1</b>	<b>--</b>	<b>1.2</b>	<b>--</b>	<b>5.4</b>	<b>--</b>	<b>1.3</b>	<b>--</b>	<b>1.0</b>	
<i>SSgA Real Asset<sup>1</sup></i>			<b>-0.7</b>	<b>--</b>	<b>-2.0</b>	<b>--</b>	<b>1.3</b>	<b>--</b>	<b>5.2</b>	<b>--</b>	<b>1.3</b>	<b>--</b>	<b>--</b>	<b>Jan-08</b>
<b>Cash - Gross</b>	<b>591,058,101</b>	<b>6.2</b>	<b>0.8</b>	<b>--</b>	<b>0.7</b>	<b>--</b>	<b>1.5</b>	<b>--</b>	<b>2.1</b>	<b>--</b>	<b>1.3</b>	<b>--</b>	<b>3.2</b>	<b>Jun-92</b>
<b>Cash - Net</b>			<b>0.8</b>	<b>--</b>	<b>0.7</b>	<b>--</b>	<b>1.5</b>	<b>--</b>	<b>2.1</b>	<b>--</b>	<b>1.3</b>	<b>--</b>	<b>--</b>	
<i>91 Day T-Bills</i>			<b>0.5</b>	<b>--</b>	<b>1.3</b>	<b>--</b>	<b>1.6</b>	<b>--</b>	<b>0.9</b>	<b>--</b>	<b>0.5</b>	<b>--</b>	<b>2.5</b>	<b>Jun-92</b>
<b>Cash Account- Gross</b>	<b>591,058,101</b>	<b>6.2</b>	<b>0.8</b>	<b>--</b>	<b>0.7</b>	<b>--</b>	<b>1.5</b>	<b>--</b>	<b>2.1</b>	<b>--</b>	<b>1.4</b>	<b>--</b>	<b>3.2</b>	<b>Jun-92</b>
<b>Cash Account- Net</b>			<b>0.8</b>	<b>--</b>	<b>0.7</b>	<b>--</b>	<b>1.5</b>	<b>--</b>	<b>2.1</b>	<b>--</b>	<b>1.4</b>	<b>--</b>	<b>--</b>	
<i>91 Day T-Bills</i>			<b>0.5</b>	<b>--</b>	<b>1.3</b>	<b>--</b>	<b>1.6</b>	<b>--</b>	<b>0.9</b>	<b>--</b>	<b>0.5</b>	<b>--</b>	<b>2.5</b>	<b>Jun-92</b>

1. See Policy Index and Benchmark History.

\* Composite reflects net returns from Cliffwater up to March 2017.

# Total Fund Manager Allocation Analysis

Period Ending: September 30, 2018



Total Fund  
 Manager Allocation Analysis

Period Ending: September 30, 2018

	Current	%
AB	\$1,278,364,101	13.3%
AQR US Enhanced Equity	\$246,465,009	2.6%
JP Morgan 130/30	\$134,492,152	1.4%
Brown Advisory	\$24,358	0.0%
Eagle Capital	\$252,938,041	2.6%
Huber Capital	\$274,480	0.0%
UBS	\$8,404	0.0%
Weatherbie	\$104,701,712	1.1%
Dalton, Greiner	\$102,246,278	1.1%
WEDGE Capital	\$114,811	0.0%
CenterSquare	\$145,854	0.0%
Lazard	\$373,139,041	3.9%
Walter Scott & Partners Limited	\$505,000,047	5.3%
LSV	\$454,748,769	4.7%
Mondrian Dev Small Cap	\$97,359,201	1.0%
William Blair Dev Small Cap	\$90,386,314	0.9%
Baillie Gifford Emg All Cap	\$182,394,794	1.9%
Mondrian Emg All Cap	\$161,866,701	1.7%
CBRE Clarion	\$67,695	0.0%
Abbott VI	\$55,028,302	0.6%
Accel-KKR IV	\$12,302,077	0.1%
Accel-KKR V	\$7,867,691	0.1%
Accel-KKR Growth Partners II	\$7,627,439	0.1%
Atalaya Special Opp VI	\$23,870,830	0.2%
Davidson Kempner LT Dist Opp	\$9,402,639	0.1%
Dyal Capital Partners II	\$14,920,121	0.2%
Dyal Capital Partners III	\$16,721,734	0.2%
Garrison Investment Group	\$13,913,016	0.1%



Total Fund  
 Manager Allocation Analysis

Period Ending: September 30, 2018

	Current	%
Harbourvest VIII	\$19,085,945	0.2%
Harbourvest Intl VI	\$36,237,305	0.4%
H.I.G. Bayside Loan III	\$20,655,709	0.2%
H.I.G. Capital V	\$10,101,441	0.1%
H.I.G. Europe Capital II	\$10,835,007	0.1%
Khosla IV	\$17,025,023	0.2%
Khosla V	\$18,096,494	0.2%
Khosla VI	\$2,205,000	0.0%
Linden Capital	\$37,907,120	0.4%
Linden Capital Partners IV	\$1,886,101	0.0%
Marlin Equity IV	\$13,351,178	0.1%
Marlin Equity V	\$4,593,293	0.0%
Marlin Heritage	\$8,531,692	0.1%
Marlin Heritage II	\$3,344,861	0.0%
Marlin Heritage Europe	\$4,704,202	0.0%
New Enterprise 14	\$33,581,201	0.3%
New Enterprise 15	\$38,196,318	0.4%
New Enterprise 16	\$9,775,221	0.1%
Private Equity X	\$32,614,645	0.3%
RRJ Capital Master Fund II	\$19,084,972	0.2%
RRJ Capital Master Fund III	\$29,351,061	0.3%
Spectrum Equity	\$28,573,762	0.3%
Spectrum Equity Fund VIII	\$195,668	0.0%
Summit EUR Growth Equity II	\$5,951,218	0.1%
Summit Ventures III	\$16,350,639	0.2%
Summit Ventures IV	\$19,481,865	0.2%
Thoma Bravo XI	\$42,060,034	0.4%
Thoma Bravo XII	\$28,705,148	0.3%

Total Fund  
 Manager Allocation Analysis

Period Ending: September 30, 2018

	Current	%
TPG Opp Partners III	\$22,713,826	0.2%
Trinity Ventures XI	\$28,820,699	0.3%
Trinity Ventures XII	\$18,328,759	0.2%
TSG7 A LP	\$10,013,299	0.1%
TSG7 B LP	\$995,220	0.0%
Waterland V	\$11,247,084	0.1%
Waterland VI	\$16,561,841	0.2%
Waterland VI Over	\$936	0.0%
Wayzata Opportunities III	\$6,396,062	0.1%
Brigade Capital	\$182,200,301	1.9%
Athyrium Opp II	\$14,674,766	0.2%
Athyrium Opp III	\$9,446,667	0.1%
Benefit St Pr Sr Secure Opp	\$38,857,084	0.4%
Summit Credit	\$3,483,535	0.0%
Summit Credit II	\$21,183,602	0.2%
TCP Direct Lending VIII	\$26,800,485	0.3%
Grosvenor SCARF Growth	\$141,462,347	1.5%
Grosvenor SCARF B Growth	\$190,043	0.0%
JANA Partners	\$44,826,244	0.5%
Lakewood	\$43,288,642	0.5%
OZ Domestic II	\$48,219,388	0.5%
Third Point Offshore Fund	\$49,753,629	0.5%
Prudential	\$434,750,057	4.5%
TCW MetWest Fixed	\$411,647,832	4.3%
Neuberger Berman	\$416,517,881	4.3%
Brandywine Global	\$219,177,965	2.3%
AQR DELTA II	\$64,145,979	0.7%
Brevan Howard US	\$18,750,481	0.2%

Total Fund  
 Manager Allocation Analysis

Period Ending: September 30, 2018

	Current	%
Elliot Associates	\$54,211,208	0.6%
Graham Global Inv II	\$34,425,038	0.4%
Grosvenor SCARF Diversifying	\$131,005,665	1.4%
Grosvenor SCARF B Diversifying	\$169,173,500	1.8%
Laurion Capital	\$45,878,792	0.5%
Winton Diversified Futures	\$37,839,972	0.4%
BlackRock RE Leveraged	\$60,893,858	0.6%
Cornerstone Leveraged	\$2,609,930	0.0%
Clarion Lion Properties	\$150,000,000	1.6%
Jamestown Premier Property	\$17,838,624	0.2%
Metlife Core Property	\$58,478,094	0.6%
Prime Property	\$59,108,130	0.6%
Principal US Property	\$45,247,954	0.5%
Prologis Targeted Euro Logistics	\$38,364,235	0.4%
Prologis Targeted US Logistics	\$68,108,643	0.7%
Townsend Real Estate	\$107,795,149	1.1%
Carlyle China Realty	\$6,311,395	0.1%
Carlyle China Rome Logistics	\$27,317,027	0.3%
CIM Opportunity VIII	\$33,505,354	0.3%
Kohlberg Kravis Roberts	\$34,863,114	0.4%
NREP Nordic Strat FCP-FIS	\$15,419,059	0.2%
NREP Nordic Strat II	\$29,714,839	0.3%
NREP Nordic Strat III	\$1,658,973	0.0%
OZ RE III	\$15,772,135	0.2%
AEW II	\$59,166	0.0%
ECE Euro Prime Shopping II	\$17,936,335	0.2%
European RE Debt II	\$15,001,654	0.2%
Hammes II	\$22,667,858	0.2%

Total Fund  
 Manager Allocation Analysis

Period Ending: September 30, 2018

	Current	%
Hines US Office II	\$136,535	0.0%
UBS RE	\$7,213,661	0.1%
ACM II	\$12,902,816	0.1%
ArcLight Energy VI	\$32,676,768	0.3%
Atalaya SMA	\$18,296,341	0.2%
Brookfield Infra III	\$20,252,752	0.2%
Carlyle Power II	\$15,646,352	0.2%
EnCap Energy IX	\$23,021,682	0.2%
EnCap Energy X	\$30,197,259	0.3%
EnCap Flatrock Midstream IV	\$7,841,547	0.1%
EnCap Flatrock Midstream III	\$13,395,298	0.1%
First Reserve	\$19,978,424	0.2%
IFM Global Infrastructure US LP	\$92,005,667	1.0%
Meridiam Infra N America III	\$395,131	0.0%
Pantheon Ventures	\$72,495,717	0.8%
Quantum Energy VI	\$26,228,339	0.3%
Quantum Energy VII	\$12,904,831	0.1%
Tailwater Energy Fund III	\$14,404,694	0.2%
Wastewater Opportunity	\$11,633,421	0.1%
Gresham	\$27,477,461	0.3%
Atalaya Special Opportunities V	\$8,902,111	0.1%
Cash Account	\$591,058,101	6.2%
Transition Account	\$252,107	0.0%
Heitman Adv JMB V	\$8,390	0.0%
SSgA Overlay	\$45,295,916	0.5%
SSgA Barclays 1-10 Yrs TIPS Index	\$69,612,360	0.7%
SSgA Real Asset	\$162,992,682	1.7%
<b>Total</b>	<b>\$9,601,760,454</b>	<b>100.0%</b>

**Statistics Summary**

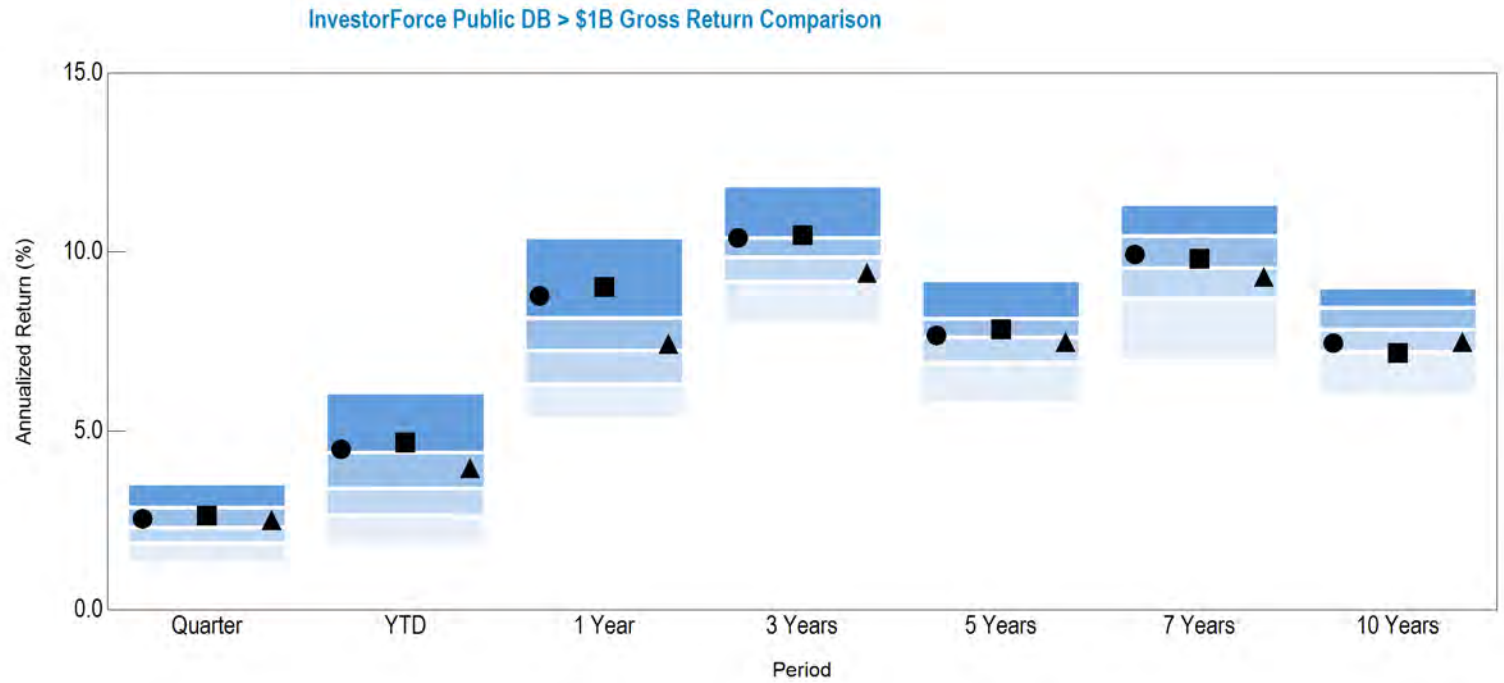
**3 Years**

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	10.4%	26	5.3%	59	1.8	38	0.5	28	1.9%	91
Policy Index	9.4%	64	4.2%	14	2.0	15	--	--	0.0%	1
Total Fund ex Overlay	10.5%	23	5.0%	41	1.9	26	0.6	23	1.7%	89
Policy Index	9.4%	64	4.2%	14	2.0	15	--	--	0.0%	1

**Statistics Summary**

**5 Years**

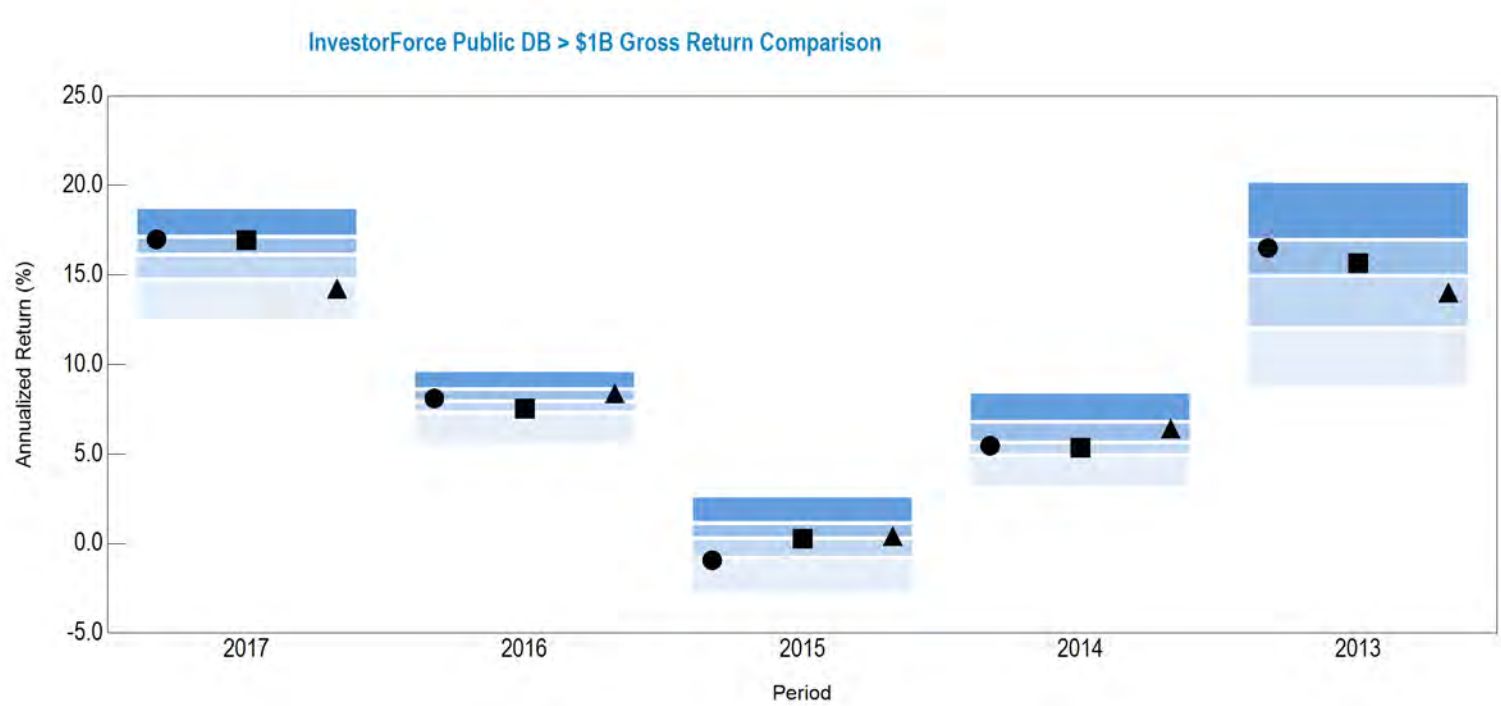
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	7.7%	48	5.5%	49	1.3	40	0.1	64	1.8%	90
Policy Index	7.5%	57	4.6%	11	1.5	19	--	--	0.0%	1
Total Fund ex Overlay	7.8%	45	5.2%	32	1.4	24	0.2	51	1.5%	88
Policy Index	7.5%	57	4.6%	11	1.5	19	--	--	0.0%	1



	Quarter		YTD		1 Year		3 Years		5 Years		7 Years		10 Years	
<b>5th Percentile</b>	3.5		6.1		10.4		11.8		9.2		11.3		9.0	
<b>25th Percentile</b>	2.9		4.4		8.2		10.4		8.1		10.5		8.4	
<b>Median</b>	2.3		3.4		7.3		9.9		7.6		9.6		7.8	
<b>75th Percentile</b>	1.9		2.7		6.3		9.2		6.9		8.7		7.2	
<b>95th Percentile</b>	1.3		1.8		5.3		8.0		5.8		7.0		6.0	
<b># of Portfolios</b>	78		77		77		77		75		74		71	
<b>● Total Fund</b>	2.5	(34)	4.5	(21)	8.8	(15)	10.4	(26)	7.7	(48)	9.9	(38)	7.5	(65)
<b>■ Total Fund ex Overlay</b>	2.6	(31)	4.7	(16)	9.0	(13)	10.5	(23)	7.8	(45)	9.8	(43)	7.2	(76)
<b>▲ Policy Index</b>	2.5	(35)	4.0	(34)	7.4	(45)	9.4	(64)	7.5	(57)	9.3	(63)	7.5	(63)

Total Fund  
Peer Universe Comparison (Calendar Years)

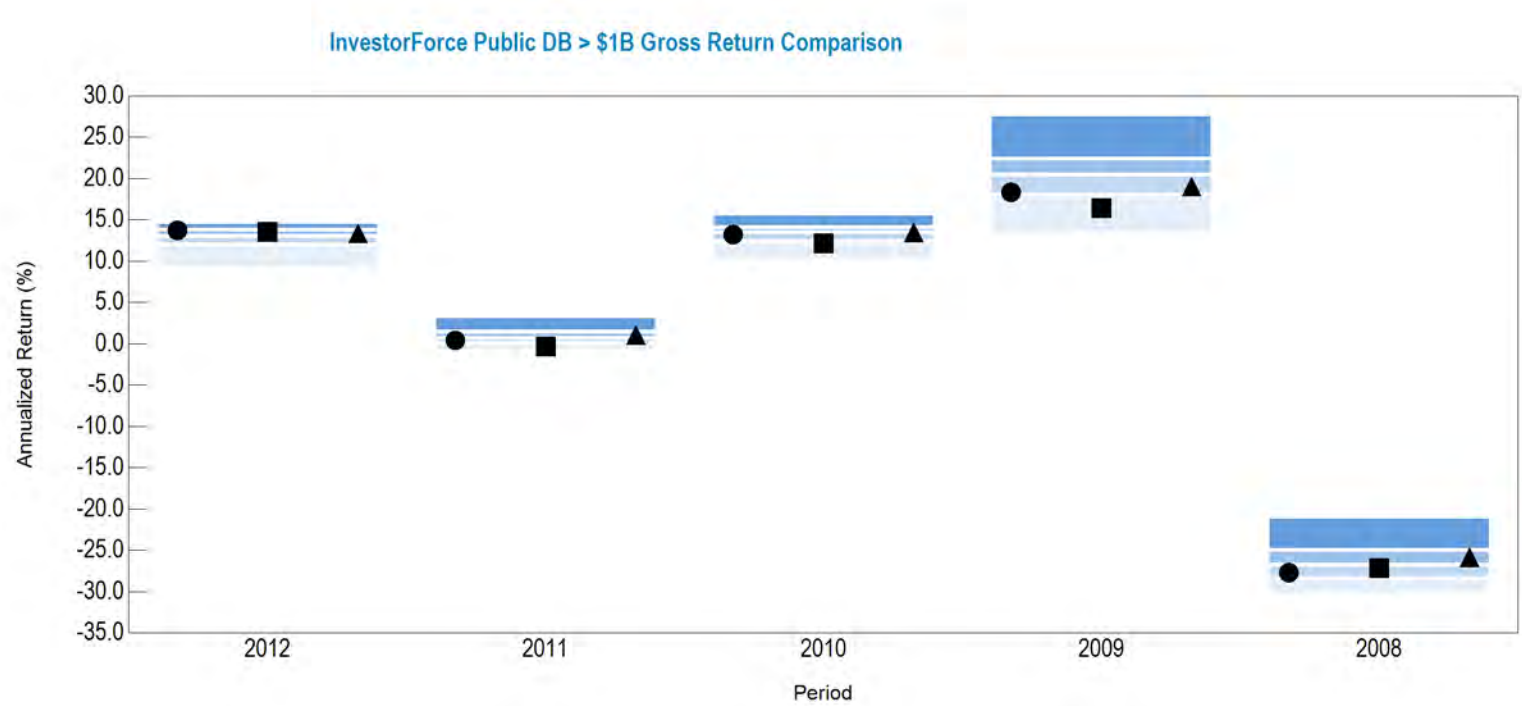
Period Ending: September 30, 2018



	2017		2016		2015		2014		2013	
5th Percentile	18.8		9.7		2.7		8.5		20.2	
25th Percentile	17.2		8.6		1.1		6.8		17.0	
Median	16.2		8.0		0.3		5.7		15.0	
75th Percentile	14.8		7.4		-0.7		4.9		12.0	
95th Percentile	12.4		5.5		-2.8		3.1		8.7	
# of Portfolios	98		92		98		79		67	
● Total Fund	17.0	(31)	8.1	(43)	-0.9	(83)	5.5	(61)	16.5	(31)
■ Total Fund ex Overlay	16.9	(31)	7.5	(69)	0.3	(51)	5.3	(65)	15.6	(43)
▲ Policy Index	14.2	(82)	8.4	(34)	0.4	(46)	6.4	(34)	14.0	(64)

Total Fund  
Peer Universe Comparison (Calendar Years)

Period Ending: September 30, 2018



	Return (Rank)				
	2012	2011	2010	2009	2008
5th Percentile	14.7	3.3	15.7	27.7	-21.0
25th Percentile	13.9	1.6	14.2	22.5	-24.9
Median	13.0	0.8	13.5	20.5	-26.7
75th Percentile	12.1	0.1	12.5	18.1	-28.3
95th Percentile	9.2	-0.9	10.2	13.4	-30.2
# of Portfolios	74	68	66	66	65
● Total Fund	13.7 (36)	0.4 (60)	13.2 (62)	18.3 (73)	-27.7 (65)
■ Total Fund ex Overlay	13.6 (41)	-0.3 (86)	12.2 (81)	16.4 (86)	-27.2 (53)
▲ Policy Index	13.4 (42)	1.0 (38)	13.5 (53)	19.0 (62)	-25.8 (42)



Total Plan Policy Index	As of:								
	7/1/17	4/1/17	1/1/14	1/1/12	1/1/08	2/1/06	9/1/04	1/1/00	7/1/86
91-day UST Bill +5% (AR)		10.0%	10.0%	10.0%	5.0%	5.0%	5.0%		
BBgBarc Aggregate	10.0%	10.0%	15.0%	20.0%	20.0%	25.0%	25.0%	30.0%	
BBgBarc US Treasury	5.0%	5.0%							
ICE BofA ML High Yield II	1.0%	1.0%	1.0%						
Bloomberg Commodity	2.0%	2.0%			5.0%				
Cambridge Associates Private Energy 1 Qtr Lag	2.5%								
Cambridge Associates Private Infrastructure 1 Qtr Lag	3.2%								
FTSE BIG									23.0%
FTSE WGBI ex US Unhedged	2.4%	2.4%	2.4%						
CPI-U +5% (PRA)		7.0%	15.0%	15.0%					
Credit Suisse Leveraged Loans	1.0%	1.0%	1.0%						
Credit Suisse Leveraged Loans +2%	4.0%	4.0%							
JPM GBI EM Diversified	0.6%	0.6%	0.6%						
HFRI FoF Composite Index + 1%	3.0%								
HFRI FoF Conservative Index	7.0%								
MSCI ACWI ex US	20.0%	20.0%	22.5%	22.5%	20.0%				
MSCI EAFE						15.0%	15.0%	15.0%	15.0%
MSCI Emerging Markets						5.0%	5.0%	5.0%	
NAREIT					3.0%	3.0%			
NFI-ODCE	4.6%								
NFI-ODCE net +1% 1Q Lag	2.5%								
NCREIF		7.0%			12.0%	12.0%	15.0%	10.0%	15.0%
NCREIF Farmland 1 Qtr Lag	0.7%								
NCREIF Timberland Index Lagged	0.7%								
Russell 1000						30.0%	30.0%	35.0%	
Russell 1000 +3% 1QL (PE)			10.0%	10.0%					
Russell 2000						5.0%	5.0%	5.0%	
Russell 3000	21.0%	21.0%	22.5%	22.5%	30.0%				47.0%
S&P 500 +2% 1QL (PE)					5.0%				
Thomson Reuters C A All PE 1 Qtr Lag	9.0%	9.0%							
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Growth Benchmark	As of:	
	7/1/17	4/1/17
91 Day T-Bill +5%		5.08%
ICE BofA ML High Yield II	1.70%	1.70%
Credit Suisse Leveraged Loans	1.70%	1.70%
Credit Suisse Leveraged Loan + 2%	6.78%	6.78%
HFRI FoF Composite Index + 1%	5.08%	
MSCI ACWI ex US	33.90%	33.90%
Russell 3000	35.59%	35.59%
Thomson Reuters C/A All PE 1 Qtr Lag	15.25%	15.25%
	<b>100.0%</b>	<b>100.0%</b>

US Equity Benchmark	As of:			
	1/1/08	9/1/04	1/1/00	7/1/86
Russell 1000		85.71%	87.5%	
Russell 2000		14.29%	12.5%	
Russell 3000	100.0%			100.0%
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

International Equity Benchmark	As of:		
	1/1/08	1/1/00	7/1/86
MSCI ACWI ex US	100.0%		
MSCI EAFE		75.0%	100.0%
MSCI Emerging Markets		25.0%	
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Private Equity Benchmark	As of:		
	4/1/17	1/1/12	1/1/08
Russell 1000 +3% 1QL		100.0%	
S&P 500 +2% 1QL			100.0%
Thomson Reuters C/A All PE 1 Qtr Lag	100.0%		
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Public Credit Benchmark	As of:
	4/1/17
ICE BofA ML High Yield II	50.0%
Credit Suisse Leveraged Loans	50.0%
	<b>100.0%</b>

Private Credit Benchmark	As of:
	4/1/17
Credit Suisse Leveraged Loan + 2%	100.0%
	<b>100.0%</b>

Growth Oriented Absolute Return Benchmark	As of:	
	7/1/17	4/1/17
91-day UST Bill +5%		100.0%
HFRI FoF Composite Index + 1%	100.0%	
	<b>100.0%</b>	<b>100.0%</b>

Diversifying Benchmark	As of:	
	7/1/17	4/1/17
91 Day T-Bill +5%		28.0%
BBgBarc US Aggregate	40.0%	40.0%
BBgBarc US Treasury	20.0%	20.0%
FTSE WGBI ex US Unhedged	9.6%	9.6%
HFRI FoF Conservative Index	28.0%	
JPM GBI EM Diversified	2.4%	2.4%
	<b>100.0%</b>	<b>100.0%</b>

Global Fixed Income Benchmark	As of:
	6/1/13
FTSE WGBI ex US Unhedged	80.0%
JPM GBI EM Diversified	20.0%
	<b>100.0%</b>

Diversifying Absolute Return Benchmark	As of:	
	7/1/17	4/1/17
91-day UST Bill +5%		100.0%
HFRI FoF Conservative Index	100.0%	
	<b>100.0%</b>	<b>100.0%</b>

Real Return Benchmark	As of:
	4/1/17
Real Estate Benchmark	43.75%
Private Real Assets Benchmark	43.75%
Bloomberg Commodity	12.50%
	<b>100.0%</b>

Real Estate Benchmark	As of:	
	7/1/17	7/1/2011
NCREIF		100.0%
NFI-ODCE	65.0%	
NFI-ODCE net +1% 1Q Lag	35.0%	
	<b>100.0%</b>	<b>100.0%</b>

RE-Value Added Benchmark	As of:	
	7/1/16	10/1/08
NCREIF +2% 1Q Lag		100.0%
NFI-ODCE net +1% 1Q Lag	100.0%	
	<b>100.0%</b>	<b>100.0%</b>

Private Real Assets Benchmark	As of:	
	7/1/17	4/1/17
CPI-U Headline +5%		100.0%
Cambridge Associates Private Energy 1 Qtr Lag	35.0%	
Cambridge Associates Private Infrastructure 1 Qtr Lag	45.0%	
NCREIF Farmland 1 Qtr Lag	10.0%	
NCREIF Timberland Index Lagged	10.0%	
	<b>100.0%</b>	<b>100.0%</b>

AllianceBernstein Benchmark	As of:		
	1/1/01	1/1/98	5/1/89
Russell 1000	100.0%		
Russell 3000		100.0%	
Wilshire 2500			100.0%
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Brandywine Benchmark	As of:
	6/1/13
FTSE WGBI ex US Unhedged	80.0%
JPM GBI EM Diversified	20.0%
	<b>100.0%</b>

Brigade Benchmark	As of:
	12/1/13
ICE BofA ML High Yield II	50.0%
Credit Suisse Leveraged Loans	50.0%
	<b>100.0%</b>

SSgA Real Asset Benchmark	As of:		
	3/2/2018	10/1/15	2/1/08
BBgBarc US Govt Inflation-Linked 1-10 Yrs		10.0%	
BBgBarc US TIPS		10.0%	20.0%
BBgBarc 1-10 Yr US TIPS	30.0%		
BBgBarc Roll Select Commodity TR	10.0%	20.0%	
BBgBarc USD Floating Rate Note <5yr	10.0%		
DJ US Select REIT			30.0%
FTSE EPRA/NAREIT Developed Liquid	15.0%	10.0%	
MSCI World Natural Resources		20.0%	25.0%
S&P Global Large Mid Cap Commodity Resources	10.0%		
S&P Global Infrastructure	25.0%	20.0%	
S&P GS Commodities			25.0%
S&P MLP		10.0%	
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

# Glossary

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**Allocation Effect:** An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

**Alpha:** The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as:  $\text{Portfolio Return} - [\text{Risk-free Rate} + \text{Portfolio Beta} \times (\text{Market Return} - \text{Risk-free Rate})]$ .

**Benchmark R-squared:** Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

**Beta:** A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

**Book-to-Market:** The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

**Capture Ratio:** A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

**Correlation:** A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

**Excess Return:** A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

**Information Ratio:** A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

**Interaction Effect:** An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

**Portfolio Turnover:** The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

**Price-to-Earnings Ratio (P/E):** Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

**R-Squared:** Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

**Selection Effect:** An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

**Sharpe Ratio:** A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as:  $\text{Portfolio Excess Return} / \text{Portfolio Standard Deviation}$ .

**Sortino Ratio:** Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

**Standard Deviation:** A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

**Style Analysis:** A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

**Style Map:** A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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