



Board of Retirement Regular Meeting

Sacramento County Employees' Retirement System

Agenda Item 18

MEETING DATE: February 19, 2020

SUBJECT: Total Fund Investment Performance Report –
Fourth Quarter 2019

SUBMITTED FOR: Consent Deliberation and Action Receive and File

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 December 31, 2019.

PURPOSE

This agenda item complies with SCERS' investment policy statement reporting requirements and 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 December 31, 2019. 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 formatted to reflect SCERS' strategic asset allocation, including the Growth, Diversifying, and Real Return asset categories. Please note that asset category composites were added to align with SCERS' strategic asset allocation, 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 December 31, 2019

SCERS ASSET CLASS	Quarter	Fiscal Year-to-Date	1-Year	3-Year	5-Year	Since Inception	Since Inception Date
SCERS TOTAL FUND Return w/Overlay	4.9%	6.0%	17.2%	10.7%	7.8%	8.4%	Jun-86
Policy Index	4.0%	4.9%	14.7%	8.9%	7.0%	8.5%	
InvestorForce Public DB > \$1B	5.1%	5.6%	16.9%	9.1%	7.0%	8.2%	
SCERS TOTAL FUND Return w/o Overlay	4.8%	5.9%	16.6%	10.7%	7.9%	8.3%	Jun-86
Policy Index	4.0%	4.9%	14.7%	8.9%	7.0%	8.5%	
GROWTH ASSET CATEGORY	7.7%	8.5%	24.0%	-	-	12.6%	Mar-17
Custom Benchmark	6.7%	7.2%	21.1%	-	-	10.6%	
DIVERSIFYING ASSET CATEGORY	0.7%	2.3%	7.8%	-	-	3.7%	Mar-17
Custom Benchmark	0.5%	1.9%	7.6%	-	-	3.8%	
REAL RETURN ASSET CATEGORY	1.4%	2.9%	8.2%	-	-	8.9%	Mar-17
Custom Benchmark	0.4%	1.1%	3.7%	-	-	5.6%	
OPPORTUNITIES PORTFOLIO	2.2%	7.2%	8.6%	5.7%	6.9%	15.0%	Oct-07
Custom Benchmark	4.0%	4.9%	14.7%	8.9%	7.0%	7.9%	
DEDICATED CASH	0.4%	0.6%	-	-	-	0.6%	Jun-19
Overnight LIBOR	0.3%	0.6%	-	-	-	0.6%	

The SCERS portfolio returned +4.9% for the fourth quarter, outperforming the policy index benchmark return of +4.0% and slightly underperforming the median public fund return of +5.1%. For the year ending December 31, 2019, the SCERS portfolio returned +17.2%, exceeding SCERS' assumed rate of return of 7.0%, and outperforming the policy index benchmark return of +14.7% and median public fund return of +16.9%.

Growth Asset Category

Growth assets produced strong returns during the quarter, led by public equity markets. Private market returns are lagged by one quarter and trailed the returns of public equity markets. SCERS' Public Equity portfolio returned +9.7%, outperforming the MSCI ACWI benchmark, which was +9.0% for the quarter. For the 1-year period ending December 31, 2019, Public Equity leads the Growth category returning +28.0%. Private Equity continued to show strong returns, up +17.8% for the year. The Growth Absolute Return portfolio returned +4.3% in the quarter and +12.9% for the year, exceeding its benchmark return of +9.4%. Credit markets produced positive results, but trailed the strong returns from equity markets.

SCERS GROWTH Performance Summary for the periods ending 12/31/19	Quarter	Fiscal Year-to-Date	1-Year	Since Inception	Since Inception Date
SCERS GROWTH ASSET CATEGORY	7.7%	8.5%	24.0%	12.6%	Mar-17
Custom Benchmark	6.7%	7.2%	21.1%	10.6%	
Public Equity	9.7%	9.3%	28.0%	9.6%	Jun-11
MSCI ACWI	9.0%	8.9%	26.6%	8.3%	
Private Equity (lagged 1 quarter)	2.2%	8.5%	17.8%	3.9%	Feb-08
Cambridge All PE	0.5%	4.3%	7.6%	10.2%	
Public Credit	3.2%	2.8%	9.0%	4.4%	Nov-13
Custom Benchmark	2.1%	3.3%	11.3%	4.9%	
Private Credit (lagged 1 quarter)	2.3%	3.7%	5.8%	7.0%	Mar-17
Credit Suisse Leveraged Loan + 2%	2.2%	3.7%	10.2%	7.0%	
Growth Absolute Return	4.3%	3.8%	12.9%	4.8%	Aug-04
HFRI FoF Composite +1%	3.3%	2.5%	9.4%	6.0%	

Diversifying Asset Category

The Diversifying Asset Category generated positive returns in the quarter, up +0.7%, slightly outperforming the benchmark return of +0.5%. The Diversifying portfolio was led by Global Fixed Income, which returned +4.2% during the quarter compared to the benchmark return of +0.8%. The U.S. Treasury portfolio declined slightly during the quarter, returning -0.8%. For the 1-year period, the Diversifying portfolio was up +7.8% and outperformed the benchmark return of +7.6%. All asset classes delivered positive returns for the year. The Diversifying Absolute Return portfolio lagged the other asset classes, returning +4.4% compared to the benchmark return of +6.6%.

SCERS DIVERSIFYING Performance Summary for the periods ending 12/31/19	Quarter	Fiscal Year-to-Date	1-Year	Since Inception	Since Inception Date
SCERS DIVERSIFYING ASSET CATEGORY	0.7%	2.3%	7.8%	3.7%	Mar-17
Custom Benchmark	0.5%	1.9%	7.6%	3.8%	
Core/Core Plus Fixed Income	0.4%	2.9%	10.1%	3.7%	Jun-11
Barclays US Aggregate TR	0.2%	2.5%	8.7%	3.3%	
U.S. Treasury	-0.8%	1.7%	6.9%	5.4%	Feb-18
Barclays US Treasury TR	-0.8%	1.6%	6.9%	5.4%	
Global Fixed Income	4.2%	2.6%	9.7%	2.8%	May-13
Custom Benchmark	0.8%	1.3%	7.4%	1.4%	
Diversifying Absolute Return	0.8%	1.5%	4.4%	2.1%	Nov-11
HFRI FoF Conservative Index	1.7%	1.6%	6.3%	4.5%	

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Real Return Asset Category

SCERS' Real Return portfolio was positive in the quarter, returning +1.4% including the Real Return Overlay Proxy, outperforming the asset category benchmark return of +0.4%. SCERS' Liquid Real Return, which includes the Brookfield Liquid Real Return actively managed account and the SSgA Passive Real Return Proxy, was up +2.8% and the top performing segment during the quarter. Non-Core Opportunistic Real Estate, whose returns are lagged by one quarter, was the only negative performing segment during the quarter, down -1.6% and slightly underperforming the NFI-ODCE +1% benchmark. For the year, the Real Return asset category returned +8.2% and significantly outperformed the benchmark return of +3.7%.

SCERS REAL RETURN Performance Summary	Quarter	Year-to-Date	1-Year	Since Inception	Since Inception Date
SCERS REAL RETURN ASSET CATEGORY					
SCERS Real Return w/ SSgA Proxy	1.4%	2.9%	8.2%	8.9%	Mar-17
SCERS Real Return w/o SSgA Proxy	1.4%	2.9%	7.7%	10.0%	Mar-17
Custom Benchmark	0.4%	1.1%	3.7%	5.6%	Mar-17
SCERS Real Estate	1.3%	3.3%	7.5%	11.2%	Jun-11
Custom Benchmark	0.7%	2.0%	5.5%	9.6%	
Core Real Estate (as of 12/31/19)					
Separate Account	1.4%	4.3%	23.6%	7.6%	Sep-08
Commingled Funds	1.6%	3.6%	7.8%	5.3%	Sep-08
NFI-ODCE	1.5%	2.8%	5.3%	8.4%	
Non-Core Real Estate (as of 9/30/19)					
Opportunistic	-1.6%	0.8%	3.4%	20.2%	Feb-14
Value Add	5.9%	7.0%	7.2%	-1.1%	Sep-08
NFI-ODCE net +1%	-0.9%	0.5%	5.6%	9.8%	Feb-14
				7.7%	Sep-08
SCERS Real Assets (as of 9/30/19)	1.2%	2.1%	7.7%	5.3%	Jan-13
Custom Benchmark	-0.7%	-0.3%	0.4%	6.0%	
SCERS Liquid Real Return (as of 12/31/19)	2.8%	3.1%	-	3.1%	Jun-19
SSgA Real Assets	3.1%	3.3%	-	3.3%	

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 December 31, 2019	
Asset Class	Policy Index Benchmark
Growth Asset Category	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%
Diversifying Asset Category	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
Real Return Asset Category	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)
Liquid Real Return	30% (Barclays U.S. TIPS) + 25% (S&P Global Infrastructure Index) + 15% (Global REITs) + 10% (S&P Global Natural Resources Index) + 10% (Bloomberg Commodity Index) +10% (U.S. Dollar Floating Rate Notes)
Opportunities Portfolio	SCERS Total Fund
Dedicated Cash	Overnight LIBOR

ATTACHMENT

Verus' Investment Performance Review for SCERS for the period ending December 31, 2019.

Prepared by:

/S/

Brian Miller
Investment Officer

Reviewed by:

/S/

Steve Davis
Chief Investment Officer

/S/

Eric Stern
Chief Executive Officer



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: DECEMBER 31, 2019

Investment Performance Review for

Sacramento County Employees' Retirement System

Table of Contents



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SEATTLE 206-622-3700

LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

Market Environment

TAB I

Total Fund

TAB II

Policy Index and
Benchmark History

TAB III

4th quarter summary

THE ECONOMIC CLIMATE

- Real GDP grew at a 2.1% rate year-over-year in the third quarter (2.1% quarterly annualized rate). Falling imports and weak fixed investment (-0.2% contribution) acted as a drag on growth, while personal consumption continued to be the greatest driver of growth.
- U.S. and Chinese negotiators signed the “phase one” trade agreement, and Boris Johnson’s Conservative Party in the U.K. won a decisive victory. These events appear to have removed some uncertainty from the geopolitical landscape over the short- to intermediate-term.

PORTFOLIO IMPACTS

- Global equity markets exhibited strong performance through Q4, and U.S. equity performance was in-line (MSCI ACWI +9.0%, S&P 500 +9.1%). Emerging markets were the top performing asset class (+11.8%).
- U.S. headline inflation increased 2.3% YoY in December, alongside the core inflation growth figure, and up from 1.7% in September. Although this was a notable jump in the inflation rate, investors appear more concerned about global deflationary forces, as indicated by the 10yr U.S. TIPS Breakeven Inflation Rate of 1.73%. Cyclical price pressures remain surprisingly absent from the current environment.

THE INVESTMENT CLIMATE

- In October, the Federal Open Market Committee cut interest rates by 0.25% to a new range of 1.50 – 1.75%. This marked the third consecutive rate cut by the committee.
- Global sovereign bond yields picked up modestly in Q4, on higher inflation and growth prospects. The dollar value of negative-yielding outstanding debt fell from nearly \$15 trillion to just above \$11 trillion. Central bankers appealed for fiscal action, citing the limited capacity of monetary policy to sustain further economic expansion.

ASSET ALLOCATION ISSUES

- Most risk assets provided sizable gains in Q4. Global equities delivered +9.0%, U.S. high yield increased +2.6%, and Emerging Market Local Debt rose +5.2%. Longer duration fixed income saw losses as interest rates rebounded.
- The U.S. dollar weakened -0.5% against both developed and emerging currencies in Q4, reversing moves of the prior quarter. Dollar volatility remains low relative to the big swings that occurred throughout 2014-2018.
- Although risk assets appear to have rocketed higher in 2019, which may create concerns over valuations, it is important to note that much of this performance was due to assets recovering from a sharp fall in late-2018.

A neutral risk stance may be appropriate in today’s environment

U.S. economics summary

- Real GDP grew at a 2.1% rate year-over-year in the third quarter (2.0% quarterly annualized rate). Falling imports and weak fixed investment (-0.2% contribution) acted as a drag on growth, while personal consumption continued to be the greatest driver of growth.
- U.S. headline inflation came in at 2.3% YoY in December, in line with the core inflation growth figure. Despite more than 10 years of economic expansion, cyclical price pressures seem surprisingly absent from the current environment. Investors appear more concerned about global deflationary forces.
- The U.S. labor market showed further strength in the fourth quarter and unemployment remained at 50-year lows of 3.5%.
- Consumer sentiment indicators remain near all-time-highs and improved slightly over the quarter.
- American households are in a

strong financial position, with balance sheets that appear increasingly robust. At the end of Q3, U.S. household debt outstanding was equal to about 74% of GDP, the healthiest level since Q4 2001.

- U.S. and Chinese negotiators signed the “phase one” agreement on trade, and Boris Johnson’s Conservative Party won a decisive victory in the U.K. These developments may ease some of the economic uncertainty across the global economy, providing a tailwind to future growth.
- Existing home sales grew +2.7% YoY in November. New home sales, a far smaller portion of the overall market, grew at a stronger rate of +16.9% YoY, as construction activity further accelerated. Rising homebuilder activity in recent years may ease some of the low inventory pressures in the current market environment.

	Most Recent	12 Months Prior
GDP (YoY)	2.1% <i>9/30/19</i>	3.1% <i>9/30/18</i>
Inflation (CPI YoY, Core)	2.3% <i>12/31/19</i>	2.2% <i>12/31/18</i>
Expected Inflation (5yr-5yr forward)	1.8% <i>12/31/19</i>	1.8% <i>12/31/18</i>
Fed Funds Target Range	1.50 – 1.75% <i>12/31/19</i>	2.25 – 2.50% <i>12/31/18</i>
10 Year Rate	1.9% <i>12/31/19</i>	2.7% <i>12/31/18</i>
U-3 Unemployment	3.5% <i>12/31/19</i>	3.9% <i>12/31/18</i>
U-6 Unemployment	6.7% <i>12/31/19</i>	7.6% <i>12/31/18</i>

International economics summary

- The growth of international developed economies remains in a range of 0.5% to 2.0%, near the 2.1% growth rate of the slowing U.S. economy.
- In January, the IMF forecasted 2.9% global growth in 2019 and an acceleration to 3.3% in 2020. These growth expectations were 0.1% lower than the previous quarter’s report, and were mostly a result of downward adjustments to emerging markets expectations.
- Inflation continues to be muted across international developed markets, keeping more options on the table for central banks to step in as needed with accommodative policy.
- The U.K. general election in December resulted in a landslide victory for Boris Johnson. The election, through a consolidation of Tory party power, effectively guarantees that Brexit will ultimately be carried out.
- While the global economy has exhibited mild growth, labor markets continue to tighten across the board. By traditional unemployment measures, job markets are now stronger than pre-2008 levels in most major economies.
- U.S. and Chinese negotiators signed the “phase one” agreement on trade, and the decisive victory of Boris Johnson’s Conservative Party in the U.K. appears to have at least removed some uncertainty from the geopolitical landscape over the short- to intermediate-term.
- China has experienced a significant jump in inflation to 4.5% as an outbreak of African swine fever resulted in a doubling of pork prices. This compares to a 5-year average inflation rate of 1.9%. An acceleration of inflation may create issues for Chinese leadership in an already-slowing economy.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.1% <i>9/30/19</i>	2.3% <i>12/31/19</i>	3.5% <i>12/31/19</i>
Eurozone	1.2% <i>9/30/19</i>	1.3% <i>12/31/19</i>	7.5% <i>11/30/19</i>
Japan	1.7% <i>9/30/19</i>	0.9% <i>12/31/19</i>	2.2% <i>11/30/19</i>
BRICS Nations	4.9% <i>9/30/19</i>	4.4% <i>12/31/19</i>	5.1% <i>9/30/19</i>
Brazil	1.2% <i>9/30/19</i>	4.3% <i>12/31/19</i>	11.2% <i>11/30/19</i>
Russia	1.7% <i>9/30/19</i>	3.1% <i>12/31/19</i>	4.6% <i>11/30/19</i>
India	4.5% <i>9/30/19</i>	7.4% <i>12/31/19</i>	8.5% <i>12/31/17</i>
China	6.0% <i>9/30/19</i>	4.5% <i>12/31/19</i>	3.6% <i>9/30/19</i>

Equity environment

- Global equity markets exhibited strong performance through Q4, and U.S. equity performance was in-line (MSCI ACWI +9.0%, S&P 500 +9.1%). Emerging markets were the top performing asset class (+11.8%).
- Global currency volatility has been muted over the last few years, which has made ignoring currency exposure less consequential. Expecting low currency volatility to persist may be an assumption that gets investors into trouble.
- Unhedged U.S. investors in U.K. equities outperformed their hedged peers by 7.8% in Q4, as a stronger pound sterling dominated the U.K. equity return narrative.
- Based on price-to-forward earnings ratios international equity valuations appear elevated, but unlike in the U.S., they do not yet appear stretched.
- The outlook for monetary policy remains supportive of global equity price movement in 2020. Of the five major global central banks (Federal Reserve, European Central Bank, Bank of England, Bank of Japan, People’s Bank of China), four out of five are providing accommodation through their respective balance sheets. Futures imply better than 50/50 odds that the Bank of England cuts its main rate 0.25% at the end of January and China has continued to cut its benchmark lending rate.
- Inflation remains muted in emerging economies, and most economies are experiencing CPI below the 5-year average. Central bank policy has remained accommodative in many major countries within the universe such as China, South Korea, Brazil, and South Africa. This accommodation could provide a boost for equity market pricing as we move further into 2020.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (S&P 500)	9.1%		31.5%	
US Small Cap (Russell 2000)	9.9%		25.5%	
US Large Value (Russell 1000 Value)	7.4%		26.5%	
US Large Growth (Russell 1000 Growth)	10.6%		36.4%	
International Large (MSCI EAFE)	8.2%	5.8%	22.0%	24.6%
Eurozone (Euro Stoxx 50)	8.3%	5.9%	25.9%	32.1%
U.K. (FTSE 100)	10.8%	3.0%	22.1%	19.5%
Japan (NIKKEI 225)	8.2%	9.6%	21.9%	23.5%
Emerging Markets (MSCI Emerging Markets)	11.8%	9.5%	18.4%	17.7%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 12/31/19

Domestic equity

U.S. equities outpaced international in the fourth quarter (S&P 500 +9.1%, MSCI EAFE +8.2%) as domestic markets continued to lead.

Falling interest rates in 2019 have supported stock prices, as fixed income becomes less attractive on a relative basis, and cheaper borrowing should bolster future corporate earnings. As the dividend yield of U.S. stocks is once again higher than U.S. Treasury yields, investors may feel pressure to maintain greater exposure to equities in order to meet return objectives.

The S&P 500 delivered a 31.5% total return in calendar year

2019, while underlying corporate profits are expected to be flat at +0.3%. This of course means that performance has been driven by higher stock multiples rather than fundamentals. It is worth noting that a significant portion of 2019 performance was a recovery from the late-2018 sell-off of nearly -20%.

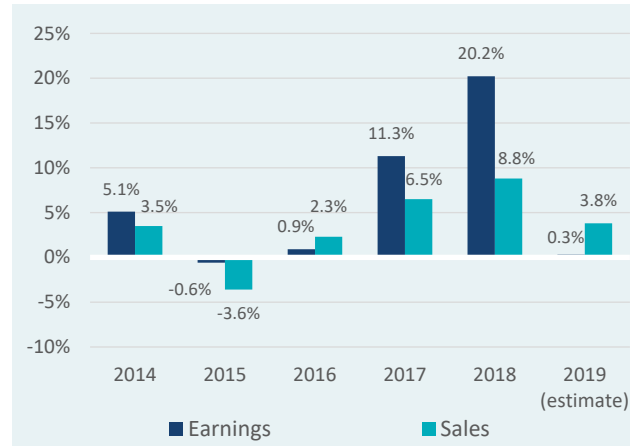
U.S. markets may continue to outperform over the shorter-term due to relative economic and market strength, and prices may certainly rise further. But history suggests that a widening gap between U.S. and international stock valuations will constrain U.S. performance over the longer-term.

U.S. EQUITIES



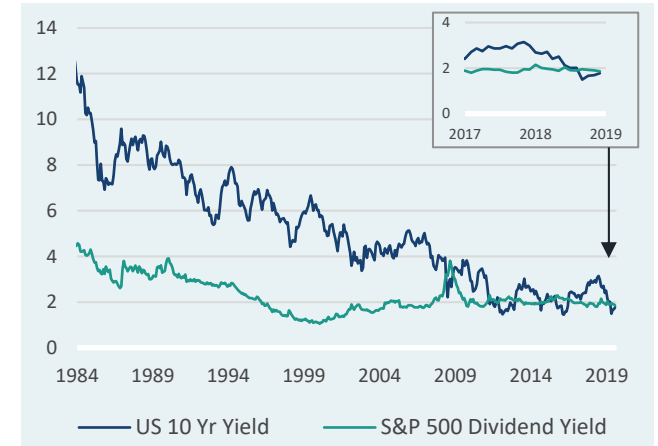
Source: Standard & Poor's, as of 12/31/19

EARNINGS



Source: FactSet, as of 12/20/19

RELATIVE YIELDS



Source: Standard & Poor's, as of 11/30/19

Domestic equity size & style

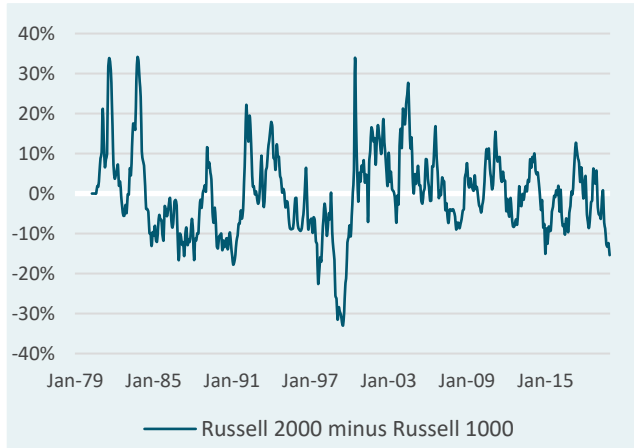
Value stocks lagged growth stocks during the fourth quarter (Russell 1000 Growth +10.6%, Russell 1000 Value +7.4%) while small cap stocks outperformed large stocks (Russell 2000 +9.9%, Russell 1000 +9.0%). During calendar year 2019, both size and value factors significantly underperformed (Russell 1000 +31.4%, Russell 2000 +25.5%; Russell 3000 Growth +35.8%, Russell 3000 Value +26.2%).

The impact of sector performance on the value premium was significant, once again, in 2019. Information Technology delivered very high returns (+50.3%) – a sector which tends to contain more growth stocks. Energy (+11.8%) and Materials (+24.6%) – industries which traditionally contain more value stocks – lagged

the overall index (S&P 500 +31.5%).

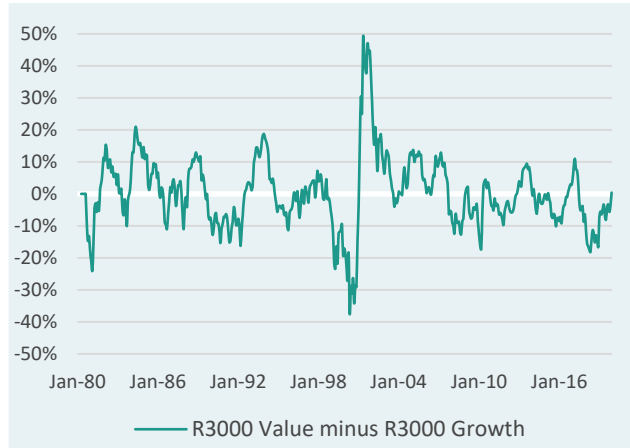
In mid-2016 we argued that there were clear and economic reasons for long-term value factor underperformance, and that a tactical overweight to the value factor did not appear warranted. This view has continued to be correct, as those who bought into value anytime of the past three years would have underperformed. While value continues to be historically cheap, price itself is not a catalyst for outperformance. We remain watchful of value stocks, but do not yet see clear signs of opportunity. As always, attempting to time factors is extremely difficult. We believe this should be done only rarely, if at all, and only when market conditions are particularly compelling.

SMALL CAP VS LARGE CAP (YOY)



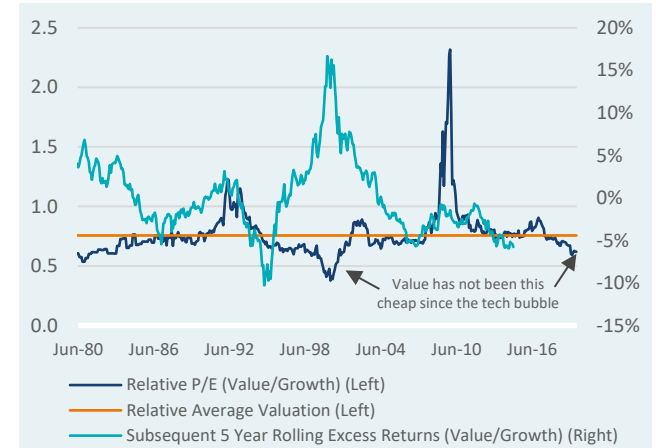
Source: FTSE, as of 12/31/19

VALUE VS GROWTH (YOY)



Source: FTSE, as of 12/31/19

VALUE CONTINUES TO LOOK CHEAP



Source: Russell, Bloomberg, as of 12/31/19

International developed equity

Equities in Europe and Japan posted strong performance for the quarter but failed to keep up with stocks in the U.S. and emerging markets. The U.S. dollar appreciated slightly against the yen, providing headwinds (-1.4%) for unhedged U.S. investors in Japanese stocks. Conversely, a slightly weaker U.S. dollar against the euro put some additional wind in the sails (+2.4%) of U.S. investors in European equities.

When investing in international equities, the “which currency should my assets be denominated?” question has been nearly equally as important as the “what assets should I hold?” question. Over the last three years however, global

currency volatility has been muted, which has made it much easier for investors to avoid thinking about their various currency exposures. Verus’ view remains that currency risk is not compensated, and that it tends to result in increased risk without necessarily adding to return.

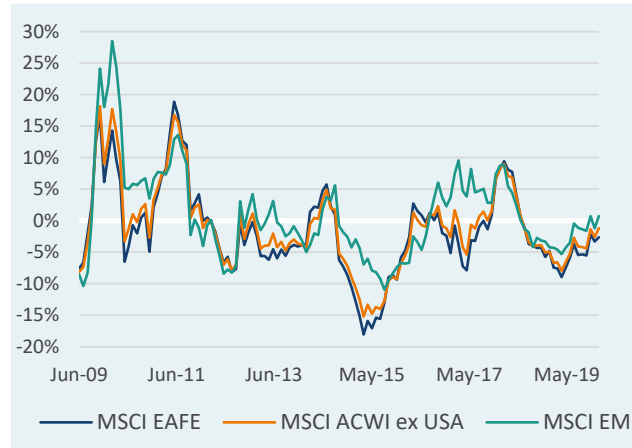
International equity valuations remain elevated, but unlike in the U.S., they do not yet appear stretched. Forward price-to-earnings ratios for the MSCI U.K. and Italy indices rank in the 59th and 52nd percentiles respectively, relative to the monthly expansion average. Valuations are a bit richer in the rest of the EAFE complex, but they may still have room to run.

INTERNATIONAL DEVELOPED EQUITIES



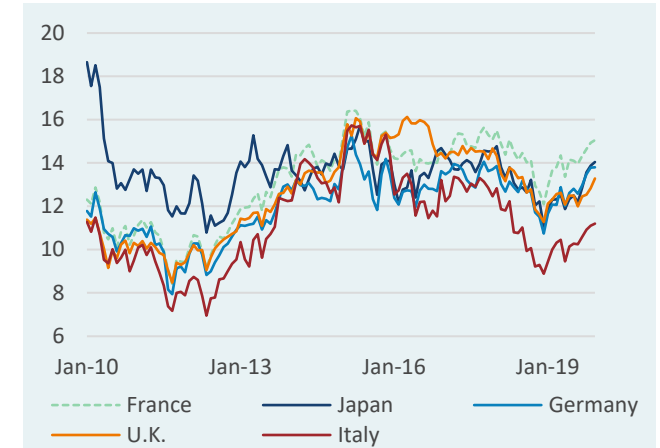
Source: MSCI, as of 12/31/19

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 12/31/19

BLENDED FORWARD 12-MONTH P/E RATIOS



Source: MSCI, Bloomberg, as of 12/31/19

Emerging market equity

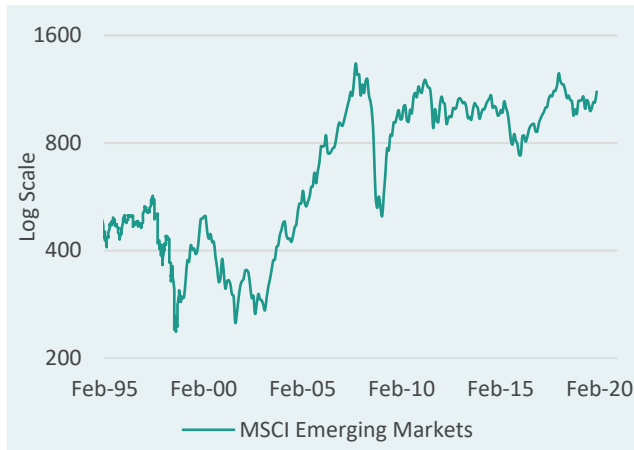
Emerging market equities (+11.8%) outperformed both U.S. (+9.1%) and international developed equities (+8.2%) over the quarter, but still lagged over the full calendar year. In 2019, emerging market equities delivered a total return of 18.4%, and trailed the total return of international developed equities by 3.6%. Regionally, the Asian segment (+12.5%) of the emerging market complex performed better than the Latin American (+10.5%) segment in both Q4 and in 2019.

Emerging market equities saw multiple expansion in Q4: the forward P/E of the MSCI EM Index expanded from a level in

line with the 5-year average to a bit higher than average levels. We do not yet view pricing in this space as rich and see there being more room for multiple expansion.

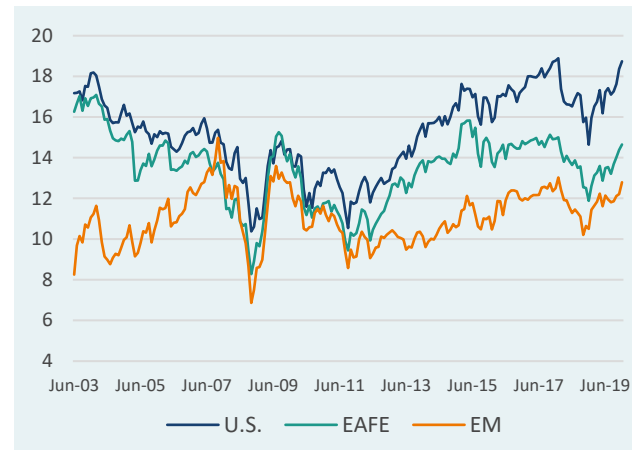
Inflation remains muted in emerging economies, and most economies are experiencing CPI below the 5-year average. Central bank policy has remained accommodative in many major countries within the universe such as China, South Korea, Brazil, and South Africa. This accommodation could provide a boost for equity market pricing as we move further into 2020.

EMERGING MARKET EQUITY



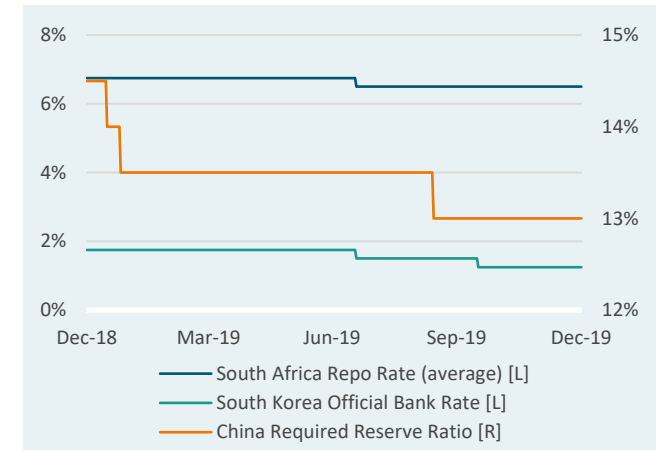
Source: MSCI, as of 12/31/19

FORWARD P/E



Source: MSCI, as of 12/31/19

CENTRAL BANK ACCOMODATION



Source: MSCI, as of 12/31/19

Interest rate environment

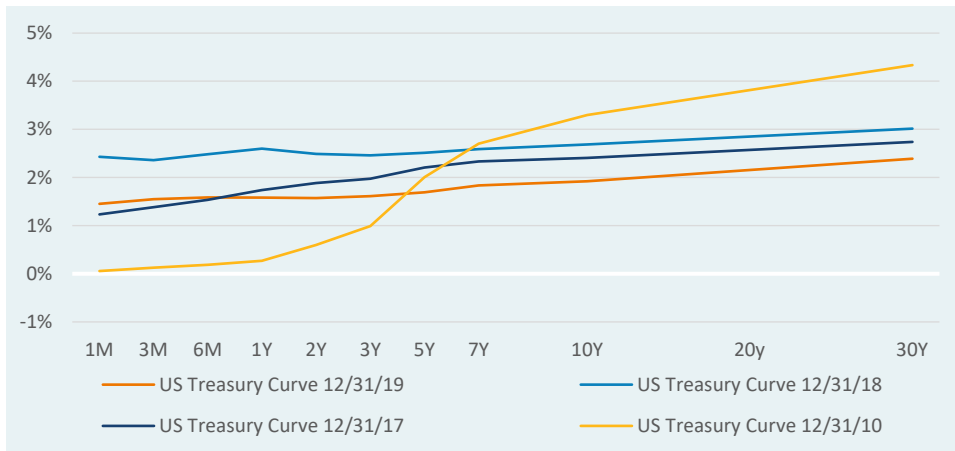
- The global sovereign bond rally lost steam in Q4 as inflation and growth prospects mildly reflat. Central bankers at the European Central Bank and the Federal Reserve signaled that policy would likely remain on hold in the absence of significant economic developments.
- Global ten-year sovereign bond yields picked up moderately, most significantly in Europe. Over the quarter, the U.S.-dollar value of global outstanding negative-yielding debt fell from nearly \$15 trillion to just above \$11 trillion.
- In October, the Federal Open Market Committee cut the range for its benchmark interest rate by 0.25% to a new range of 1.50 to 1.75%.
- Diversity of opinion among FOMC participants about the path of interest rates has faded. Most members now expect rates to remain flat in 2020, and move back toward 2.50% over the longer term.
- The New York Fed conducted a series of term repurchase operations aimed at providing sufficient liquidity for firms to get through the year-end turn when demand for cash typically surges. The Fed balance sheet grew by \$300B in Q4, and analysts continue to debate whether the Fed’s involvement in repo markets should be considered “technical” or “stimulative” in nature.
- The Governing Council of the ECB decided to leave key interest rates unchanged and confirmed that net asset purchases to the tune of €20 billion per month had begun in November.
- In Christine Lagarde’s first major move as President, she announced the ECB’s first Strategic Policy review since 2003, which will begin in January and will address a wide range of topics, including: low inflation, the price-stability goal, climate change, and cryptocurrency.

Area	Short Term (3M)	10-Year
United States	1.54%	1.92%
Germany	(0.78%)	(0.19%)
France	(0.65%)	0.12%
Spain	(0.61%)	0.47%
Italy	(0.34%)	1.41%
Greece	0.26%	1.47%
U.K.	0.69%	0.82%
Japan	(0.10%)	(0.01%)
Australia	0.94%	1.37%
China	2.43%	3.14%
Brazil	4.30%	6.79%
Russia	4.95%	6.36%

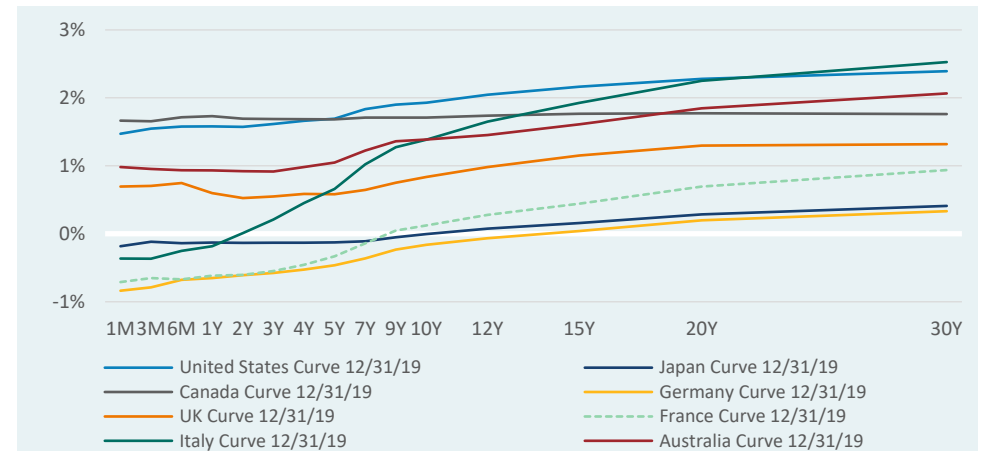
Source: Bloomberg, as of 12/31/19

Yield environment

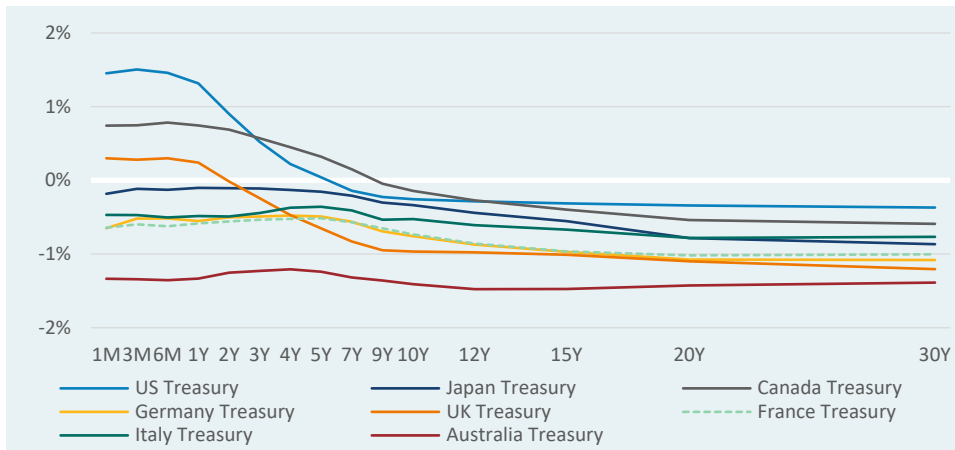
U.S. YIELD CURVE



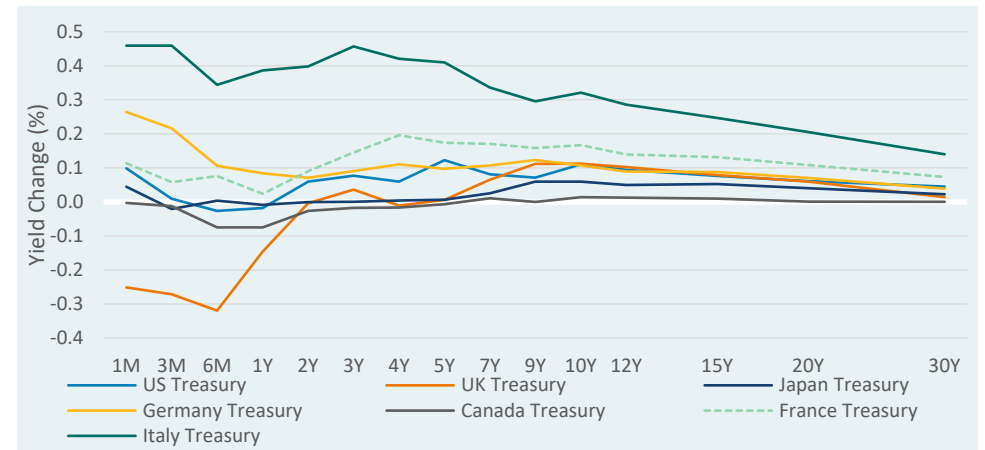
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 12/31/19

Currency

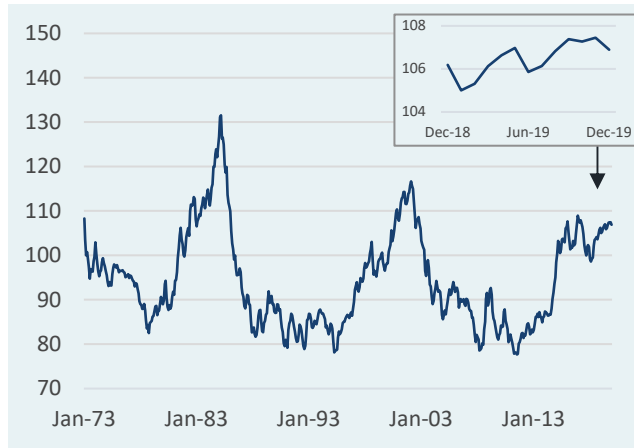
The U.S. dollar weakened versus both developed and emerging market currency baskets in the 4th quarter, fading some of the strong relative performance it had experienced back in Q3 2019. An index tracking the weighted average of the foreign exchange value of the U.S. dollar against major currencies fell 0.5%.

J.P. Morgan’s Emerging Market Currency Index fell -1.4% in 2019. Many analysts have argued that global disinflationary pressures have eased some long-standing concerns over the risk of capital flight within the emerging market complex. So

long as inflationary risks are muted, then higher nominal interest rates in the emerging market complex should afford emerging market central bankers’ further room to cut rates than their developed market peers. If implemented, the relative accommodation supplied may fuel both growth and currency depreciation.

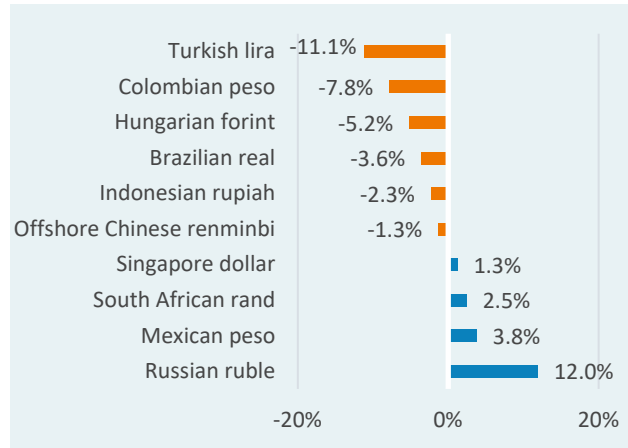
The British pound sterling bounced back sharply in Q4, rising from \$1.23 to \$1.33. Prime Minister Boris Johnson’s Conservative Party secured a firm majority in Parliament, lifting the shroud of “Brexit” from the geopolitical landscape.

U.S. DOLLAR TRADE WEIGHTED INDEX



Source: Federal Reserve, Verus, as of 12/31/19

JP MORGAN EMCI CONSTITUENT 2019 RETURNS



Source: J.P. Morgan, Bloomberg, as of 12/31/19

GBP/USD

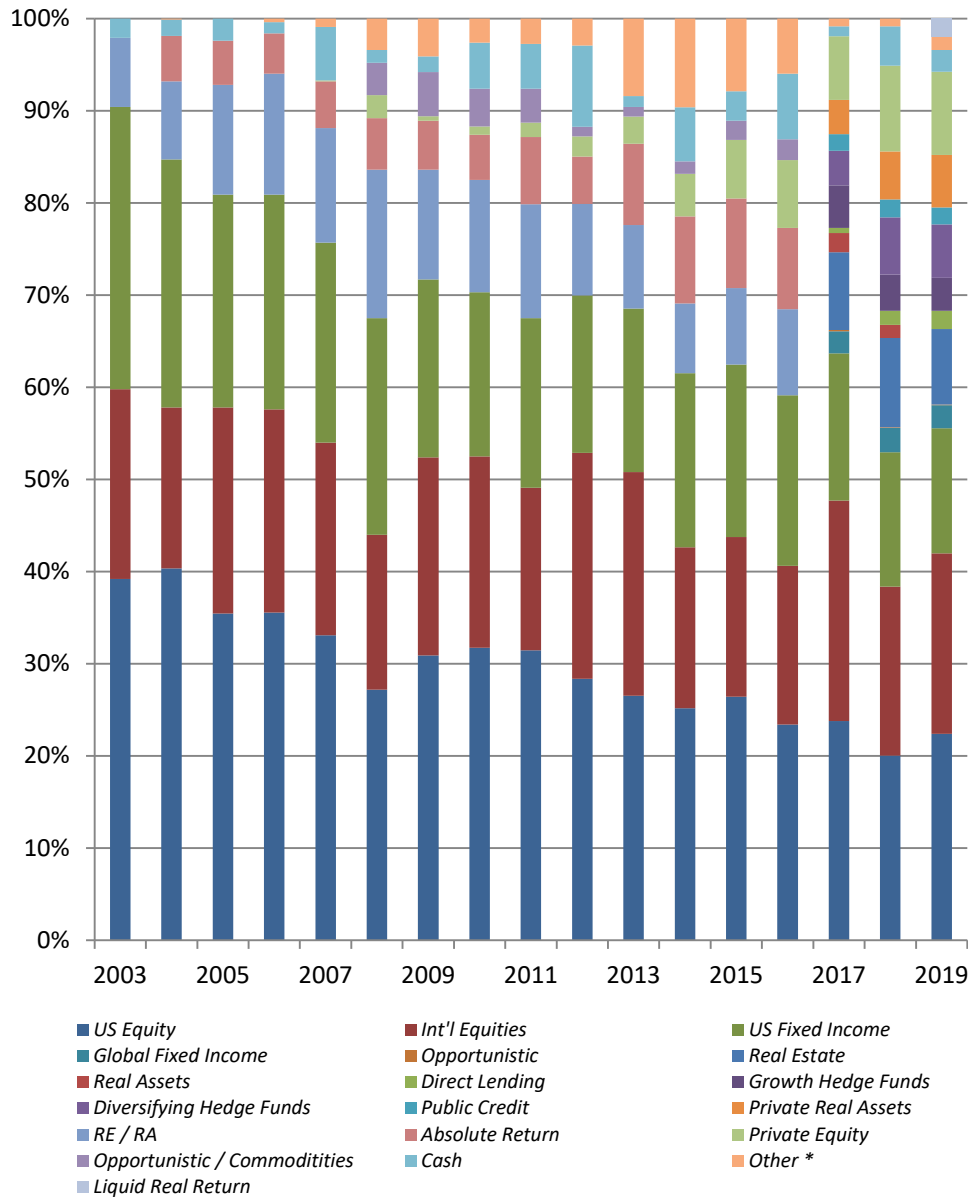


Source: Bloomberg, as of 12/31/19

Total Fund

Actual Yearly and Quarterly Asset Allocation

Period Ending: December 31, 2019



	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 / Real Assets	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 Estate / 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

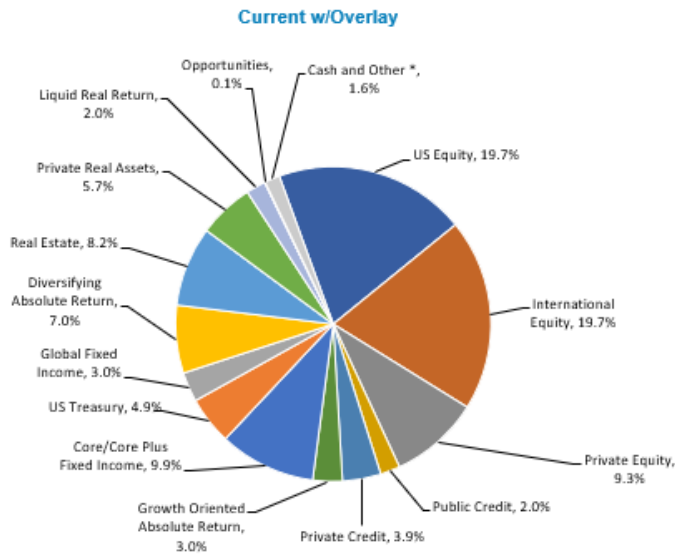
	2015	2016	2017	2018	2019
US Equity	26.4	23.4	23.8	20.0	22.4
International Equity	17.3	17.2	23.9	18.3	19.6
US Fixed Income	18.7	18.5	16.0	14.6	13.6
Global Fixed Income	-	-	2.4	2.6	2.5
Public Credit	-	-	1.8	1.9	1.8
Real Estate / Real Assets	8.3	9.3	-	-	-
Real Estate	-	-	8.4	9.7	8.2
Real Assets	-	-	2.1	1.4	-
Private Real Assets	-	-	3.7	5.2	5.7
Liquid Real Return	-	-	-	-	2.0
Absolute Return	9.7	8.8	-	-	-
Growth Hedge Funds	-	-	4.6	3.9	3.6
Diversifying Hedge Funds	-	-	3.8	6.2	5.8
Private Equity	6.3	7.4	6.9	9.3	9.0
Direct Lending	-	-	0.5	1.5	2.0
Opportunistic / Commodities	2.1	2.2	-	-	-
Opportunistic	-	-	0.1	0.1	0.1
Cash	3.2	7.1	1.1	4.3	2.4
Other *	7.9	6.0	0.8	0.9	1.4

* Allocations without overlay.

* Other includes SSgA Overlay and closing accounts. Prior to Q2 2017 SSgA Real Assets is also included

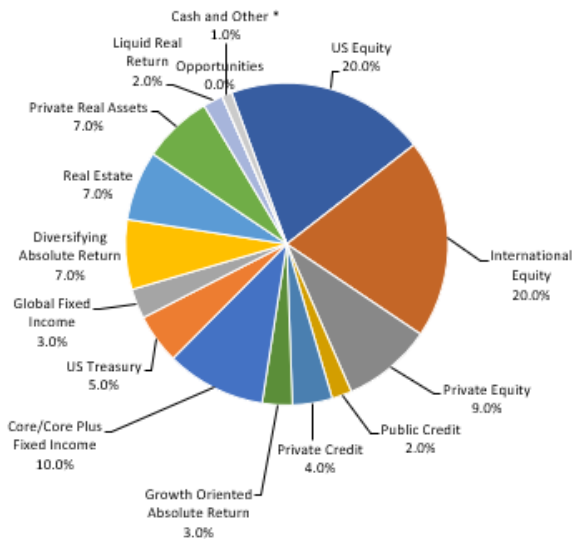
Total Fund Asset Allocation Analysis

Period Ending: December 31, 2019



ASSET ALLOCATION	MARKET VALUE w/OVERLAY	w/OVERLAY	w/O OVERLAY
US Equity	2,039,779,647	19.7%	22.4%
International Equity	2,042,768,564	19.7%	19.6%
Private Equity	958,519,416	9.3%	9.1%
Public Credit	210,010,951	2.0%	1.8%
Private Credit	408,158,999	3.9%	1.9%
Growth Oriented Absolute Return	312,997,118	3.0%	3.0%
Core/Core Plus Fixed Income	1,026,440,927	9.9%	9.1%
US Treasury	510,224,888	4.9%	4.5%
Global Fixed Income	315,214,166	3.0%	2.5%
Diversifying Absolute Return	722,297,365	7.0%	6.4%
Real Estate	849,790,011	8.2%	8.2%
Private Real Assets	590,144,188	5.7%	5.7%
Liquid Real Return	206,527,042	2.0%	2.0%
Opportunities	6,924,034	0.1%	0.1%
Cash and Other *	161,180,083	1.6%	3.8%
TOTAL	10,360,977,399	100.0%	100.0%

Target



ASSET ALLOCATION	ACTUAL	TARGET	DIFF
US Equity	19.7%	20.0%	-0.3%
International Equity	19.7%	20.0%	-0.3%
Private Equity	9.3%	9.0%	0.3%
Public Credit	2.0%	2.0%	0.0%
Private Credit	3.9%	4.0%	-0.1%
Growth Oriented Absolute Return	3.0%	3.0%	0.0%
Core/Core Plus Fixed Income	9.9%	10.0%	-0.1%
US Treasury	4.9%	5.0%	-0.1%
Global Fixed Income	3.0%	3.0%	0.0%
Diversifying Absolute Return	7.0%	7.0%	0.0%
Real Estate	8.2%	7.0%	1.2%
Private Real Assets	5.7%	7.0%	-1.3%
Liquid Real Return	2.0%	2.0%	0.0%
Opportunities	0.1%	0.0%	0.1%
Cash and Other *	1.6%	1.0%	0.6%

* Other includes closing accounts (Heitman), Transition Account and S&SgA Overlay of \$148 million.

- The Total Plan returned 4.8% net in the fourth quarter of 2019 and ranked in the third quartile among other public funds greater than \$1 billion (5.1% median). The Fund beat its policy index (4.0%) during this time period. The Total Plan w/o Overlay returned 4.8% for the quarter, net of fees. Longer term, the three-year return of 10.5% beat the median large public plan peer group (9.1%) and ranked in the top quartile. The five-year returns of 7.5% ranked in the second quartile of the large public plan peer group.
- Fourth quarter results (net) were enhanced by the following factors:
 1. The William Blair developed small cap gained 15.1% beating the MSCI World ex US Small Cap (11.5%) and ranked in the top decile of its peer group. Stock selection across most sectors contributed to relative performance. Most notably, within industrials UK based Diploma PLC contributed to the outperformance.
 2. Brandywine gained 4.1% beating their custom index which rose 0.8%. Signs of improving global growth curbed U.S. dollar appreciation allowing many other currencies to gain during the fourth quarter and benefiting the portfolio.
 3. LSV rose 10.0% beating the MSCI World ex US Value (7.6%). Although value still lagged growth during the quarter; the deep value positions in the portfolio rebounded strongly in Q4.
 4. Eagle Capital Rose 10.6% beating the Russell 1000 gain of 9.0% and ranked in the top decile of its peers. Outperformance was primarily due to stock selection in the healthcare and industrials sectors.
 5. Overall, the Growth asset category was the main driver of returns for both the fourth quarter and calendar year.
- Fourth quarter results (net) were hindered by the following factors:
 1. AQR US Enhanced Equity gained 7.7% but lagged the Russell 1000 (9.0%). AQR's value factor was a relative drag on performance.
 2. The Diversifying Absolute Return asset class detracted from relative performance, which is expected during a quarter with strong growth returns.

Total Fund Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date*
Total Fund- Gross*	10,360,977,399	100.0	4.9	60	6.0	28	17.2	47	10.7	7	7.8	19	8.4	Jun-86
Total Fund- Net			4.8	63	5.9	39	17.0	48	10.5	8	7.5	30	8.2	
<i>Policy Index¹</i>			4.0	89	4.9	90	14.7	89	8.9	56	7.0	44	8.5	Jun-86
<i>InvMetrics Public DB > \$1B Gross Median</i>			5.1		5.6		16.9		9.1		7.0		8.2	Jun-86
Total Fund ex Overlay- Gross**	10,213,028,613	98.6	4.8	63	5.9	31	16.6	55	10.7	7	7.9	16	8.3	Jun-86
Total Fund ex Overlay- Net			4.8	64	5.8	42	16.3	65	10.4	8	7.6	25	8.1	
<i>Policy Index</i>			4.0	89	4.9	90	14.7	89	8.9	56	7.0	44	8.5	Jun-86
<i>Allocation ex Overlay Index</i>			4.0	90	4.8	90	14.1	93	--	--	--	--	--	Jun-86
Growth Asset Category- Gross	5,987,681,142	57.8	7.7	--	8.5	--	24.0	--	--	--	--	--	12.6	Mar-17
Growth Asset Category- Net			7.7	--	8.4	--	23.6	--	--	--	--	--	12.3	
<i>Growth Custom¹</i>			6.7	--	7.2	--	21.1	--	11.7	--	--	--	10.6	Mar-17
Public Equities- Gross	4,350,997,419	42.0	9.7	--	9.3	--	28.0	--	13.7	--	9.7	--	9.6	Jun-11
Public Equities- Net			9.6	--	9.2	--	27.4	--	13.3	--	9.3	--	9.2	
<i>MSCI ACWI</i>			9.0	--	8.9	--	26.6	--	12.4	--	8.4	--	8.3	Jun-11
US Equity- Gross	2,322,111,254	22.4	9.2	17	9.9	32	31.0	24	14.6	28	11.1	33	10.3	Jun-86
US Equity- Net			9.1	21	9.8	37	30.7	38	14.3	39	10.8	47	10.1	
<i>Russell 3000¹</i>			9.1	21	10.4	13	31.0	26	14.6	29	11.2	29	10.4	Jun-86
<i>InvMetrics All DB US Eq Gross Median</i>			8.6		9.5		30.2		13.9		10.7		10.5	Jun-86
Large Cap- Gross	2,112,031,173	20.4	9.1	--	10.3	--	30.8	--	15.2	--	11.4	--	6.8	Mar-98
Large Cap- Net			9.1	--	10.2	--	30.5	--	14.9	--	11.1	--	6.6	
<i>Russell 1000</i>			9.0	--	10.6	--	31.4	--	15.0	--	11.5	--	7.3	Mar-98

*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: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Large Cap - Index- Gross	1,270,958,361	12.3	9.0	--	10.6	--	31.4	--	15.0	--	11.5	--	11.9	Sep-08
Large Cap - Index- Net			9.0	--	10.6	--	31.3	--	15.0	--	11.4	--	11.9	
<i>Russell 1000</i>			9.0	--	10.6	--	31.4	--	15.0	--	11.5	--	11.9	Sep-08
AB- Gross	1,270,958,361	12.3	9.0	62	10.6	73	31.4	62	15.0	67	11.5	70	10.3	Apr-89
AB- Net			9.0	62	10.6	74	31.3	63	15.0	68	11.4	70	10.2	
<i>Russell 1000</i>			9.0	53	10.6	68	31.4	53	15.0	63	11.5	67	--	Apr-89
<i>eV US Passive Large Cap Equity Gross Median</i>			9.0		10.9		31.4		15.3		11.7		10.3	Apr-89
Large Cap - Enhanced- Gross	266,742,663	2.6	7.8	--	9.4	--	27.7	--	--	--	--	--	8.9	Jul-18
Large Cap - Enhanced- Net			7.7	--	9.3	--	27.4	--	--	--	--	--	8.6	
<i>Russell 1000</i>			9.0	--	10.6	--	31.4	--	15.0	--	11.5	--	12.1	Jul-18
AQR US Enhanced Equity- Gross	266,742,663	2.6	7.8	71	9.4	64	27.7	66	--	--	--	--	8.9	Jul-18
AQR US Enhanced Equity- Net			7.7	72	9.3	65	27.4	66	--	--	--	--	8.6	
<i>Russell 1000</i>			9.0	31	10.6	38	31.4	33	15.0	34	11.5	38	12.1	Jul-18
<i>eV US Enh Equity Gross Median</i>			8.8		10.0		29.9		14.8		11.2		11.0	Jul-18
Large Cap (130/30)- Gross	287,835,073	2.8	9.5	--	10.8	--	29.5	--	14.3	--	10.8	--	12.4	Sep-08
Large Cap (130/30)- Net			9.3	--	10.6	--	28.7	--	13.6	--	10.1	--	11.7	
<i>Russell 1000</i>			9.0	--	10.6	--	31.4	--	15.0	--	11.5	--	11.9	Sep-08
JP Morgan 130/30- Gross	147,400,633	1.4	10.0	10	11.0	28	31.2	13	14.8	26	11.1	36	12.2	Jul-08
JP Morgan 130/30- Net			9.8	12	10.7	40	30.2	22	14.0	33	10.3	60	11.4	
<i>Russell 1000</i>			9.0	26	10.6	41	31.4	12	15.0	21	11.5	31	10.9	Jul-08
<i>eV Extended US 130/30 Equity Gross Median</i>			8.1		9.5		25.8		12.0		10.6		11.2	Jul-08
DE Shaw Broad Mkt Core Alpha Ext- Gross	140,434,440	1.4	9.0	22	10.7	39	--	--	--	--	--	--	19.2	Jan-19
DE Shaw Broad Mkt Core Alpha Ext- Net			8.9	23	10.4	41	--	--	--	--	--	--	18.8	
<i>Russell 1000</i>			9.0	21	10.6	40	31.4	13	15.0	17	11.5	25	21.3	Jan-19
<i>eV Extended US Equity Gross Median</i>			7.9		9.5		25.8		11.8		10.4		16.2	Jan-19

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Large Cap Active- Gross	286,495,075	2.8	10.8	--	9.3	--	32.6	--	14.9	--	11.1	--	11.5	Sep-08
Large Cap Active- Net			10.6	--	8.9	--	31.4	--	14.0	--	10.3	--	10.8	
<i>Russell 1000¹</i>			9.0	--	10.6	--	30.7	--	10.9	--	9.0	--	10.0	Sep-08
Eagle Capital- Gross	286,469,802	2.8	10.8	6	9.3	67	32.7	20	16.4	20	12.3	19	15.1	Feb-12
Eagle Capital- Net			10.6	8	8.9	73	31.4	31	15.4	34	11.4	35	14.3	
<i>Russell 1000</i>			9.0	34	10.6	36	30.7	38	10.9	92	9.0	87	12.5	Feb-12
<i>eV US Large Cap Core Equity Gross Median</i>			8.2		10.1		29.5		14.4		11.0		13.5	Feb-12
Small Cap- Gross	210,080,081	2.0	9.2	--	6.1	--	33.0	--	13.1	--	10.7	--	12.0	Dec-90
Small Cap- Net			9.2	--	5.9	--	32.3	--	12.5	--	10.1	--	11.3	
<i>Russell 2000</i>			9.9	--	7.3	--	25.5	--	8.6	--	8.2	--	10.7	Dec-90
Small Cap - Growth- Gross	110,029,549	1.1	9.8	--	2.9	--	40.4	--	22.4	--	14.3	--	12.9	Sep-08
Small Cap - Growth- Net			9.8	--	2.8	--	39.5	--	21.8	--	13.8	--	12.2	
<i>Russell 2000 Growth</i>			11.4	--	6.7	--	28.5	--	12.5	--	9.3	--	11.2	Sep-08
Weatherbie- Gross	110,029,549	1.1	9.8	47	2.9	71	40.4	12	25.3	5	17.5	5	13.6	Dec-02
Weatherbie- Net			9.8	49	2.8	71	39.6	13	24.7	7	16.9	7	12.7	
<i>Russell 2000 Growth</i>			11.4	29	6.7	31	28.5	49	12.5	79	9.3	81	11.1	Dec-02
<i>eV US Small Cap Growth Equity Gross Median</i>			9.5		5.0		28.3		16.0		11.7		12.8	Dec-02
Small Cap - Value- Gross	100,050,531	1.0	8.6	--	9.9	--	25.8	--	4.5	--	7.0	--	9.5	Sep-08
Small Cap - Value- Net			8.5	--	9.6	--	25.3	--	3.8	--	6.3	--	8.6	
<i>Russell 2000 Value</i>			8.5	--	7.9	--	22.4	--	4.8	--	7.0	--	8.4	Sep-08
Dalton, Greiner- Gross	100,050,530	1.0	8.6	33	9.9	14	25.9	35	4.5	69	6.9	58	10.1	Dec-00
Dalton, Greiner- Net			8.5	36	9.6	18	25.3	43	3.9	80	6.3	73	9.4	
<i>Russell 2000 Value</i>			8.5	36	7.9	47	22.4	69	4.8	64	7.0	58	8.7	Dec-00
<i>eV US Small Cap Value Equity Gross Median</i>			7.9		7.6		24.4		5.6		7.5		11.0	Dec-00

1. See Policy Index and Benchmark History.

Total Fund Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
International Equity- Gross	2,028,886,166	19.6	10.4	26	8.6	27	24.6	28	12.6	12	7.6	13	6.6	Dec-87
International Equity- Net			10.3	29	8.4	33	23.9	37	12.0	18	7.1	23	6.3	
<i>MSCI ACWI ex US¹</i>			9.0	78	7.1	75	22.1	59	10.4	44	6.0	53	6.3	Dec-87
<i>InvMetrics All DB ex-US Eq Gross Median</i>			9.7		7.8		22.9		10.1		6.1		7.3	Dec-87
International - Developed- Gross	1,631,487,550	15.7	9.7	43	8.7	41	24.8	38	12.4	31	8.2	25	4.9	Mar-98
International - Developed- Net			9.6	46	8.5	43	24.0	47	11.8	34	7.6	31	4.5	
<i>MSCI World ex US Gross</i>			7.9	88	7.0	83	23.2	49	9.9	65	6.0	73	5.0	Mar-98
<i>InvMetrics All DB Dev Mkt ex-US Eq Gross Median</i>			9.5		7.7		23.0		10.8		6.8		5.7	Mar-98
Lazard- Gross	406,694,026	3.9	9.0	75	6.9	76	22.2	67	11.9	45	7.0	51	9.6	Jun-12
Lazard- Net			8.9	77	6.8	80	21.9	70	11.5	49	6.7	57	9.2	
<i>MSCI ACWI ex USA Gross</i>			9.0	74	7.1	72	22.1	67	10.4	60	6.0	69	7.4	Jun-12
<i>eV All ACWI ex-US Equity Gross Median</i>			10.1		8.3		25.3		11.3		7.1		9.0	Jun-12
Walter Scott & Partners Limited- Gross	570,230,964	5.5	8.7	74	7.8	62	27.1	71	--	--	--	--	14.1	Mar-17
Walter Scott & Partners Limited- Net			8.6	75	7.7	65	25.8	81	--	--	--	--	13.1	
<i>MSCI World ex USA Growth GR USD</i>			8.1	81	7.7	65	28.5	60	12.9	61	7.7	45	10.9	Mar-17
<i>eV EAFE Large Cap Growth Gross Median</i>			10.0		9.0		29.4		13.5		7.5		11.5	Mar-17
LSV- Gross	451,636,509	4.4	10.1	35	10.1	19	22.0	25	8.8	39	6.6	21	5.0	Dec-04
LSV- Net			10.0	36	9.9	20	21.5	31	8.3	54	6.2	29	4.5	
<i>MSCI World ex US Value Gross</i>			7.6	84	6.2	91	17.8	91	7.0	77	4.2	92	4.6	Dec-04
<i>eV EAFE Large Cap Value Gross Median</i>			9.3		8.4		21.1		8.4		5.8		5.1	Dec-04
Mondrian Dev Small Cap- Gross	104,320,107	1.0	11.5	63	9.4	45	25.9	49	13.0	52	8.5	58	9.7	Aug-10
Mondrian Dev Small Cap- Net			11.3	69	9.1	47	25.1	53	12.2	56	7.8	72	9.0	
<i>MSCI World ex US Small Cap GD</i>			11.5	63	11.2	24	25.9	49	10.9	67	8.6	57	9.2	Aug-10
<i>eV ACWI ex-US Small Cap Equity Gross Median</i>			11.9		8.9		25.6		13.5		9.4		10.4	Aug-10
William Blair Dev Small Cap- Gross	98,605,944	1.0	15.3	5	13.7	4	35.9	10	12.1	56	8.9	54	10.0	Sep-08
William Blair Dev Small Cap- Net			15.1	8	13.2	6	34.7	14	11.1	66	7.9	67	8.9	
<i>MSCI World ex US Small Cap GD</i>			11.5	63	11.2	24	25.9	49	10.9	67	8.6	57	8.9	Sep-08
<i>eV ACWI ex-US Small Cap Equity Gross Median</i>			11.9		8.9		25.6		13.5		9.4		10.3	Sep-08

1. See Policy Index and Benchmark History.

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
International - Emerging- Gross	397,380,540	3.8	13.1	1	8.5	15	23.8	9	13.9	5	6.2	22	6.7	Jan-00
International - Emerging- Net			13.0	1	8.3	17	23.5	11	13.5	6	5.8	25	6.2	
<i>MSCI Emerging Markets Gross</i>			11.9	28	7.3	33	18.9	43	12.0	21	6.0	22	7.0	Jan-00
<i>InvMetrics All DB Emg Mkt Eq Gross Median</i>			11.2		6.6		18.3		9.8		5.1		6.4	Jan-00
Baillie Gifford Emg All Cap- Gross	214,260,292	2.1	13.0	19	9.1	24	28.1	12	18.6	3	--	--	16.1	Mar-16
Baillie Gifford Emg All Cap- Net			13.0	19	9.1	24	28.1	12	18.6	3	--	--	16.1	
<i>MSCI Emerging Markets Gross</i>			11.9	36	7.3	47	18.9	57	12.0	47	6.0	60	11.1	Mar-16
<i>eV Emg Mkts Equity Gross Median</i>			11.5		7.1		19.8		11.7		6.5		11.1	Mar-16
Mondrian Emg All Cap- Gross	183,120,248	1.8	13.1	16	7.8	43	19.2	54	9.8	76	--	--	8.4	Mar-16
Mondrian Emg All Cap- Net			13.0	19	7.4	46	18.5	62	9.1	85	--	--	7.8	
<i>MSCI Emerging Markets Gross</i>			11.9	36	7.3	47	18.9	57	12.0	47	6.0	60	11.1	Mar-16
<i>eV Emg Mkts Equity Gross Median</i>			11.5		7.1		19.8		11.7		6.5		11.1	Mar-16

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Private Equity- Gross****	940,415,896	9.1	2.2	25	8.5	13	17.8	11	20.5	6	15.2	16	3.9	Feb-08
Private Equity- Net			2.2	25	8.5	13	17.8	11	20.5	6	15.2	16	4.1	
<i>Thomson Reuters CJA All PE 1 Qtr Lag¹</i>			0.5	60	4.3	40	7.6	58	13.3	42	11.8	41	10.2	Feb-08
<i>Russell 3000 +3% 1Q Lag</i>			2.3	22	6.5	24	5.9	66	15.8	25	13.5	22	11.4	Feb-08
<i>InvMetrics All DB Private Eq Net Median</i>			0.9		3.1		8.0		11.8		10.8		8.0	Feb-08
Abbott VI- Gross	45,262,926	0.4	-0.1	--	6.0	--	12.6	--	16.8	--	15.6	--	5.2	Jul-08
Abbott VI- Net			-0.1	--	6.0	--	12.6	--	16.8	--	15.6	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	11.1	Jul-08
Accel-KKR IV- Gross	13,490,057	0.1	1.2	--	27.6	--	39.3	--	65.3	--	41.6	--	13.1	Jun-13
Accel-KKR IV- Net			1.2	--	27.6	--	39.3	--	65.3	--	41.6	--	13.1	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	14.0	Jun-13
Accel-KKR V- Gross	10,619,261	0.1	3.1	--	40.1	--	42.1	--	--	--	--	--	21.0	Jan-17
Accel-KKR V- Net			3.1	--	40.1	--	42.1	--	--	--	--	--	21.0	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	14.3	Jan-17
Accel-KKR Growth Partners II- Gross	8,745,568	0.1	5.8	--	29.8	--	43.3	--	24.3	--	--	--	5.4	Feb-15
Accel-KKR Growth Partners II- Net			5.8	--	29.8	--	43.3	--	24.3	--	--	--	5.4	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	11.1	Feb-15
Accel-KKR Growth Partners III- Gross	3,669,708	0.0	-25.7	--	--	--	--	--	--	--	--	--	-25.7	Jul-19
Accel-KKR Growth Partners III- Net			-25.7	--	--	--	--	--	--	--	--	--	-25.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	4.3	Jul-19
Atalaya Special Opp VI- Gross	16,166,760	0.2	4.6	--	5.8	--	12.1	--	10.8	--	--	--	9.0	Apr-16
Atalaya Special Opp VI- Net			4.6	--	5.8	--	12.1	--	10.8	--	--	--	9.0	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	15.3	Apr-16

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.

+ Returns for private markets are shown on a time-weighted basis and may differ substantially from dollar-weighted returns..

Total Fund Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Cortec Group Fund VII- Gross*	8,671,589	0.1	--	--	--	--	--	--	--	--	--	--	--	Dec-19
Cortec Group Fund VII- Net			--	--	--	--	--	--	--	--	--	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	--	Dec-19
Davidson Kempner LT Dist Opp- Gross	25,775,673	0.2	1.3	--	1.6	--	6.1	--	--	--	--	--	10.8	Mar-18
Davidson Kempner LT Dist Opp- Net			1.3	--	1.6	--	6.1	--	--	--	--	--	10.8	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	11.4	Mar-18
Dyal Capital Partners II- Gross	17,978,439	0.2	-0.4	--	2.0	--	-14.3	--	-8.1	--	-8.7	--	-8.7	Dec-14
Dyal Capital Partners II- Net			-0.4	--	2.0	--	-14.3	--	-8.1	--	-8.7	--	-8.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	11.8	Dec-14
Dyal Capital Partners III- Gross	19,897,489	0.2	1.6	--	3.8	--	4.7	--	17.9	--	--	--	17.9	Dec-16
Dyal Capital Partners III- Net			1.6	--	3.8	--	4.7	--	17.9	--	--	--	17.9	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.3	Dec-16
Garrison Investment Group- Gross	13,704,715	0.1	0.4	--	1.0	--	1.2	--	2.4	--	-2.6	--	1.1	May-12
Garrison Investment Group- Net			0.4	--	1.0	--	1.2	--	2.4	--	-2.6	--	1.1	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	14.8	May-12
Harbourvest VIII- Gross	13,371,414	0.1	-0.1	--	2.6	--	4.7	--	13.6	--	13.1	--	9.7	Dec-07
Harbourvest VIII- Net			-0.1	--	2.6	--	4.7	--	13.6	--	13.1	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	9.9	Dec-07
Harbourvest Intl VI- Gross	33,152,250	0.3	0.7	--	3.4	--	6.0	--	14.2	--	12.6	--	-6.3	Mar-09
Harbourvest Intl VI- Net			0.7	--	3.4	--	6.0	--	14.2	--	12.6	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	15.9	Mar-09
H.I.G. Bayside Loan III- Gross	11,631,260	0.1	-2.5	--	1.1	--	4.6	--	10.4	--	10.0	--	6.6	Jan-13
H.I.G. Bayside Loan III- Net			-2.5	--	1.1	--	4.6	--	10.4	--	10.0	--	6.6	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	15.3	Jan-13
H.I.G. Capital V- Gross	14,591,051	0.1	14.5	--	14.9	--	14.2	--	41.0	--	16.7	--	11.0	Jul-13
H.I.G. Capital V- Net			14.5	--	14.9	--	14.2	--	41.0	--	16.7	--	11.0	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.9	Jul-13

* Funded December 2019.

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
H.I.G. Europe Capital II- Gross*	9,028,384	0.1	-4.7	--	6.5	--	5.5	--	7.1	--	--	--	--	Jan-14
H.I.G. Europe Capital II- Net			-4.7	--	6.5	--	5.5	--	7.1	--	--	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	12.8	Jan-14
Khosla IV- Gross	15,733,857	0.2	-4.8	--	1.2	--	21.5	--	23.8	--	21.7	--	17.7	Jul-11
Khosla IV- Net			-4.8	--	1.2	--	21.5	--	23.8	--	21.7	--	17.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.8	Jul-11
Khosla V- Gross	24,457,474	0.2	1.9	--	4.2	--	10.7	--	15.6	--	9.1	--	8.9	Nov-14
Khosla V- Net			1.9	--	4.2	--	10.7	--	15.6	--	9.1	--	8.9	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	11.3	Nov-14
Khosla VI- Gross	13,233,351	0.1	1.2	--	2.7	--	1.0	--	--	--	--	--	-3.2	Aug-18
Khosla VI- Net			1.2	--	2.7	--	1.0	--	--	--	--	--	-3.2	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	12.9	Aug-18
Linden Capital- Gross	41,437,401	0.4	0.5	--	23.2	--	52.1	--	36.0	--	--	--	22.5	Jun-16
Linden Capital- Net			0.5	--	23.2	--	52.1	--	36.0	--	--	--	22.5	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.7	Jun-16
Linden Capital Partners IV- Gross	9,962,554	0.1	-6.9	--	-2.5	--	8.9	--	--	--	--	--	9.5	Sep-18
Linden Capital Partners IV- Net			-6.9	--	-2.5	--	8.9	--	--	--	--	--	9.5	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	9.2	Sep-18
Marlin Equity IV- Gross	15,015,825	0.1	4.4	--	3.9	--	14.6	--	7.8	--	8.8	--	4.7	Nov-13
Marlin Equity IV- Net			4.4	--	3.9	--	14.6	--	7.8	--	8.8	--	4.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.9	Nov-13
Marlin Equity V- Gross	10,175,939	0.1	15.1	--	16.1	--	38.9	--	--	--	--	--	13.7	Feb-18
Marlin Equity V- Net			15.1	--	16.1	--	38.9	--	--	--	--	--	13.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.4	Feb-18
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.4	Feb-18
Marlin Heritage- Gross	8,848,073	0.1	5.5	--	13.7	--	49.2	--	44.3	--	31.9	--	25.0	Jul-14
Marlin Heritage- Net			5.5	--	13.7	--	49.2	--	44.3	--	31.9	--	25.0	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	12.1	Jul-14

* 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: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Marlin Heritage II- Gross	5,709,703	0.1	-0.3	--	6.9	--	6.3	--	--	--	--	--	-5.7	Oct-17
Marlin Heritage II- Net			-0.3	--	6.9	--	6.3	--	--	--	--	--	-5.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.0	Oct-17
Marlin Heritage Europe- Gross	12,286,298	0.1	5.8	--	12.0	--	34.8	--	--	--	--	--	13.8	Aug-17
Marlin Heritage Europe- Net			5.8	--	12.0	--	34.8	--	--	--	--	--	13.8	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.5	Aug-17
New Enterprise 14- Gross	28,538,850	0.3	-3.3	--	5.7	--	7.4	--	16.4	--	17.0	--	13.7	May-12
New Enterprise 14- Net			-3.3	--	5.7	--	7.4	--	16.4	--	17.0	--	13.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	14.8	May-12
New Enterprise 15- Gross	47,598,599	0.5	1.2	--	8.1	--	20.3	--	25.4	--	--	--	16.9	Apr-15
New Enterprise 15- Net			1.2	--	8.1	--	20.3	--	25.4	--	--	--	16.9	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	12.1	Apr-15
New Enterprise 16- Gross	22,455,070	0.2	-1.0	--	-0.1	--	4.0	--	--	--	--	--	3.8	May-17
New Enterprise 16- Net			-1.0	--	-0.1	--	4.0	--	--	--	--	--	3.8	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.6	May-17
New Enterprise 17- Gross	2,245,721	0.0	-3.2	--	--	--	--	--	--	--	--	--	-3.2	Jul-19
New Enterprise 17- Net			-3.2	--	--	--	--	--	--	--	--	--	-3.2	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	4.3	Jul-19
Private Equity X- Gross	23,007,972	0.2	-2.9	--	-0.5	--	-2.2	--	13.5	--	6.5	--	-1.1	Jun-08
Private Equity X- Net			-2.9	--	-0.5	--	-2.2	--	13.5	--	6.5	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	11.5	Jun-08
RCP Multi-Fund Feeder- Gross	12,573,114	0.1	3.2	--	0.7	--	-9.9	--	--	--	--	--	-9.2	Nov-18
RCP Multi-Fund Feeder- Net			3.2	--	0.7	--	-9.9	--	--	--	--	--	-9.2	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	10.7	Nov-18
RRJ Capital Master Fund II- Gross	16,823,829	0.2	-7.1	--	-5.8	--	2.9	--	10.9	--	10.3	--	12.1	May-13
RRJ Capital Master Fund II- Net			-7.1	--	-5.8	--	2.9	--	10.9	--	10.3	--	12.1	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	14.5	May-13

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
RRJ Capital Master Fund III- Gross	14,798,921	0.1	3.6	--	8.4	--	23.9	--	14.7	--	--	--	-7.5	Dec-15
RRJ Capital Master Fund III- Net			3.6	--	8.4	--	23.9	--	14.7	--	--	--	-7.5	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	14.4	Dec-15
Spectrum Equity- Gross	34,752,533	0.3	7.9	--	58.5	--	74.2	--	64.6	--	21.5	--	21.5	Dec-14
Spectrum Equity- Net			7.9	--	58.5	--	74.2	--	64.6	--	21.5	--	21.5	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	11.8	Dec-14
Spectrum Equity Fund VIII- Gross	15,851,535	0.2	-1.3	--	-3.4	--	-11.9	--	--	--	--	--	-69.2	Jun-18
Spectrum Equity Fund VIII- Net			-1.3	--	-3.4	--	-11.9	--	--	--	--	--	-69.2	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	11.3	Jun-18
Summit EUR Growth Equity II- Gross	12,110,453	0.1	28.0	--	28.7	--	23.4	--	--	--	--	--	125.7	Jan-18
Summit EUR Growth Equity II- Net			28.0	--	28.7	--	23.4	--	--	--	--	--	125.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	12.8	Jan-18
Summit Ventures III- Gross	15,148,105	0.1	0.9	--	4.4	--	9.7	--	14.2	--	19.4	--	12.0	Jun-12
Summit Ventures III- Net			0.9	--	4.4	--	9.7	--	14.2	--	19.4	--	12.0	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	14.5	Jun-12
Summit Ventures IV- Gross	16,367,499	0.2	0.5	--	8.9	--	33.1	--	37.2	--	--	--	35.8	May-16
Summit Ventures IV- Net			0.5	--	8.9	--	33.1	--	37.2	--	--	--	35.8	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	15.6	May-16
Thoma Bravo XI- Gross	41,113,597	0.4	16.2	--	21.4	--	32.9	--	40.6	--	25.6	--	22.5	Jun-14
Thoma Bravo XI- Net			16.2	--	21.4	--	32.9	--	40.6	--	25.6	--	22.5	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	12.1	Jun-14
Thoma Bravo XII- Gross	37,187,392	0.4	5.7	--	8.9	--	22.5	--	13.4	--	--	--	6.0	May-16
Thoma Bravo XII- Net			5.7	--	8.9	--	22.5	--	13.4	--	--	--	6.0	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	15.6	May-16
Thoma Bravo XIII- Gross	16,028,159	0.2	-0.2	--	-0.7	--	--	--	--	--	--	--	-2.3	Feb-19
Thoma Bravo XIII- Net			-0.2	--	-0.7	--	--	--	--	--	--	--	-2.3	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	7.6	Feb-19

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Threshold Ventures III- Gross*	2,200,000	0.0	--	--	--	--	--	--	--	--	--	--	0.0	Oct-19
Threshold Ventures III- Net			--	--	--	--	--	--	--	--	--	--	0.0	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	0.5	Oct-19
TPG Opp Partners III- Gross	20,546,130	0.2	-1.1	--	-1.3	--	-1.8	--	8.7	--	8.0	--	-14.4	Mar-14
TPG Opp Partners III- Net			-1.1	--	-1.3	--	-1.8	--	8.7	--	8.0	--	-14.4	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	12.1	Mar-14
Trinity Ventures XI- Gross	37,458,438	0.4	-6.7	--	0.6	--	22.3	--	23.6	--	18.1	--	7.9	Apr-13
Trinity Ventures XI- Net			-6.7	--	0.6	--	22.3	--	23.6	--	18.1	--	7.9	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	14.6	Apr-13
Trinity Ventures XII- Gross	40,127,959	0.4	8.0	--	7.0	--	63.0	--	34.4	--	--	--	21.9	Apr-16
Trinity Ventures XII- Net			8.0	--	7.0	--	63.0	--	34.4	--	--	--	21.9	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	15.3	Apr-16
TSG7 A LP- Gross**	14,167,855	0.1	2.7	--	7.2	--	10.5	--	9.3	--	--	--	--	Mar-16
TSG7 A LP- Net			2.7	--	7.2	--	10.5	--	9.3	--	--	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.3	Mar-16
TSG7 B LP- Gross	2,122,373	0.0	-0.1	--	-1.5	--	-0.3	--	-19.0	--	--	--	-19.7	Jan-16
TSG7 B LP- Net			-0.1	--	-1.5	--	-0.3	--	-19.0	--	--	--	-19.7	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	12.5	Jan-16
TSG8 LP- Gross*	202,932	0.0	--	--	--	--	--	--	--	--	--	--	--	Jan-19
TSG8 LP- Net			--	--	--	--	--	--	--	--	--	--	--	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	7.6	Jan-19
TSSP Opportunities Partners IV- Gross	5,948,769	0.1	2.3	--	3.9	--	--	--	--	--	--	--	9.1	Jan-19
TSSP Opportunities Partners IV- Net			2.3	--	3.9	--	--	--	--	--	--	--	9.1	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.2	--	3.7	--	10.2	--	6.5	--	6.6	--	7.6	Jan-19
Waterland V- Gross	11,747,904	0.1	2.5	--	3.2	--	11.6	--	28.7	--	42.1	--	23.3	Aug-11
Waterland V- Net			2.5	--	3.2	--	11.6	--	28.7	--	42.1	--	23.3	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	14.1	Aug-11

+ Funded October 2019.

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

* Contributions to date have been used to cover management fees and operating expenses.

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Waterland VI- Gross	21,422,780	0.2	7.4	--	10.8	--	10.2	--	21.0	--	--	--	-3.7	Jul-15
Waterland VI- Net			7.4	--	10.8	--	10.2	--	21.0	--	--	--	-3.7	
Thomson Reuters CJA All PE 1 Qtr Lag			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	11.4	Jul-15
Wayzata Opportunities III- Gross	5,252,388	0.1	-0.6	--	-9.0	--	-8.2	--	-3.6	--	-3.0	--	-6.1	Feb-13
Wayzata Opportunities III- Net			-0.6	--	-9.0	--	-8.2	--	-3.6	--	-3.0	--	-6.1	
Thomson Reuters CJA All PE 1 Qtr Lag			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	15.3	Feb-13
Public Credit- Gross	187,542,328	1.8	3.2	--	2.8	--	9.0	--	4.9	--	5.1	--	4.4	Nov-13
Public Credit- Net			3.2	--	2.8	--	9.0	--	4.9	--	5.1	--	4.4	
Brigade Custom ¹			2.1	--	3.3	--	11.3	--	5.4	--	5.4	--	4.9	Nov-13
Brigade Capital- Gross	187,542,328	1.8	3.2	13	2.8	84	9.0	90	4.9	91	5.1	84	4.4	Nov-13
Brigade Capital- Net			3.2	13	2.8	84	9.0	90	4.9	91	5.1	84	4.4	
Brigade Custom			2.1	74	3.3	76	11.3	81	5.4	85	5.4	78	4.9	Nov-13
eV US High Yield Fixed Inc Gross Median			2.6		4.0		14.3		6.4		6.1		5.5	Nov-13
Private Credit- Gross⁺⁺	196,749,682	1.9	2.3	--	3.7	--	5.8	--	7.3	--	6.8	--	7.0	Oct-11
Private Credit- Net			2.3	--	3.7	--	5.8	--	7.3	--	6.8	--	7.0	
Credit Suisse Leveraged Loan + 2%			2.2	--	3.7	--	10.2	--	6.5	--	6.6	--	7.0	Oct-11
Athyrium Opp II- Gross	14,168,053	0.1	3.1	--	4.5	--	7.1	--	8.6	--	--	--	6.6	Jun-15
Athyrium Opp II- Net			3.1	--	4.5	--	7.1	--	8.6	--	--	--	6.6	
Credit Suisse Leveraged Loan + 2%			2.2	--	3.7	--	10.2	--	6.5	--	6.6	--	6.4	Jun-15
Athyrium Opp III- Gross	15,636,014	0.2	3.1	--	2.4	--	4.4	--	--	--	--	--	-1.7	May-17
Athyrium Opp III- Net			3.1	--	2.4	--	4.4	--	--	--	--	--	-1.7	
Credit Suisse Leveraged Loan + 2%			2.2	--	3.7	--	10.2	--	6.5	--	6.6	--	6.5	May-17
Benefit St Pr Sr Secure Opp- Gross	47,508,662	0.5	1.1	--	2.9	--	4.2	--	--	--	--	--	5.2	Jan-18
Benefit St Pr Sr Secure Opp- Net			1.1	--	2.9	--	4.2	--	--	--	--	--	5.2	
Credit Suisse Leveraged Loan + 2%			2.2	--	3.7	--	10.2	--	6.5	--	6.6	--	6.2	Jan-18

1. See Policy Index and Benchmark History.

++Returns are one-quarter lag.

* Returns for private markets are shown on a time-weighted basis and may differ substantially from dollar-weighted returns.

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Benefit St Pr Sr Secure Opp II- Gross*	2,467,756	0.0	--	--	--	--	--	--	--	--	--	--	--	Dec-19
Benefit St Pr Sr Secure Opp II- Net			--	--	--	--	--	--	--	--	--	--	--	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.2	--	3.7	--	10.2	--	6.5	--	6.6	--	--	Dec-19
OrbiMed Royalty & Credit Opp III- Gross	1,660,546	0.0	-5.1	--	--	--	--	--	--	--	--	--	-5.1	Sep-19
OrbiMed Royalty & Credit Opp III- Net			-5.1	--	--	--	--	--	--	--	--	--	-5.1	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.2	--	3.7	--	10.2	--	6.5	--	6.6	--	2.2	Sep-19
Summit Credit- Gross	537,872	0.0	2.5	--	5.7	--	-6.1	--	4.8	--	6.4	--	6.7	Oct-11
Summit Credit- Net			2.5	--	5.7	--	-6.1	--	4.8	--	6.4	--	6.7	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.2	--	3.7	--	10.2	--	6.5	--	6.6	--	7.0	Oct-11
Summit Credit II- Gross	28,615,362	0.3	1.3	--	3.5	--	5.7	--	8.8	--	6.8	--	6.7	Nov-14
Summit Credit II- Net			1.3	--	3.5	--	5.7	--	8.8	--	6.8	--	6.7	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.2	--	3.7	--	10.2	--	6.5	--	6.6	--	6.3	Nov-14
Summit Credit III- Gross	21,150,101	0.2	6.8	--	6.8	--	11.7	--	--	--	--	--	9.9	Oct-18
Summit Credit III- Net			6.8	--	6.8	--	11.7	--	--	--	--	--	9.9	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.2	--	3.7	--	10.2	--	6.5	--	6.6	--	6.2	Oct-18
TCP Direct Lending VIII- Gross	65,005,316	0.6	2.1	--	3.6	--	6.8	--	--	--	--	--	4.8	Feb-18
TCP Direct Lending VIII- Net			2.1	--	3.6	--	6.8	--	--	--	--	--	4.8	
<i>Credit Suisse Leveraged Loan + 2%</i>			2.2	--	3.7	--	10.2	--	6.5	--	6.6	--	6.3	Feb-18
Growth Oriented Absolute Return- Gross****	311,975,817	3.0	4.3	--	3.8	--	12.9	--	5.7	--	3.9	--	4.8	Aug-04
Growth Oriented Absolute Return- Net			4.3	--	3.8	--	12.9	--	5.7	--	3.9	--	4.8	
<i>HFRI FoF Composite Index + 1%</i>			3.3	--	2.5	--	9.4	--	4.6	--	4.8	--	6.0	Aug-04
Grosvenor SCARF Growth- Gross	158,372,911	1.5	3.5	39	2.5	41	8.0	57	5.7	44	3.5	49	5.7	Nov-11
Grosvenor SCARF Growth- Net			3.5	39	2.5	41	8.0	57	5.7	44	3.5	49	5.7	
<i>HFRI FoF Composite Index + 1%</i>			3.3	41	2.5	41	9.4	48	4.6	56	4.8	26	4.9	Nov-11
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>			2.6		2.2		8.8		5.0		3.4		5.2	Nov-11

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

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

* Funded December 2019.

Total Fund Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Lakewood- Gross	49,048,389	0.5	6.3	39	9.6	19	25.8	19	5.3	62	5.9	48	6.6	Jun-13
Lakewood- Net			6.3	39	9.6	19	25.8	19	5.3	62	5.9	48	6.6	
<i>HFRI FoF Composite Index + 1%</i>			3.3	64	2.5	65	9.4	67	4.6	67	4.8	58	4.9	Jun-13
<i>eV Alt Fundamental - Long/Short Equity Median</i>			4.7		4.5		14.0		6.6		5.7		6.4	Jun-13
Sculptor Domestic II- Gross	52,880,754	0.5	5.6	20	2.9	49	15.7	20	8.2	27	5.4	43	7.4	Dec-11
Sculptor Domestic II- Net			5.6	20	2.9	49	15.7	20	8.2	27	5.4	43	7.3	
<i>HFRI FoF Composite Index + 1%</i>			3.3	34	2.5	53	9.4	43	4.6	51	4.8	49	4.9	Dec-11
<i>eV Alt All Multi-Strategy Median</i>			2.0		2.8		8.6		4.7		4.5		6.3	Dec-11
Third Point Offshore Fund- Gross	51,673,763	0.5	3.8	25	3.8	28	17.7	13	7.3	27	5.5	45	9.1	Apr-12
Third Point Offshore Fund- Net			3.8	25	3.8	28	17.7	13	7.3	27	5.5	45	9.1	
<i>HFRI FoF Composite Index + 1%</i>			3.3	31	2.5	49	9.4	31	4.6	55	4.8	52	4.9	Apr-12
<i>eV Alt All Event Driven Median</i>			2.1		2.5		7.1		4.9		5.0		5.6	Apr-12
Diversifying Asset Category- Gross	2,326,257,810	22.5	0.7	--	2.3	--	7.8	--	--	--	--	--	3.7	Mar-17
Diversifying Asset Category- Net			0.7	--	2.2	--	7.7	--	--	--	--	--	3.6	
<i>Diversifying Custom¹</i>			0.5	--	1.9	--	7.6	--	3.9	--	--	--	3.8	Mar-17
Core/Core Plus Fixed Income- Gross	943,972,160	9.1	0.4	--	2.9	--	10.1	--	5.0	--	3.9	--	3.7	Jun-11
Core/Core Plus Fixed Income- Net			0.4	--	2.8	--	9.9	--	4.8	--	3.7	--	3.6	
<i>BBgBarc US Aggregate TR</i>			0.2	--	2.5	--	8.7	--	4.0	--	3.0	--	3.3	Jun-11
Prudential- Gross	485,034,416	4.7	0.6	12	3.2	3	11.0	5	5.8	3	4.7	3	4.8	Jul-14
Prudential- Net			0.5	13	3.1	5	10.7	6	5.6	3	4.5	4	4.6	
<i>BBgBarc US Aggregate TR</i>			0.2	58	2.5	70	8.7	78	4.0	85	3.0	90	3.2	Jul-14
<i>eV US Core Fixed Inc Gross Median</i>			0.2		2.6		9.2		4.4		3.4		3.6	Jul-14
TCW MetWest Fixed- Gross	458,937,744	4.4	0.3	44	2.6	47	9.3	46	4.5	29	3.5	41	5.9	Dec-01
TCW MetWest Fixed- Net			0.2	58	2.5	64	9.1	58	4.4	50	3.3	67	5.7	
<i>BBgBarc US Aggregate TR</i>			0.2	58	2.5	70	8.7	78	4.0	85	3.0	90	4.5	Dec-01
<i>eV US Core Fixed Inc Gross Median</i>			0.2		2.6		9.2		4.4		3.4		5.0	Dec-01

1. See Policy Index and Benchmark History.

Total Fund Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
U.S. Treasury- Gross	461,202,438	4.5	-0.8	--	1.7	--	6.9	--	--	--	--	--	5.4	Feb-18
U.S. Treasury- Net			-0.8	--	1.7	--	6.9	--	--	--	--	--	5.3	
<i>BBgBarc US Treasury TR</i>			-0.8	--	1.6	--	6.9	--	3.3	--	2.4	--	5.4	Feb-18
Neuberger Berman- Gross*	461,202,438	4.5	-0.8	94	1.7	44	6.9	27	3.8	1	3.0	4	6.4	Jun-88
Neuberger Berman- Net			-0.8	95	1.7	45	6.9	36	3.7	1	2.9	6	6.3	
<i>BBgBarc US Govt TR</i>			-0.8	95	1.6	51	6.8	38	3.3	51	2.4	74	5.8	Jun-88
<i>eV US Government Fixed Inc Gross Median</i>			0.0		1.6		6.6		3.3		2.5		--	Jun-88
Global Fixed Income- Gross	259,042,608	2.5	4.2	--	2.6	--	9.7	--	5.8	--	2.9	--	2.8	May-13
Global Fixed Income- Net			4.1	--	2.4	--	9.3	--	5.4	--	2.5	--	2.5	
<i>Brandywine Custom¹</i>			0.8	--	1.3	--	7.4	--	4.8	--	2.2	--	1.4	May-13
Brandywine Global- Gross	259,042,608	2.5	4.2	11	2.6	53	9.7	50	5.8	36	2.9	65	2.8	May-13
Brandywine Global- Net			4.1	12	2.4	57	9.3	54	5.4	46	2.5	73	2.5	
<i>Brandywine Custom</i>			0.8	75	1.3	82	7.4	76	4.8	65	2.2	78	1.4	May-13
<i>eV All Global Fixed Inc Gross Median</i>			1.7		2.7		9.7		5.3		3.7		3.5	May-13
Diversifying Absolute Return- Gross⁺⁺	662,040,603	6.4	0.8	--	1.5	--	4.4	--	0.8	--	1.2	--	2.1	Nov-11
Diversifying Absolute Return- Net			0.8	--	1.5	--	4.4	--	0.8	--	1.2	--	2.1	
<i>HFRI FoF Conservative Index</i>			1.7	--	1.6	--	6.3	--	3.6	--	4.2	--	4.5	Nov-11
AQR DELTA II- Gross	43,207,193	0.4	-2.4	88	-3.5	91	-9.2	95	-7.2	96	-2.1	93	0.1	May-13
AQR DELTA II- Net			-2.4	88	-3.5	91	-9.2	95	-7.2	96	-2.1	93	0.1	
<i>HFRI FoF Conservative Index</i>			1.7	55	1.6	65	6.3	63	3.6	60	4.2	53	4.4	May-13
<i>eV Alt All Multi-Strategy Median</i>			2.0		2.8		8.6		4.7		4.5		5.2	May-13

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.

* 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: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Davidson Kempner Instl Partners LP- Gross	33,688,533	0.3	1.8	53	2.7	51	--	--	--	--	--	--	3.1	Apr-19
Davidson Kempner Instl Partners LP- Net			1.8	53	2.7	51	--	--	--	--	--	--	3.1	
<i>HFRI FoF Conservative Index</i>			1.7	55	1.6	65	6.3	63	3.6	60	4.2	53	2.1	Apr-19
<i>eV Alt All Multi-Strategy Median</i>			2.0		2.8		8.6		4.7		4.5		3.4	Apr-19
Elliot Associates- Gross*	57,728,146	0.6	1.0	74	2.0	63	6.4	52	5.8	42	6.2	36	7.2	Apr-12
Elliot Associates- Net			1.0	74	2.0	63	6.4	52	5.8	42	6.2	36	7.2	
<i>HFRI FoF Conservative Index</i>			1.7	57	1.6	68	6.3	52	3.6	66	4.2	58	4.5	Apr-12
<i>eV Alt All Event Driven Median</i>			2.1		2.5		7.1		4.9		5.0		5.6	Apr-12
Graham Global Inv II- Gross	35,760,600	0.3	-0.8	56	6.1	13	17.8	16	--	--	--	--	1.2	Feb-17
Graham Global Inv II- Net			-0.8	56	6.1	13	17.8	16	--	--	--	--	1.2	
<i>HFRI FoF Conservative Index</i>			1.7	38	1.6	46	6.3	49	3.6	35	4.2	30	3.5	Feb-17
<i>eV Alt All Managed Futures Median</i>			-0.3		0.8		5.9		2.1		1.6		1.9	Feb-17
Grosvenor SCARF Diversifying- Gross	120,670,714	1.2	1.5	71	2.3	49	5.8	81	0.5	96	-0.1	95	1.7	Nov-11
Grosvenor SCARF Diversifying- Net			1.5	71	2.3	49	5.8	81	0.5	96	-0.1	95	1.7	
<i>HFRI FoF Conservative Index</i>			1.7	70	1.6	67	6.3	75	3.6	78	4.2	35	4.5	Nov-11
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>			2.6		2.2		8.8		5.0		3.4		5.2	Nov-11
Grosvenor SCARF B Diversifying- Gross	110,949,832	1.1	1.7	69	2.1	54	6.2	77	-0.4	98	-0.9	98	0.8	Jan-13
Grosvenor SCARF B Diversifying- Net			1.7	69	2.1	54	6.2	77	-0.4	98	-0.9	98	0.8	
<i>HFRI FoF Conservative Index</i>			1.7	70	1.6	67	6.3	75	3.6	78	4.2	35	4.4	Jan-13
<i>eV Alt Fund of Funds - Multi-Strategy Median</i>			2.6		2.2		8.8		5.0		3.4		4.5	Jan-13
KLS Diversified Fund- Gross	40,234,517	0.4	-0.3	70	-1.3	82	0.6	72	--	--	--	--	0.6	Dec-18
KLS Diversified Fund- Net			-0.3	70	-1.3	82	0.6	72	--	--	--	--	0.6	
<i>HFRI FoF Conservative Index</i>			1.7	46	1.6	48	6.3	37	3.6	51	4.2	58	6.3	Dec-18
<i>eV Alt Relative Value - Multi-Market Arbitrage Median</i>			1.0		0.5		3.2		3.7		5.3		3.2	Dec-18

+ Preliminary quarterly returns as of 12/31/2019 (Market Values estimated based on preliminary performance numbers provided by the manager.)

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Laurion Capital- Gross	47,733,027	0.5	0.4	53	-1.6	79	3.1	62	4.4	55	5.8	41	5.5	Mar-14
Laurion Capital- Net			0.4	53	-1.6	79	3.1	62	4.4	55	5.8	41	5.5	
<i>HFRI FoF Conservative Index</i>			1.7	42	1.6	58	6.3	47	3.6	65	4.2	70	4.3	Mar-14
<i>eV Alt Relative Value - Equity Relative Value Median</i>			0.7		2.2		5.8		4.5		5.0		5.7	Mar-14
LMR Fund LTD- Gross*	45,896,445	0.4	--	--	--	--	--	--	--	--	--	--	2.0	Oct-19
LMR Fund LTD- Net			--	--	--	--	--	--	--	--	--	--	2.0	
<i>HFRI FoF Conservative Index</i>			1.7	55	1.6	65	6.3	63	3.6	60	4.2	53	1.5	Oct-19
<i>eV Alt All Multi-Strategy Median</i>			2.0		2.8		8.6		4.7		4.5		1.7	Oct-19
MW Global Opportunities Fund- Gross	42,621,228	0.4	3.6	61	4.0	55	6.6	77	--	--	--	--	6.6	Dec-18
MW Global Opportunities Fund- Net			3.6	61	4.0	55	6.6	77	--	--	--	--	6.6	
<i>HFRI FoF Conservative Index</i>			1.7	75	1.6	70	6.3	78	3.6	74	4.2	63	6.3	Dec-18
<i>eV Alt Fundamental - Long/Short Equity Median</i>			4.7		4.5		14.0		6.6		5.7		14.0	Dec-18
Two Sigma Risk Premia Enhanced- Gross	45,198,788	0.4	0.4	66	--	--	--	--	--	--	--	--	0.4	Sep-19
Two Sigma Risk Premia Enhanced- Net			0.4	66	--	--	--	--	--	--	--	--	0.4	
<i>HFRI FoF Conservative Index</i>			1.7	55	1.6	65	6.3	63	3.6	60	4.2	53	1.7	Sep-19
<i>eV Alt All Multi-Strategy Median</i>			2.0		2.8		8.6		4.7		4.5		2.0	Sep-19
Winton Diversified Futures- Gross	38,351,581	0.4	-2.5	68	2.8	37	4.0	59	3.1	41	--	--	3.1	Dec-16
Winton Diversified Futures- Net			-2.5	68	2.8	37	4.0	59	3.1	41	--	--	3.1	
<i>HFRI FoF Conservative Index</i>			1.7	38	1.6	46	6.3	49	3.6	35	4.2	30	3.6	Dec-16
<i>eV Alt All Managed Futures Median</i>			-0.3		0.8		5.9		2.1		1.6		2.1	Dec-16

* Funded October 2019.

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Real Return (with SSgA RA Overlay Proxy)- Gross	1,646,461,241	15.9	1.4	--	2.9	--	8.2	--	--	--	--	--	8.9	Mar-17
Real Return (with SSgA RA Overlay Proxy)- Net			1.4	--	2.7	--	7.9	--	--	--	--	--	8.7	
<i>Real Return Custom¹</i>			0.4	--	1.1	--	3.7	--	5.5	--	--	--	5.6	Mar-17
Real Return Asset Category- Gross	1,646,461,241	15.9	1.4	--	2.9	--	7.7	--	--	--	--	--	10.0	Mar-17
Real Return Asset Category- Net			1.4	--	2.7	--	7.5	--	--	--	--	--	9.8	
<i>Real Return Custom</i>			0.4	--	1.1	--	3.7	--	5.5	--	--	--	5.6	Mar-17
Real Estate- Gross	849,790,011	8.2	1.3	43	3.3	15	7.5	10	9.2	2	9.6	8	11.2	Jun-11
Real Estate- Net			1.3	45	3.1	20	7.1	13	8.8	4	9.0	17	10.4	
<i>Real Estate Custom¹</i>			0.7	82	2.0	65	5.5	46	6.9	43	8.3	45	9.6	Jun-11
<i>InvMetrics All DB Real Estate Priv Net Median</i>			1.3		2.5		5.1		6.5		8.0		9.3	Jun-11
Core RE -Separate- Gross	3,152,815	0.0	1.4	--	4.3	--	23.6	--	14.5	--	11.9	--	7.6	Sep-08
Core RE -Separate- Net			1.4	--	-26.5	--	-13.2	--	0.6	--	3.2	--	3.2	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	5.6	Sep-08
BlackRock RE Leveraged- Gross	3,152,815	0.0	1.4	--	4.3	--	24.2	--	14.8	--	13.7	--	10.5	Dec-98
BlackRock RE Leveraged- Net			1.4	--	-26.5	--	-12.8	--	1.2	--	5.2	--	--	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	8.4	Dec-98
Core RE -Limited Partnership- Gross	658,784,678	6.4	1.6	--	3.6	--	7.8	--	9.7	--	10.7	--	5.3	Sep-08
Core RE -Limited Partnership- Net			1.6	--	3.4	--	7.5	--	9.4	--	10.3	--	4.7	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	5.6	Sep-08
Brookfield Premier RE Partners- Gross ⁺	106,170,529	1.0	2.3	--	4.4	--	8.5	--	--	--	--	--	8.4	Sep-18
Brookfield Premier RE Partners- Net			2.3	--	4.4	--	8.5	--	--	--	--	--	8.4	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	5.7	Sep-18
Clarion Lion Properties- Gross	126,785,275	1.2	2.0	--	3.7	--	7.3	--	--	--	--	--	7.5	Sep-18
Clarion Lion Properties- Net			1.8	--	3.3	--	6.4	--	--	--	--	--	6.6	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	5.7	Sep-18

1. See Policy Index and Benchmark History.

+ Preliminary quarterly returns as of 12/31/2019 (Market Values estimated based on preliminary performance numbers provided by the manager.)

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Jamestown Premier Property- Gross*	0	0.0	-0.1	--	0.5	--	2.4	--	8.0	--	9.2	--	9.7	Dec-13
Jamestown Premier Property- Net			-0.1	--	0.5	--	2.4	--	8.0	--	9.2	--	9.7	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	9.5	Dec-13
Metlife Core Property- Gross	63,779,312	0.6	2.1	--	3.4	--	8.6	--	8.2	--	10.1	--	11.2	Dec-13
Metlife Core Property- Net			2.0	--	3.2	--	8.0	--	7.7	--	9.5	--	10.7	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	9.5	Dec-13
Prime Property- Gross	63,986,009	0.6	1.8	--	3.5	--	7.4	--	8.8	--	10.5	--	11.4	Sep-13
Prime Property- Net			1.5	--	3.0	--	6.2	--	7.6	--	9.3	--	10.2	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	9.7	Sep-13
Principal US Property- Gross	48,562,433	0.5	1.3	--	2.9	--	6.0	--	7.4	--	--	--	8.2	Oct-15
Principal US Property- Net			1.3	--	2.9	--	6.0	--	7.4	--	--	--	8.2	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	8.0	Oct-15
Prologis Targeted Euro Logistics- Gross*	52,450,477	0.5	0.0	--	-0.2	--	4.4	--	13.9	--	--	--	10.7	Oct-15
Prologis Targeted Euro Logistics- Net			0.0	--	-0.2	--	4.4	--	13.9	--	--	--	10.7	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	8.0	Oct-15
Prologis Targeted US Logistics- Gross**	78,951,227	0.8	4.0	--	8.9	--	16.9	--	17.8	--	--	--	16.9	Jul-15
Prologis Targeted US Logistics- Net			4.0	--	8.9	--	16.9	--	17.8	--	--	--	16.9	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	8.5	Jul-15
Townsend Real Estate- Gross*	118,099,417	1.1	0.0	--	2.2	--	5.6	--	8.3	--	--	--	8.8	Mar-16
Townsend Real Estate- Net			0.0	--	2.2	--	5.6	--	8.3	--	--	--	8.8	
<i>NFI-ODCE</i>			1.5	--	2.8	--	5.3	--	7.1	--	9.0	--	7.4	Mar-16

* Liquidated 12/31/2019.

+ Preliminary quarterly returns as of 12/31/2019 (Returns are not available at reporting period.)

** Preliminary quarterly returns as of 12/31/2019 (Market Values estimated based on preliminary performance numbers provided by the manager.)

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Non-Core RE -Opportunistic- Gross⁺⁺	148,170,320	1.4	-1.6	--	0.8	--	3.4	--	6.3	--	11.0	--	20.2	Feb-14
Non-Core RE -Opportunistic- Net			-1.6	--	0.8	--	3.4	--	6.3	--	10.4	--	19.4	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.0	--	9.8	Feb-14
Carlyle China Realty- Gross	8,295,199	0.1	-2.7	--	-1.7	--	4.5	--	--	--	--	--	-5.5	Jun-17
Carlyle China Realty- Net			-2.7	--	-1.7	--	4.5	--	--	--	--	--	-5.5	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.0	--	6.4	Jun-17
Carlyle China Rome Logistics- Gross	36,746,292	0.4	-2.4	--	-1.8	--	5.6	--	--	--	--	--	-1.8	Jun-17
Carlyle China Rome Logistics- Net			-2.4	--	-1.8	--	5.6	--	--	--	--	--	-1.8	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.0	--	6.4	Jun-17
CIM Opportunity VIII- Gross	39,322,579	0.4	-1.2	--	-0.6	--	5.4	--	6.1	--	--	--	6.4	Feb-15
CIM Opportunity VIII- Net			-1.2	--	-0.6	--	5.4	--	6.1	--	--	--	5.3	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.0	--	9.3	Feb-15
Kohlberg Kravis Roberts- Gross	6,232,357	0.1	-1.0	--	0.5	--	2.0	--	-16.2	--	-1.2	--	8.9	Feb-14
Kohlberg Kravis Roberts- Net			-1.0	--	0.5	--	2.0	--	-16.2	--	-1.3	--	8.7	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.0	--	9.8	Feb-14
NREP Nordic Strat FCP-FIS- Gross	4,217,907	0.0	3.1	--	7.8	--	-13.1	--	13.6	--	17.0	--	17.0	Dec-14
NREP Nordic Strat FCP-FIS- Net			3.1	--	7.8	--	-13.1	--	13.6	--	17.0	--	17.0	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.0	--	9.0	Dec-14
NREP Nordic Strat II- Gross	28,946,961	0.3	-2.5	--	3.8	--	7.1	--	21.5	--	--	--	13.6	Jun-16
NREP Nordic Strat II- Net			-2.5	--	3.8	--	7.1	--	21.5	--	--	--	13.6	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.0	--	7.0	Jun-16
NREP Nordic Strat III- Gross	10,830,792	0.1	-8.2	--	-6.3	--	-30.2	--	--	--	--	--	-17.4	Jul-18
NREP Nordic Strat III- Net			-8.2	--	-6.3	--	-30.2	--	--	--	--	--	-17.4	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.0	--	5.6	Jul-18
Sculptor Real Estate Fund III- Gross	13,578,233	0.1	3.3	--	6.9	--	12.5	--	22.3	--	10.8	--	7.5	Sep-14
Sculptor Real Estate Fund III- Net			3.3	--	6.9	--	12.5	--	22.3	--	6.6	--	3.6	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.0	--	9.1	Sep-14

⁺⁺ Returns are one-quarter lag.

* Returns for private markets are shown on a time-weighted basis and may differ substantially from dollar-weighted returns.

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Non-Core RE -Value Added- Gross⁺⁺	39,682,198	0.4	5.9	--	7.0	--	7.2	--	9.7	--	9.3	--	-1.1	Sep-08
Non-Core RE -Value Added- Net			5.9	--	7.0	--	7.2	--	9.7	--	8.7	--	-2.3	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.2	--	7.7	Sep-08
Asana Partners Fund II- Gross*	2,126,890	0.0	-29.5	--	--	--	--	--	--	--	--	--	--	Apr-19
Asana Partners Fund II- Net			-29.5	--	--	--	--	--	--	--	--	--	--	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.2	--	1.9	Apr-19
ECE Euro Prime Shopping II- Gross	24,593,772	0.2	-1.4	--	0.9	--	-1.9	--	8.5	--	--	--	13.1	Jul-15
ECE Euro Prime Shopping II- Net			-1.4	--	0.9	--	-1.9	--	8.5	--	--	--	12.1	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.2	--	8.6	Jul-15
European RE Debt II- Gross	7,139,059	0.1	-3.2	--	-1.9	--	0.6	--	9.4	--	5.1	--	4.8	Nov-13
European RE Debt II- Net			-3.2	--	-1.9	--	0.6	--	9.4	--	5.1	--	4.8	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.2	--	10.2	Nov-13
Hammes II- Gross	3,042,142	0.0	22.5	--	24.9	--	31.7	--	19.8	--	--	--	20.5	Jul-15
Hammes II- Net			22.5	--	24.9	--	31.7	--	19.8	--	--	--	17.9	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.2	--	8.6	Jul-15
Hammes III- Gross	2,597,915	0.0	-0.6	--	-6.3	--	-49.4	--	--	--	--	--	-44.3	Oct-18
Hammes III- Net			-0.6	--	-6.3	--	-49.4	--	--	--	--	--	-44.3	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.2	--	5.1	Oct-18
UBS RE- Gross	182,420	0.0	5.8	--	10.3	--	5.6	--	-4.4	--	1.3	--	-1.0	Sep-06
UBS RE- Net			5.8	--	10.3	--	5.6	--	-4.4	--	1.1	--	-2.3	
<i>NFI-ODCE net +1% 1Q Lag</i>			-0.9	--	0.5	--	5.6	--	6.7	--	9.2	--	--	Sep-06

⁺⁺ Returns are one-quarter lag.

⁺ Unable to calculate a since inception return due to system limitations when account experienced 2 quarter of negative fund value in 2019.

* Returns for private markets are shown on a time-weighted basis and may differ substantially from dollar-weighted returns

Total Fund Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Private Real Assets- Gross⁺⁺	590,144,188	5.7	1.2	--	2.1	--	7.7	--	13.3	--	10.1	--	5.3	Jan-13
Private Real Assets- Net			1.2	--	2.1	--	7.7	--	13.3	--	10.1	--	5.3	
<i>Private Real Assets Custom¹</i>			-0.7	--	-0.3	--	0.4	--	5.8	--	5.9	--	6.0	Jan-13
<i>CPI-U Headline +5%</i>			2.1	--	3.6	--	7.3	--	7.1	--	6.6	--	6.6	Jan-13
ACM II- Gross	17,385,431	0.2	-0.8	--	-4.7	--	-3.7	--	-5.1	--	--	--	-5.7	Sep-16
ACM II- Net			-0.8	--	-4.7	--	-3.7	--	-5.1	--	--	--	-5.7	
<i>NCREIF Farmland 1 Qtr Lag</i>			1.0	--	1.7	--	5.3	--	6.1	--	7.9	--	6.1	Sep-16
ArcLight Energy VI- Gross	36,753,019	0.4	-2.4	--	-4.1	--	-3.0	--	10.5	--	--	--	7.7	Aug-15
ArcLight Energy VI- Net			-2.4	--	-4.1	--	-3.0	--	10.5	--	--	--	7.7	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	12.4	Aug-15
Atalaya SMA- Gross	17,488,400	0.2	2.0	--	3.5	--	11.7	--	9.8	--	--	--	9.4	May-15
Atalaya SMA- Net			2.0	--	3.5	--	11.7	--	9.8	--	--	--	9.4	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	11.2	May-15
Brookfield Infra III- Gross	30,406,460	0.3	4.7	--	9.2	--	16.0	--	9.4	--	--	--	12.7	May-16
Brookfield Infra III- Net			4.7	--	9.2	--	16.0	--	9.4	--	--	--	12.7	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	12.0	May-16
Brookfield Infra IV- Gross	11,837,761	0.1	-0.6	--	--	--	--	--	--	--	--	--	-0.6	Sep-19
Brookfield Infra IV- Net			-0.6	--	--	--	--	--	--	--	--	--	-0.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	1.2	Sep-19
Carlyle Power II- Gross	29,526,940	0.3	7.0	--	8.8	--	13.7	--	13.4	--	--	--	1.9	Oct-15
Carlyle Power II- Net			7.0	--	8.8	--	13.7	--	13.4	--	--	--	1.9	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	11.5	Oct-15
EnCap Energy IX- Gross	18,346,428	0.2	-12.1	--	-15.8	--	-20.1	--	3.4	--	3.6	--	-2.2	Jan-13
EnCap Energy IX- Net			-12.1	--	-15.8	--	-20.1	--	3.4	--	3.6	--	-2.2	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			-3.7	--	-6.2	--	-11.1	--	3.3	--	-3.5	--	0.5	Jan-13

1. See Policy and Benchmark History.

++ Returns are one-quarter lag.

* Returns for private markets are shown on a time-weighted basis and may differ substantially from dollar-weighted returns.

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
EnCap Energy X- Gross	35,515,729	0.3	-0.1	--	-1.2	--	7.7	--	14.5	--	--	--	-0.4	Apr-15
EnCap Energy X- Net			-0.1	--	-1.2	--	7.7	--	14.5	--	--	--	-0.4	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			-3.7	--	-6.2	--	-11.1	--	3.3	--	-3.5	--	-0.9	Apr-15
EnCap Flatrock Midstream III- Gross	17,805,521	0.2	1.7	--	1.1	--	8.2	--	14.5	--	14.5	--	8.1	Jul-14
EnCap Flatrock Midstream III- Net			1.7	--	1.1	--	8.2	--	14.5	--	14.5	--	8.1	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	10.2	Jul-14
EnCap Flatrock Midstream IV- Gross	8,417,444	0.1	8.1	--	8.2	--	22.2	--	--	--	--	--	-0.1	Feb-18
EnCap Flatrock Midstream IV- Net			8.1	--	8.2	--	22.2	--	--	--	--	--	-0.1	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	10.1	Feb-18
EQT Infrastructure Fund IV- Gross	6,268,485	0.1	-9.2	--	-27.7	--	--	--	--	--	--	--	-27.7	Jun-19
EQT Infrastructure Fund IV- Net			-9.2	--	-27.7	--	--	--	--	--	--	--	-27.7	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	3.5	Jun-19
First Reserve- Gross	23,591,428	0.2	6.4	--	8.9	--	13.2	--	29.6	--	0.4	--	0.4	Dec-14
First Reserve- Net			6.4	--	8.9	--	13.2	--	29.6	--	0.4	--	0.4	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	10.5	Dec-14
IFM Global Infrastructure US LP- Gross	123,784,446	1.2	2.2	--	6.1	--	12.1	--	--	--	--	--	13.6	Apr-17
IFM Global Infrastructure US LP- Net			2.2	--	6.1	--	12.1	--	--	--	--	--	13.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	12.6	Apr-17
ISQ Global Infrastructure Fund II- Gross	22,161,045	0.2	4.4	--	6.4	--	13.7	--	--	--	--	--	11.6	Oct-18
ISQ Global Infrastructure Fund II- Net			4.4	--	6.4	--	13.7	--	--	--	--	--	11.6	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	9.2	Oct-18
Meridiam Infra N America III- Gross	713,879	0.0	-26.0	--	-40.5	--	-80.5	--	--	--	--	--	-89.7	Sep-17
Meridiam Infra N America III- Net			-26.0	--	-40.5	--	-80.5	--	--	--	--	--	-89.7	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	10.3	Sep-17
Pantheon Ventures- Gross	86,210,624	0.8	-1.4	--	0.4	--	7.0	--	9.8	--	12.8	--	21.1	Jul-14
Pantheon Ventures- Net			-1.4	--	0.4	--	7.0	--	9.8	--	12.8	--	21.1	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	10.2	Jul-14

Total Fund
Performance Summary

Period Ending: December 31, 2019

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Quantum Energy VI- Gross	35,544,121	0.3	11.4	--	11.2	--	18.8	--	28.3	--	25.7	--	25.3	Nov-14
Quantum Energy VI- Net			11.4	--	11.2	--	18.8	--	28.3	--	25.7	--	25.3	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			-3.7	--	-6.2	--	-11.1	--	3.3	--	-3.5	--	-3.7	Nov-14
Quantum Energy VII- Gross	19,851,109	0.2	-1.1	--	-2.1	--	3.5	--	--	--	--	--	-1.5	Aug-17
Quantum Energy VII- Net			-1.1	--	-2.1	--	3.5	--	--	--	--	--	-1.5	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			-3.7	--	-6.2	--	-11.1	--	3.3	--	-3.5	--	-0.1	Aug-17
Tailwater Energy Fund III- Gross	23,017,811	0.2	-0.8	--	-1.3	--	10.1	--	--	--	--	--	0.3	Sep-18
Tailwater Energy Fund III- Net			-0.8	--	-1.3	--	10.1	--	--	--	--	--	0.3	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			-3.7	--	-6.2	--	-11.1	--	3.3	--	-3.5	--	-7.4	Sep-18
Tailwater Energy IV- Gross*	5,926,293	0.1	--	--	--	--	--	--	--	--	--	--	0.0	Oct-19
Tailwater Energy IV- Net			--	--	--	--	--	--	--	--	--	--	0.0	
<i>Cambridge Associates Private Energy 1 Qtr Lag</i>			-3.7	--	-6.2	--	-11.1	--	3.3	--	-3.5	--	-3.7	Oct-19
Wastewater Opportunity- Gross	19,591,814	0.2	-0.7	--	-1.5	--	10.4	--	-4.2	--	--	--	-22.7	Dec-15
Wastewater Opportunity- Net			-0.7	--	-1.5	--	10.4	--	-4.2	--	--	--	-22.7	
<i>Cambridge Associates Private Infrastructure 1 Qtr Lag</i>			1.2	--	3.5	--	8.5	--	11.2	--	10.5	--	11.5	Dec-15
Liquid Real Return- Gross	206,527,042	2.0	2.8	--	3.1	--	--	--	--	--	--	--	3.1	Jun-19
Liquid Real Return- Net			2.7	--	2.9	--	--	--	--	--	--	--	2.9	
<i>SSgA Real Asset</i>			3.1	--	3.3	--	14.3	--	4.8	--	2.5	--	3.3	Jun-19
Brookfield Liquid Real Return- Gross**	101,781,365	1.0	--	--	--	--	--	--	--	--	--	--	2.1	Nov-19
Brookfield Liquid Real Return- Net			--	--	--	--	--	--	--	--	--	--	2.1	
<i>Real Return Custom¹</i>			0.4	--	1.1	--	3.7	--	5.5	--	--	--	0.4	Nov-19
SSgA Passive Real Return Proxy- Gross	104,745,677	1.0	2.9	--	3.1	--	14.2	--	4.9	--	2.7	--	1.8	Jan-08
SSgA Passive Real Return Proxy- Net			2.7	--	2.9	--	13.6	--	4.6	--	2.4	--	1.6	
<i>SSgA Real Asset</i>			3.1	--	3.3	--	14.3	--	4.8	--	2.5	--	--	Jan-08

1. See Policy and Benchmark History.

* Funded October 2019.

** Funded November 2019.

Total Fund
Performance Summary

Period Ending: December 31, 2019

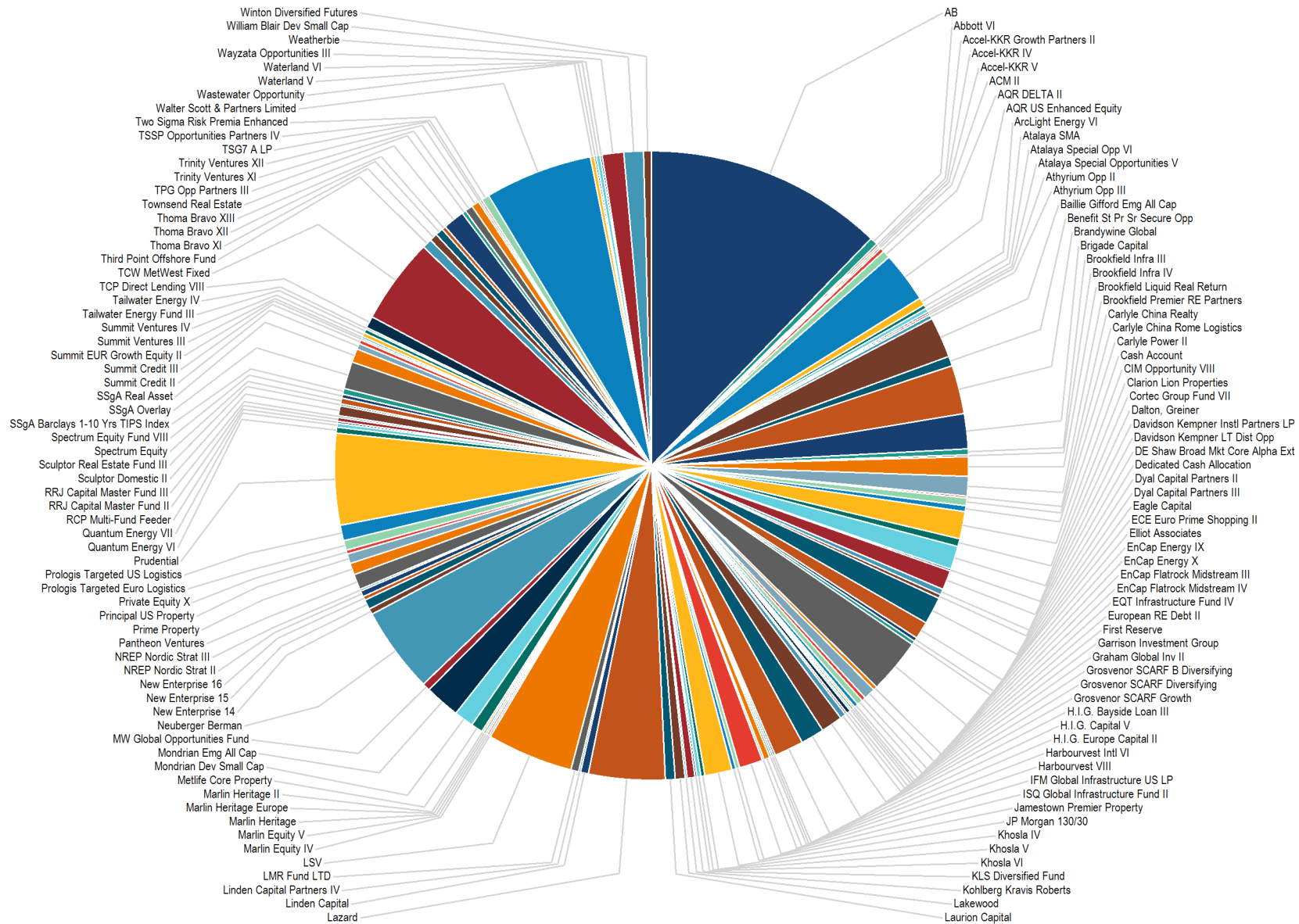
	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Opportunities Asset Category- Gross⁺⁺	6,924,034	0.1	2.2	--	7.2	--	8.6	--	5.7	--	6.9	--	15.0	Oct-07
Opportunities Asset Category- Net			2.2	--	7.2	--	8.6	--	5.7	--	6.9	--	15.0	
<i>Policy Index</i>			4.0	--	4.9	--	14.7	--	8.9	--	7.0	--	7.9	Oct-07
Atalaya Special Opportunities V- Gross	6,924,034	0.1	2.2	--	7.2	--	8.6	--	5.0	--	6.7	--	5.6	Jul-13
Atalaya Special Opportunities V- Net			2.2	--	7.2	--	8.6	--	5.0	--	6.7	--	5.6	
<i>Thomson Reuters CJA All PE 1 Qtr Lag</i>			0.5	--	4.3	--	7.6	--	13.3	--	11.8	--	13.9	Jul-13
Cash - Gross	245,695,996	2.4	0.6	--	1.0	--	2.6	--	2.2	--	2.0	--	3.1	Jun-92
Cash - Net			0.6	--	1.0	--	2.6	--	2.2	--	2.0	--	--	
<i>91 Day T-Bills</i>			0.4	--	0.9	--	2.1	--	1.6	--	1.1	--	2.4	Jun-92
Cash Account- Gross	150,115,374	1.4	0.6	--	1.3	--	2.8	--	2.3	--	2.0	--	3.2	Jun-92
Cash Account- Net			0.6	--	1.3	--	2.8	--	2.3	--	2.0	--	--	
<i>91 Day T-Bills</i>			0.4	--	0.9	--	2.1	--	1.6	--	1.1	--	2.4	Jun-92
Dedicated Cash Allocation- Gross	95,580,621	0.9	0.4	--	0.6	--	--	--	--	--	--	--	0.6	Jun-19
Dedicated Cash Allocation- Net			0.4	--	0.6	--	--	--	--	--	--	--	0.6	
<i>ICE LIBOR Spot/Next Overnight USD</i>			0.3	--	0.6	--	1.4	--	1.1	--	0.7	--	0.6	Jun-19

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

++ Returns are one-quarter lag.

Total Fund Manager Allocation Analysis

Period Ending: December 31, 2019



Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2019

	Current	%
AB	\$1,270,958,361	12.3%
AQR US Enhanced Equity	\$266,742,663	2.6%
JP Morgan 130/30	\$147,400,633	1.4%
DE Shaw Broad Mkt Core Alpha Ext	\$140,434,440	1.4%
Eagle Capital	\$286,469,802	2.8%
Huber Capital	\$25,273	0.0%
Weatherbie	\$110,029,549	1.1%
Dalton, Greiner	\$100,050,530	1.0%
WEDGE Capital	\$1	0.0%
Lazard	\$406,694,026	3.9%
Walter Scott & Partners Limited	\$570,230,964	5.5%
LSV	\$451,636,509	4.4%
Mondrian Dev Small Cap	\$104,320,107	1.0%
William Blair Dev Small Cap	\$98,605,944	1.0%
Baillie Gifford Emg All Cap	\$214,260,292	2.1%
Mondrian Emg All Cap	\$183,120,248	1.8%
CBRE Clarion	\$18,076	0.0%
Abbott VI	\$45,262,926	0.4%
Accel-KKR IV	\$13,490,057	0.1%
Accel-KKR V	\$10,619,261	0.1%
Accel-KKR Growth Partners II	\$8,745,568	0.1%
Accel-KKR Growth Partners III	\$3,669,708	0.0%
Atalaya Special Opp VI	\$16,166,760	0.2%
Cortec Group Fund VII	\$8,671,589	0.1%
Davidson Kempner LT Dist Opp	\$25,775,673	0.2%
Dyal Capital Partners II	\$17,978,439	0.2%
Dyal Capital Partners III	\$19,897,489	0.2%
Garrison Investment Group	\$13,704,715	0.1%

Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2019

	Current	%
Harbourvest VIII	\$13,371,414	0.1%
Harbourvest Intl VI	\$33,152,250	0.3%
H.I.G. Bayside Loan III	\$11,631,260	0.1%
H.I.G. Capital V	\$14,591,051	0.1%
H.I.G. Europe Capital II	\$9,028,384	0.1%
Khosla IV	\$15,733,857	0.2%
Khosla V	\$24,457,474	0.2%
Khosla VI	\$13,233,351	0.1%
Linden Capital	\$41,437,401	0.4%
Linden Capital Partners IV	\$9,962,554	0.1%
Marlin Equity IV	\$15,015,825	0.1%
Marlin Equity V	\$10,175,939	0.1%
Marlin Heritage	\$8,848,073	0.1%
Marlin Heritage II	\$5,709,703	0.1%
Marlin Heritage Europe	\$12,286,298	0.1%
New Enterprise 14	\$28,538,850	0.3%
New Enterprise 15	\$47,598,599	0.5%
New Enterprise 16	\$22,455,070	0.2%
New Enterprise 17	\$2,245,721	0.0%
Private Equity X	\$23,007,972	0.2%
RCP Multi-Fund Feeder	\$12,573,114	0.1%
RRJ Capital Master Fund II	\$16,823,829	0.2%
RRJ Capital Master Fund III	\$14,798,921	0.1%
Spectrum Equity	\$34,752,533	0.3%
Spectrum Equity Fund VIII	\$15,851,535	0.2%
Summit EUR Growth Equity II	\$12,110,453	0.1%
Summit Ventures III	\$15,148,105	0.1%
Summit Ventures IV	\$16,367,499	0.2%

Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2019

	Current	%
Thoma Bravo XI	\$41,113,597	0.4%
Thoma Bravo XII	\$37,187,392	0.4%
Thoma Bravo XIII	\$16,028,159	0.2%
Threshold Ventures III	\$2,200,000	0.0%
TPG Opp Partners III	\$20,546,130	0.2%
Trinity Ventures XI	\$37,458,438	0.4%
Trinity Ventures XII	\$40,127,959	0.4%
TSG7 A LP	\$14,167,855	0.1%
TSG7 B LP	\$2,122,373	0.0%
TSG8 LP	\$202,932	0.0%
TSSP Opportunities Partners IV	\$5,948,769	0.1%
Waterland V	\$11,747,904	0.1%
Waterland VI	\$21,422,780	0.2%
Wayzata Opportunities III	\$5,252,388	0.1%
Brigade Capital	\$187,542,328	1.8%
Athyrium Opp II	\$14,168,053	0.1%
Athyrium Opp III	\$15,636,014	0.2%
Benefit St Pr Sr Secure Opp	\$47,508,662	0.5%
Benefit St Pr Sr Secure Opp II	\$2,467,756	0.0%
OrbiMed Royalty & Credit Opp III	\$1,660,546	0.0%
Summit Credit	\$537,872	0.0%
Summit Credit II	\$28,615,362	0.3%
Summit Credit III	\$21,150,101	0.2%
TCP Direct Lending VIII	\$65,005,316	0.6%
Grosvenor SCARF Growth	\$158,372,911	1.5%
Lakewood	\$49,048,389	0.5%
Sculptor Domestic II	\$52,880,754	0.5%
Third Point Offshore Fund	\$51,673,763	0.5%

Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2019

	Current	%
Prudential	\$485,034,416	4.7%
TCW MetWest Fixed	\$458,937,744	4.4%
Neuberger Berman	\$461,202,438	4.5%
Brandywine Global	\$259,042,608	2.5%
AQR DELTA II	\$43,207,193	0.4%
Davidson Kempner Instl Partners LP	\$33,688,533	0.3%
Elliot Associates	\$57,728,146	0.6%
Graham Global Inv II	\$35,760,600	0.3%
Grosvenor SCARF Diversifying	\$120,670,714	1.2%
Grosvenor SCARF B Diversifying	\$110,949,832	1.1%
KLS Diversified Fund	\$40,234,517	0.4%
Laurion Capital	\$47,733,027	0.5%
LMR Fund LTD	\$45,896,445	0.4%
MW Global Opportunities Fund	\$42,621,228	0.4%
Two Sigma Risk Premia Enhanced	\$45,198,788	0.4%
Winton Diversified Futures	\$38,351,581	0.4%
BlackRock RE Leveraged	\$3,152,815	0.0%
Brookfield Premier RE Partners	\$106,170,529	1.0%
Clarion Lion Properties	\$126,785,275	1.2%
Jamestown Premier Property	\$0	0.0%
Metlife Core Property	\$63,779,312	0.6%
Prime Property	\$63,986,009	0.6%
Principal US Property	\$48,562,433	0.5%
Prologis Targeted Euro Logistics	\$52,450,477	0.5%
Prologis Targeted US Logistics	\$78,951,227	0.8%
Townsend Real Estate	\$118,099,417	1.1%
Carlyle China Realty	\$8,295,199	0.1%
Carlyle China Rome Logistics	\$36,746,292	0.4%

Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2019

	Current	%
CIM Opportunity VIII	\$39,322,579	0.4%
Kohlberg Kravis Roberts	\$6,232,357	0.1%
NREP Nordic Strat FCP-FIS	\$4,217,907	0.0%
NREP Nordic Strat II	\$28,946,961	0.3%
NREP Nordic Strat III	\$10,830,792	0.1%
Sculptor Real Estate Fund III	\$13,578,233	0.1%
Asana Partners Fund II	\$2,126,890	0.0%
ECE Euro Prime Shopping II	\$24,593,772	0.2%
European RE Debt II	\$7,139,059	0.1%
Hammes II	\$3,042,142	0.0%
Hammes III	\$2,597,915	0.0%
UBS RE	\$182,420	0.0%
ACM II	\$17,385,431	0.2%
ArcLight Energy VI	\$36,753,019	0.4%
Atalaya SMA	\$17,488,400	0.2%
Brookfield Infra III	\$30,406,460	0.3%
Brookfield Infra IV	\$11,837,761	0.1%
Carlyle Power II	\$29,526,940	0.3%
EnCap Energy IX	\$18,346,428	0.2%
EnCap Energy X	\$35,515,729	0.3%
EnCap Flatrock Midstream III	\$17,805,521	0.2%
EnCap Flatrock Midstream IV	\$8,417,444	0.1%
EQT Infrastructure Fund IV	\$6,268,485	0.1%
First Reserve	\$23,591,428	0.2%
IFM Global Infrastructure US LP	\$123,784,446	1.2%
ISQ Global Infrastructure Fund II	\$22,161,045	0.2%

Total Fund
 Manager Allocation Analysis

Period Ending: December 31, 2019

	Current	%
Meridiam Infra N America III	\$713,879	0.0%
Pantheon Ventures	\$86,210,624	0.8%
Quantum Energy VI	\$35,544,121	0.3%
Quantum Energy VII	\$19,851,109	0.2%
Tailwater Energy Fund III	\$23,017,811	0.2%
Tailwater Energy IV	\$5,926,293	0.1%
Wastewater Opportunity	\$19,591,814	0.2%
Brookfield Liquid Real Return	\$101,781,365	1.0%
SSgA Barclays 1-10 Yrs TIPS Index	\$31,448,438	0.3%
SSgA Real Asset	\$73,297,239	0.7%
Atalaya Special Opportunities V	\$6,924,034	0.1%
Cash Account	\$150,115,374	1.4%
Dedicated Cash Allocation	\$95,580,621	0.9%
Transition Account	\$1	0.0%
Heitman Adv JMB V	\$8,390	0.0%
SSgA Overlay	\$147,948,786	1.4%
Total	\$10,360,977,399	100.0%

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	10.7%	7	5.6%	20	1.6	3	1.2	8	1.5%	84
Policy Index	8.9%	56	5.1%	10	1.4	13	--	--	0.0%	1
Total Fund ex Overlay	10.7%	7	5.4%	17	1.7	2	1.1	11	1.6%	85
Policy Index	8.9%	56	5.1%	10	1.4	13	--	--	0.0%	1

Statistics Summary

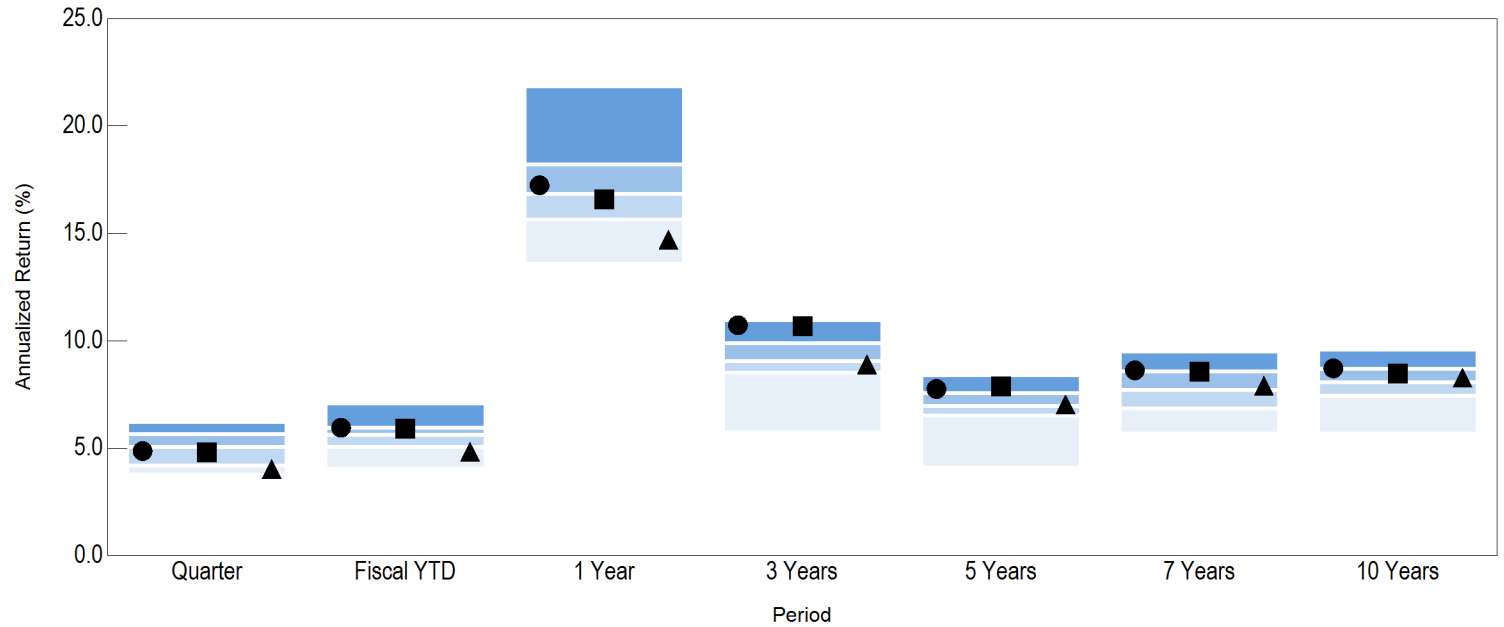
5 Years

	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	7.8%	19	6.0%	38	1.1	12	0.4	27	1.7%	89
Policy Index	7.0%	44	5.4%	6	1.1	11	--	--	0.0%	1
Total Fund ex Overlay	7.9%	16	5.8%	19	1.2	3	0.5	24	1.5%	82
Policy Index	7.0%	44	5.4%	6	1.1	11	--	--	0.0%	1

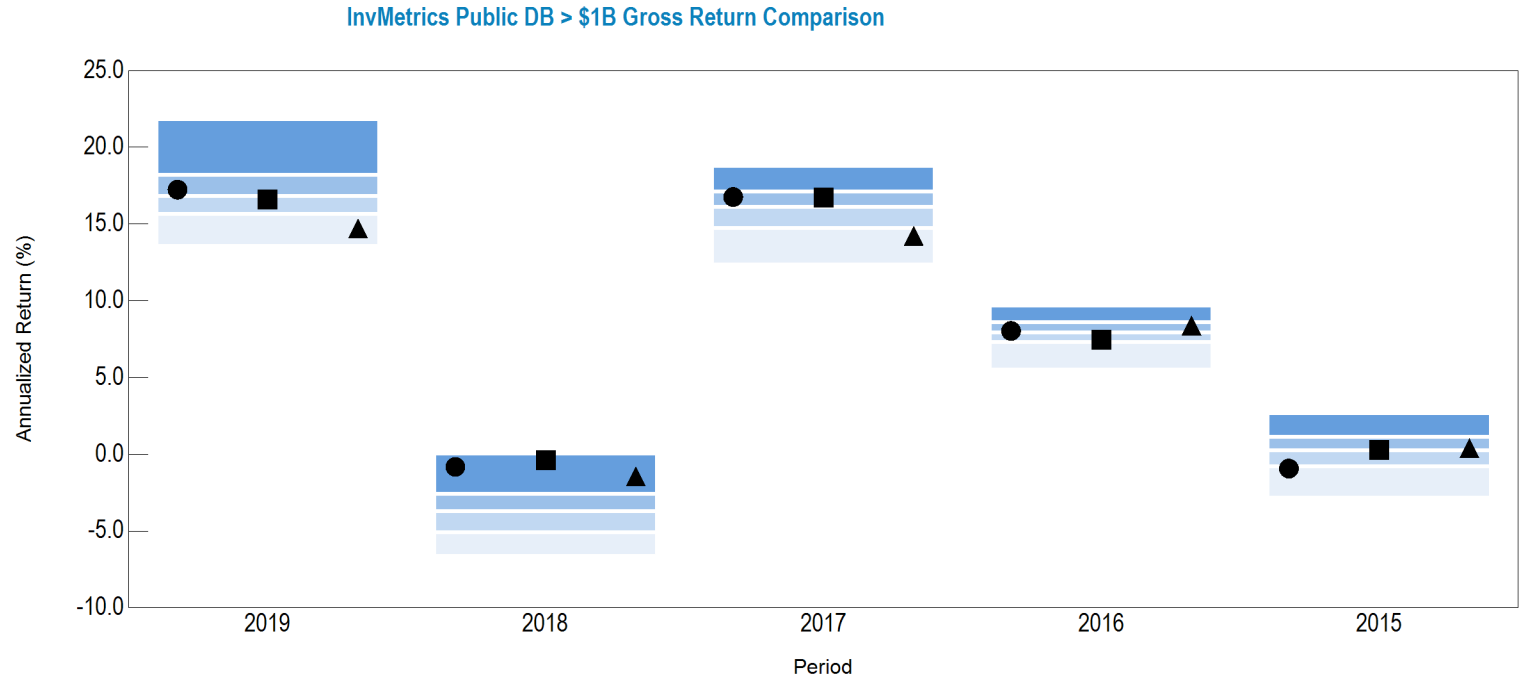
Total Fund
Peer Universe Comparison

Period Ending: December 31, 2019

InvMetrics Public DB > \$1B Gross Return Comparison



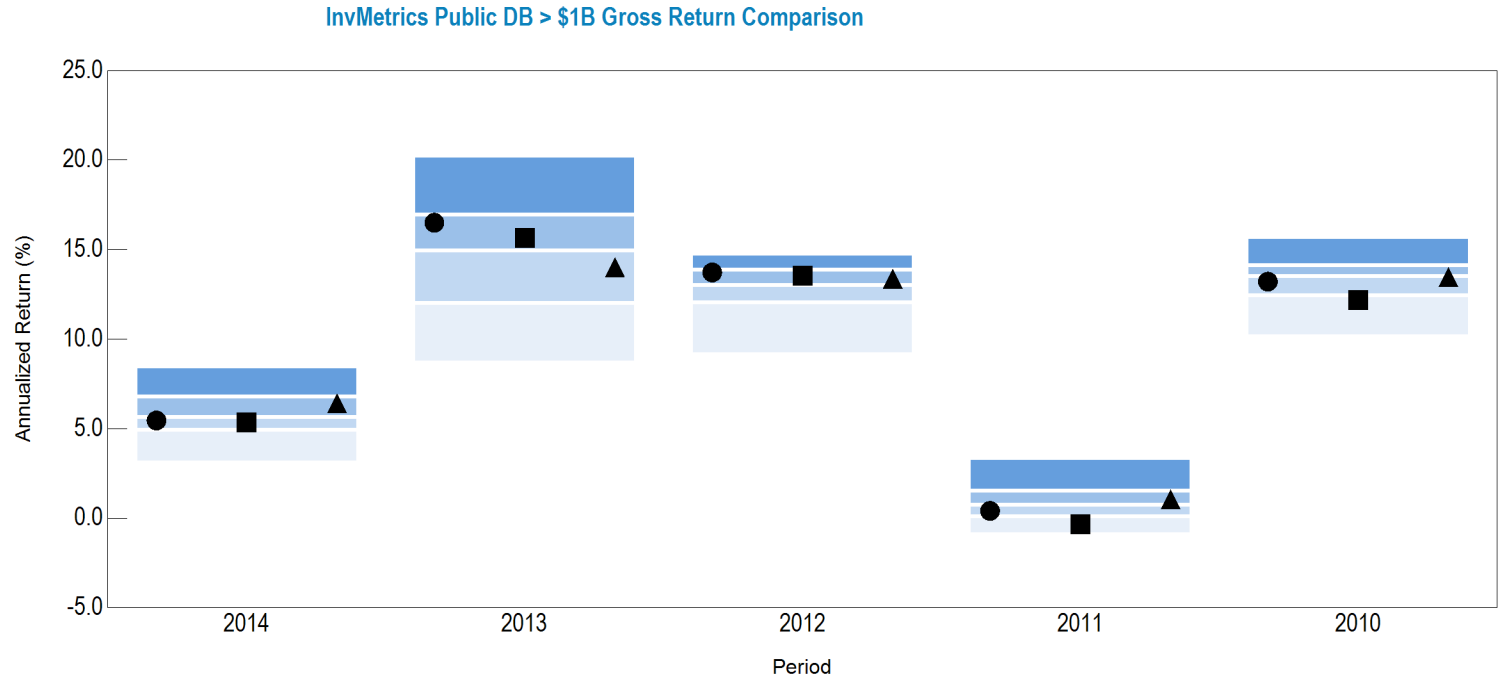
	Quarter		Fiscal YTD		1 Year		3 Years		5 Years		7 Years		10 Years	
5th Percentile	6.2		7.1		21.8		11.0		8.4		9.5		9.6	
25th Percentile	5.7		6.0		18.2		9.9		7.6		8.6		8.7	
Median	5.1		5.6		16.9		9.1		7.0		7.7		8.1	
75th Percentile	4.2		5.1		15.7		8.5		6.5		6.9		7.5	
95th Percentile	3.8		4.1		13.6		5.8		4.1		5.7		5.7	
# of Portfolios	64		64		64		64		63		60		56	
● Total Fund	4.9	(60)	6.0	(28)	17.2	(47)	10.7	(7)	7.8	(19)	8.6	(24)	8.7	(25)
■ Total Fund ex Overlay	4.8	(63)	5.9	(31)	16.6	(55)	10.7	(7)	7.9	(16)	8.6	(26)	8.5	(34)
▲ Policy Index	4.0	(89)	4.9	(90)	14.7	(89)	8.9	(56)	7.0	(44)	7.9	(46)	8.3	(45)



	Return (Rank)				
	2019	2018	2017	2016	2015
5th Percentile	21.8	0.0	18.8	9.7	2.7
25th Percentile	18.2	-2.6	17.2	8.6	1.1
Median	16.9	-3.7	16.2	8.0	0.3
75th Percentile	15.7	-5.1	14.8	7.4	-0.7
95th Percentile	13.6	-6.6	12.4	5.5	-2.8
# of Portfolios	64	71	98	92	98
● Total Fund	17.2 (47)	-0.8 (7)	16.8 (38)	8.0 (46)	-0.9 (83)
■ Total Fund ex Overlay	16.6 (55)	-0.4 (6)	16.7 (39)	7.5 (73)	0.3 (51)
▲ Policy Index	14.7 (89)	-1.4 (10)	14.2 (82)	8.4 (34)	0.4 (46)

Total Fund
Peer Universe Comparison (Calendar Years)

Period Ending: December 31, 2019



	2014		2013		2012		2011		2010	
Return (Rank)	8.5	(61)	20.2	(31)	14.7	(36)	3.3	(60)	15.7	(62)
5th Percentile	3.1	(34)	8.7	(64)	9.2	(42)	-0.9	(86)	10.2	(81)
25th Percentile	4.9	(65)	12.0	(43)	12.1	(41)	0.1	(38)	12.5	(53)
Median	5.7	(34)	15.0	(31)	13.0	(36)	0.8	(60)	13.5	(62)
75th Percentile	6.8	(65)	17.0	(43)	13.9	(41)	1.6	(86)	14.2	(81)
95th Percentile	8.5	(61)	20.2	(31)	14.7	(36)	3.3	(60)	15.7	(62)
# of Portfolios	79		67		74		68		66	
● Total Fund	5.5	(61)	16.5	(31)	13.7	(36)	0.4	(60)	13.2	(62)
■ Total Fund ex Overlay	5.3	(65)	15.6	(43)	13.6	(41)	-0.3	(86)	12.2	(81)
▲ Policy Index	6.4	(34)	14.0	(64)	13.4	(42)	1.0	(38)	13.5	(53)

Total Plan Policy Index	As of:									
	7/1/19	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%	10.0%	15.0%	20.0%	20.0%	25.0%	25.0%	30.0%	
BBgBarc US Treasury	5.0%	5.0%	5.0%							
ICE BofA ML High Yield II	1.0%	1.0%	1.0%	1.0%						
Bloomberg Commodity		2.0%	2.0%			5.0%				
Cambridge Associates Private Energy 1 Qtr Lag	2.5%	2.5%								
Cambridge Associates Private Infrastructure 1 Qtr Lag	3.2%	3.2%								
FTSE BIG										23.0%
FTSE WGBI ex US Unhedged	2.4%	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%	1.0%						
Credit Suisse Leveraged Loans +2%	4.0%	4.0%	4.0%							
JPM GBI EM Diversified	0.6%	0.6%	0.6%	0.6%						
HFRI FoF Composite Index + 1%	3.0%	3.0%								
HFRI FoF Conservative Index	7.0%	7.0%								
MSCI ACWI ex US	20.0%	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%	4.6%								
NFI-ODCE net +1% 1Q Lag	2.5%	2.5%								
NCREIF			7.0%			12.0%	12.0%	15.0%	10.0%	15.0%
NCREIF Farmland 1 Qtr Lag	0.7%	0.7%								
NCREIF Timberland Index Lagged	0.7%	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	20.0%	21.0%	21.0%	22.5%	22.5%	30.0%				47.0%
S&P 500 +2% 1QL (PE)						5.0%				
Thomson Reuters CJA All PE 1 Qtr Lag	9.0%	9.0%	9.0%							
Bloomberg Roll Select Commodity Total Return	0.2%									
Bloomberg Barclays U.S. Floating Rate Note < 5 Yr	0.2%									
S&P Global LargeMidCap Commodity and Resources	0.2%									
S&P Global Infrastructure Index - Net of Tax on Dividend	0.5%									
Bloomberg Barclays U.S. Government Inflation-Linked 1-10 Yrs	0.6%									
FTSE EPRA Nareit Developed Liquid Index	0.3%									
ICE LIBOR Spot/Next Overnight USD	1.0%									
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Growth Benchmark				
	As of:			
	7/1/19	7/1/17	4/1/17	
91 Day T-Bill +5%			5.08%	
ICE BofA ML High Yield II	1.73%	1.70%	1.70%	
Credit Suisse Leveraged Loans	1.73%	1.70%	1.70%	
Credit Suisse Leveraged Loan + 2%	6.90%	6.78%	6.78%	
HFRI FoF Composite Index + 1%	5.17%	5.08%		
MSCI ACWI ex US	34.48%	33.90%	33.90%	
Russell 3000	34.48%	35.59%	35.59%	
Thomson Reuters CJA All PE 1 Qtr Lag	15.52%	15.25%	15.25%	
	100.0%	100.0%	100.0%	

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%
	100.0%	100.0%	100.0%	100.0%

Large Cap Active Benchmark		
	As of:	
	2/1/19	9/1/08
Russell 1000 Value		100.0%
Russell 1000	100.0%	
	100.0%	100.0%

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%	
	100.0%	100.0%	100.0%

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 CJA All PE 1 Qtr Lag	100.0%		
	100.0%	100.0%	100.0%

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

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

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%	
	100.0%	100.0%

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%
	100.0%	100.0%

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

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%	
	100.0%	100.0%

Real Return Benchmark		
	As of:	
	4/1/19	4/1/17
Real Estate Benchmark	43.75%	43.75%
Private Real Assets Benchmark	43.75%	43.75%
Bloomberg Commodity		12.50%
Liquid Real Return Custom Benchmark	12.50%	
	100.0%	100.0%

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%	
	100.0%	100.0%

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%	
	100.0%	100.0%

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%	
	100.0%	100.0%

Liquid Real Return Custom Benchmark		
	As of:	
	7/1/19	
Bloomberg Roll Select Commodity Total Return	10.0%	
Bloomberg Barclays U.S. Floating Rate Note < 5 Yr	10.0%	
S&P Global LargeMidCap Commodity and Resources	10.0%	
S&P Global Infrastructure Index - Net of Tax on Dividend	25.0%	
Bloomberg Barclays U.S. Government Inflation-Linked 1-10 Yrs	30.0%	
FTSE EPRA Nareit Developed Liquid Index	15.0%	
	100.0%	

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%
	100.0%	100.0%	100.0%

Eagle Capital Benchmark	As of:	
	2/1/19	9/1/08
Russell 1000 Value		100.0%
Russell 1000	100.0%	
	100.0%	100.0%

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

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

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%	
	100.0%	100.0%	100.0%

Glossary

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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