



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: DECEMBER 31, 2019

Investment Performance Review for

San Mateo County Employees' Retirement Association

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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 third 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%.

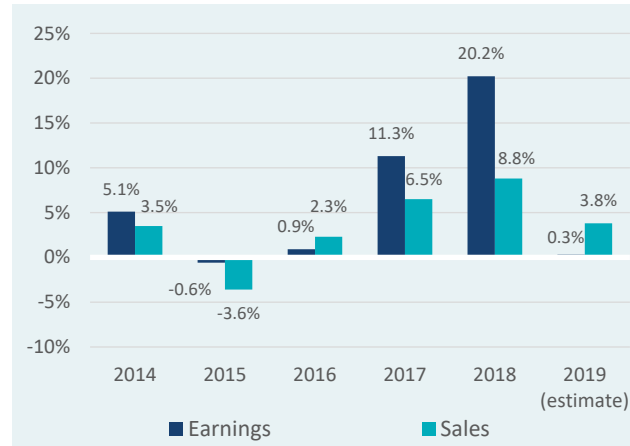
U.S. markets may continue to outperform over the shorter-term due to relative economic and market strength, and prices may certainly rise further. But history suggests that a widening gap between U.S. and international stock valuations will constrain U.S. performance over the longer-term.

U.S. EQUITIES



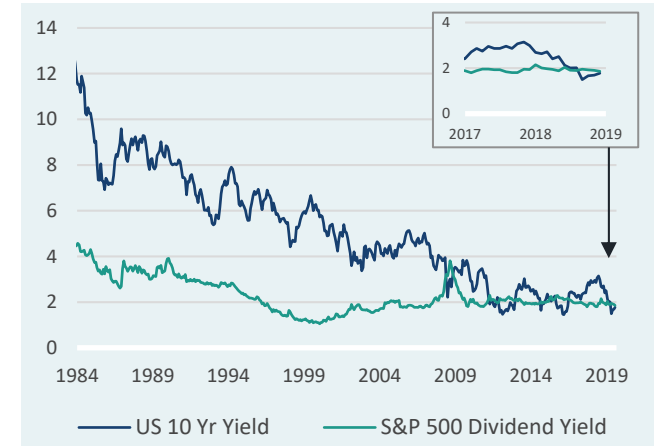
Source: Standard & Poor's, as of 12/31/19

EARNINGS



Source: FactSet, as of 12/20/19

RELATIVE YIELDS



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

Domestic equity size & style

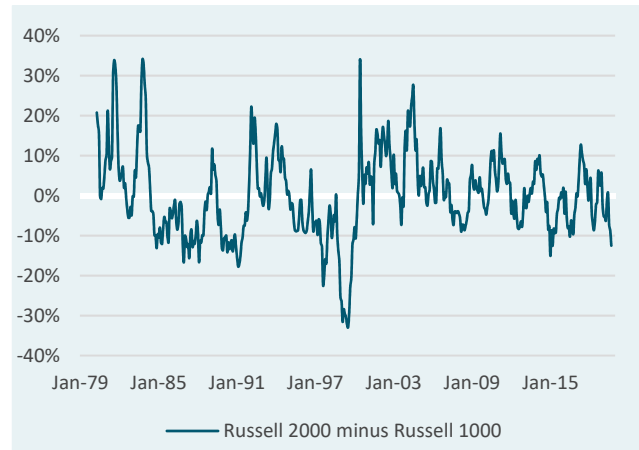
Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have extended their run of weakness.

The impact of sector performance on the value premium was mixed in the third quarter. Financials (+2.0%) and Utilities (+9.3%) outperformed the overall index (S&P 500 +1.7%) which boosted value, but poor Energy (-6.3%) performance counteracted these effects. Information Technology beat the

overall index (+3.3%) which acted as a headwind for value stocks.

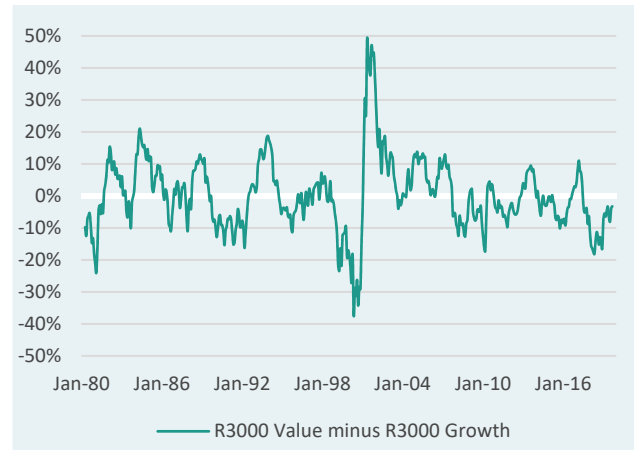
Value stocks have exhibited a long run of underperformance over the past decade. Our view has been that value stocks did not appear attractive, despite persistent performance pain. This was because value stocks had underperformed due to fundamental reasons rather than due to prices becoming stretched. Now, for the first time in this cycle it appears value prices are becoming unusually cheap, as indicated by a large disparity between Russell 1000 Value and Russell 1000 Growth P/E multiples.

SMALL CAP VS LARGE CAP (YOY)



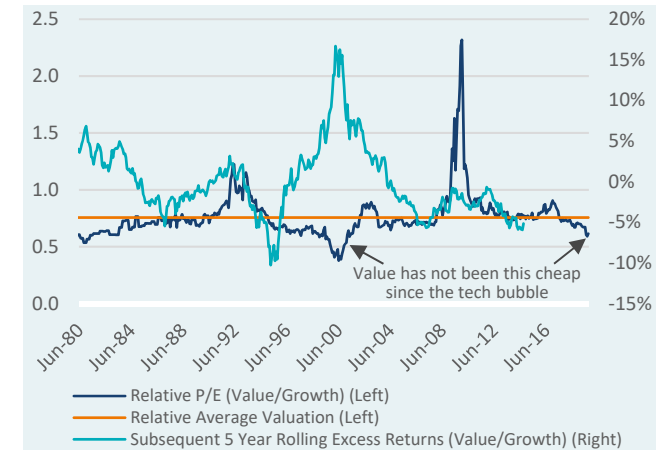
Source: FTSE, as of 9/30/19

VALUE VS GROWTH (YOY)



Source: FTSE, as of 9/30/19

VALUE STARTING TO LOOK CHEAP



Source: Russell, Bloomberg, as of 9/30/19

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.

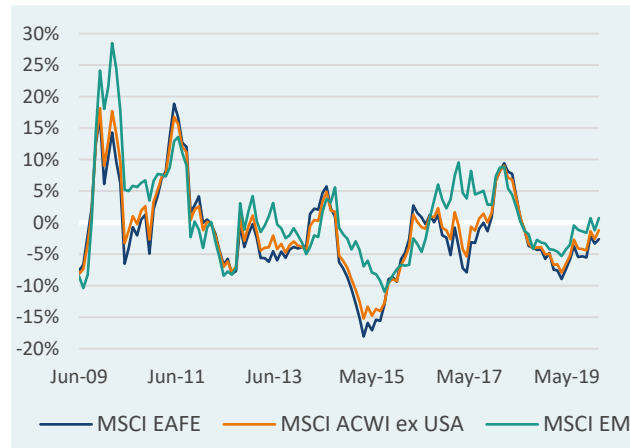
International equity valuations remain elevated, but unlike in the U.S., they do not yet appear stretched. Forward price-to-earnings ratios for the MSCI U.K. and Italy indices rank in the 59th and 52nd percentiles respectively, relative to the monthly expansion average. Valuations are a bit richer in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

INTERNATIONAL DEVELOPED EQUITIES



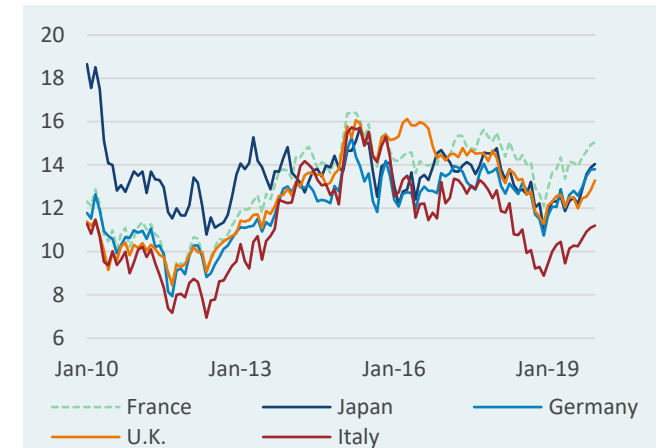
Source: MSCI, as of 12/31/19

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

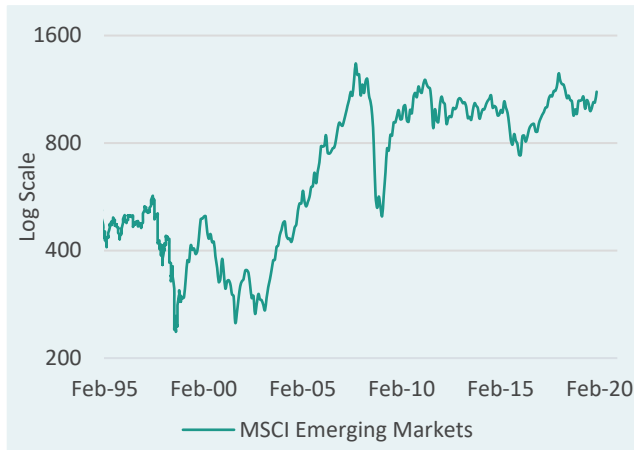
Emerging market equities (+11.8%) outperformed both U.S. (+9.1%) and international developed equities (+8.2%) over the quarter, but still lagged over the full calendar year. In 2019, emerging market equities delivered a total return of 18.4%, and trailed the total return of international developed equities 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.

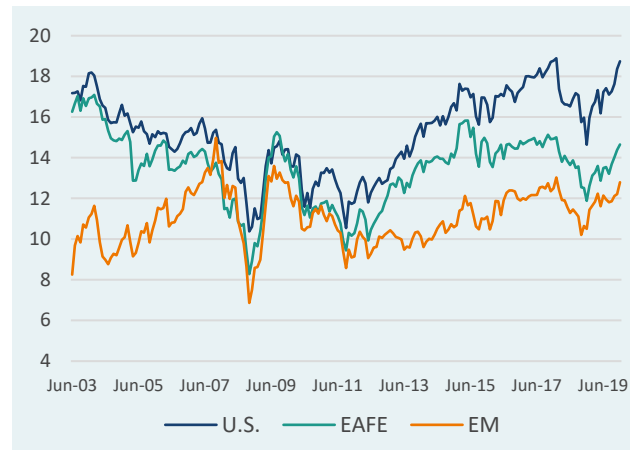
Inflation remains muted in emerging economies, and most economies are experiencing CPI below the 5-year average. Central bank policy has remained accommodative in many major countries within the universe such as China, South Korea, Brazil, and South Africa. This accommodation could provide a boost for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

EMERGING MARKET EQUITY



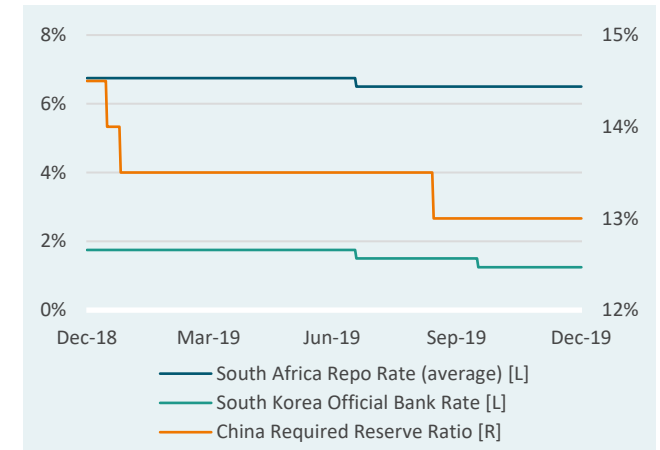
Source: MSCI, as of 12/31/19

FORWARD P/E



Source: MSCI, as of 12/31/19

CENTRAL BANK ACCOMODATION



Source: MSCI, as of 12/31/19

Interest rate environment

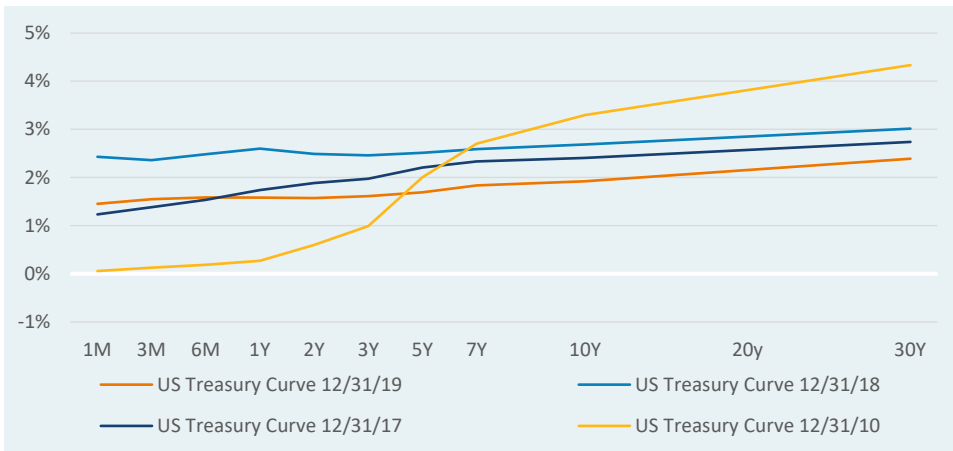
- The global sovereign bond rally lost steam in Q4 as inflation and growth prospects mildly reflat. Central bankers at the European Central Bank and the Federal Reserve signaled that policy would likely remain on hold in the absence of significant economic developments.
- Global ten-year sovereign bond 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%

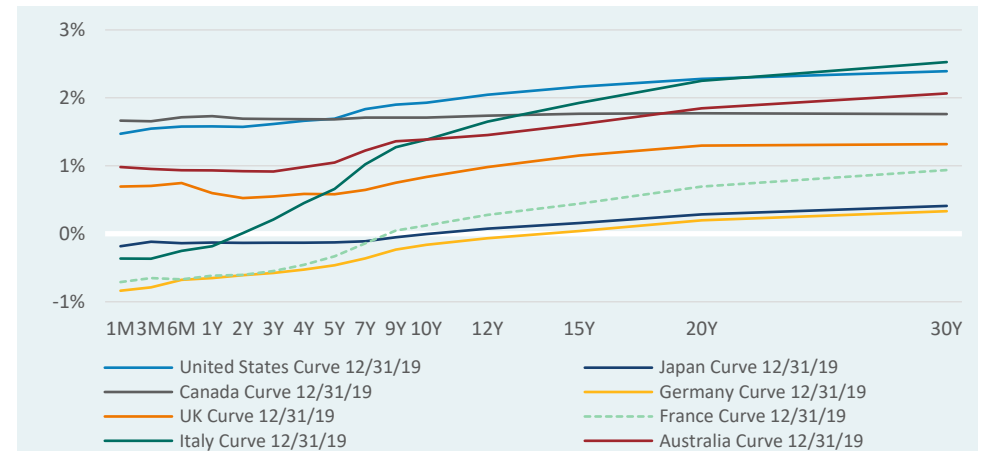
Source: Bloomberg, as of 12/31/19

Yield environment

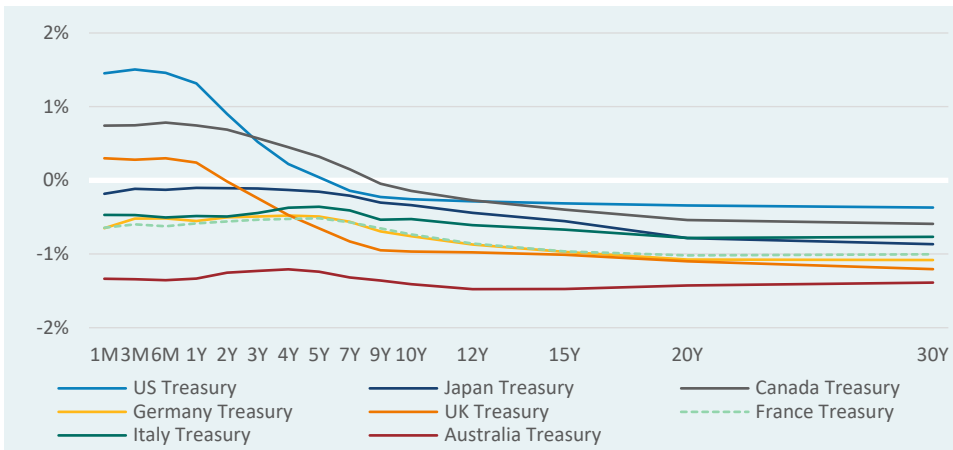
U.S. YIELD CURVE



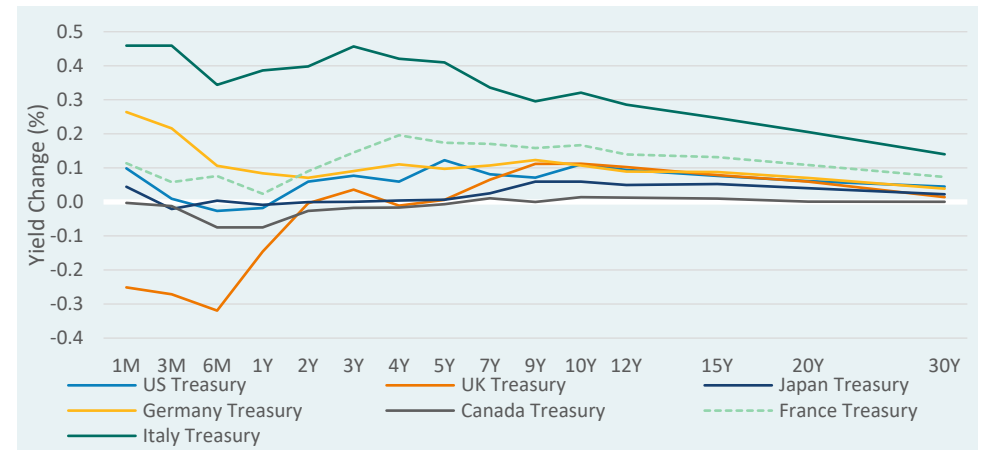
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 12/31/19

Currency

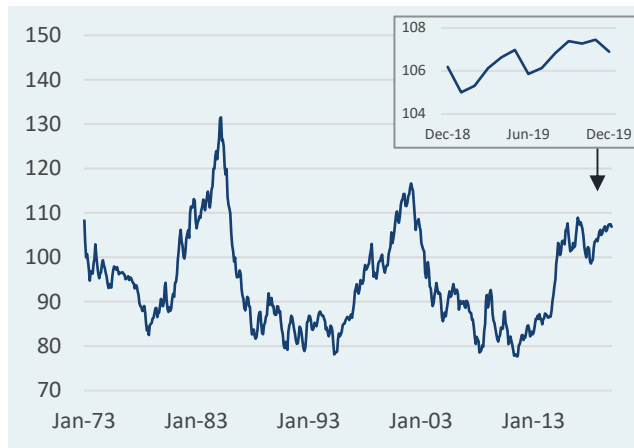
The U.S. dollar weakened versus both developed and emerging market currency baskets in the 4th quarter, fading some of the strong relative performance it had experienced back in Q3 2019. An index tracking the weighted average of the foreign exchange value of the U.S. dollar against major currencies fell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

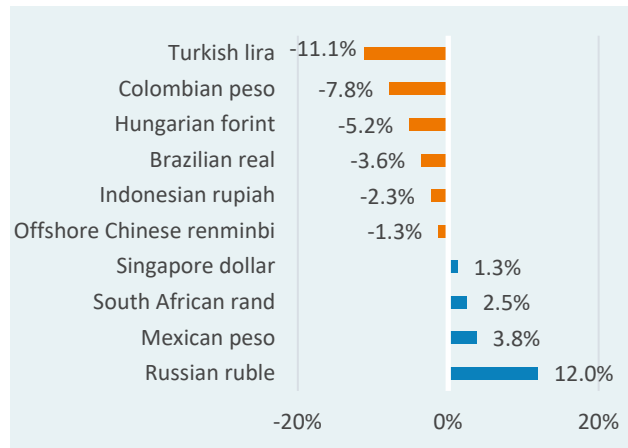
The British pound sterling bounced back sharply in Q4, rising from \$1.23 to \$1.33. Prime Minister Boris Johnson’s Conservative Party secured a firm majority in Parliament, lifting the shroud of “Brexit” from the geopolitical landscape.

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

- The Total Fund, net of manager fees, returned 3.9% in the fourth quarter of 2019 and in the ranked 92nd percentile among other public plans greater than \$1 billion (median of 5.2%). It lagged the policy index return of 4.7%. The Total Fund ex Overlay returned 4.1% for the quarter. The Total Fund one-year return of 16.3% lagged the policy index return of 17.1% and ranked in the 61st percentile of its peer universe. The three-year return of 8.5% (69th percentile) lagged the median large public plan (8.9%) and the policy index (9.3%).

- Fourth quarter results were enhanced by the following factors:
 1. Baillie Gifford gained 12.5% beating the MSCI ACWI ex US (9.0%). Baillie Gifford noted the international markets appear to be in a market environment in which good quality operational performance and potential is being rewarded.
 2. Western TRU gained 3.0% for the quarter beating the Bloomberg Barclays Agg return of 0.2%. Duration positioning specifically in Emerging markets enhanced returns as yields declined.
 3. Mondrian outperformed the MSCI ACWI ex US Value gaining 10.7% vs 8.3%. Strong performance in securities in the UK and Japan helped relative performance; as did the country allocation (primarily in the Asia Pacific region.)

- Fourth quarter results were hindered by the following factors:
 1. PanAgora Defensive Equity gained 3.3% trailing the Russell 1000 gain of 9.0%. A significant part of the underperformance came from the healthcare and information technology sectors which are underweight in the portfolio, but had the highest sector returns in the Russell 1000.
 2. Acadian trailed the Russell 1000 (5.2% versus 9.0%.) Key sources of negative active return included stock selection and an underweight position in information technology, and an overweight position to consumer discretionary.
 3. Parametric Emerging markets gained 8.1% but underperformed the MSCI EM index which gained 11.9%. Their strategic underweight to China contributed to the relative underperformance.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Rank*	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Fund**	3.9	92	5.5	56	16.3	61	5.5	66	8.5	69	6.9	42	8.2	40
<i>Policy Index¹</i>	4.7	72	5.9	31	17.1	50	6.3	36	9.3	34	7.3	32	8.8	28
<i>InvMetrics Public DB > \$1B Net Median</i>	5.2		5.6		17.1		5.9		8.9		6.8		7.9	
Total Fund ex Overlay	4.1	90	5.5	56	16.1	71	5.4	77	8.3	76	6.7	51	8.2	43
<i>Policy Index¹</i>	4.7	72	5.9	31	17.1	50	6.3	36	9.3	34	7.3	32	8.8	28
<i>InvMetrics Public DB > \$1B Net Median</i>	5.2		5.6		17.1		5.9		8.9		6.8		7.9	
Public Equity	8.2	78	8.7	63	26.2	73	6.9	72	12.2	59	8.7	64	9.9	64
<i>Blended Public Equity Index¹</i>	8.6	64	9.0	47	26.7	65	7.0	70	12.5	47	8.9	53	10.4	55
<i>InvMetrics All DB Total Eq Net Median</i>	8.9		8.9		27.4		7.7		12.4		9.0		10.6	
US Equity	7.6	83	9.4	51	28.8	77	10.3	56	13.8	48	10.6	47	12.7	50
<i>Blended US Equity Index¹</i>	9.1	18	10.4	10	31.0	21	11.4	19	14.6	21	11.1	25	13.4	18
<i>Russell 3000</i>	9.1	18	10.4	10	31.0	21	11.4	19	14.6	21	11.2	19	13.4	17
<i>InvMetrics All DB US Eq Net Median</i>	8.6		9.5		30.0		10.5		13.7		10.5		12.7	
Large Cap Equity	7.5	67	9.5	52	29.5	46	11.4	38	15.5	35	11.8	26	13.1	35
<i>Russell 1000</i>	9.0	37	10.6	28	31.4	35	11.9	34	15.0	37	11.5	29	13.5	25
<i>eV US Large Cap Equity Net Median</i>	8.3		9.6		28.9		10.0		13.3		10.1		12.6	
<i>Acadian US MGD V***</i>	5.2	87	8.1	78	25.2	81	--	--	--	--	--	--	--	--
<i>BlackRock Russell 1000</i>	9.0	30	10.6	29	31.4	28	11.9	29	--	--	--	--	--	--
<i>DE Shaw</i>	8.9	33	10.4	32	27.6	66	10.3	48	14.9	29	12.4	8	13.9	8
<i>PanAgora Defuseq***</i>	3.3	97	6.5	92	29.3	46	--	--	--	--	--	--	--	--
<i>Russell 1000</i>	9.0	30	10.6	29	31.4	28	11.9	29	15.0	27	11.5	21	13.5	13
<i>eV US Large Cap Core Equity Net Median</i>	8.0		9.7		28.9		10.0		13.6		10.2		12.8	

* Total Fund and asset class aggregates are ranked in InvMetrics universes. Managers are ranked in eVest (eA) manager universes.

** Includes Parametric Minneapolis manager funded in August 2013.

***Funded December 2018.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Small Cap Equity	9.4	31	8.4	24	22.1	69	3.1	62	6.2	65	5.7	82	10.8	75
<i>Russell 2000</i>	9.9	25	7.3	41	25.5	45	5.7	45	8.6	46	8.2	50	11.8	54
<i>eV US Small Cap Equity Net Median</i>	8.3		6.5		24.7		4.8		7.8		8.1		12.0	
QMA US Small Cap	9.4	28	8.4	21	22.1	67	3.1	67	6.2	76	--	--	--	--
<i>Russell 2000</i>	9.9	23	7.3	45	25.5	41	5.7	44	8.6	46	8.2	56	11.8	57
<i>eV US Small Cap Core Equity Net Median</i>	8.4		6.7		24.4		4.9		8.2		8.5		12.1	
International Equity	8.9	84	8.0	44	23.3	42	3.1	21	10.5	31	6.3	30	5.0	69
<i>Blended International Equity Index¹</i>	8.0	95	7.4	61	21.8	62	1.9	49	10.1	42	6.0	36	5.5	52
<i>MSCI EAFE Gross</i>	8.2	94	7.1	76	22.7	50	3.1	21	10.1	40	6.2	31	6.0	31
<i>InvMetrics All DB ex-US Eq Net Median</i>	9.7		7.7		22.6		1.9		9.9		5.8		5.5	
Developed Markets	10.5	23	8.7	34	24.9	37	3.6	39	10.8	40	6.6	39	5.4	69
<i>MSCI ACWI ex USA Gross</i>	9.0	65	7.1	66	22.1	54	2.6	54	10.4	45	6.0	54	5.4	68
<i>InvMetrics All DB Dev Mkt ex-US Eq Net Median</i>	9.4		7.5		22.6		2.9		10.0		6.1		6.0	
Baillie Gifford	12.5	20	11.3	16	33.6	18	5.5	39	13.6	56	8.4	54	--	--
<i>MSCI ACWI ex US¹</i>	9.0	77	7.1	77	22.1	94	2.6	77	10.4	92	6.0	95	--	--
<i>MSCI ACWI ex US Growth¹</i>	9.6	70	8.8	42	27.8	70	4.8	51	13.3	63	7.7	64	--	--
<i>eV ACWI ex-US Growth Equity Net Median</i>	10.3		8.3		29.8		4.9		13.8		8.5		7.9	
BlackRock EAFE Index	8.2	69	7.1	60	22.4	48	2.9	33	10.0	47	6.0	57	--	--
<i>MSCI EAFE</i>	8.2	69	7.0	62	22.0	53	2.6	37	9.6	50	5.7	64	5.5	87
<i>MSCI EAFE Gross</i>	8.2	69	7.1	56	22.7	46	3.1	32	10.1	43	6.2	54	6.0	73
<i>eV EAFE Core Equity Net Median</i>	9.1		7.4		22.2		1.6		9.6		6.4		7.1	
Mondrian	10.7	40	7.7	59	19.1	46	2.3	23	8.8	32	5.0	41	5.0	55
<i>MSCI ACWI ex USA Value Gross</i>	8.3	92	5.4	92	16.5	65	0.4	43	7.5	52	4.3	57	4.2	70
<i>MSCI ACWI ex USA Gross</i>	9.0	71	7.1	70	22.1	38	2.6	21	10.4	21	6.0	22	5.4	45
<i>eV ACWI ex-US Value Equity Net Median</i>	10.2		8.6		18.5		-0.3		7.5		4.6		5.0	

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Emerging Markets	8.1	89	3.4	85	13.7	80	-1.0	51	7.9	79	3.6	78	--	--
MSCI Emerging Markets Gross	11.9	15	7.3	26	18.9	33	1.0	23	12.0	12	6.0	13	4.0	30
InvMetrics All DB Emg Mkt Eq Net Median	11.2		6.3		17.9		-1.0		9.6		4.6		3.3	
Parametric Core	8.1	87	3.4	87	13.7	84	-1.0	66	7.9	88	--	--	--	--
MSCI Emerging Markets Gross	11.9	34	7.3	46	18.9	55	1.0	35	12.0	37	6.0	38	4.0	64
eV Emg Mkts Equity Net Median	11.4		7.0		19.3		0.1		10.7		5.5		4.4	
Parametric Currency Overlay	-18.5	--	7.0	--	18.3	--	--	--	--	--	--	--	--	--
Fixed Income	1.3	17	2.5	46	8.4	56	4.3	43	4.7	33	4.2	25	5.4	17
Blended Fixed Income Index ¹	0.9	27	3.1	22	10.8	23	4.9	21	4.9	28	3.9	33	4.2	59
InvMetrics All DB Total Fix Inc Net Median	0.6		2.4		8.7		4.1		4.3		3.4		4.3	
Core Fixed	0.9	--	2.5	--	8.0	--	3.8	--	4.0	--	3.4	--	4.7	--
BBgBarc US Aggregate TR	0.2	--	2.5	--	8.7	--	4.3	--	4.0	--	3.0	--	3.7	--
BlackRock Intermediate Govt	0.0	31	1.2	69	5.3	75	3.4	61	--	--	--	--	--	--
BBgBarc US Govt Int TR	0.0	34	1.2	71	5.2	77	3.3	73	2.6	82	2.0	86	2.4	87
eV US Government Fixed Inc Net Median	-0.2		1.5		6.4		3.6		3.3		2.3		3.0	
FIAM Bond	0.6	7	2.8	9	9.7	16	4.6	16	4.4	18	3.6	16	4.5	16
BBgBarc US Aggregate TR	0.2	43	2.5	53	8.7	69	4.3	53	4.0	57	3.0	66	3.7	72
Western TRU	3.0	1	3.9	1	9.3	33	3.0	99	4.9	4	--	--	--	--
3-Month Libor Total Return USD	0.5	10	1.0	99	2.4	99	2.4	99	2.0	99	1.4	99	0.9	99
BBgBarc US Aggregate TR	0.2	43	2.5	53	8.7	69	4.3	53	4.0	57	3.0	66	3.7	72
eV US Core Fixed Inc Net Median	0.1		2.5		9.1		4.3		4.1		3.2		4.0	
Opportunistic Credit	1.9	--	2.5	--	9.2	--	5.2	--	6.4	--	6.3	--	9.7	--
BBgBarc BA Intermediate HY ¹	2.3	--	4.2	--	14.7	--	6.1	--	6.1	--	5.8	--	6.2	--
Angelo Gordon Opportunistic**	2.2	--	5.6	--	12.1	--	16.6	--	16.9	--	11.6	--	--	--
Angelo Gordon STAR**	2.2	--	4.3	--	16.1	--	18.9	--	18.8	--	13.3	--	--	--
BBgBarc US Aggregate TR	0.2	--	2.5	--	8.7	--	4.3	--	4.0	--	3.0	--	3.7	--

** Preliminary return as of 12/31/2019.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Beach Point Select	3.4	3	4.9	5	12.9	58	6.7	4	7.3	6	--	--	--	--
BBgBarc BA Intermediate HY ¹	2.3	58	4.2	32	14.7	30	6.1	15	6.1	33	5.8	32	6.2	91
eV US High Yield Fixed Inc Net Median	2.4		3.7		13.5		5.3		5.9		5.5		7.1	
Brigade Capital	3.2	8	2.8	79	9.1	85	4.0	90	5.2	80	5.1	72	--	--
BBgBarc BA Intermediate HY ¹	2.3	58	4.2	32	14.7	30	6.1	15	6.1	33	5.8	32	6.2	91
50% Barclays HY/ 50% Bank Loan	2.1	65	3.3	68	11.2	75	5.2	56	5.4	70	5.3	61	--	--
eV US High Yield Fixed Inc Net Median	2.4		3.7		13.5		5.3		5.9		5.5		7.1	
PIMCO Diversified	1.7	85	2.9	76	12.8	61	5.7	37	--	--	--	--	--	--
Blended PIMCO Diversified Index ¹	1.7	85	3.7	53	13.7	47	5.4	45	6.0	39	5.5	53	6.5	78
BBgBarc BA Intermediate HY	2.3	58	4.2	32	14.7	30	6.1	15	6.1	33	5.8	32	6.2	91
eV US High Yield Fixed Inc Net Median	2.4		3.7		13.5		5.3		5.9		5.5		7.1	
Franklin Templeton	1.4	57	-2.1	99	1.1	99	0.5	96	1.7	99	1.7	88	--	--
BBgBarc Multiverse TR	0.6	77	1.3	84	7.1	81	2.8	72	4.4	68	2.5	72	2.7	82
eV All Global Fixed Inc Net Median	1.8		2.7		9.6		3.8		4.9		3.5		4.1	
Private Credit	0.5	--	2.4	--	6.4	--	7.1	--	6.9	--	--	--	--	--
Cliffwater Direct Lending Index**	1.8	--	3.6	--	8.9	--	8.5	--	8.5	--	8.4	--	10.4	--
PIMCO Private Income**	0.0	99	3.5	63	--	--	--	--	--	--	--	--	--	--
BBgBarc BA Intermediate HY	2.3	58	4.2	32	14.7	30	6.1	15	6.1	33	5.8	32	6.2	91
Cliffwater Direct Lending Index	1.8	84	3.6	56	8.9	88	8.5	1	8.5	2	8.4	1	10.4	1
eV US High Yield Fixed Inc Net Median	2.4		3.7		13.5		5.3		5.9		5.5		7.1	
TCP Direct Lending VIII**	1.5	88	3.0	73	7.2	95	7.1	2	7.1	7	--	--	--	--
White Oak Yield**	0.0	99	1.2	97	5.2	99	7.0	3	--	--	--	--	--	--
Cliffwater Direct Lending Index	1.8	84	3.6	56	8.9	88	8.5	1	8.5	2	8.4	1	10.4	1
eV US High Yield Fixed Inc Net Median	2.4		3.7		13.5		5.3		5.9		5.5		7.1	

* Funded April 2019.

** Preliminary return as of 12/31/2019.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Risk Parity	2.1	--	4.9	--	23.2	--	6.9	--	9.5	--	6.6	--	--	--
<i>Blended Risk Parity Index¹</i>	4.9	--	6.3	--	19.8	--	7.0	--	9.4	--	7.5	--	--	--
AQR GRP, 10% Volatility	4.5	--	5.8	--	24.2	--	7.6	--	10.4	--	6.1	--	--	--
PanAgora	-0.2	--	4.0	--	22.1	--	6.2	--	8.7	--	6.9	--	--	--
<i>Blended Risk Parity Index¹</i>	4.9	--	6.3	--	19.8	--	7.0	--	9.4	--	7.5	--	--	--
<i>S&P Risk Parity 10% Target Volatility Index TR USD</i>	3.2	--	5.6	--	19.0	--	6.9	--	7.3	--	5.1	--	6.3	--
Alternatives	-2.6	--	5.7	--	7.6	--	4.9	--	6.5	--	6.9	--	--	--
<i>Blended Alternatives Index¹</i>	1.9	--	4.9	--	6.5	--	8.0	--	10.3	--	7.9	--	--	--
Private Equity**	-3.6	97	11.7	8	16.8	13	17.2	14	16.0	25	16.6	9	--	--
<i>Blended Private Equity Index¹</i>	2.3	22	6.5	24	5.9	66	9.3	65	14.1	38	12.2	38	15.4	4
<i>InvMetrics All DB Private Eq Net Median</i>	0.9		3.1		8.0		11.2		11.8		10.8		11.4	
Hedge Fund/Absolute Return	-1.2	97	-1.2	87	-2.7	92	-7.3	97	-3.4	95	0.0	80	--	--
<i>Libor 1 month +4%</i>	1.4	67	3.0	35	6.3	53	6.2	10	5.8	21	5.2	10	4.7	29
<i>InvMetrics All DB Hedge Funds Net Median</i>	2.4		2.2		6.7		3.0		3.8		2.7		4.1	
AQR DELTA XN	-3.1	92	-4.2	93	-10.3	96	-12.8	98	-7.1	96	-2.1	93	--	--
Aberdeen Standard GARS	1.3	59	2.9	49	9.1	46	1.5	63	2.2	75	--	--	--	--
<i>Libor 1 month +4%</i>	1.4	58	3.0	48	6.3	63	6.2	24	5.8	44	5.2	43	4.7	60
<i>eV Alt All Multi-Strategy Median</i>	2.0		2.8		8.6		3.4		4.7		4.5		5.5	
Inflation Hedge	2.7	--	2.4	--	8.1	--	3.2	--	4.9	--	--	--	--	--
<i>Blended Inflation Hedge Index¹</i>	2.5	--	2.8	--	9.3	--	4.3	--	5.8	--	--	--	--	--
Real Estate	2.1	8	4.1	20	6.6	27	7.6	13	7.8	17	9.4	5	11.3	8
NCREIF ODCE	1.5	21	2.8	40	5.3	54	6.8	33	7.1	30	9.0	12	11.4	6
<i>InvMetrics All DB Real Estate Pub Net Median</i>	1.1		2.5		5.5		6.4		6.6		7.7		10.0	

* Excludes EnCap Energy Capital Fund and Sheridan Production Partners.

** Returns are one-quarter lag.

1. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Invesco	2.2	--	4.1	--	6.2	--	7.6	--	7.7	--	9.3	--	11.2	--
NCREIF ODCE	1.5	--	2.8	--	5.3	--	6.8	--	7.1	--	9.0	--	11.4	--
Invesco US Val IV	3.4	--	8.5	--	13.9	--	12.6	--	12.4	--	--	--	--	--
NCREIF ODCE	1.5	--	2.8	--	5.3	--	6.8	--	7.1	--	9.0	--	11.4	--
NCREIF CEVA 1Q Lag - NET	3.0	--	6.0	--	12.3	--	12.1	--	11.5	--	12.9	--	--	--
Invesco US Val V***	4.8	--	5.7	--	--	--	--	--	--	--	--	--	--	--
NCREIF ODCE	1.5	--	2.8	--	5.3	--	6.8	--	7.1	--	9.0	--	11.4	--
NCREIF CEVA 1Q Lag - NET	3.0	--	6.0	--	12.3	--	12.1	--	11.5	--	12.9	--	--	--
PGIM RE US Debt Fund	1.4	--	3.0	--	6.2	--	6.0	--	--	--	--	--	--	--
NCREIF ODCE	1.5	--	2.8	--	5.3	--	6.8	--	7.1	--	9.0	--	11.4	--
Private Real Asset**	0.1	--	-0.6	--	-10.9	--	-3.5	--	-3.3	--	4.7	--	--	--
Blended Private Real Asset Index ¹	-2.7	--	1.0	--	4.1	--	0.4	--	4.3	--	4.8	--	--	--
Blended Secondary CA Private RA Index ¹	-1.2	--	-1.3	--	-1.3	--	4.2	--	7.2	--	3.7	--	--	--
Public Real Assets	4.3	--	1.2	--	14.7	--	0.0	--	4.5	--	--	--	--	--
Blended Public Real Asset Index ¹	5.8	--	3.0	--	15.8	--	1.9	--	5.7	--	5.9	--	--	--
Cushing MLP Alpha TR	-1.1	--	-5.0	--	10.5	--	--	--	--	--	--	--	--	--
50% BBgBarc US TIPS/ 50% Blended PRA Index	3.3	--	2.7	--	12.3	--	--	--	--	--	--	--	--	--
Alerian MLP TR USD	-4.1	--	-8.9	--	6.6	--	-3.4	--	-4.4	--	-7.0	--	4.2	--
SSgA Custom Real Asset	5.8	--	3.1	--	15.9	--	1.9	--	5.8	--	--	--	--	--
SSgA Custom Real Asset Index ¹	5.8	--	3.0	--	15.8	--	1.9	--	5.7	--	--	--	--	--
TIPS	0.8	--	1.4	--	7.0	--	3.1	--	2.9	--	2.4	--	--	--
BBgBarc US TIPS TR	0.8	--	2.1	--	8.4	--	3.5	--	3.3	--	2.6	--	3.4	--
Brown Brothers Harriman	0.8	48	1.4	99	7.0	71	3.1	73	2.9	67	2.4	60	--	--
BBgBarc US TIPS TR	0.8	50	2.1	42	8.4	54	3.5	33	3.3	52	2.6	42	3.4	34
eV US TIPS / Inflation Fixed Inc Net Median	0.8	--	2.1	--	8.5	--	3.3	--	3.3	--	2.5	--	3.2	--

** Returns are one-quarter lag.

*** Funded February 2019.

1. See Appendix for Benchmark History.

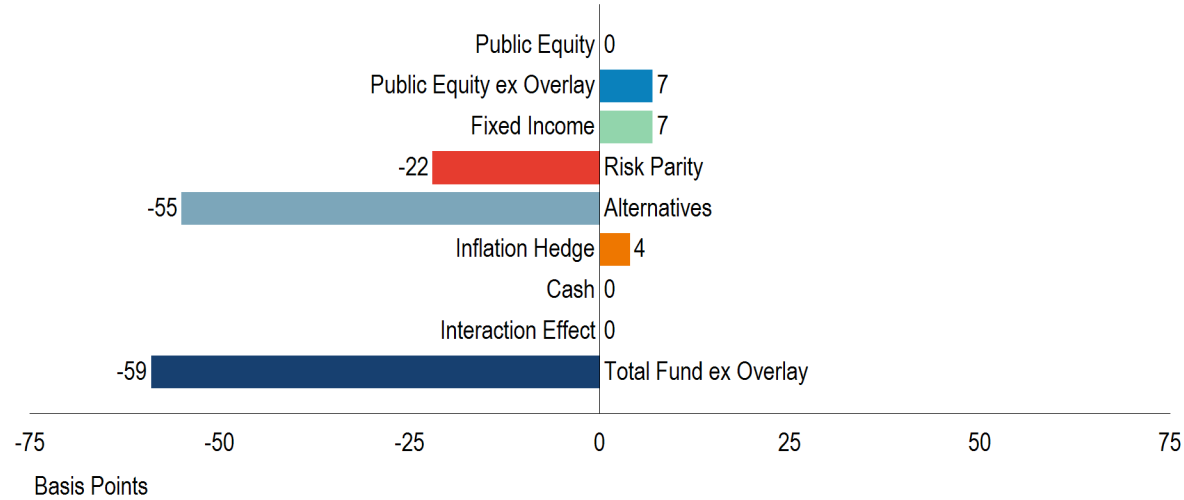
Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Cash	0.3	--	0.5	--	1.2	--	1.2	--	1.1	--	1.1	--	0.9	--
91 Day T-Bills	0.4	--	0.9	--	2.1	--	2.0	--	1.6	--	1.1	--	0.6	--
General Account	0.5	--	1.1	--	3.1	--	4.0	--	3.3	--	2.5	--	1.4	--
Treasury & LAIF	0.7	--	1.4	--	3.1	--	3.9	--	3.0	--	2.1	--	1.5	--
91 Day T-Bills	0.4	--	0.9	--	2.1	--	2.0	--	1.6	--	1.1	--	0.6	--

Total Fund ex Overlay
Performance Attribution

Period Ending: December 31, 2019

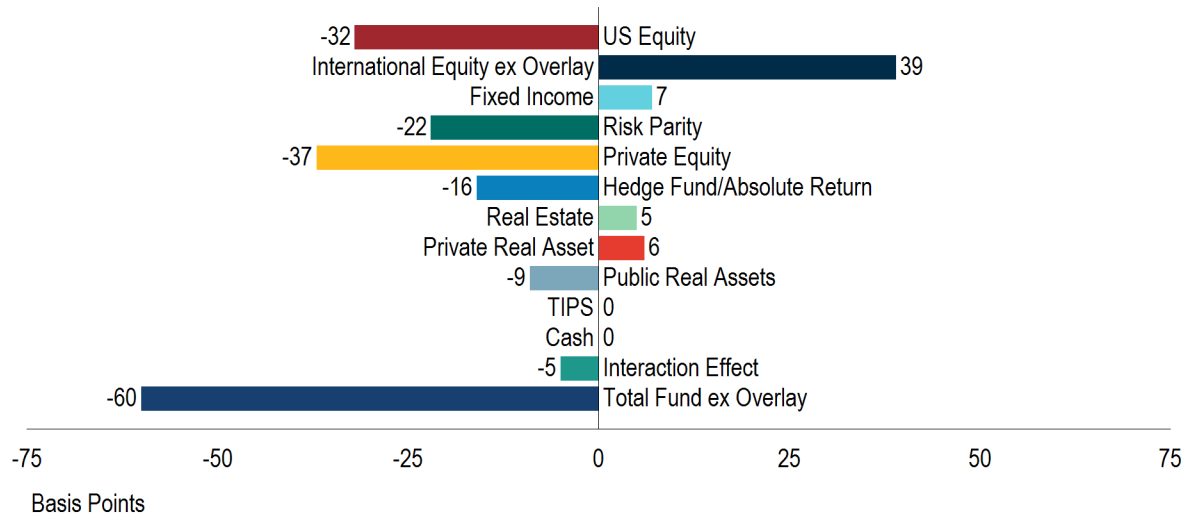


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction*	Total Effects
Public Equity	8.21%	8.61%	-0.41%	0.00%	0.00%	0.00%	0.00%
Public Equity ex Overlay	8.80%	8.61%	0.18%	0.07%	0.00%	0.00%	0.07%
Fixed Income	1.26%	0.95%	0.32%	0.07%	0.02%	0.00%	0.09%
Risk Parity	2.12%	4.87%	-2.75%	-0.22%	0.00%	-0.01%	-0.23%
Alternatives	-2.57%	1.88%	-4.45%	-0.55%	0.02%	0.01%	-0.52%
Inflation Hedge	2.69%	2.50%	0.19%	0.04%	0.00%	0.00%	0.03%
Cash	0.26%	0.39%	-0.13%	0.00%	-0.03%	0.00%	-0.03%
Total	4.07%	4.67%	-0.59%	-0.60%	0.00%	0.00%	-0.59%

Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund ex Overlay
Performance Attribution

Period Ending: December 31, 2019

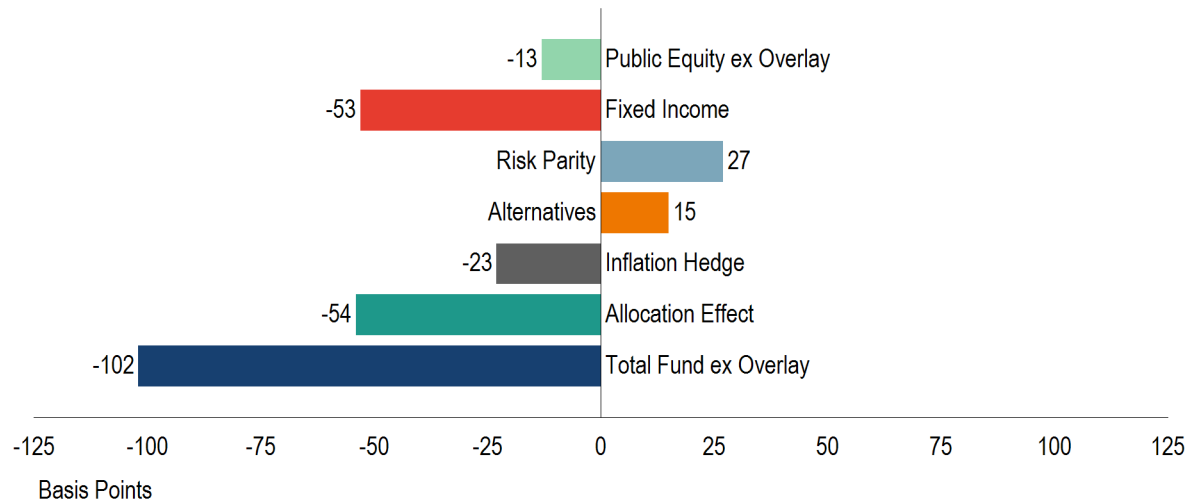


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction *	Total Effects
US Equity	7.63%	9.10%	-1.47%	-0.32%	-0.01%	0.01%	-0.32%
International Equity ex Overlay	10.22%	8.01%	2.21%	0.39%	0.00%	0.00%	0.39%
Fixed Income	1.26%	0.95%	0.32%	0.07%	0.02%	0.00%	0.09%
Risk Parity	2.12%	4.87%	-2.75%	-0.22%	0.00%	-0.01%	-0.23%
Private Equity	-3.63%	2.29%	-5.92%	-0.37%	-0.01%	-0.04%	-0.41%
Hedge Fund/Absolute Return	-1.22%	1.44%	-2.66%	-0.16%	0.03%	0.02%	-0.11%
Real Estate	2.13%	1.51%	0.62%	0.05%	0.00%	0.00%	0.05%
Private Real Asset	0.12%	-2.65%	2.77%	0.06%	0.02%	-0.01%	0.07%
Public Real Assets	4.25%	5.83%	-1.58%	-0.09%	0.00%	-0.01%	-0.10%
TIPS	0.85%	0.79%	0.06%	0.00%	0.01%	0.00%	0.01%
Cash	0.26%	0.39%	-0.13%	0.00%	-0.03%	0.00%	-0.03%
Total	4.07%	4.67%	-0.60%	-0.59%	0.04%	-0.05%	-0.60%

Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund ex Overlay
Performance Attribution (1 Year)

Period Ending: December 31, 2019

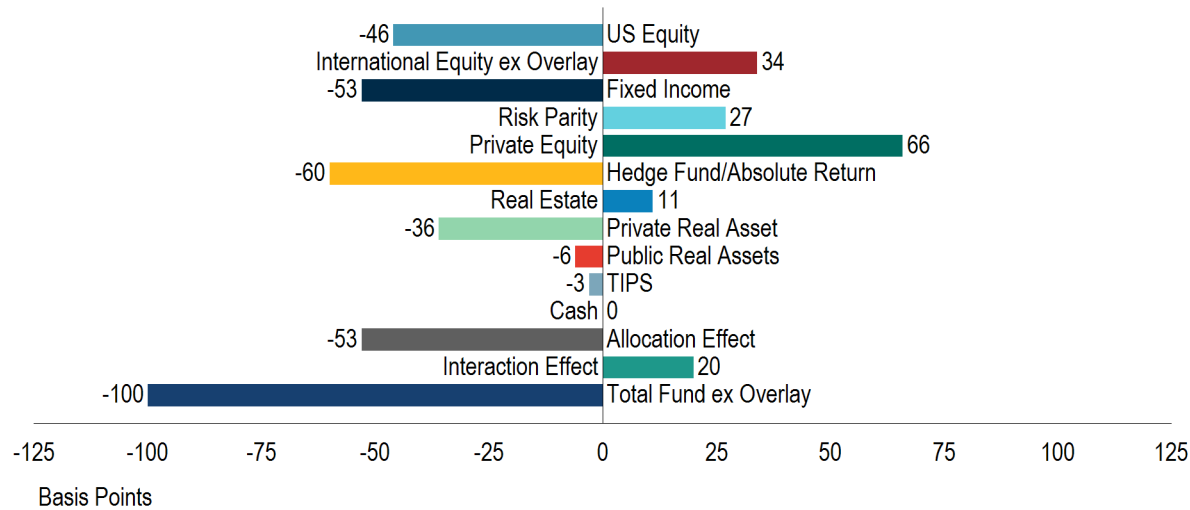


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction *	Total Effects
Public Equity	26.21%	26.69%	-0.48%	0.00%	0.00%	0.00%	0.00%
Public Equity ex Overlay	26.40%	26.69%	-0.30%	-0.13%	-0.23%	0.02%	-0.34%
Fixed Income	8.41%	10.77%	-2.36%	-0.53%	-0.03%	-0.02%	-0.57%
Risk Parity	23.20%	19.78%	3.42%	0.27%	0.00%	-0.01%	0.26%
Alternatives	7.56%	6.53%	1.03%	0.15%	-0.05%	0.00%	0.10%
Inflation Hedge	8.10%	9.33%	-1.24%	-0.23%	0.00%	0.01%	-0.22%
Cash	1.18%	2.07%	-0.90%	0.00%	-0.24%	-0.01%	-0.25%
Total	16.07%	17.09%	-1.02%	-0.47%	-0.54%	-0.01%	-1.02%

Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund ex Overlay
Performance Attribution (1 Year)

Period Ending: December 31, 2019



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction *	Total Effects
US Equity	28.84%	31.02%	-2.18%	-0.46%	-0.18%	0.02%	-0.62%
International Equity ex Overlay	23.62%	21.75%	1.87%	0.34%	-0.06%	0.01%	0.28%
Fixed Income	8.41%	10.77%	-2.36%	-0.53%	-0.03%	-0.02%	-0.57%
Risk Parity	23.20%	19.78%	3.42%	0.27%	0.00%	-0.01%	0.26%
Private Equity	16.78%	5.92%	10.87%	0.66%	-0.10%	0.03%	0.60%
Hedge Fund/Absolute Return	-2.66%	6.26%	-8.91%	-0.60%	0.06%	0.07%	-0.47%
Real Estate	6.63%	5.34%	1.29%	0.11%	-0.05%	0.00%	0.07%
Private Real Asset	-10.90%	4.14%	-15.04%	-0.36%	0.04%	0.10%	-0.22%
Public Real Assets	14.70%	15.82%	-1.11%	-0.06%	-0.03%	-0.01%	-0.10%
TIPS	7.00%	8.43%	-1.43%	-0.03%	0.05%	0.02%	0.04%
Cash	1.18%	2.07%	-0.90%	0.00%	-0.24%	-0.01%	-0.25%
Total	16.09%	17.09%	-1.00%	-0.67%	-0.53%	0.20%	-1.00%

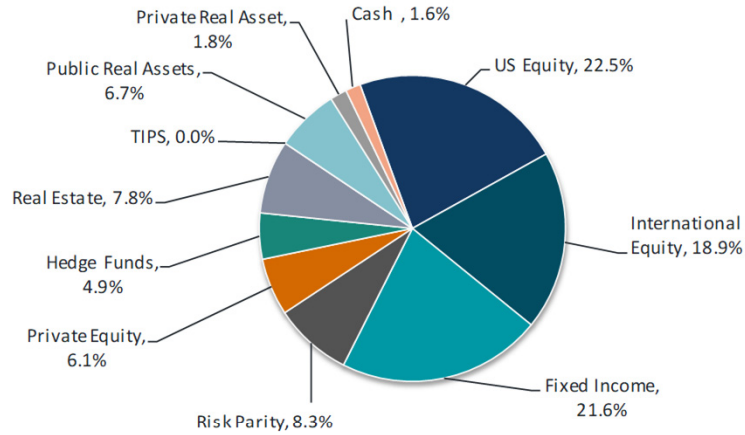
Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund

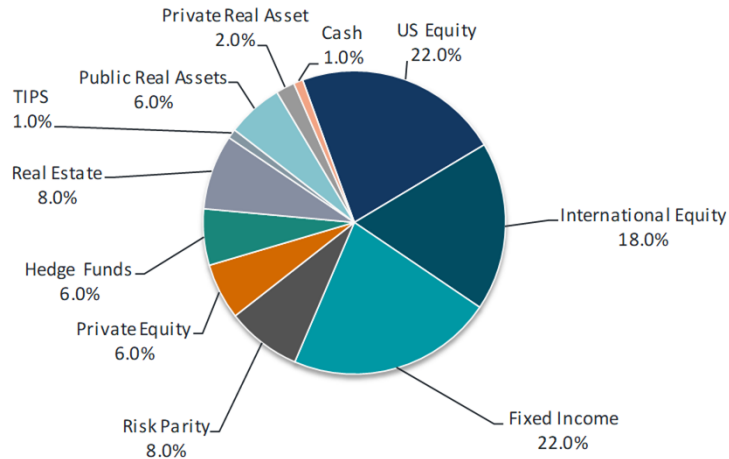
Asset Allocation Analysis

Period Ending: December 31, 2019

Current w/Overlay



Target

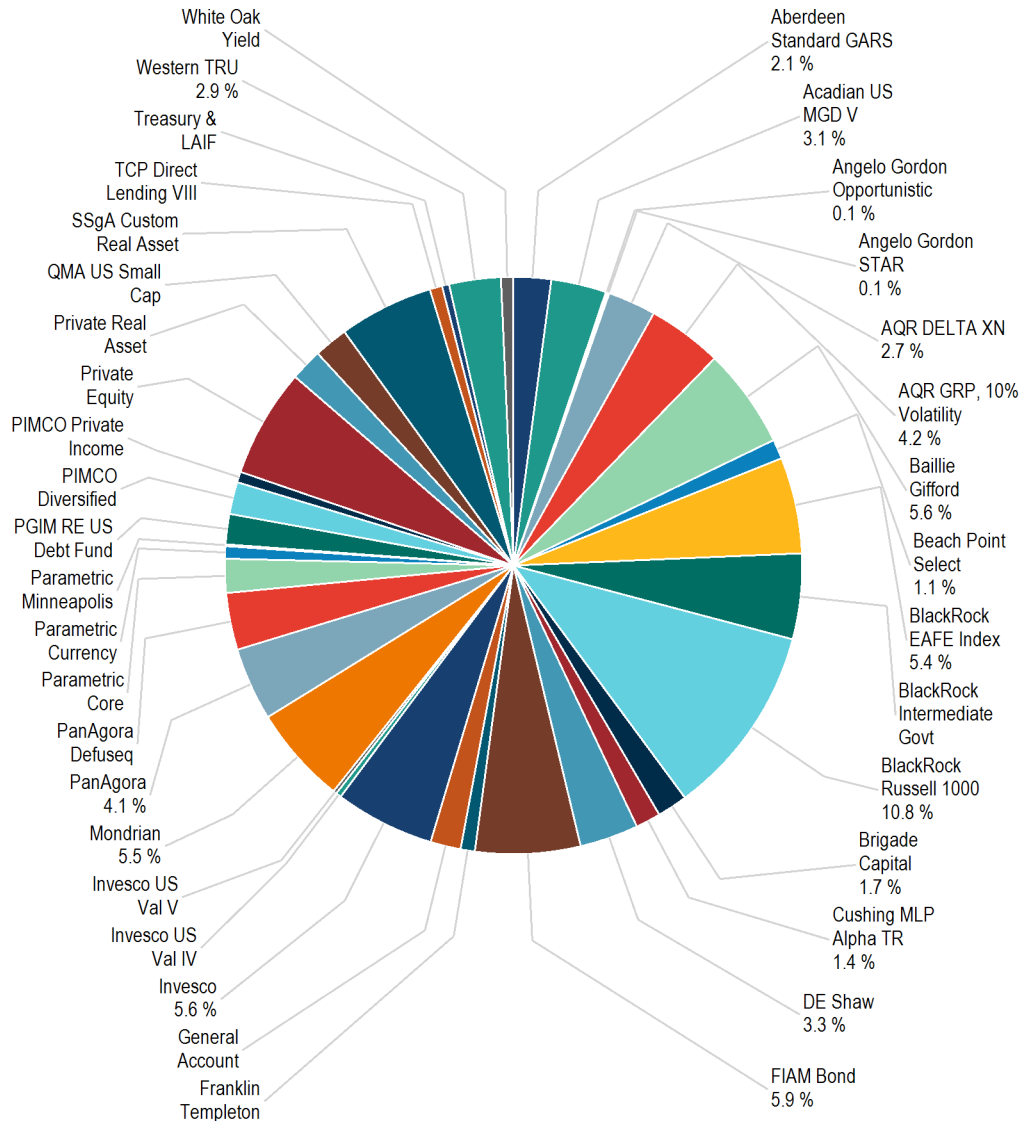


ASSET ALLOCATION	MARKET VALUE	
	W/OVERLAY	W/O OVERLAY
US Equity	1,109,093,001	22.5%
International Equity	934,362,052	18.9%
Fixed Income	1,065,012,457	21.6%
Risk Parity	407,983,746	8.3%
Private Equity	298,636,081	6.1%
Hedge Funds	240,037,601	4.9%
Real Estate	383,339,271	7.8%
TIPS	5	0.0%
Public Real Assets	330,270,554	6.7%
Private Real Asset	87,423,517	1.8%
Cash	78,525,669	1.6%
TOTAL	4,934,683,954	100.0%

ASSET ALLOCATION	W/OVERLAY	TARGET	DIFF
US Equity	22.5%	22.0%	0.5%
International Equity	18.9%	18.0%	0.9%
Fixed Income	21.6%	22.0%	-0.4%
Risk Parity	8.3%	8.0%	0.3%
Private Equity	6.1%	6.0%	0.1%
Hedge Funds	4.9%	6.0%	-1.1%
Real Estate	7.8%	8.0%	-0.2%
TIPS	0.0%	1.0%	-1.0%
Public Real Assets	6.7%	6.0%	0.7%
Private Real Asset	1.8%	2.0%	-0.2%
Cash	1.6%	1.0%	0.6%
TOTAL	100.0%	100.0%	0.0%

Total Fund Manager Allocation Analysis

Period Ending: December 31, 2019



	Actual	Actual
Aberdeen Standard GARS	\$105,385,764	2%
Acadian US MGD V	\$152,706,391	3%
Angelo Gordon Opportunistic	\$4,346,389	0%
Angelo Gordon STAR	\$3,678,183	0%
AQR DELTA XN	\$134,651,837	3%
AQR GRP, 10% Volatility	\$207,741,992	4%
Baillie Gifford	\$276,173,566	6%
Beach Point Select	\$55,137,254	1%
BlackRock EAFE Index	\$268,646,221	5%
BlackRock Intermediate Govt	\$236,638,615	5%
BlackRock Russell 1000	\$532,966,024	11%
Brigade Capital	\$81,482,442	2%
Brown Brothers Harriman	\$5	0%
Cushing MLP Alpha TR	\$71,126,241	1%
DE Shaw	\$160,378,842	3%
FIAM Bond	\$289,118,024	6%
Franklin Templeton	\$41,472,564	1%
General Account	\$84,692,916	2%
Invesco	\$275,736,268	6%
Invesco US Val IV	\$14,544,147	0%
Invesco US Val V	\$7,808,539	0%
Mondrian	\$272,195,593	6%
PanAgora	\$200,241,754	4%
PanAgora Defuseq	\$156,628,211	3%
Parametric Core	\$94,515,798	2%
Parametric Currency Overlay	\$34,036,460	1%
Parametric Minneapolis Overlay	\$7,285,198	0%
PGIM RE US Debt Fund	\$85,250,317	2%
PIMCO Diversified	\$90,318,923	2%
PIMCO Private Income	\$27,291,328	1%
Private Equity	\$298,636,081	6%
Private Real Asset	\$87,423,517	2%
QMA US Small Cap	\$91,978,218	2%
SSgA Custom Real Asset	\$259,144,313	5%
TCP Direct Lending VIII	\$32,550,535	1%
Transition 3	\$6	0%
Treasury & LAIF	\$17,837,111	0%
Western TRU	\$142,225,506	3%
White Oak Yield	\$32,692,859	1%
Total	\$4,934,683,954	100%

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	8.5%	69	5.8%	34	1.2	53	-0.8	83	1.1%	59
Policy Index	9.3%	34	5.9%	36	1.3	23	--	--	0.0%	1
InvMetrics Public DB > \$1B Net Median	8.9%	--	6.4%	--	1.2	--	-0.1	--	0.9%	--

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	6.9%	42	6.3%	45	0.9	38	-0.4	71	1.2%	60
Policy Index	7.3%	32	6.7%	54	0.9	34	--	--	0.0%	1
InvMetrics Public DB > \$1B Net Median	6.8%	--	6.6%	--	0.9	--	-0.1	--	1.1%	--

Statistics Summary

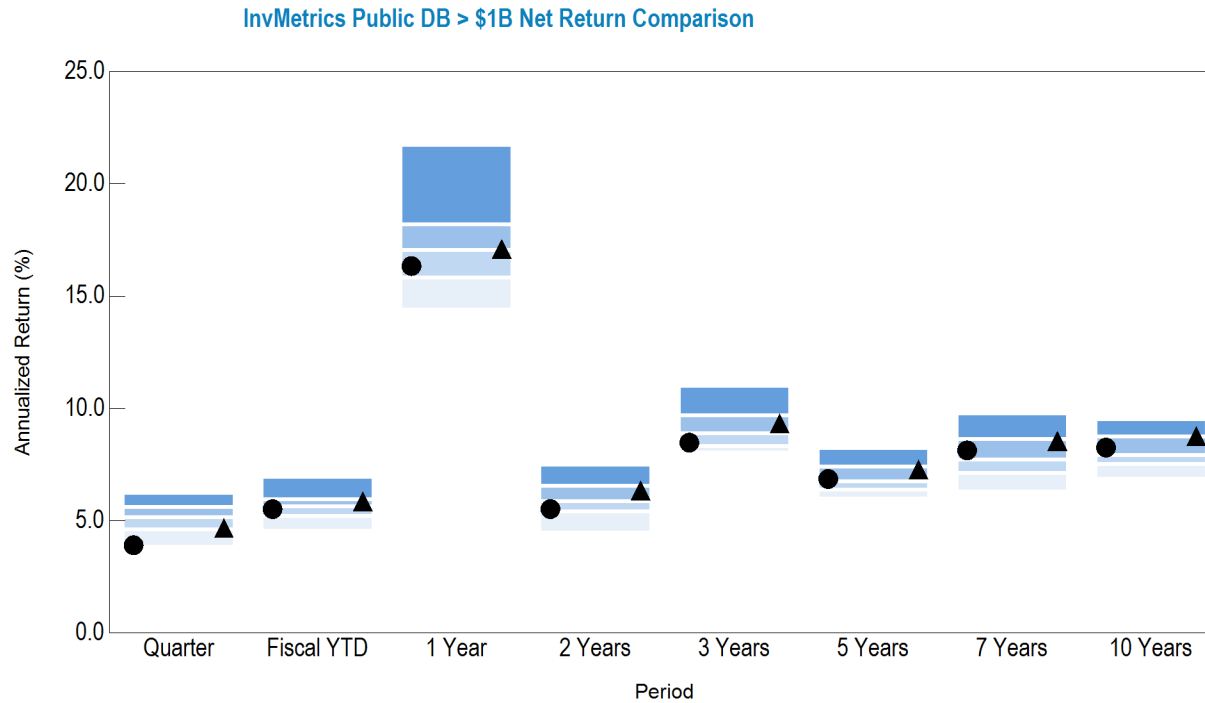
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Cash	1.1%	0.2%	-3.7	-3.1	0.2%
91 Day T-Bills	1.6%	0.2%	0.0	--	0.0%
General Account	3.3%	0.9%	1.7	1.8	0.9%
91 Day T-Bills	1.6%	0.2%	0.0	--	0.0%
Treasury & LAIF	3.0%	1.0%	1.4	1.4	0.9%
91 Day T-Bills	1.6%	0.2%	0.0	--	0.0%

Statistics Summary

5 Years

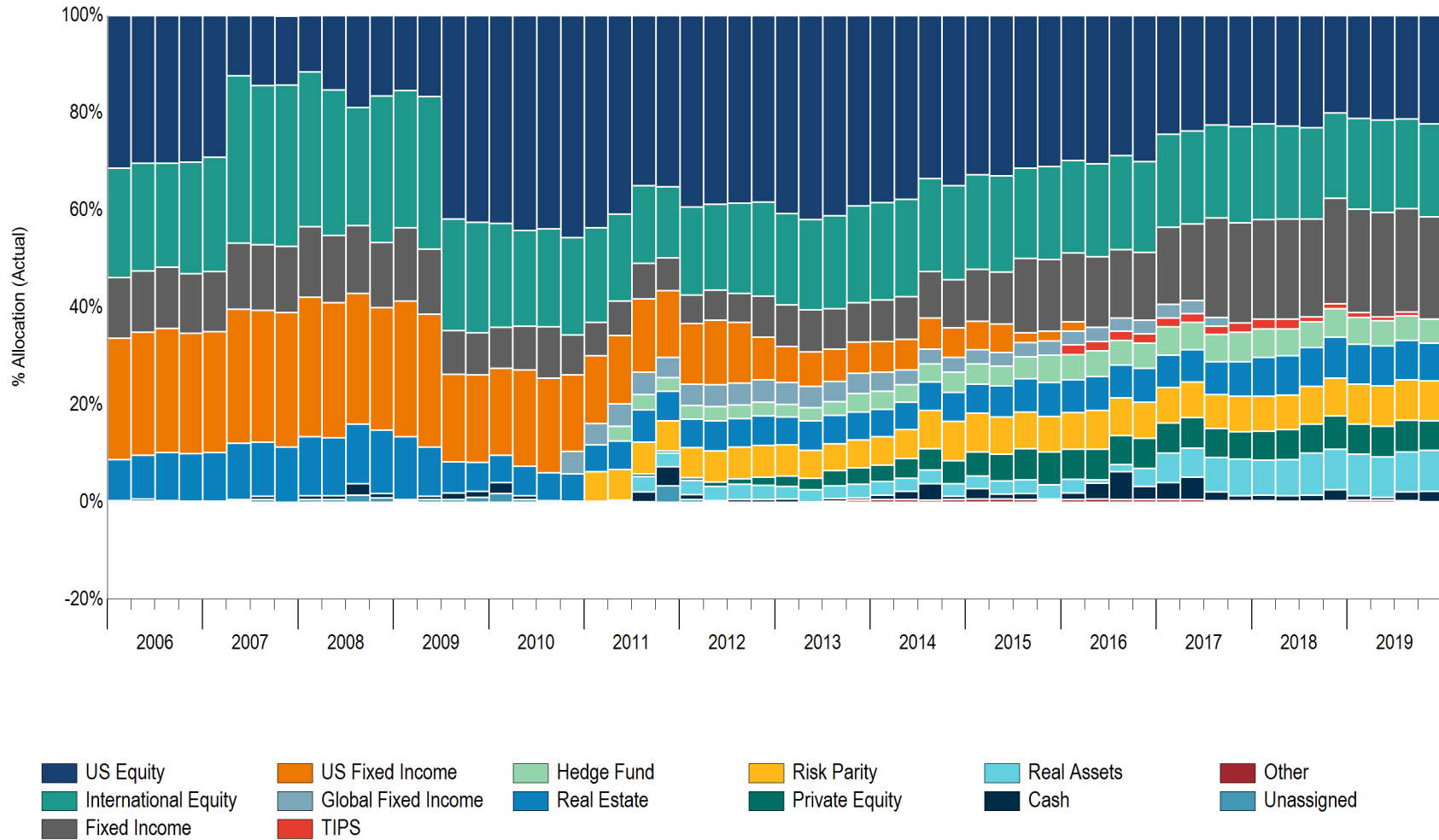
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Cash	1.1%	0.3%	0.0	0.0	0.4%
91 Day T-Bills	1.1%	0.2%	0.0	--	0.0%
General Account	2.5%	0.9%	1.7	1.9	0.8%
91 Day T-Bills	1.1%	0.2%	0.0	--	0.0%
Treasury & LAIF	2.1%	0.9%	1.2	1.3	0.8%
91 Day T-Bills	1.1%	0.2%	0.0	--	0.0%



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	6.2	6.9	21.7	7.5	11.0	8.2	9.8	9.5
25th Percentile	5.6	6.0	18.2	6.6	9.7	7.4	8.7	8.8
Median	5.2	5.6	17.1	5.9	8.9	6.8	7.7	7.9
75th Percentile	4.6	5.2	15.9	5.4	8.3	6.4	7.1	7.5
95th Percentile	3.9	4.6	14.4	4.5	8.0	6.0	6.3	6.9
# of Portfolios	58	58	58	58	58	56	55	49
● Total Fund	3.9 (92)	5.5 (56)	16.3 (61)	5.5 (66)	8.5 (69)	6.9 (42)	8.1 (47)	8.2 (40)
▲ Policy Index	4.7 (72)	5.9 (31)	17.1 (50)	6.3 (36)	9.3 (34)	7.3 (32)	8.5 (28)	8.8 (28)

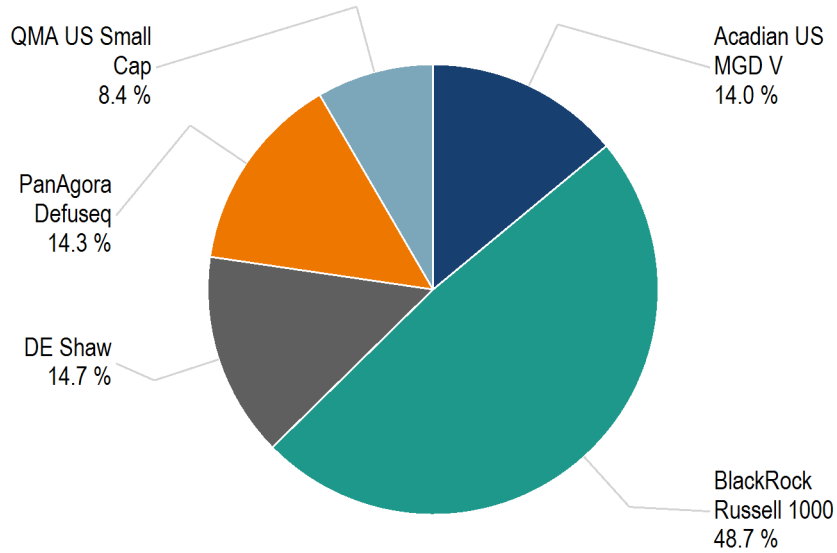
Total Fund
Asset Allocation History

Period Ending: December 31, 2019



US Equity
 Manager Allocation Analysis

Period Ending: December 31, 2019



	Actual \$	Actual %	Manager Contribution to Excess Return %
Acadian US MGD V	\$152,706,391	14.0%	-0.6%
BlackRock Russell 1000	\$532,966,024	48.7%	0.0%
DE Shaw	\$160,378,842	14.7%	0.0%
PanAgora Defuseq	\$156,628,211	14.3%	-0.9%
QMA US Small Cap	\$91,978,218	8.4%	-0.1%
Transition Account	\$6	0.0%	0.0%
Actual vs. Policy Weight Difference			0.0%
Total	\$1,094,657,692	100.0%	-1.5%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	13.8%	11.9%	1.0	-0.8	1.0%
Blended US Equity Index	14.6%	12.4%	1.0	--	0.0%
Russell 3000	14.6%	12.4%	1.0	--	0.0%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	15.5%	11.6%	1.2	0.3	1.5%
Russell 1000	15.0%	12.2%	1.1	--	0.0%
DE Shaw	14.9%	11.8%	1.1	-0.1	2.2%
Russell 1000	15.0%	12.2%	1.1	--	0.0%
Small Cap Equity	6.2%	16.1%	0.3	-0.9	2.6%
Russell 2000	8.6%	15.9%	0.4	--	0.0%
QMA US Small Cap	6.2%	16.1%	0.3	-0.9	2.6%
Russell 2000	8.6%	15.9%	0.4	--	0.0%

Statistics Summary

5 Years

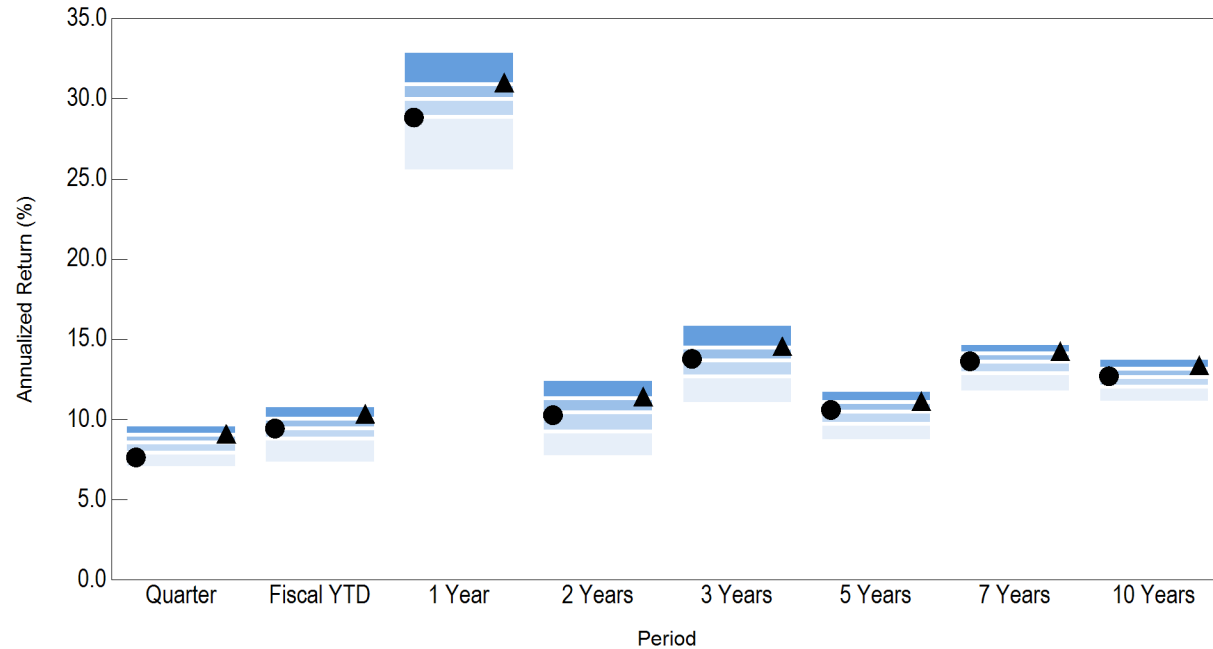
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	10.6%	12.0%	0.8	-0.6	0.9%
Blended US Equity Index	11.1%	12.3%	0.8	--	0.0%
Russell 3000	11.2%	12.2%	0.8	0.2	0.5%

Statistics Summary

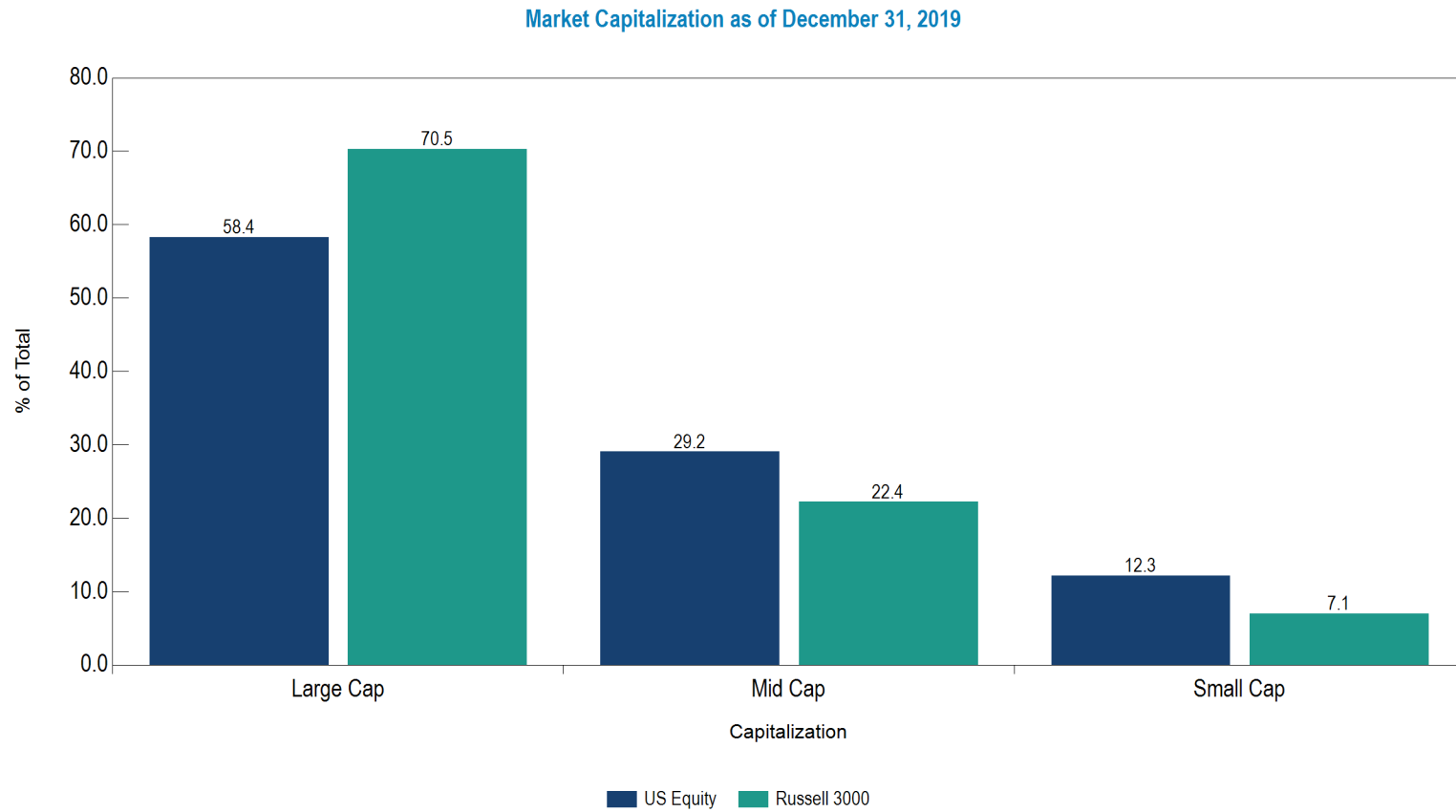
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	11.8%	11.7%	0.9	0.3	1.3%
Russell 1000	11.5%	12.1%	0.9	--	0.0%
DE Shaw	12.4%	12.0%	0.9	0.4	2.3%
Russell 1000	11.5%	12.1%	0.9	--	0.0%
Small Cap Equity	5.7%	15.9%	0.3	-0.9	2.7%
Russell 2000	8.2%	16.0%	0.4	--	0.0%

InvMetrics All DB US Eq Net Return Comparison



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	9.7	10.9	33.0	12.5	16.0	11.8	14.7	13.8
25th Percentile	9.1	10.1	30.9	11.4	14.5	11.1	14.1	13.2
Median	8.6	9.5	30.0	10.5	13.7	10.5	13.6	12.7
75th Percentile	8.0	8.8	28.9	9.3	12.7	9.8	12.9	12.1
95th Percentile	7.0	7.3	25.5	7.7	11.0	8.7	11.7	11.1
# of Portfolios	557	556	552	548	536	511	455	355
● US Equity	7.6 (83)	9.4 (51)	28.8 (77)	10.3 (56)	13.8 (48)	10.6 (47)	13.6 (49)	12.7 (50)
▲ Blended US Equity Index	9.1 (18)	10.4 (10)	31.0 (21)	11.4 (19)	14.6 (21)	11.1 (25)	14.3 (22)	13.4 (18)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	Russell 3000
Number of Holdings	2,914	2,992
Weighted Avg. Market Cap. (\$B)	174.8	230.5
Median Market Cap. (\$B)	3.4	1.8
Price To Earnings	21.9	22.8
Price To Book	3.3	3.6
Price To Sales	1.7	1.9
Return on Equity (%)	21.1	20.9
Yield (%)	1.9	1.8
Beta (holdings; domestic)	1.0	1.0

Top Holdings

APPLE	2.8%
MICROSOFT	2.7%
AMAZON.COM	1.6%
JOHNSON & JOHNSON	1.3%
ALPHABET A	1.1%
VERIZON COMMUNICATIONS	1.0%
JP MORGAN CHASE & CO.	1.0%
VISA 'A'	0.9%
FACEBOOK CLASS A	0.9%
AT&T	0.8%

Best Performers

	Return %
IVERIC BIO (ISEE)	666.1%
FORTY SEVEN (FTSV)	513.2%
CHEMOCENTRYX (CCXI)	483.3%
AXSOME THERAPEUTICS (AXSM)	410.7%
KODIAK SCIENCES (KOD)	400.3%
CLEARSIDE BIOMEDICAL (CLSD)	360.3%
INTRA CELLULAR THERAPIES (ITCI)	359.3%
NEOLEUKIN THERAPEUTICS (NLTX)	332.3%
STAGE STORES (SSI)	331.9%
SUPERIOR ENERGY SVCS (SPN)	285.4%

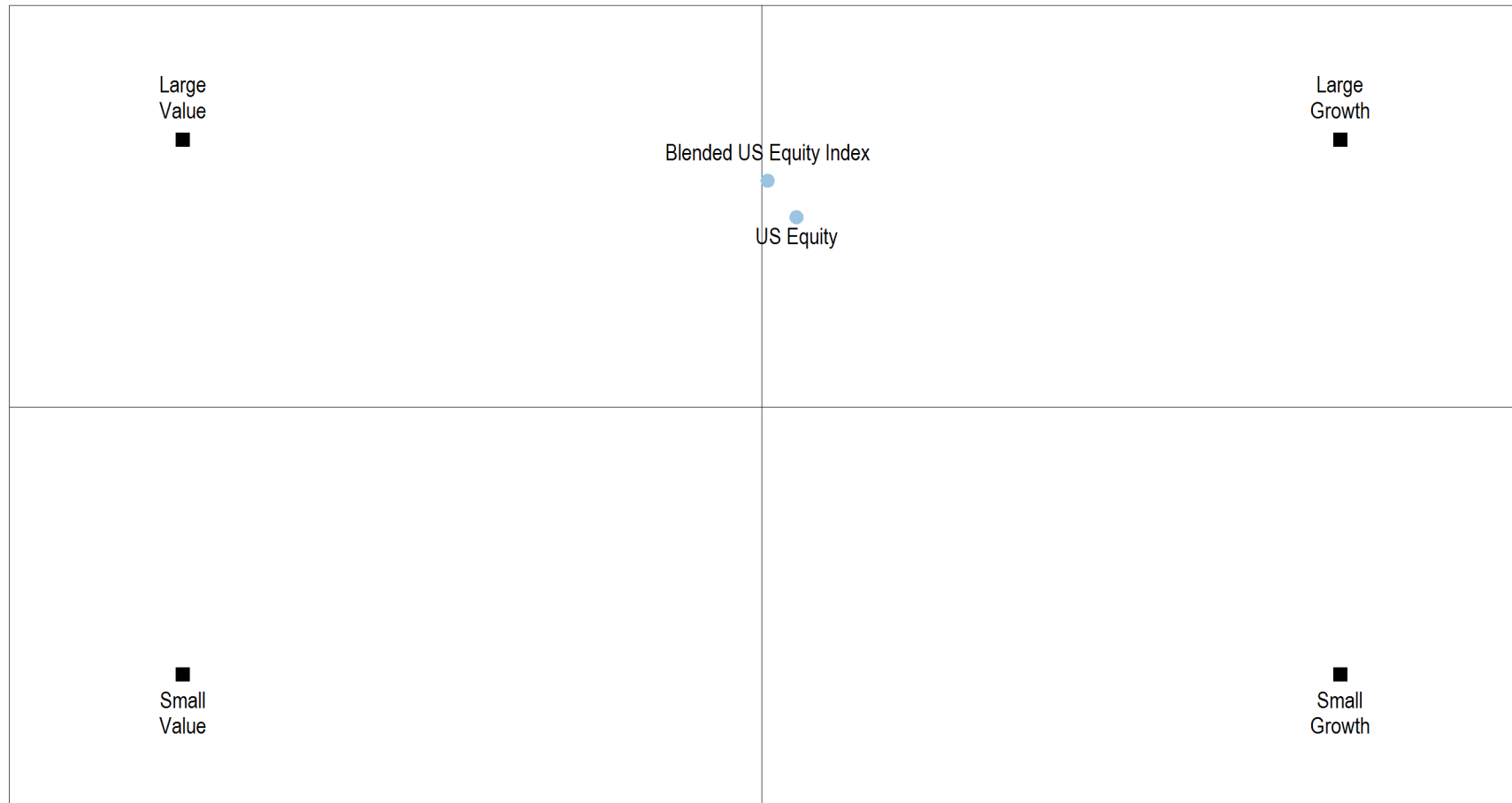
Worst Performers

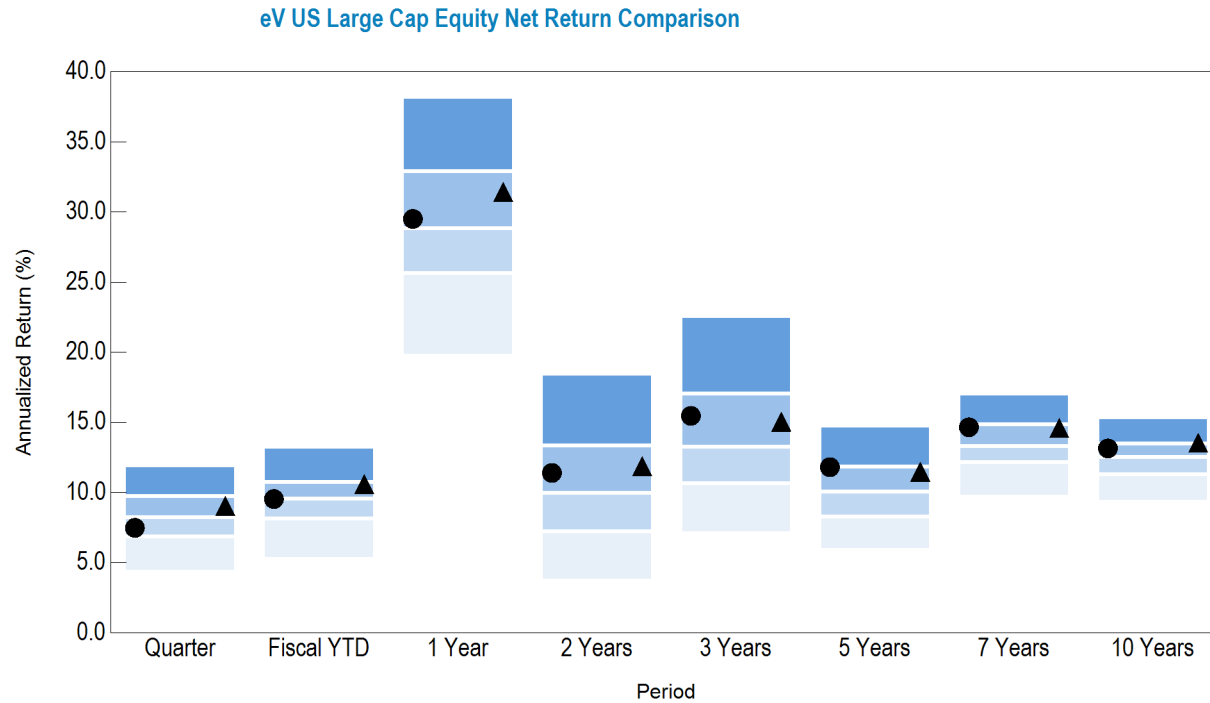
	Return %
APPROACH RES (AREXQ)	-95.5%
DEAN FOODS (DFODQ)	-94.8%
NUVECTRA (NVTRQ)	-93.0%
CARBO CERAMICS (CRRT)	-90.2%
HORNBECK OFFS.SVS. (HOSS)	-86.2%
LSC COMMUNICATIONS (LKSD)	-85.1%
SIENNA BIOPH. (SNNAQ)	-83.9%
BASIC ENERGY SERVICES (BASX)	-81.6%
UNIT (UNT)	-79.4%
CYCLERION THERAPEUTICS (CYCN)	-77.6%

US Equity Performance Attribution vs. Russell 3000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.1%	0.0%	0.0%	0.0%	6.8%	6.0%	3.4%	4.3%			
Materials	-0.1%	-0.1%	0.0%	0.0%	4.4%	7.0%	3.6%	2.9%			
Industrials	0.0%	0.0%	0.0%	0.0%	5.5%	5.9%	9.7%	10.2%			
Consumer Discretionary	-0.2%	-0.2%	-0.1%	0.0%	4.2%	5.8%	12.1%	10.4%			
Consumer Staples	-0.2%	-0.1%	-0.1%	0.0%	2.4%	3.7%	7.9%	6.6%			
Health Care	-0.2%	-0.2%	0.0%	0.0%	13.4%	15.0%	13.4%	13.3%			
Financials	0.0%	0.0%	0.0%	0.0%	9.5%	9.8%	11.9%	13.5%			
Information Technology	-0.4%	-0.3%	-0.1%	0.0%	12.5%	14.0%	18.8%	21.5%			
Communication Services	-0.1%	-0.2%	0.0%	0.0%	7.6%	9.3%	8.8%	9.5%			
Utilities	-0.2%	0.0%	-0.3%	0.0%	0.8%	0.4%	6.2%	3.4%			
Real Estate	0.1%	0.1%	0.0%	0.0%	2.1%	0.7%	3.9%	4.2%			
Cash	0.0%	0.0%	0.0%	0.0%	0.4%	--	0.1%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	9.1%	9.2%	0.1%	0.0%			
Portfolio	-1.5%	=	-1.0%	+	-0.5%	+	0.0%	7.7%	9.2%	100.0%	100.0%

U.S. Effective Style Map





	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	11.9	13.2	38.2	18.5	22.6	14.8	17.0	15.3
25th Percentile	9.8	10.8	32.9	13.4	17.1	11.9	14.9	13.5
Median	8.3	9.6	28.9	10.0	13.3	10.1	13.3	12.6
75th Percentile	6.9	8.2	25.7	7.3	10.7	8.3	12.2	11.3
95th Percentile	4.4	5.3	19.8	3.8	7.1	5.9	9.7	9.4
# of Portfolios	607	607	607	602	591	556	518	442
● Large Cap Equity	7.5 (67)	9.5 (52)	29.5 (46)	11.4 (38)	15.5 (35)	11.8 (26)	14.6 (29)	13.1 (35)
▲ Russell 1000	9.0 (37)	10.6 (28)	31.4 (35)	11.9 (34)	15.0 (37)	11.5 (29)	14.6 (29)	13.5 (25)

Characteristics

	Portfolio	Russell 1000
Number of Holdings	2,860	997
Weighted Avg. Market Cap. (\$B)	190.3	246.6
Median Market Cap. (\$B)	3.9	10.4
Price To Earnings	22.3	23.1
Price To Book	3.5	3.8
Price To Sales	2.0	2.1
Return on Equity (%)	22.1	23.8
Yield (%)	1.9	1.8
Beta (holdings; domestic)	0.9	1.0

Top Holdings

APPLE	3.0%
MICROSOFT	2.9%
AMAZON.COM	1.8%
JOHNSON & JOHNSON	1.4%
ALPHABET A	1.2%
VERIZON COMMUNICATIONS	1.1%
JP MORGAN CHASE & CO.	1.1%
VISA 'A'	1.0%
FACEBOOK CLASS A	1.0%
AT&T	0.9%

Best Performers

	Return %
IVERIC BIO (ISEE)	666.1%
FORTY SEVEN (FTSV)	513.2%
CHEMOCENTRYX (CCXI)	483.3%
AXSOME THERAPEUTICS (AXSM)	410.7%
KODIAK SCIENCES (KOD)	400.3%
CLEARSIDE BIOMEDICAL (CLSD)	360.3%
INTRA CELLULAR THERAPIES (ITCI)	359.3%
NEOLEUKIN THERAPEUTICS (NLTX)	332.3%
STAGE STORES (SSI)	331.9%
SUPERIOR ENERGY SVCS (SPN)	285.4%

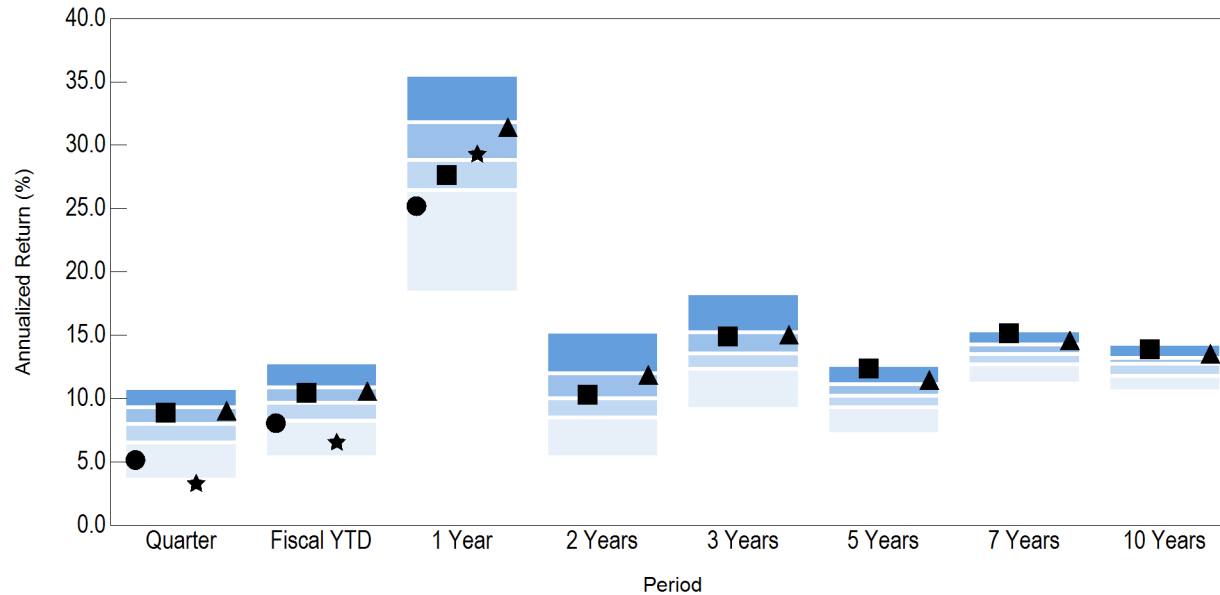
Worst Performers

	Return %
APPROACH RES (AREXQ)	-95.5%
DEAN FOODS (DFODQ)	-94.8%
NUVECTRA (NVTRQ)	-93.0%
CARBO CERAMICS (CRRT)	-90.2%
HORNBECK OFFS.SVS. (HOSS)	-86.2%
LSC COMMUNICATIONS (LKSD)	-85.1%
SIENNA BIOPH. (SNNAQ)	-83.9%
BASIC ENERGY SERVICES (BASX)	-81.6%
UNIT (UNT)	-79.4%
CYCLERION THERAPEUTICS (CYCN)	-77.6%

Large Cap Equity Performance Attribution vs. Russell 1000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.0%	0.0%	0.0%	0.0%	6.3%	5.9%	3.4%	4.4%			
Materials	-0.1%	-0.1%	0.0%	0.0%	4.3%	6.5%	3.6%	2.8%			
Industrials	0.0%	-0.1%	0.0%	0.0%	4.9%	5.7%	9.0%	9.8%			
Consumer Discretionary	-0.2%	-0.1%	-0.1%	0.0%	4.2%	5.5%	12.1%	10.4%			
Consumer Staples	-0.2%	-0.1%	-0.1%	0.0%	2.4%	3.6%	8.4%	6.9%			
Health Care	-0.1%	-0.1%	0.0%	0.0%	13.5%	14.3%	13.3%	13.1%			
Financials	-0.1%	-0.1%	0.0%	0.0%	9.6%	10.0%	11.5%	13.2%			
Information Technology	-0.5%	-0.4%	-0.1%	0.1%	12.3%	14.1%	19.2%	22.0%			
Communication Services	-0.2%	-0.2%	0.0%	0.0%	7.6%	9.4%	9.4%	10.0%			
Utilities	-0.2%	0.0%	-0.3%	0.0%	0.8%	0.5%	6.5%	3.3%			
Real Estate	0.1%	0.0%	0.0%	0.0%	1.2%	0.3%	3.5%	3.9%			
Cash	0.0%	0.0%	0.0%	0.0%	0.4%	--	0.1%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	9.1%	--	0.1%	0.0%			
Portfolio	-1.5%	=	-1.1%	+	-0.5%	+	0.0%	7.6%	9.1%	100.0%	100.0%

eV US Large Cap Core Equity Net Return Comparison



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	10.8	12.8	35.5	15.3	18.3	12.6	15.3	14.3
25th Percentile	9.4	10.9	31.8	12.0	15.3	11.1	14.3	13.2
Median	8.0	9.7	28.9	10.0	13.6	10.2	13.6	12.8
75th Percentile	6.6	8.3	26.5	8.5	12.4	9.4	12.7	11.8
95th Percentile	3.6	5.4	18.4	5.4	9.2	7.2	11.2	10.6
# of Portfolios	194	194	194	192	188	172	155	127
● Acadian US MGD V	5.2 (87)	8.1 (78)	25.2 (81)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
■ DE Shaw	8.9 (33)	10.4 (32)	27.6 (66)	10.3 (48)	14.9 (29)	12.4 (8)	15.2 (8)	13.9 (8)
★ PanAgora Defuseq	3.3 (97)	6.5 (92)	29.3 (46)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
▲ Russell 1000	9.0 (30)	10.6 (29)	31.4 (28)	11.9 (29)	15.0 (27)	11.5 (21)	14.6 (18)	13.5 (13)

Characteristics

	Portfolio	Russell 1000
Number of Holdings	150	997
Weighted Avg. Market Cap. (\$B)	85.0	246.6
Median Market Cap. (\$B)	15.6	10.4
Price To Earnings	20.1	23.1
Price To Book	2.8	3.8
Price To Sales	1.9	2.1
Return on Equity (%)	21.6	23.8
Yield (%)	2.1	1.8
Beta (holdings; domestic)	0.9	1.0

Top Holdings

ZOETIS A	1.3%
ESTEE LAUDER COS.'A'	1.3%
ANSYS	1.2%
BANK OF AMERICA	1.2%
DANAHER	1.2%
JP MORGAN CHASE & CO.	1.2%
CITIGROUP	1.2%
AMGEN	1.2%
ROYAL GOLD	1.2%
COSTCO WHOLESALE	1.2%

Best Performers

	Return %
HUMANA (HUM)	43.6%
UNITEDHEALTH GROUP (UNH)	35.8%
ANTHEM (ANTM)	26.1%
HERBALIFE NUTRITION (HLF)	25.9%
AMGEN (AMGN)	25.4%
WESCO INTL. (WCC)	24.3%
ACUSHNET HOLDINGS (GOLF)	23.7%
HCA HEALTHCARE (HCA)	23.1%
BANK OF AMERICA (BAC)	21.4%
TARGET (TGT)	20.6%

Worst Performers

	Return %
SERVICEMASTER GLB.HDG. (SERV)	-30.8%
K12 (LRN)	-22.9%
AMC NETWORKS CL.A (AMCX)	-19.3%
MARCUS (MCS)	-13.7%
YUM! BRANDS (YUM)	-10.8%
HASBRO (HAS)	-10.4%
IMAX (NYS) (IMAX)	-6.9%
VERISK ANALYTICS CL.A (VRSK)	-5.4%
HOME DEPOT (HD)	-5.3%
MOTOROLA SOLUTIONS (MSI)	-5.1%

Acadian US MGD V Performance Attribution vs. Russell 1000

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.1%	-0.3%	0.1%	0.2%	0.2%	5.9%	0.7%	4.4%			
Materials	0.0%	-0.1%	0.0%	0.0%	3.9%	6.5%	2.2%	2.8%			
Industrials	0.0%	-0.3%	0.2%	0.2%	2.7%	5.7%	4.7%	9.8%			
Consumer Discretionary	-1.2%	-0.8%	-0.1%	-0.3%	-2.4%	5.5%	13.8%	10.4%			
Consumer Staples	-0.2%	0.0%	-0.2%	0.0%	3.3%	3.6%	10.7%	6.9%			
Health Care	-0.2%	-0.3%	0.1%	0.0%	12.2%	14.3%	14.7%	13.1%			
Financials	0.2%	0.2%	0.0%	0.0%	11.4%	10.0%	14.3%	13.2%			
Information Technology	-1.5%	-1.9%	-0.5%	0.9%	5.4%	14.1%	12.0%	22.0%			
Communication Services	-0.4%	-0.3%	0.0%	0.0%	6.0%	9.4%	11.2%	10.0%			
Utilities	-0.8%	0.0%	-1.0%	0.2%	1.9%	0.5%	14.6%	3.3%			
Real Estate	0.3%	0.3%	0.3%	-0.2%	6.7%	0.3%	0.6%	3.9%			
Cash	0.0%	0.0%	0.0%	0.0%	0.4%	--	0.3%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	-3.8%	=	-3.5%	+	-1.1%	+	0.9%	5.3%	9.1%	100.0%	100.0%

Characteristics

	Portfolio	Russell 1000
Number of Holdings	997	997
Weighted Avg. Market Cap. (\$B)	246.9	246.6
Median Market Cap. (\$B)	10.4	10.4
Price To Earnings	23.1	23.1
Price To Book	3.8	3.8
Price To Sales	2.1	2.1
Return on Equity (%)	23.8	23.8
Yield (%)	1.8	1.8
Beta (holdings; domestic)	1.0	1.0

Top Holdings

APPLE	4.4%
MICROSOFT	4.0%
AMAZON.COM	2.6%
FACEBOOK CLASS A	1.7%
BERKSHIRE HATHAWAY 'B'	1.5%
JP MORGAN CHASE & CO.	1.5%
ALPHABET A	1.4%
ALPHABET 'C'	1.4%
JOHNSON & JOHNSON	1.3%
VISA 'A'	1.1%

Best Performers

	Return %
TESLA (TSLA)	73.7%
SAREPTA THERAPEUTICS (SRPT)	71.3%
UBIQUITI (UI)	60.1%
ADVANCED MICRO DEVICES (AMD)	58.2%
QORVO (QRVO)	56.8%
ZILLOW GROUP CLASS A (ZG)	54.8%
ALIGN TECHNOLOGY (ALGN)	54.2%
ZILLOW GROUP CLASS C (Z)	54.1%
TRANSOCEAN (RIG)	53.9%
SKYWORKS SOLUTIONS (SWKS)	53.2%

Worst Performers

	Return %
BEYOND MEAT (BYND)	-49.1%
SAGE THERAPEUTICS (SAGE)	-48.5%
CHESAPEAKE ENERGY (CHK)	-41.4%
SERVICEMASTER GLB.HDG. (SERV)	-30.8%
TWITTER (TWTR)	-22.2%
TAUBMAN CENTERS (TCO)	-22.1%
ELASTIC (ESTC)	-21.9%
ETSY (ETSY)	-21.6%
SINCLAIR BROADCAST 'A' (SBGI)	-21.5%
VENTAS (VTR)	-19.9%

Characteristics

	Portfolio	Russell 1000
Number of Holdings	121	997
Weighted Avg. Market Cap. (\$B)	58.3	246.6
Median Market Cap. (\$B)	15.8	10.4
Price To Earnings	24.8	23.1
Price To Book	3.2	3.8
Price To Sales	2.3	2.1
Return on Equity (%)	19.6	23.8
Yield (%)	2.5	1.8
Beta (holdings; domestic)	0.6	1.0

Top Holdings

OMNICOM GROUP	1.9%
CHEVRON	1.9%
EXXON MOBIL	1.9%
VERIZON COMMUNICATIONS	1.8%
APTARGROUP	1.8%
ALLIANT ENERGY (XSC)	1.7%

Best Performers

	Return %
LEGGETT&PLATT (LEG)	25.1%
MARRIOTT INTL.'A' (MAR)	22.2%
HYATT HOTELS CL.A (H)	22.1%
CARTER'S (CRI)	20.5%
VARIAN MEDICAL SYSTEMS (VAR)	19.2%

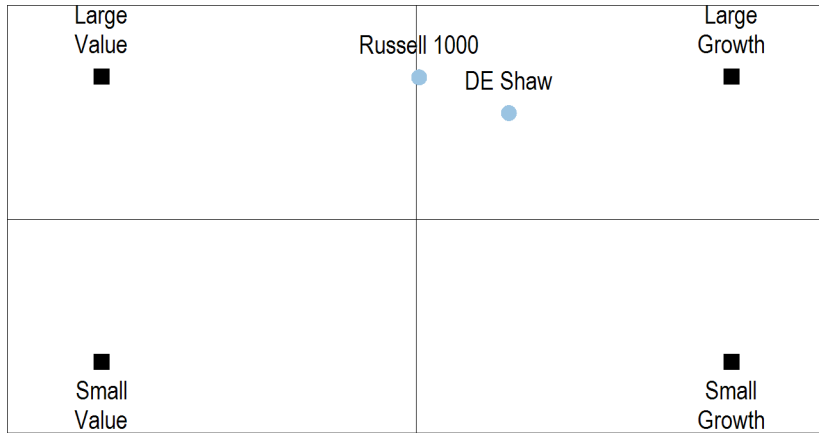
Worst Performers

	Return %
YUM! BRANDS (YUM)	-10.8%
KAR AUCTION SERVICES (KAR)	-10.5%
WP CAREY (WPC)	-9.4%
CNA FINANCIAL (CNA)	-8.3%
MCDONALDS (MCD)	-7.4%

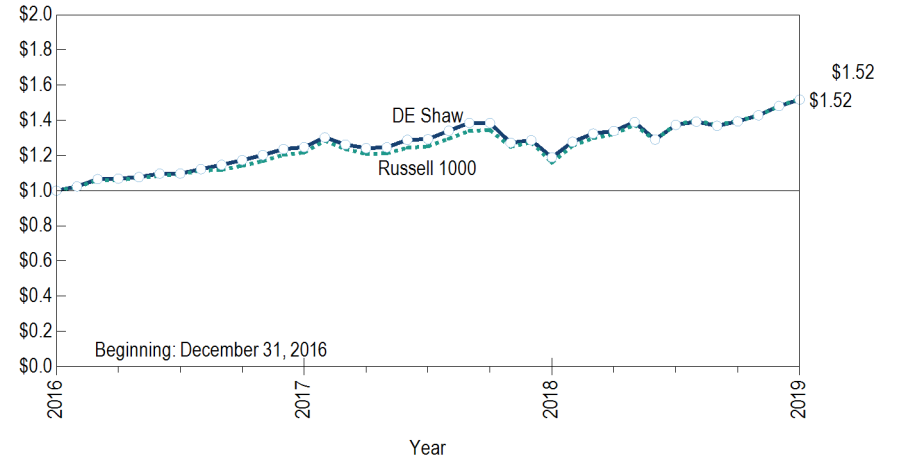
PanAgora Defuseq Performance Attribution vs. Russell 1000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.2%	-0.2%	0.0%	0.0%	1.8%	5.9%	4.0%	4.4%			
Materials	-0.5%	-0.1%	-0.2%	-0.2%	2.8%	6.5%	9.1%	2.8%			
Industrials	-0.4%	-0.4%	0.0%	0.0%	2.0%	5.7%	9.8%	9.8%			
Consumer Discretionary	0.3%	0.3%	0.0%	0.0%	8.2%	5.5%	10.8%	10.4%			
Consumer Staples	-0.6%	-0.1%	-0.3%	-0.1%	1.4%	3.6%	12.4%	6.9%			
Health Care	-1.1%	-1.3%	-0.2%	0.4%	4.5%	14.3%	9.1%	13.1%			
Financials	-0.4%	-0.8%	-0.1%	0.5%	4.0%	10.0%	5.5%	13.2%			
Information Technology	-1.3%	-1.5%	-0.7%	0.9%	7.4%	14.1%	8.9%	22.0%			
Communication Services	-0.3%	-0.3%	0.0%	0.0%	6.3%	9.4%	9.0%	10.0%			
Utilities	-1.1%	0.0%	-1.0%	-0.1%	0.1%	0.5%	14.9%	3.3%			
Real Estate	-0.1%	0.1%	-0.2%	0.0%	2.2%	0.3%	6.4%	3.9%			
Cash	0.0%	0.0%	0.0%	0.0%	0.4%	--	0.1%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	-5.5%	=	-4.3%	+	-2.6%	+	1.4%	3.6%	9.1%	100.0%	100.0%

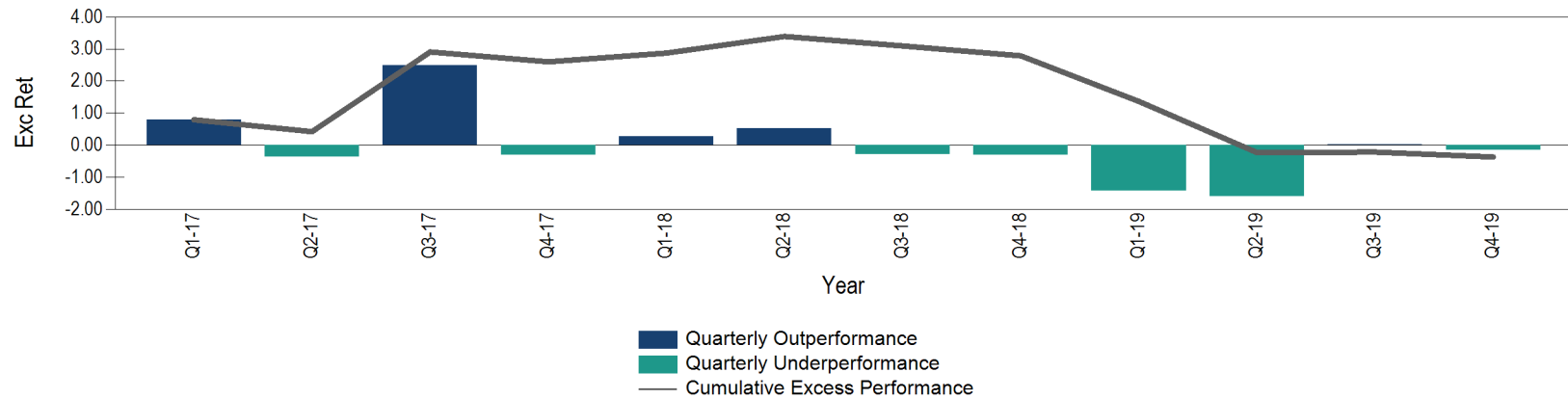
U.S. Effective Style Map

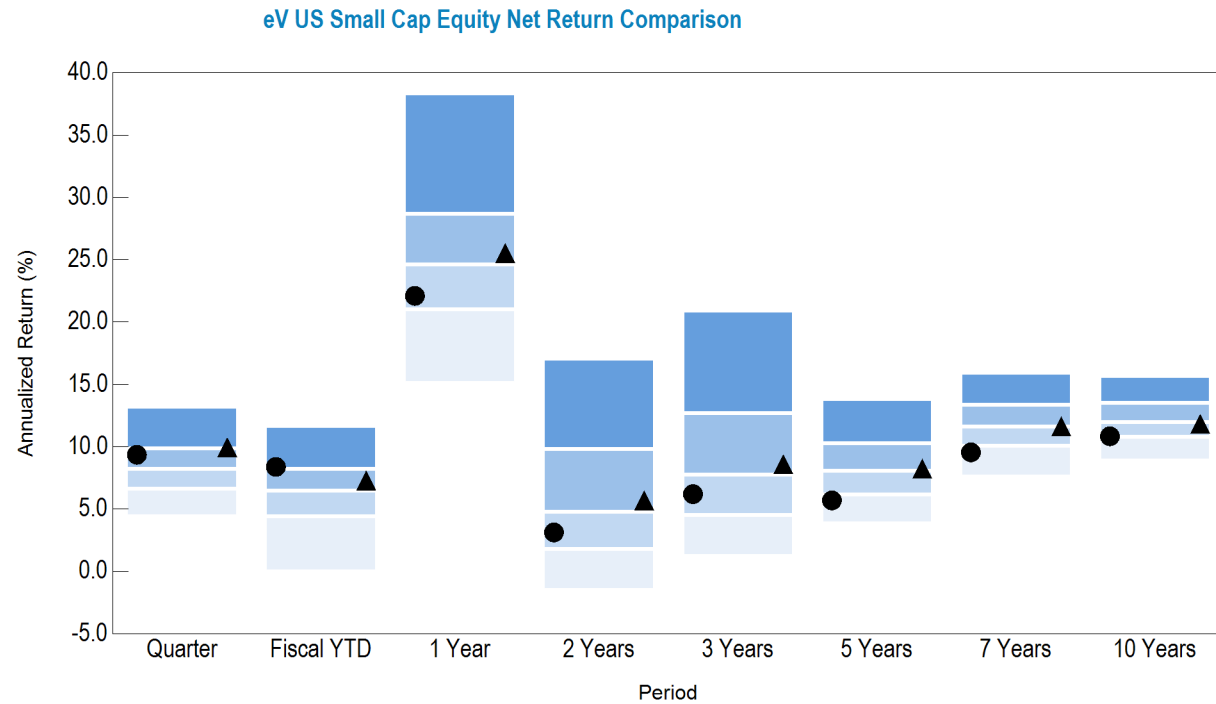


Growth of a Dollar



Quarterly and Cumulative Excess Performance





	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	13.2	11.6	38.3	17.1	20.9	13.8	15.9	15.7
25th Percentile	9.9	8.3	28.7	9.8	12.7	10.3	13.4	13.6
Median	8.3	6.5	24.7	4.8	7.8	8.1	11.6	12.0
75th Percentile	6.7	4.5	21.0	1.8	4.6	6.2	10.1	10.8
95th Percentile	4.5	0.0	15.1	-1.5	1.2	3.9	7.6	8.9
# of Portfolios	395	395	395	392	385	358	335	303
● Small Cap Equity	9.4 (31)	8.4 (24)	22.1 (69)	3.1 (62)	6.2 (65)	5.7 (82)	9.6 (82)	10.8 (75)
▲ Russell 2000	9.9 (25)	7.3 (41)	25.5 (45)	5.7 (45)	8.6 (46)	8.2 (50)	11.6 (50)	11.8 (54)

Characteristics

	Portfolio	Russell 2000
Number of Holdings	342	1,995
Weighted Avg. Market Cap. (\$B)	2.3	2.5
Median Market Cap. (\$B)	1.4	0.8
Price To Earnings	17.5	19.8
Price To Book	2.2	2.5
Price To Sales	0.7	1.2
Return on Equity (%)	10.2	1.3
Yield (%)	1.6	1.4
Beta (holdings; domestic)	1.3	1.2

Top Holdings

EMCOR GROUP	0.9%
PORTLAND GEN.ELEC.	0.9%
TECH DATA	0.9%
WORLD FUEL SVS.	0.9%
KBR	0.9%
NEWMARK GROUP CL.A	0.8%
RYMAN HOSPITALITY PROPS.	0.8%
ATKORE INTERNATIONL GP.	0.8%
RADIAN GP.	0.8%
VERINT SYSTEMS	0.8%

Best Performers

	Return %
JOUNCE THERAPEUTICS (JNCE)	162.2%
ARROWHEAD PHARMS. (ARWR)	125.1%
AUDENTES THERAPEUTICS (BOLD)	113.0%
PROTHENA (PRTA)	101.9%
PRINCIPIA BIOPHARMA (PRNB)	94.0%
RECRO PHARMA (REPH)	84.5%
TENET HEALTHCARE (THC)	71.9%
AMNEAL PHARMACEUTICALS A (AMRX)	66.2%
TURNING POINT THERAPEUTICS (TPTX)	65.7%
SYNAPTICS (SYNA)	64.6%

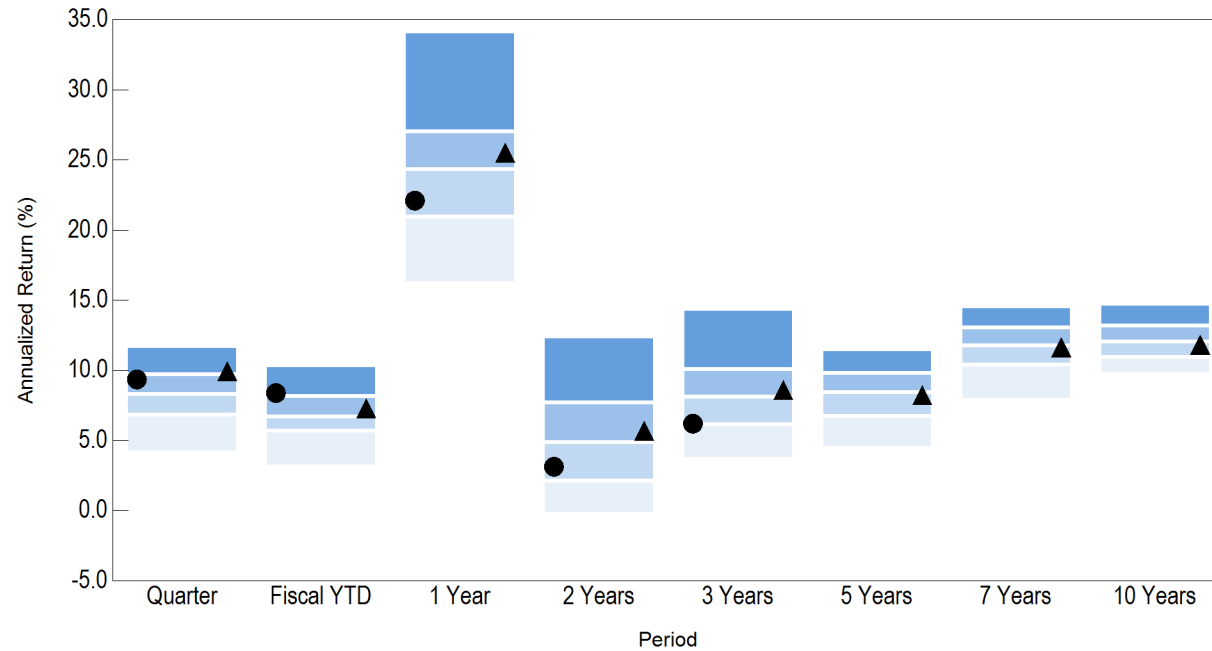
Worst Performers

	Return %
SAGE THERAPEUTICS (SAGE)	-48.5%
TUPPERWARE BRANDS (TUP)	-45.9%
PROTAGONIST THERAPEUTICS (PTGX)	-41.3%
J JILL (JILL)	-40.5%
EXTERRAN (EXTN)	-40.0%
MODINE MANUFACTURING (MOD)	-32.3%
OPKO HEALTH (OPK)	-29.7%
CATALYST PHARMACEUTICAL PARTNERS (CPRX)	-29.4%
ACORDA THERAPEUTICS (ACOR)	-28.9%
TARGET HOSPITALITY (TH)	-26.6%

Small Cap Equity Performance Attribution vs. Russell 2000

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.2%	0.2%	0.0%	0.0%	12.6%	7.5%	3.6%	3.4%			
Materials	-0.2%	-0.2%	0.0%	0.0%	6.0%	11.7%	4.1%	4.0%			
Industrials	0.2%	0.2%	0.0%	0.0%	9.0%	7.9%	17.2%	16.2%			
Consumer Discretionary	-0.6%	-0.5%	0.0%	0.0%	4.3%	8.9%	12.0%	11.0%			
Consumer Staples	-0.1%	-0.2%	0.0%	0.0%	1.5%	7.2%	2.2%	3.0%			
Health Care	-1.7%	-1.7%	-0.2%	0.1%	12.3%	22.7%	15.1%	16.3%			
Financials	0.3%	0.2%	0.0%	0.0%	8.7%	7.4%	17.3%	18.1%			
Information Technology	0.7%	0.7%	0.0%	0.0%	16.7%	11.8%	14.2%	13.4%			
Communication Services	0.2%	0.2%	0.0%	0.0%	11.5%	5.2%	2.1%	2.5%			
Utilities	0.1%	0.0%	0.1%	0.0%	-0.8%	-1.7%	3.3%	4.0%			
Real Estate	0.2%	0.2%	0.0%	0.0%	6.5%	3.4%	8.7%	8.0%			
Cash	0.0%	--	--	--	--	--	0.0%	0.0%			
Unclassified	0.0%	--	0.0%	--	--	10.2%	0.0%	0.0%			
Portfolio	-0.9%	=	-0.9%	+	-0.1%	+	0.2%	9.3%	10.2%	100.0%	100.0%

eV US Small Cap Core Equity Net Return Comparison



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	11.7	10.3	34.2	12.4	14.4	11.5	14.6	14.7
25th Percentile	9.8	8.2	27.1	7.7	10.1	9.8	13.1	13.2
Median	8.4	6.7	24.4	4.9	8.2	8.5	11.8	12.1
75th Percentile	6.9	5.7	21.0	2.2	6.2	6.8	10.4	11.0
95th Percentile	4.2	3.2	16.2	-0.2	3.7	4.5	7.9	9.7
# of Portfolios	109	109	109	109	105	100	93	80
● QMA US Small Cap	9.4 (28)	8.4 (21)	22.1 (67)	3.1 (67)	6.2 (76)	-- (--)	-- (--)	-- (--)
▲ Russell 2000	9.9 (23)	7.3 (45)	25.5 (41)	5.7 (44)	8.6 (46)	8.2 (56)	11.6 (56)	11.8 (57)

Characteristics

	Portfolio	Russell 2000
Number of Holdings	342	1,995
Weighted Avg. Market Cap. (\$B)	2.3	2.5
Median Market Cap. (\$B)	1.4	0.8
Price To Earnings	17.5	19.8
Price To Book	2.2	2.5
Price To Sales	0.7	1.2
Return on Equity (%)	10.2	1.3
Yield (%)	1.6	1.4
Beta (holdings; domestic)	1.3	1.2

Top Holdings

EMCOR GROUP	0.9%
PORTLAND GEN.ELEC.	0.9%
TECH DATA	0.9%
WORLD FUEL SVS.	0.9%
KBR	0.9%
NEWMARK GROUP CL.A	0.8%
RYMAN HOSPITALITY PROPS.	0.8%
ATKORE INTERNATIONL GP.	0.8%
RADIAN GP.	0.8%
VERINT SYSTEMS	0.8%

Best Performers

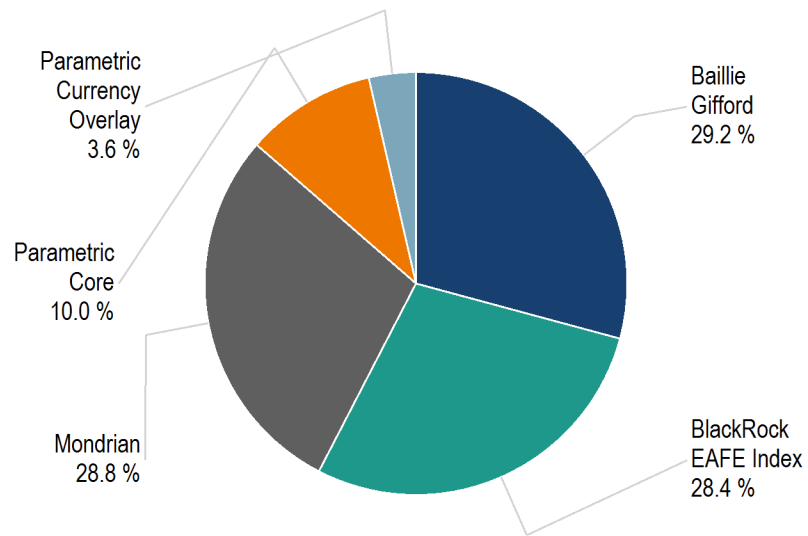
	Return %
JOUNCE THERAPEUTICS (JNCE)	162.2%
ARROWHEAD PHARMS. (ARWR)	125.1%
AUDENTES THERAPEUTICS (BOLD)	113.0%
PROTHENA (PRTA)	101.9%
PRINCIPIA BIOPHARMA (PRNB)	94.0%
RECRO PHARMA (REPH)	84.5%
TENET HEALTHCARE (THC)	71.9%
AMNEAL PHARMACEUTICALS A (AMRX)	66.2%
TURNING POINT THERAPEUTICS (TPTX)	65.7%
SYNAPTICS (SYNA)	64.6%

Worst Performers

	Return %
SAGE THERAPEUTICS (SAGE)	-48.5%
TUPPERWARE BRANDS (TUP)	-45.9%
PROTAGONIST THERAPEUTICS (PTGX)	-41.3%
J JILL (JILL)	-40.5%
EXTERRAN (EXTN)	-40.0%
MODINE MANUFACTURING (MOD)	-32.3%
OPKO HEALTH (OPK)	-29.7%
CATALYST PHARMACEUTICAL PARTNERS (CPRX)	-29.4%
ACORDA THERAPEUTICS (ACOR)	-28.9%
TARGET HOSPITALITY (TH)	-26.6%

QMA US Small Cap Performance Attribution vs. Russell 2000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.2%	0.2%	0.0%	0.0%	12.6%	7.5%	3.6%	3.4%			
Materials	-0.2%	-0.2%	0.0%	0.0%	6.0%	11.7%	4.1%	4.0%			
Industrials	0.2%	0.2%	0.0%	0.0%	9.0%	7.9%	17.2%	16.2%			
Consumer Discretionary	-0.6%	-0.5%	0.0%	0.0%	4.3%	8.9%	12.0%	11.0%			
Consumer Staples	-0.1%	-0.2%	0.0%	0.0%	1.5%	7.2%	2.2%	3.0%			
Health Care	-1.7%	-1.7%	-0.2%	0.1%	12.3%	22.7%	15.1%	16.3%			
Financials	0.3%	0.2%	0.0%	0.0%	8.7%	7.4%	17.3%	18.1%			
Information Technology	0.7%	0.7%	0.0%	0.0%	16.7%	11.8%	14.2%	13.4%			
Communication Services	0.2%	0.2%	0.0%	0.0%	11.5%	5.2%	2.1%	2.5%			
Utilities	0.1%	0.0%	0.1%	0.0%	-0.8%	-1.7%	3.3%	4.0%			
Real Estate	0.2%	0.2%	0.0%	0.0%	6.5%	3.4%	8.7%	8.0%			
Cash	0.0%	--	--	--	--	--	0.0%	0.0%			
Unclassified	0.0%	--	0.0%	--	--	10.2%	0.0%	0.0%			
Portfolio	-0.9%	=	-0.9%	+	-0.1%	+	0.2%	9.3%	10.2%	100.0%	100.0%



	Actual \$	Actual %	Manager Contribution to Excess Return %
Baillie Gifford	\$276,173,566	29.2%	1.0%
BlackRock EAFE Index	\$268,646,221	28.4%	0.0%
Mondrian	\$272,195,593	28.8%	0.7%
Parametric Core	\$94,515,798	10.0%	-0.4%
Parametric Currency Overlay	\$34,036,460	3.6%	0.0%
Actual vs. Policy Weight Difference			-0.5%
Total	\$945,567,638	100.0%	0.9%

Statistics Summary

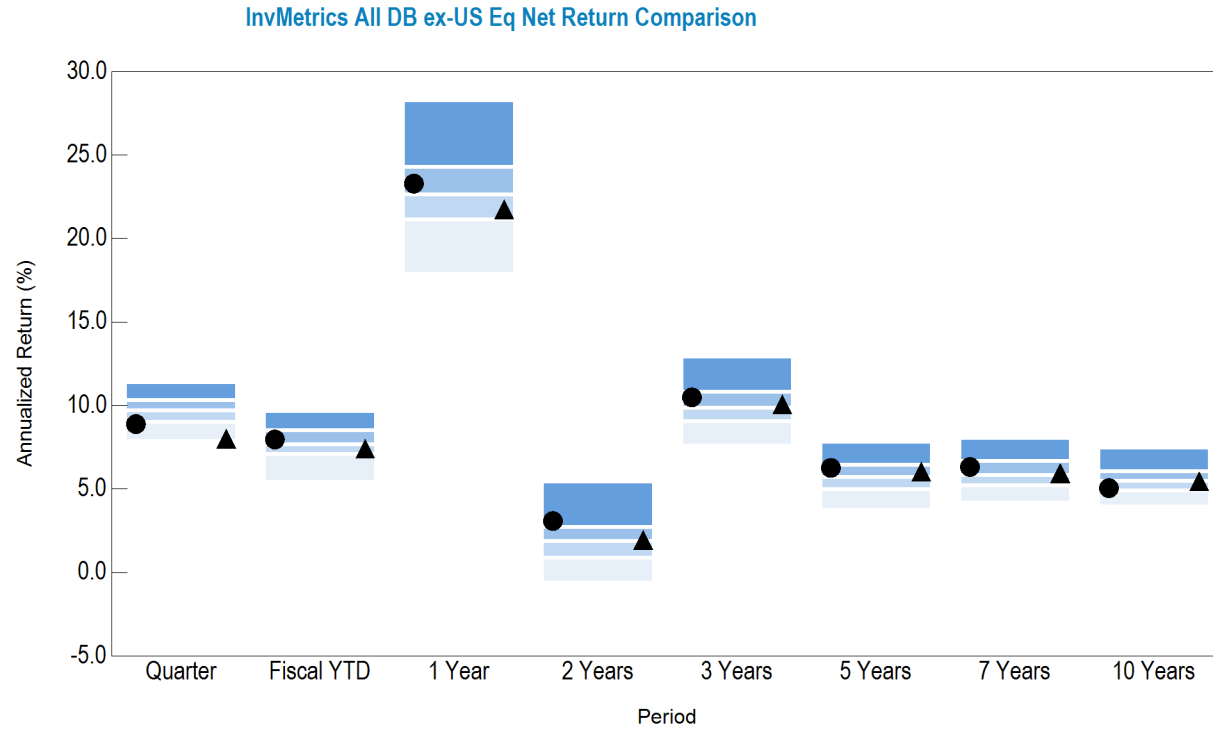
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	10.5%	11.2%	0.8	0.3	1.4%
Blended International Equity Index	10.1%	11.2%	0.8	--	0.0%
Developed Markets	10.8%	11.6%	0.8	0.2	1.8%
MSCI ACWI ex USA Gross	10.4%	11.5%	0.8	--	0.0%
Baillie Gifford	13.6%	13.1%	0.9	0.7	4.8%
MSCI ACWI ex US	10.4%	11.5%	0.8	--	0.0%
BlackRock EAFE Index	10.0%	11.0%	0.8	1.8	0.2%
MSCI EAFE	9.6%	11.0%	0.7	--	0.0%
Mondrian	8.8%	11.9%	0.6	0.4	3.1%
MSCI ACWI ex USA Value Gross	7.5%	11.9%	0.5	--	0.0%
Emerging Markets	7.9%	12.4%	0.5	-1.1	3.8%
MSCI Emerging Markets Gross	12.0%	14.4%	0.7	--	0.0%
Parametric Core	7.9%	12.4%	0.5	-1.1	3.8%
MSCI Emerging Markets Gross	12.0%	14.4%	0.7	--	0.0%

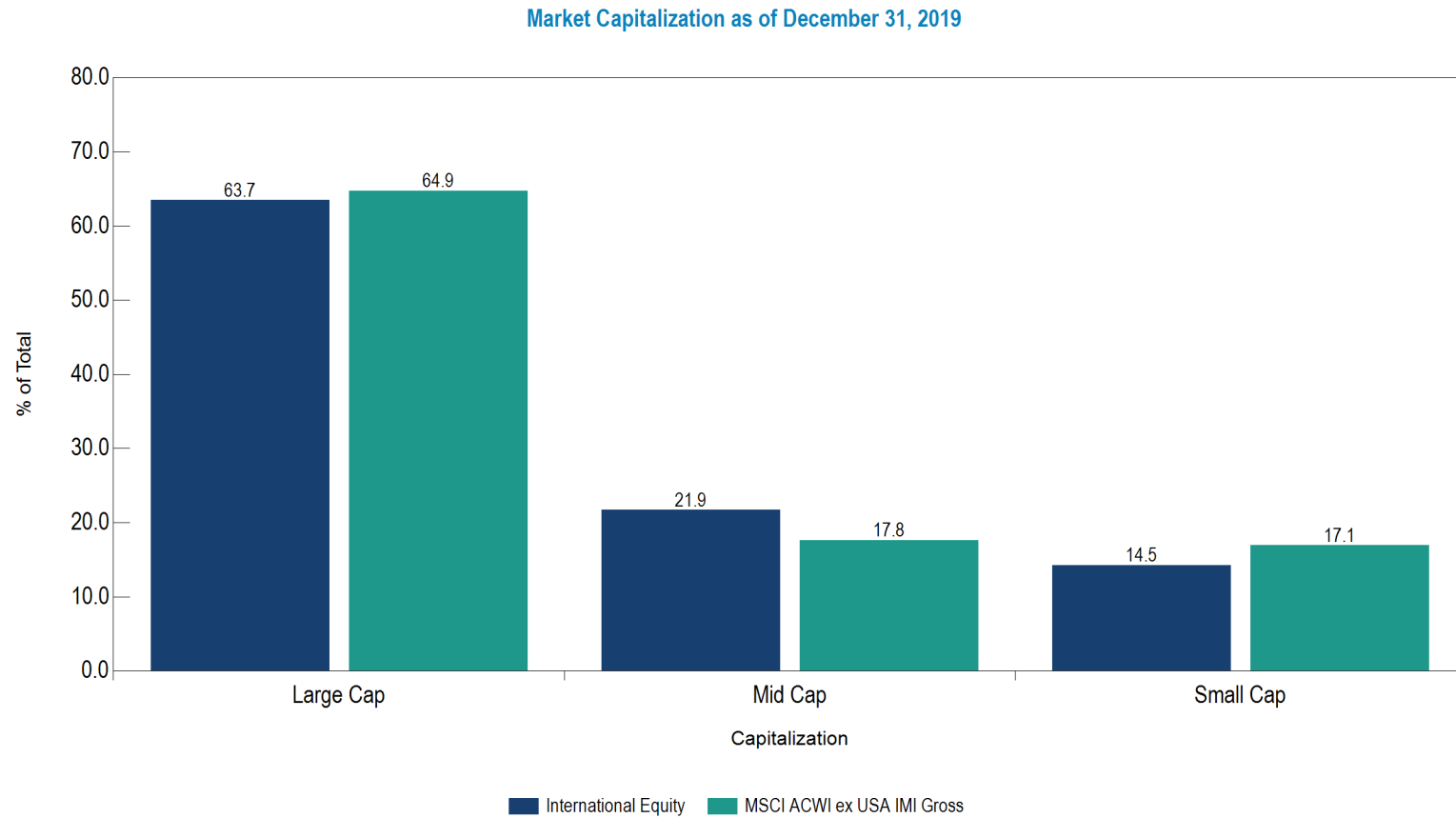
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	6.3%	12.1%	0.4	0.1	1.6%
Blended International Equity Index	6.0%	12.3%	0.4	--	0.0%
Developed Markets	6.6%	12.4%	0.4	0.3	2.1%
MSCI ACWI ex USA Gross	6.0%	12.5%	0.4	--	0.0%
Baillie Gifford	8.4%	13.9%	0.5	0.5	4.6%
MSCI ACWI ex US	6.0%	12.5%	0.4	--	0.0%
BlackRock EAFE Index	6.0%	12.3%	0.4	2.0	0.2%
MSCI EAFE	5.7%	12.2%	0.4	--	0.0%
Mondrian	5.0%	12.2%	0.3	0.2	4.3%
MSCI ACWI ex USA Value Gross	4.3%	13.3%	0.2	--	0.0%
Emerging Markets	3.6%	14.0%	0.2	-0.6	4.0%
MSCI Emerging Markets Gross	6.0%	15.8%	0.3	--	0.0%



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	11.4	9.7	28.2	5.4	12.9	7.8	8.0	7.5
25th Percentile	10.4	8.5	24.3	2.8	10.8	6.5	6.7	6.1
Median	9.7	7.7	22.6	1.9	9.9	5.8	5.8	5.5
75th Percentile	9.0	7.1	21.2	0.9	9.1	5.0	5.2	4.9
95th Percentile	7.9	5.4	17.9	-0.6	7.6	3.8	4.2	4.0
# of Portfolios	363	361	361	354	343	328	285	212
● International Equity	8.9 (84)	8.0 (44)	23.3 (42)	3.1 (21)	10.5 (31)	6.3 (30)	6.3 (36)	5.0 (69)
▲ Blended International Equity Index	8.0 (95)	7.4 (61)	21.8 (62)	1.9 (49)	10.1 (42)	6.0 (36)	5.9 (48)	5.5 (52)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	MSCI ACWI ex USA IMI Gross
Number of Holdings	2,141	6,587
Weighted Avg. Market Cap. (\$B)	55.6	64.4
Median Market Cap. (\$B)	7.3	1.7
Price To Earnings	17.5	16.2
Price To Book	2.5	2.4
Price To Sales	1.1	1.1
Return on Equity (%)	15.0	14.5
Yield (%)	2.9	3.0
Beta (holdings; global)	1.0	0.9

Top Holdings

UNITED OVERSEAS BANK	1.3%
ALIBABA GROUP HOLDING ADR 1:8	1.2%
TAIWAN SEMICON.SPN.ADR 1:5	0.9%
GLAXOSMITHKLINE	0.9%
SANOFI	0.9%
NOVARTIS 'R'	0.9%
ASML HOLDING	0.9%
AIA GROUP	0.9%
LLOYDS BANKING GROUP	0.8%
TAKEDA PHARMACEUTICAL	0.8%

Best Performers

	Return %
HLB (KO:KPI)	96.8%
IMPD.DSRRL.ECO.DE AMLAT. DE CV (MX:IDL)	90.1%
TRG PAKISTAN (PK:TRG)	88.5%
SIBANYE GOLD (R:SGLJ)	85.5%
SILLAJEN (KO:JLS)	84.9%
IS GAYMEN.YATOTA. (TK:IGY)	72.2%
CENTRAL PUERTO ADR 1:10 (CEPU)	69.7%
MITSUBISHI TANABE PHARMA (J:EF@N)	68.5%
BUMI ARMADA (L:ARMO)	66.9%
AAC TECHNOLOGIES (HSC) HOLDINGS (K:AACAS)	64.9%

Worst Performers

	Return %
CENTRAL PLAZA HOTEL FB (Q:CENF)	-71.4%
MANILA WATER (PH:MWC)	-46.3%
TELKOM SA SOC (R:TKGJ)	-45.7%
HANSON INTERNATIONAL (ID:MAT)	-44.4%
SINO-THAI ENGR.CON. FB (Q:STFF)	-43.8%
SALFA CORPORATION (CL:SSA)	-42.1%
BEIJING ENTERPRISE CLEAN ENERGY GP (K:JCCI)	-38.8%
RIPLEY CORPORATION (CL:RPY)	-37.3%
IMPERIAL PAC.INTL.HDG. (K:FNAT)	-35.2%
PPC (R:PPCJ)	-32.4%

International Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.1%	-0.1%	0.1%	0.0%	5.7%	6.9%	4.7%	6.3%			
Materials	-0.1%	0.0%	0.0%	-0.1%	11.6%	11.1%	5.6%	7.8%			
Industrials	0.3%	0.1%	0.0%	0.1%	11.8%	10.3%	14.0%	12.9%			
Consumer Discretionary	0.1%	0.0%	0.0%	0.1%	11.5%	11.4%	12.8%	11.6%			
Consumer Staples	0.1%	0.2%	0.0%	-0.1%	3.4%	2.4%	9.6%	9.5%			
Health Care	0.1%	0.0%	0.0%	0.0%	12.7%	12.8%	9.4%	8.2%			
Financials	0.0%	0.1%	0.0%	-0.1%	8.7%	8.3%	16.9%	20.2%			
Information Technology	0.3%	0.4%	0.0%	-0.1%	18.7%	15.3%	8.5%	9.0%			
Communication Services	0.2%	0.1%	0.0%	0.1%	10.4%	7.4%	7.2%	6.6%			
Utilities	0.1%	0.1%	0.0%	0.0%	9.7%	5.4%	3.3%	3.4%			
Real Estate	-0.1%	-0.1%	0.0%	0.0%	5.0%	7.3%	2.1%	4.4%			
Cash	-0.4%	0.0%	-0.4%	0.0%	0.4%	--	5.9%	0.0%			
Unclassified	0.0%	--	0.0%	--	--	9.3%	0.0%	0.0%			
Portfolio	0.5%	=	0.9%	+	-0.2%	+	-0.1%	9.8%	9.3%	100.0%	100.0%

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

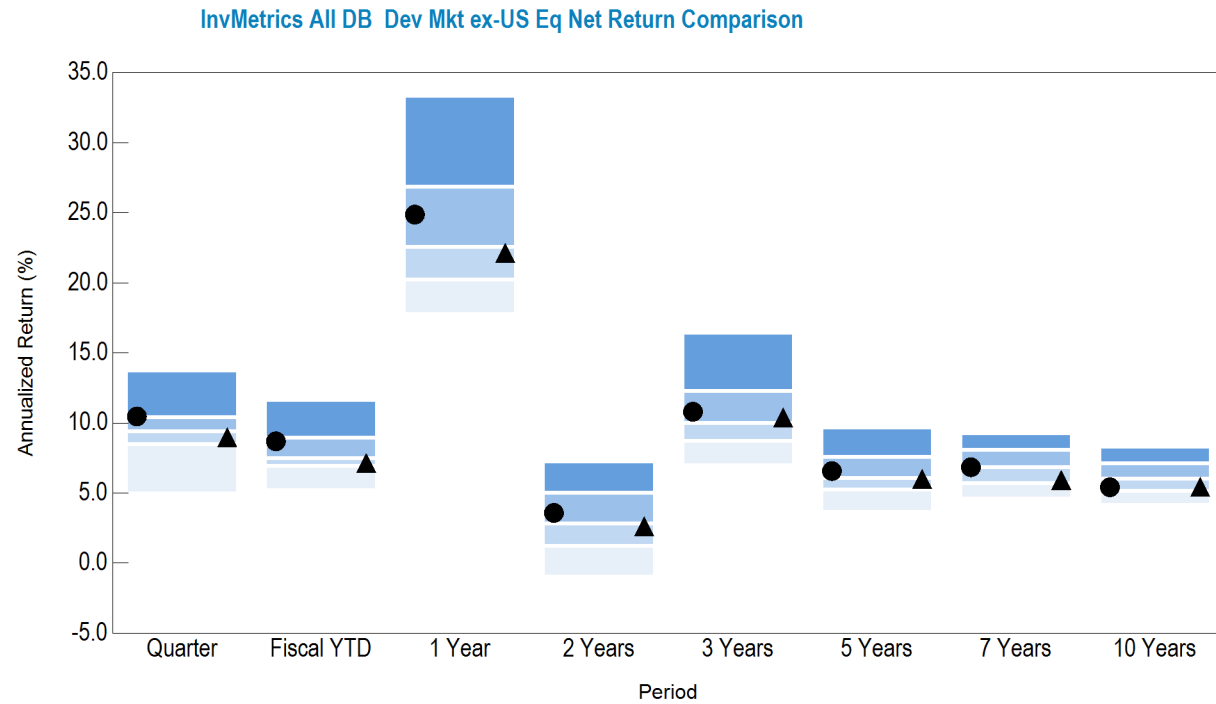
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	8.1%	9.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Belgium	-1.3%	3.0%	0.3%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	9.4%	9.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Denmark	9.6%	13.4%	1.3%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Finland	9.7%	4.8%	0.6%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
France	9.8%	8.7%	5.3%	6.8%	0.1%	0.0%	0.0%	0.0%	0.0%
Germany	11.7%	10.4%	6.9%	5.5%	0.1%	0.0%	0.0%	0.0%	0.1%
Greece*	11.9%	11.8%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Hungary*	20.9%	20.9%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Ireland	24.1%	16.6%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Italy	5.7%	8.9%	1.7%	1.7%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Luxembourg	-3.6%	9.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	7.9%	7.9%	2.6%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Norway	4.5%	8.4%	0.2%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	8.7%	5.4%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Portugal	-1.3%	8.8%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Russia*	17.8%	17.3%	0.9%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Spain	7.8%	6.6%	2.1%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Sweden	15.0%	14.6%	2.8%	2.1%	0.0%	0.0%	0.0%	0.0%	0.1%
Switzerland	10.1%	8.0%	4.8%	5.8%	0.1%	0.0%	0.0%	0.0%	0.1%
United Kingdom	14.5%	11.4%	13.2%	11.0%	0.3%	-0.1%	0.2%	0.1%	0.5%

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	5.1%	4.3%	3.6%	4.8%	0.0%	0.1%	-0.1%	0.0%	0.1%
China*	14.7%	14.5%	3.7%	7.7%	0.0%	-0.3%	0.0%	0.0%	-0.3%
Hong Kong	10.6%	7.6%	4.4%	2.3%	0.1%	0.0%	0.0%	0.1%	0.2%
India*	5.0%	5.6%	3.2%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Indonesia*	5.3%	6.0%	0.4%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Japan	8.3%	7.8%	18.2%	17.3%	0.1%	0.0%	0.0%	0.0%	0.1%
Korea*	12.1%	11.9%	1.8%	3.2%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Malaysia*	2.4%	3.4%	0.7%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	17.3%	13.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Pakistan*	27.3%	27.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Philippines*	0.5%	2.4%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	6.4%	7.6%	2.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Taiwan*	19.7%	16.6%	2.2%	3.1%	0.1%	-0.1%	-0.1%	0.0%	0.0%
Thailand*	-0.7%	-1.2%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Americas									
Argentina*	24.4%	21.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Brazil*	16.2%	15.5%	1.8%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Canada	14.1%	5.9%	1.2%	7.0%	0.7%	0.2%	-0.1%	-0.5%	0.1%
Chile*	-11.4%	-10.6%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Colombia*	11.4%	14.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Mexico*	5.7%	6.8%	1.1%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru*	2.8%	6.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
United States	15.2%	9.2%	1.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%

Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	-2.3%	1.7%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Israel	8.5%	7.9%	0.1%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Kuwait**	9.8%	9.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	3.2%	1.9%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	6.0%	9.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Saudi Arabia*	--	4.1%	0.0%	0.6%	--	0.0%	0.0%	--	0.0%
South Africa*	12.9%	13.6%	1.1%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Turkey*	4.8%	1.6%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	-0.2%	-1.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	11.7%	7.6%	6.0%	10.1%	0.5%	0.1%	-0.1%	-0.2%	0.2%
Europe	11.6%	9.9%	44.5%	42.7%	0.6%	0.0%	0.2%	0.0%	0.8%
Asia/Pacific	9.0%	9.1%	41.5%	44.1%	0.1%	0.0%	-0.2%	0.0%	-0.1%
Other	8.9%	8.1%	2.1%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.4%	--	5.9%	0.0%	0.0%	-0.4%	0.0%	0.0%	-0.4%
Total	9.8%	9.3%	100.0%	100.0%	1.2%	-0.3%	-0.2%	-0.2%	0.6%
Totals									
Developed	10.3%	8.5%	74.2%	74.4%	1.3%	0.0%	0.0%	0.0%	1.3%
Emerging*	10.9%	11.6%	19.8%	25.6%	-0.1%	-0.2%	-0.2%	0.0%	-0.4%
Frontier**	9.4%	--	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.4%	--	5.9%	0.0%	0.0%	-0.4%	0.0%	0.0%	-0.4%



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	13.7	11.6	33.3	7.2	16.4	9.7	9.3	8.3
25th Percentile	10.4	9.0	26.9	5.0	12.3	7.6	8.1	7.1
Median	9.4	7.5	22.6	2.9	10.0	6.1	6.9	6.0
75th Percentile	8.5	7.0	20.3	1.2	8.8	5.3	5.7	5.2
95th Percentile	5.0	5.2	17.8	-0.9	7.0	3.7	4.6	4.2
# of Portfolios	161	161	159	156	152	144	124	84
● Developed Markets	10.5 (23)	8.7 (34)	24.9 (37)	3.6 (39)	10.8 (40)	6.6 (39)	6.8 (52)	5.4 (69)
▲ MSCI ACWI ex USA Gross	9.0 (65)	7.1 (66)	22.1 (54)	2.6 (54)	10.4 (45)	6.0 (54)	5.9 (71)	5.4 (68)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	1,028	2,379
Weighted Avg. Market Cap. (\$B)	58.9	74.1
Median Market Cap. (\$B)	11.7	8.2
Price To Earnings	18.3	16.3
Price To Book	2.5	2.4
Price To Sales	1.1	1.2
Return on Equity (%)	15.1	15.1
Yield (%)	2.9	3.0
Beta (holdings; global)	1.0	0.9

Top Holdings

UNITED OVERSEAS BANK	1.4%
ALIBABA GROUP HOLDING ADR 1:8	1.3%
TAIWAN SEMICON.SPN.ADR 1:5	1.0%
GLAXOSMITHKLINE	1.0%
SANOFI	1.0%
NOVARTIS 'R'	1.0%
ASML HOLDING	1.0%
AIA GROUP	0.9%
LLOYDS BANKING GROUP	0.9%
TAKEDA PHARMACEUTICAL	0.9%

Best Performers

	Return %
mitsubishi tanabe pharma (J:EF@N)	68.5%
Z HOLDINGS (J:YHOO)	50.8%
EISAI (J:ES@N)	48.6%
ASOS (UKIR:ASC)	46.4%
TEVA PHARM.INDS.ADR 1:1 (TEVA)	42.4%
SHARP (J:SH@N)	40.2%
U-BLOX HOLDING (S:BHOL)	39.9%
BECHTLE (D:BC8)	39.6%
STMICROELECTRONICS (F:STM)	39.5%
FISHER & PAYKEL HLTHCR. (Z:FPHZ)	39.0%

Worst Performers

	Return %
NMC HEALTH (UKIR:NMC)	-29.9%
WISETECH GLOBAL (A:WTCX)	-29.9%
NOKIA (M:NOK1)	-27.0%
WIRECARD (D:WDI)	-24.7%
SUZUKEN (J:SKEN)	-23.4%
SES FDR (LX:SES)	-23.0%
BANK OF QLND. (A:BOQX)	-21.1%
1&1 DRILLISCH (D:DRI)	-18.0%
AIR WATER (J:QW@N)	-17.6%
RENAULT (F:RENU)	-17.5%

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.1%	-0.2%	0.1%	0.0%	4.7%	6.9%	4.4%	6.8%			
Materials	-0.1%	0.0%	0.0%	-0.1%	11.3%	10.7%	5.4%	7.5%			
Industrials	0.5%	0.2%	0.0%	0.2%	12.1%	9.6%	15.1%	12.0%			
Consumer Discretionary	0.2%	0.0%	0.1%	0.1%	11.7%	11.3%	14.0%	11.5%			
Consumer Staples	0.1%	0.2%	0.0%	-0.1%	3.4%	2.1%	10.0%	9.9%			
Health Care	0.1%	0.1%	0.1%	0.0%	12.6%	12.5%	10.4%	8.4%			
Financials	0.0%	0.1%	0.0%	-0.1%	8.7%	8.2%	17.9%	21.7%			
Information Technology	0.4%	0.4%	0.0%	-0.1%	19.2%	15.3%	9.4%	8.7%			
Communication Services	0.3%	0.1%	0.0%	0.1%	10.8%	7.2%	7.2%	6.9%			
Utilities	0.2%	0.1%	0.0%	0.0%	10.5%	4.9%	3.1%	3.5%			
Real Estate	-0.1%	-0.2%	0.0%	0.1%	2.7%	7.6%	1.7%	3.2%			
Cash	-0.1%	0.0%	-0.1%	0.0%	0.4%	--	1.5%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	1.5%	=	1.0%	+	0.2%	+	0.3%	10.4%	9.0%	100.0%	100.0%

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

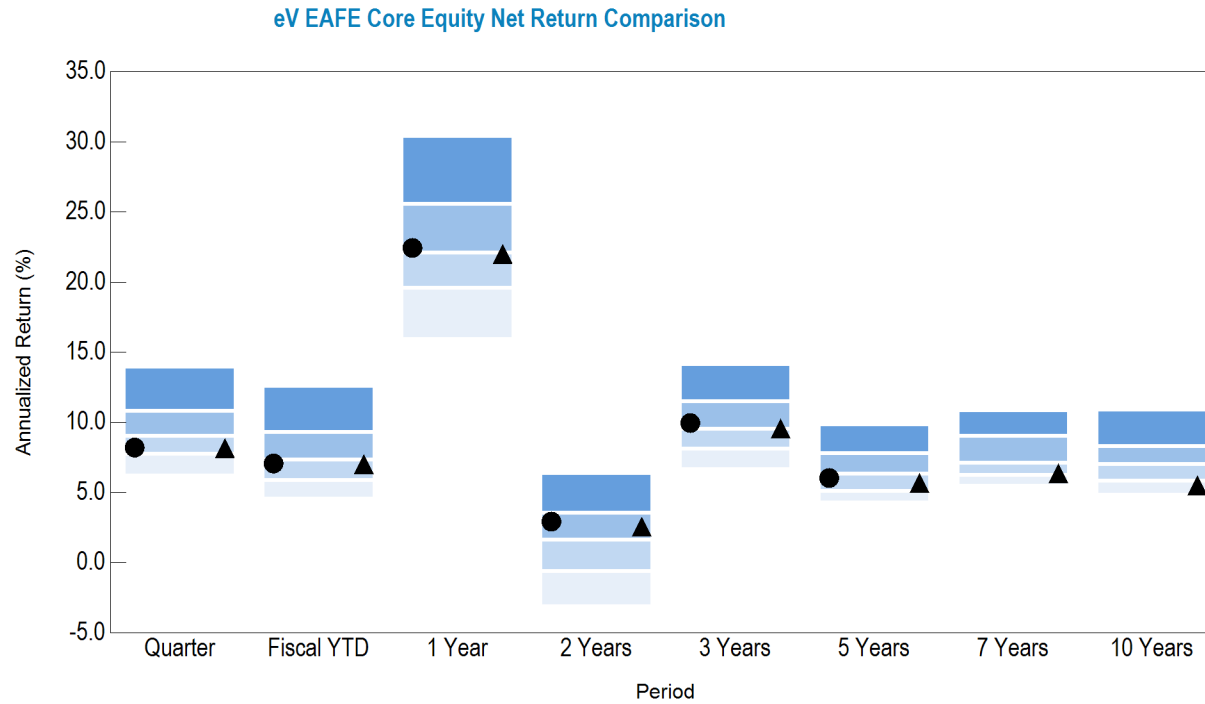
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	8.1%	8.2%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Belgium	-1.5%	-1.5%	0.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	--	9.3%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	9.6%	13.2%	1.6%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Finland	9.7%	3.1%	0.8%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
France	9.8%	8.6%	6.1%	7.5%	0.1%	0.0%	0.0%	0.0%	0.0%
Germany	11.7%	9.5%	8.0%	5.7%	0.1%	0.0%	0.1%	0.0%	0.3%
Greece*	--	13.1%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	22.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	24.1%	18.7%	0.5%	0.4%	0.0%	0.0%	0.0%	0.0%	0.1%
Italy	5.7%	8.5%	2.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Luxembourg	-7.3%	9.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	7.9%	7.4%	3.0%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Norway	4.5%	4.5%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	--	4.1%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	-1.3%	8.6%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Russia*	19.8%	18.0%	0.3%	1.0%	0.1%	-0.1%	0.0%	0.0%	-0.1%
Spain	7.8%	6.1%	2.4%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Sweden	15.0%	13.6%	3.3%	1.7%	0.0%	0.0%	0.1%	0.0%	0.2%
Switzerland	10.1%	7.7%	5.5%	6.2%	0.1%	0.0%	0.0%	0.0%	0.1%
United Kingdom	14.6%	10.1%	15.3%	10.8%	0.4%	-0.2%	0.4%	0.2%	0.9%

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	5.1%	4.4%	4.2%	4.7%	0.0%	0.0%	0.0%	0.0%	0.0%
China*	15.0%	14.8%	3.6%	8.6%	0.0%	-0.4%	0.0%	0.0%	-0.4%
Hong Kong	10.4%	7.7%	4.6%	2.5%	0.1%	0.0%	0.0%	0.1%	0.2%
India*	5.2%	5.6%	2.9%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Indonesia*	9.2%	7.8%	0.1%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Japan	8.3%	7.7%	21.1%	16.5%	0.1%	0.1%	0.0%	0.0%	0.2%
Korea*	14.0%	12.1%	1.3%	3.2%	0.1%	0.0%	-0.1%	0.0%	-0.1%
Malaysia*	1.4%	3.3%	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	17.3%	17.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Pakistan*	--	27.0%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Philippines*	--	2.9%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Singapore	6.4%	7.6%	2.7%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Taiwan*	24.2%	17.9%	1.8%	3.0%	0.2%	-0.1%	-0.1%	-0.1%	0.0%
Thailand*	-2.1%	-0.9%	0.1%	0.8%	0.0%	0.1%	0.0%	0.0%	0.0%
Americas									
Argentina*	--	18.1%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Brazil*	16.2%	14.3%	1.3%	2.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Canada	14.1%	5.3%	1.4%	6.9%	0.7%	0.2%	-0.1%	-0.6%	0.2%
Chile*	--	-9.6%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Colombia*	--	15.2%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	2.7%	6.3%	0.5%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru*	3.4%	6.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
United States	16.5%	9.2%	1.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	--	5.8%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	8.5%	8.1%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	4.1%	2.4%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	6.0%	9.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Saudi Arabia*	--	3.7%	0.0%	0.7%	--	0.0%	0.0%	--	0.0%
South Africa*	11.0%	12.1%	0.7%	1.4%	0.0%	0.0%	-0.1%	0.0%	0.0%
Turkey*	--	0.1%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
United Arab Emirates*	0.8%	-1.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	13.8%	6.9%	4.5%	10.1%	0.8%	0.1%	-0.2%	-0.4%	0.3%
Europe	11.5%	9.1%	50.1%	43.1%	0.9%	-0.1%	0.5%	0.1%	1.4%
Asia/Pacific	9.2%	9.4%	43.0%	43.8%	0.1%	0.0%	-0.2%	0.0%	-0.1%
Other	9.3%	7.5%	0.9%	3.0%	0.0%	0.1%	-0.1%	0.0%	0.0%
Cash	0.4%	--	1.5%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Total	10.4%	9.0%	100.0%	100.0%	1.7%	-0.1%	0.0%	-0.3%	1.5%
Totals									
Developed	10.3%	8.0%	85.2%	73.7%	1.6%	-0.1%	0.4%	0.3%	2.2%
Emerging*	12.6%	11.9%	13.3%	26.3%	0.4%	-0.4%	-0.4%	-0.2%	-0.6%
Frontier**	6.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.4%	--	1.5%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	14.0	12.6	30.4	6.4	14.1	9.8	10.9	10.9
25th Percentile	10.8	9.3	25.6	3.6	11.6	7.8	9.1	8.3
Median	9.1	7.4	22.2	1.6	9.6	6.4	7.1	7.1
75th Percentile	7.8	5.9	19.6	-0.6	8.2	5.1	6.3	5.9
95th Percentile	6.2	4.6	15.9	-3.1	6.7	4.3	5.5	4.9
# of Portfolios	149	147	147	145	144	123	106	86
● BlackRock EAFE Index	8.2 (69)	7.1 (60)	22.4 (48)	2.9 (33)	10.0 (47)	6.0 (57)	-- (--)	-- (--)
▲ MSCI EAFE	8.2 (69)	7.0 (62)	22.0 (53)	2.6 (37)	9.6 (50)	5.7 (64)	6.3 (73)	5.5 (87)

Characteristics

	Portfolio	MSCI EAFE
Number of Holdings	919	918
Weighted Avg. Market Cap. (\$B)	63.3	63.7
Median Market Cap. (\$B)	10.8	10.8
Price To Earnings	17.1	17.2
Price To Book	2.4	2.4
Price To Sales	1.1	1.1
Return on Equity (%)	14.3	14.4
Yield (%)	3.2	3.2
Beta (holdings; global)	1.0	0.9

Top Holdings

NESTLE 'R'	2.1%
ROCHE HOLDING	1.5%
NOVARTIS 'R'	1.3%
TOYOTA MOTOR	1.1%
HSBC HOLDINGS	1.1%
TOTAL	0.9%
ASTRAZENECA	0.9%
LVMH	0.9%
SAP	0.9%
AIA GROUP	0.9%

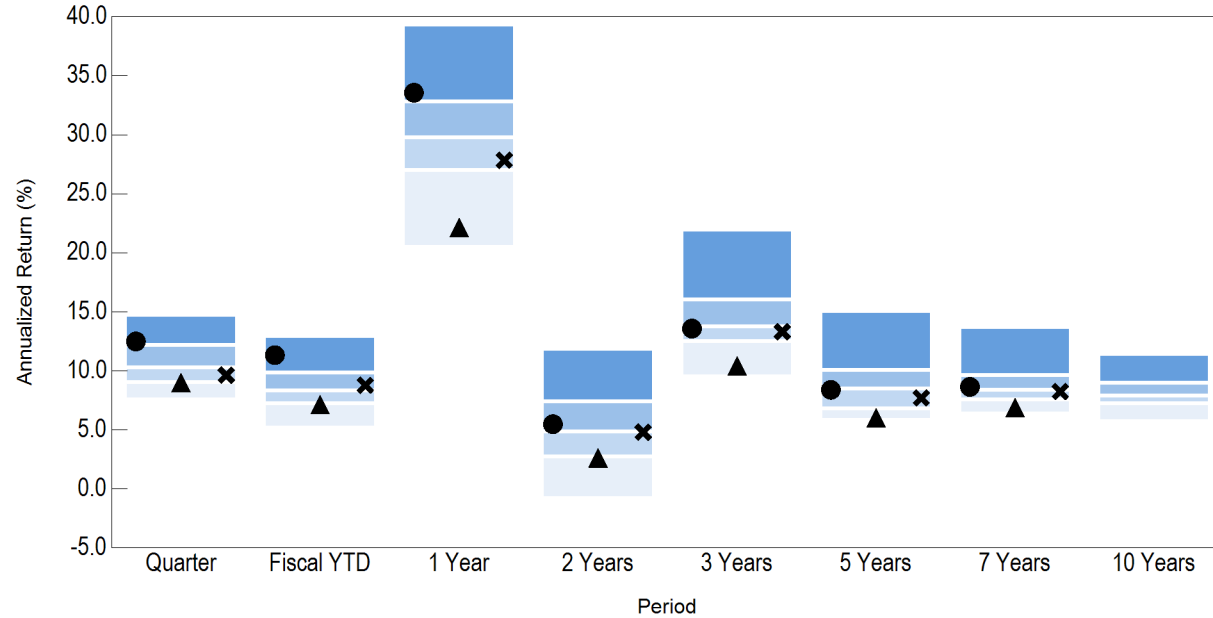
Best Performers

	Return %
MITSUBISHI TANABE PHARMA (J:EF@N)	68.5%
Z HOLDINGS (J:YHOO)	50.8%
EISAI (J:ES@N)	48.6%
TEVA PHARM.INDS.ADR 1:1 (TEVA)	42.4%
SHARP (J:SH@N)	40.2%
STMICROELECTRONICS (F:STM)	39.5%
FISHER & PAYKEL HLTHCR. (Z:FPHZ)	39.0%
BANK OF IRELAND GROUP (UKIR:BIRG)	38.1%
ILIAD (F:ILD)	38.0%
LINE (J:LINE)	37.7%

Worst Performers

	Return %
NMC HEALTH (UKIR:NMC)	-29.9%
WISETECH GLOBAL (A:WTCX)	-29.9%
NOKIA (M:NOK1)	-27.0%
WIRECARD (D:WDI)	-24.7%
SUZUKEN (J:SKEN)	-23.4%
SES FDR (LX:SES)	-23.0%
BANK OF QLND. (A:BOQX)	-21.1%
1&1 DRILLISCH (D:DRI)	-18.0%
AIR WATER (J:QW@N)	-17.6%
RENAULT (F:RENU)	-17.5%

eV ACWI ex-US Growth Equity Net Return Comparison



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	14.7	12.9	39.3	11.8	21.9	15.0	13.7	11.4
25th Percentile	12.2	9.9	32.8	7.4	16.1	10.1	9.6	9.0
Median	10.3	8.3	29.8	4.9	13.8	8.5	8.4	7.9
75th Percentile	9.1	7.3	27.0	2.7	12.5	6.9	7.6	7.3
95th Percentile	7.6	5.2	20.5	-0.8	9.5	5.9	6.4	5.7
# of Portfolios	75	75	75	71	69	61	52	42
● Baillie Gifford	12.5 (20)	11.3 (16)	33.6 (18)	5.5 (39)	13.6 (56)	8.4 (54)	8.6 (44)	-- (--)
▲ MSCI ACWI ex US	9.0 (77)	7.1 (77)	22.1 (94)	2.6 (77)	10.4 (92)	6.0 (95)	6.9 (88)	-- (--)
✕ MSCI ACWI ex US Growth	9.6 (70)	8.8 (42)	27.8 (70)	4.8 (51)	13.3 (63)	7.7 (64)	8.2 (55)	-- (--)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	90	2,379
Weighted Avg. Market Cap. (\$B)	53.7	74.1
Median Market Cap. (\$B)	15.9	8.2
Price To Earnings	26.9	16.3
Price To Book	3.9	2.4
Price To Sales	2.1	1.2
Return on Equity (%)	21.8	15.1
Yield (%)	1.4	3.0
Beta (holdings: global)	1.1	0.9

Top Holdings

TAIWAN SEMICON.SPN.ADR 1:5	3.1%
ALIBABA GROUP HOLDING ADR 1:8	2.8%
SHOPIFY 'A' (NYS)	2.4%
HARGREAVES LANSDOWN	2.2%
RIGHTMOVE	2.2%
ASML HOLDING	2.0%
SHISEIDO	2.0%
HOUSING DEVELOPMENT FINANCE CORPORATION	2.0%
AIA GROUP	2.0%
INDITEX	1.9%

Best Performers

	Return %
ASOS (UKIR:ASC)	46.4%
U-BLOX HOLDING (S:BHOL)	39.9%
BECHTLE (D:BC8)	39.6%
NIBE INDUSTRIER B (W:NIBE)	36.6%
XERO (A:XROX)	33.9%
SPOTIFY TECHNOLOGY (SPOT)	31.2%
NEMETSCHEK (D:NEM)	30.9%
ATLAS COPCO A (W:SR@G)	30.6%
TRAINLINE (UKIR:TRN)	30.1%
ATLAS COPCO B (W:ACBF)	29.4%

Worst Performers

	Return %
UNITED SPIRITS (IN:MLC)	-10.8%
SHISEIDO (J:SHDO)	-10.0%
PIGEON (J:PIGC)	-9.6%
TREASURY WINE ESTATES (A:TWEX)	-8.9%
JERONIMO MARTINS (P:JMT)	-2.5%
MAHINDRA AND MAHINDRA REG S GDR (UKIR:MHID)	-2.5%
WALMART DE MEXICO 'V' (MX:WAV)	-2.2%
SUGI HOLDINGS (J:SUGP)	-2.1%
SUZUKI MOTOR (J:IX@N)	-1.0%
PUBLIC BANK (L:PBOM)	-0.9%

Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.0%	0.2%	0.2%	-0.4%	12.8%	6.6%	0.5%	6.8%			
Materials	-0.3%	-0.1%	0.0%	-0.1%	7.9%	10.8%	4.6%	7.4%			
Industrials	1.3%	0.5%	0.1%	0.7%	15.3%	9.6%	18.3%	11.9%			
Consumer Discretionary	0.7%	0.1%	0.2%	0.4%	12.9%	11.3%	18.2%	11.6%			
Consumer Staples	-0.3%	0.1%	-0.2%	-0.1%	0.4%	2.0%	12.7%	9.9%			
Health Care	0.0%	0.1%	0.0%	-0.2%	12.3%	12.5%	8.4%	8.3%			
Financials	-0.2%	0.0%	0.1%	-0.3%	7.8%	8.2%	14.9%	21.7%			
Information Technology	1.6%	1.0%	0.3%	0.4%	26.0%	15.3%	12.0%	8.8%			
Communication Services	1.1%	0.8%	0.0%	0.3%	20.3%	7.0%	8.1%	6.9%			
Utilities	0.0%	--	0.1%	--	--	4.8%	0.0%	3.5%			
Real Estate	0.0%	--	0.0%	--	--	7.3%	0.0%	3.2%			
Cash	-0.1%	0.0%	-0.1%	0.0%	0.4%	--	2.2%	0.0%			
Portfolio	3.7%	=	2.6%	+	0.6%	+	0.5%	12.7%	8.9%	100.0%	100.0%

Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	--	8.0%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Belgium	--	-1.6%	0.0%	0.7%	--	0.1%	0.0%	--	0.1%
Czech Republic*	--	8.5%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	16.5%	13.1%	1.6%	1.2%	0.0%	0.0%	0.0%	0.0%	0.1%
Finland	14.9%	3.0%	1.2%	0.7%	0.1%	0.0%	0.0%	0.1%	0.1%
France	14.2%	8.5%	1.4%	7.5%	0.4%	0.1%	-0.2%	-0.3%	-0.1%
Germany	19.0%	9.8%	7.4%	5.7%	0.5%	0.0%	0.1%	0.2%	0.8%
Greece*	--	12.9%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	22.4%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	25.1%	18.6%	1.3%	0.4%	0.0%	0.1%	0.0%	0.1%	0.2%
Italy	--	8.5%	0.0%	1.6%	--	0.0%	-0.1%	--	0.0%
Netherlands	14.5%	7.6%	2.8%	2.6%	0.2%	0.0%	0.0%	0.0%	0.2%
Norway	--	4.5%	0.0%	0.4%	--	0.0%	0.0%	--	0.0%
Poland*	--	3.9%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	-2.5%	8.6%	1.3%	0.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Russia*	--	17.8%	0.0%	1.0%	--	-0.1%	0.0%	--	-0.1%
Spain	15.5%	6.0%	1.9%	1.9%	0.2%	0.0%	0.0%	0.0%	0.2%
Sweden	22.9%	13.5%	5.0%	1.7%	0.2%	0.1%	0.2%	0.3%	0.7%
Switzerland	11.8%	7.7%	3.1%	6.2%	0.3%	0.1%	-0.1%	-0.1%	0.1%
United Kingdom	16.2%	9.9%	13.9%	10.8%	0.7%	-0.1%	0.3%	0.2%	1.0%

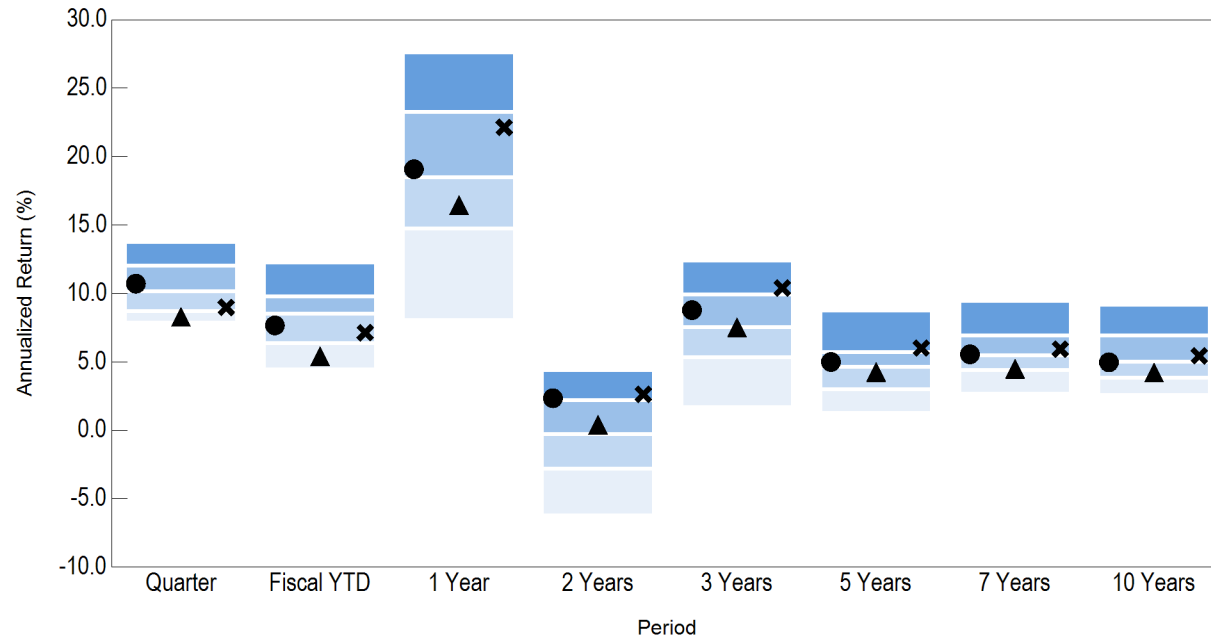
Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	5.9%	4.3%	4.5%	4.7%	0.1%	0.0%	0.0%	0.0%	0.1%
China*	17.6%	14.5%	6.6%	8.6%	0.3%	-0.2%	0.0%	-0.1%	0.0%
Hong Kong	13.2%	7.6%	3.0%	2.5%	0.1%	0.0%	0.0%	0.0%	0.2%
India*	5.7%	5.5%	5.3%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Indonesia*	--	7.3%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
Japan	5.8%	7.6%	20.0%	16.5%	-0.3%	0.1%	0.0%	-0.1%	-0.3%
Korea*	22.9%	12.2%	0.6%	3.2%	0.3%	-0.1%	-0.1%	-0.3%	-0.1%
Malaysia*	-0.9%	3.2%	0.9%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	2.3%	17.5%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Pakistan*	--	27.1%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Philippines*	--	3.0%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Singapore	4.3%	7.5%	3.4%	0.9%	0.0%	-0.1%	0.0%	-0.1%	-0.1%
Taiwan*	25.9%	18.0%	2.8%	3.0%	0.3%	0.0%	-0.1%	0.0%	0.2%
Thailand*	--	-0.8%	0.0%	0.8%	--	0.1%	0.0%	--	0.1%
Americas									
Argentina*	--	16.4%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Brazil*	20.8%	14.4%	1.5%	2.0%	0.1%	0.0%	0.0%	0.0%	0.1%
Canada	21.3%	5.0%	3.0%	6.9%	1.2%	0.1%	-0.1%	-0.7%	0.5%
Chile*	--	-9.6%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Colombia*	--	14.7%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	-2.2%	6.3%	0.7%	0.7%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Peru*	--	6.1%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
United States	16.7%	9.0%	3.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.3%

Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	--	5.8%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	--	7.7%	0.0%	0.4%	--	0.0%	0.0%	--	0.0%
Qatar*	--	2.4%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Saudi Arabia*	--	3.6%	0.0%	0.7%	--	0.0%	0.0%	--	0.0%
South Africa*	8.2%	12.9%	1.7%	1.4%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Turkey*	--	0.2%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
United Arab Emirates*	--	-1.1%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Totals									
Americas	17.6%	6.7%	8.1%	10.1%	1.2%	0.0%	-0.2%	-0.2%	0.9%
Europe	16.7%	9.1%	40.9%	43.1%	2.9%	0.0%	0.2%	-0.1%	3.0%
Asia/Pacific	9.1%	9.4%	47.0%	43.8%	0.1%	0.1%	-0.3%	0.0%	-0.1%
Other	8.2%	7.7%	1.7%	3.0%	-0.1%	0.0%	0.0%	0.1%	0.0%
Cash	0.4%	--	2.2%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Total	12.7%	8.9%	100.0%	100.0%	4.2%	0.1%	-0.2%	-0.3%	3.7%
Totals									
Developed	12.7%	7.9%	77.9%	73.6%	3.5%	-0.1%	0.2%	0.2%	3.9%
Emerging*	13.8%	11.7%	19.9%	26.4%	0.8%	-0.2%	-0.4%	-0.2%	0.0%
Cash	0.4%	--	2.2%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%

eV ACWI ex-US Value Equity Net Return Comparison



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	13.8	12.2	27.6	4.4	12.4	8.7	9.4	9.1
25th Percentile	12.1	9.8	23.3	2.2	10.0	5.8	6.9	6.9
Median	10.2	8.6	18.5	-0.3	7.5	4.6	5.5	5.0
75th Percentile	8.7	6.4	14.8	-2.8	5.4	3.0	4.4	3.8
95th Percentile	7.9	4.5	8.1	-6.2	1.7	1.3	2.7	2.6
# of Portfolios	36	36	36	34	34	32	26	19
● Mondrian	10.7 (40)	7.7 (59)	19.1 (46)	2.3 (23)	8.8 (32)	5.0 (41)	5.6 (47)	5.0 (55)
▲ MSCI ACWI ex USA Value Gross	8.3 (92)	5.4 (92)	16.5 (65)	0.4 (43)	7.5 (52)	4.3 (57)	4.5 (75)	4.2 (70)
✕ MSCI ACWI ex USA Gross	9.0 (71)	7.1 (70)	22.1 (38)	2.6 (21)	10.4 (21)	6.0 (22)	5.9 (43)	5.4 (45)

Characteristics

	Portfolio	MSCI ACWI ex USA Value Gross
Number of Holdings	122	1,466
Weighted Avg. Market Cap. (\$B)	59.7	52.7
Median Market Cap. (\$B)	23.0	7.3
Price To Earnings	14.4	12.3
Price To Book	1.8	1.7
Price To Sales	0.8	0.9
Return on Equity (%)	11.0	11.4
Yield (%)	4.1	4.3
Beta (holdings: global)	1.0	1.0

Top Holdings

SSE	2.5%
UNITED OVERSEAS BANK	2.4%
LLOYDS BANKING GROUP	2.3%
TAKEDA PHARMACEUTICAL	2.3%
GLAXOSMITHKLINE	2.3%
CK HUTCHISON HOLDINGS	2.3%
BANCO SANTANDER	2.2%
SANOFI	2.2%
SAINT GOBAIN	2.2%
FUJIFILM HOLDINGS	2.1%

Best Performers

	Return %
TRAVIS PERKINS (UKIR:TPK)	35.1%
SASOL (R:SOLJ)	30.0%
SOCIETE GENERALE (F:SGE)	27.0%
TAIWAN SEMICON.MNFG. (TW:TSM)	26.9%
ALIBABA GROUP HOLDING ADR 1:8 (BABA)	26.8%
INDIABULLS HOUSING FIN (IN:IEZ)	25.6%
ANGLO AMERICAN (UKIR:AAL)	24.8%
SSE (UKIR:SSE)	24.2%
LLOYDS BANKING GROUP (UKIR:LLOY)	24.1%
G4S (UKIR:GFS)	23.9%

Worst Performers

	Return %
LARSEN & TOUBRO (IN:LST)	-12.6%
INFOSYS ADR 1:1 (INFY)	-8.1%
H&R RLST.IT.STAPLE UNIT (C:HR.UN)	-5.4%
POWER GRID CORPORATION OF INDIA (IN:PGC)	-5.1%
BRILLIANCE CHINA AUTOMOTIVE HOLDINGS (K:CBA)	-3.5%
CSTCN.INTHDG. (K:CSCI)	-3.3%
ISS (DK:ISS)	-3.0%
DEUTSCHE TELEKOM (D:DTE)	-2.7%
KASIKORNBANK FB (Q:TFBF)	-2.1%
KOREA ZINC (KO:KRZ)	-1.9%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.2%	-0.2%	0.1%	0.0%	4.8%	6.3%	7.7%	11.0%			
Materials	-0.1%	0.9%	-0.1%	-0.8%	20.4%	10.7%	4.5%	9.3%			
Industrials	0.2%	0.0%	0.1%	0.2%	9.6%	8.9%	12.2%	8.8%			
Consumer Discretionary	0.3%	0.1%	0.1%	0.1%	10.2%	9.2%	12.5%	8.8%			
Consumer Staples	0.4%	0.2%	0.0%	0.2%	15.0%	9.2%	5.5%	2.9%			
Health Care	0.8%	0.1%	0.3%	0.4%	15.0%	12.7%	11.4%	4.7%			
Financials	-0.2%	0.4%	0.0%	-0.6%	9.5%	8.3%	20.6%	33.4%			
Information Technology	0.4%	0.2%	0.0%	0.2%	13.0%	10.2%	9.4%	3.8%			
Communication Services	0.0%	-0.1%	-0.1%	0.1%	4.8%	4.8%	8.1%	7.0%			
Utilities	0.7%	0.4%	0.0%	0.2%	15.2%	4.5%	5.5%	5.8%			
Real Estate	-0.3%	-0.6%	0.0%	0.4%	-3.3%	9.1%	1.7%	4.4%			
Cash	-0.1%	0.0%	-0.1%	0.0%	0.4%	--	0.9%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	1.9%	=	1.4%	+	0.2%	+	0.3%	10.2%	8.3%	100.0%	100.0%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	--	11.2%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Belgium	--	11.0%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
Czech Republic*	--	12.3%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	-3.0%	17.7%	1.4%	0.2%	0.0%	0.1%	0.0%	-0.2%	-0.1%
Finland	--	-0.5%	0.0%	0.9%	--	0.1%	0.0%	--	0.0%
France	11.1%	7.6%	5.7%	6.9%	0.2%	0.0%	0.0%	0.0%	0.2%
Germany	7.3%	8.9%	8.4%	5.7%	-0.1%	0.0%	0.1%	0.0%	0.0%
Greece*	--	14.3%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	15.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	--	30.3%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Italy	4.0%	8.1%	3.8%	2.4%	-0.1%	0.0%	0.0%	-0.1%	-0.1%
Netherlands	1.3%	12.5%	1.9%	0.8%	-0.1%	0.0%	0.0%	-0.1%	-0.1%
Norway	--	2.2%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
Poland*	--	6.9%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	--	11.7%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Russia*	19.8%	21.0%	0.9%	1.1%	0.0%	0.0%	-0.1%	0.0%	0.0%
Spain	3.9%	3.5%	2.5%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Sweden	-1.4%	9.1%	2.3%	1.4%	-0.1%	0.0%	0.0%	-0.1%	-0.2%
Switzerland	14.2%	10.5%	4.3%	3.2%	0.1%	0.0%	0.0%	0.0%	0.2%
United Kingdom	16.1%	11.0%	17.7%	14.6%	0.7%	-0.1%	0.3%	0.1%	1.1%

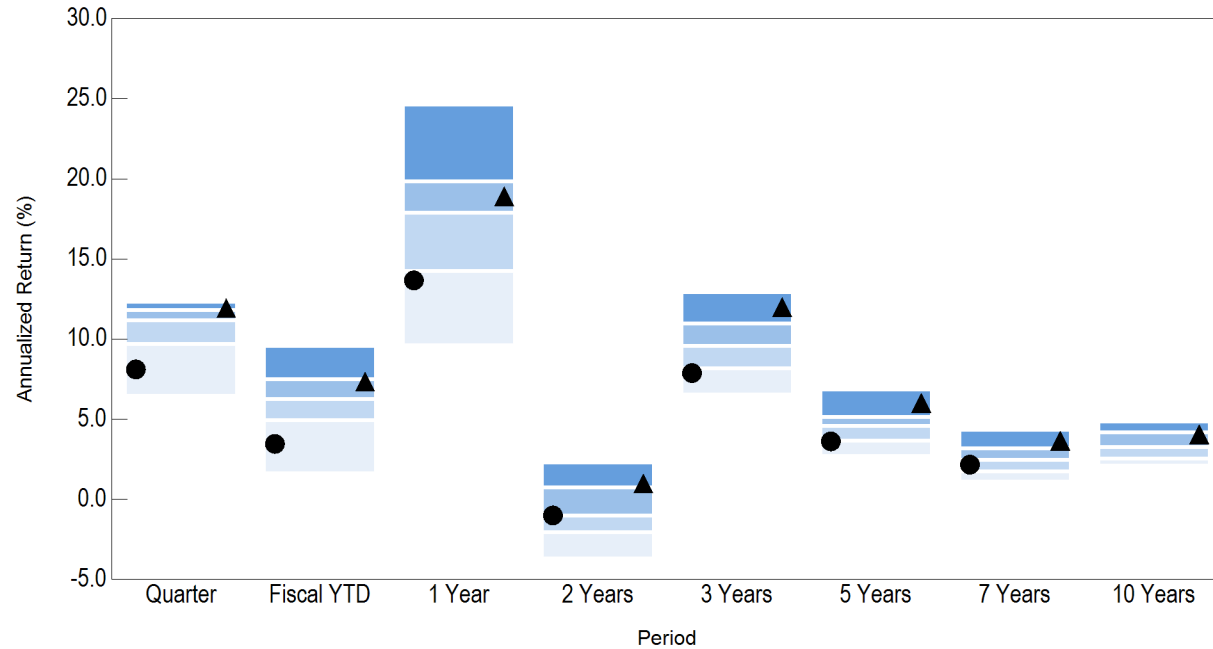
Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
AsiaPacific									
Australia	6.9%	0.8%	1.0%	4.9%	0.3%	0.3%	-0.2%	-0.2%	0.2%
China*	11.0%	10.4%	4.3%	8.8%	0.1%	-0.2%	0.0%	0.0%	-0.2%
Hong Kong	11.8%	5.2%	6.3%	2.5%	0.2%	0.0%	0.0%	0.3%	0.4%
India*	4.2%	7.0%	3.3%	2.3%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Indonesia*	9.2%	5.0%	0.4%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Japan	11.8%	7.0%	19.0%	16.9%	0.8%	0.1%	0.0%	0.1%	0.9%
Korea*	12.5%	9.1%	3.4%	3.2%	0.1%	0.0%	0.0%	0.0%	0.1%
Malaysia*	4.5%	3.7%	0.7%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	--	4.8%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Pakistan*	--	24.7%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Philippines*	--	2.6%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Singapore	8.3%	7.4%	3.3%	0.9%	0.0%	0.0%	0.1%	0.0%	0.1%
Taiwan*	22.2%	12.2%	2.5%	3.0%	0.3%	0.0%	0.0%	0.0%	0.2%
Thailand*	-2.1%	-0.2%	0.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Americas									
Argentina*	--	21.1%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Brazil*	13.4%	15.9%	2.5%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Canada	-5.4%	5.2%	1.2%	7.1%	-0.7%	0.1%	-0.1%	0.6%	-0.1%
Chile*	--	-8.9%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Colombia*	--	16.4%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	6.7%	5.6%	0.9%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru*	3.4%	5.6%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	--	2.7%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	--	12.5%	0.0%	0.4%	--	0.0%	0.0%	--	0.0%
Qatar*	4.1%	4.0%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	6.0%	8.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Saudi Arabia*	--	4.7%	0.0%	0.7%	--	0.0%	0.0%	--	0.0%
South Africa*	30.0%	10.7%	0.3%	1.5%	0.3%	0.0%	-0.1%	-0.2%	0.0%
Turkey*	--	-1.4%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
United Arab Emirates*	0.8%	-0.6%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	7.0%	7.0%	4.7%	10.2%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Europe	10.4%	9.4%	49.0%	41.9%	0.4%	0.0%	0.4%	0.1%	0.8%
Asia/Pacific	11.2%	7.2%	44.6%	44.7%	1.9%	0.0%	-0.1%	0.0%	1.8%
Other	12.5%	7.7%	0.7%	3.2%	0.2%	0.0%	-0.1%	-0.1%	0.0%
Cash	0.4%	--	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	10.5%	8.1%	100.0%	100.0%	2.4%	0.0%	0.0%	-0.1%	2.4%
Totals									
Developed	10.4%	7.5%	78.9%	73.2%	2.0%	0.0%	0.2%	0.2%	2.4%
Emerging*	11.6%	9.7%	20.1%	26.8%	0.6%	-0.1%	-0.2%	-0.1%	0.1%
Frontier**	6.0%	--	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.4%	--	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

InvMetrics All DB Emg Mkt Eq Net Return Comparison



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	12.3	9.5	24.6	2.3	12.9	6.8	4.3	4.8
25th Percentile	11.8	7.5	19.9	0.7	11.0	5.2	3.2	4.2
Median	11.2	6.3	17.9	-1.0	9.6	4.6	2.5	3.3
75th Percentile	9.7	4.9	14.3	-2.1	8.2	3.7	1.8	2.6
95th Percentile	6.5	1.6	9.6	-3.7	6.6	2.7	1.1	2.1
# of Portfolios	86	86	86	83	79	73	60	19
● Emerging Markets	8.1 (89)	3.4 (85)	13.7 (80)	-1.0 (51)	7.9 (79)	3.6 (78)	2.1 (58)	-- (--)
▲ MSCI Emerging Markets Gross	11.9 (15)	7.3 (26)	18.9 (33)	1.0 (23)	12.0 (12)	6.0 (13)	3.6 (16)	4.0 (30)

eV Emg Mkts Equity Net Return Comparison



	Return (Rank)											
5th Percentile	14.0	11.3	29.7	4.8	15.6	8.7	7.4	6.9				
25th Percentile	12.4	8.7	23.8	1.8	13.2	6.8	4.9	5.5				
Median	11.4	7.0	19.3	0.1	10.7	5.5	3.8	4.4				
75th Percentile	9.6	5.0	15.6	-1.6	9.0	4.4	3.0	3.6				
95th Percentile	6.0	1.0	10.1	-5.6	6.2	2.2	1.3	2.7				
# of Portfolios	218	217	216	207	199	173	142	84				
● Parametric Core	8.1 (87)	3.4 (87)	13.7 (84)	-1.0 (66)	7.9 (88)	-- (--)	-- (--)	-- (--)				
▲ MSCI Emerging Markets Gross	11.9 (34)	7.3 (46)	18.9 (55)	1.0 (35)	12.0 (37)	6.0 (38)	3.6 (58)	4.0 (64)				

Characteristics

	Portfolio	MSCI Emerging Markets Gross
Number of Holdings	1,173	1,371
Weighted Avg. Market Cap. (\$B)	25.7	106.2
Median Market Cap. (\$B)	3.3	5.9
Price To Earnings	13.5	15.0
Price To Book	2.3	2.6
Price To Sales	1.0	1.3
Return on Equity (%)	14.8	17.0
Yield (%)	3.3	2.7
Beta (holdings; global)	0.7	1.0

Top Holdings

PJSC GAZPROM ADR (OTC) CDI 1:2	1.1%
SBERBANK OF RUSSIA	1.1%
LUKOIL OAO SPN.ADR 1:1	0.9%
CREDICORP	0.8%
AMERICA MOVIL SAB DE CV SPN.ADR 'L' 1:20	0.7%
SAMSUNG ELECTRONICS	0.7%
TAIWAN SEMICON.MNFG.	0.6%
GPO FINANCE BANORTE	0.6%
PJSC MMC NORILSK NICKEL SPN.ADR 10:1	0.6%
MTN GROUP	0.6%

Best Performers

	Return %
HLB (KO:KPI)	96.8%
IMPD.DSRRL.ECO.DE AMLAT. DE CV (MX:IDL)	90.1%
TRG PAKISTAN (PK:TRG)	88.5%
SIBANYE GOLD (R:SGLJ)	85.5%
SILLAJEN (KO:JLS)	84.9%
IS GAYMEN.YATOTA. (TK:IGY)	72.2%
CENTRAL PUERTO ADR 1:10 (CEPU)	69.7%
BUMI ARMADA (L:ARMO)	66.9%
AAC TECHNOLOGIES (HSC) HOLDINGS (K:AACAS)	64.9%
IMPALA PLATINUM (R:IMPJ)	63.3%

Worst Performers

	Return %
CENTRAL PLAZA HOTEL FB (Q:CENF)	-71.4%
MANILA WATER (PH:MWC)	-46.3%
TELKOM SA SOC (R:TKGJ)	-45.7%
HANSON INTERNATIONAL (ID:MAT)	-44.4%
SINO-THAI ENGR.CON. FB (Q:STFF)	-43.8%
SALFA CORPORATION (CL:SSA)	-42.1%
BEIJING ENTERPRISE CLEAN ENERGY GP (K:JCCI)	-38.8%
RIPLEY CORPORATION (CL:RPY)	-37.3%
IMPERIAL PAC.INTL.HDG. (K:FNAT)	-35.2%
PPC (R:PPCJ)	-32.4%

Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.0%	0.0%	0.0%	0.0%	9.8%	10.2%	9.9%	7.7%			
Materials	0.2%	0.1%	0.0%	0.1%	13.3%	11.9%	10.4%	7.5%			
Industrials	-0.1%	0.0%	-0.2%	0.1%	7.2%	7.2%	10.2%	5.4%			
Consumer Discretionary	-1.0%	-1.1%	-0.3%	0.4%	9.1%	16.8%	8.4%	13.3%			
Consumer Staples	-0.2%	0.0%	-0.4%	0.1%	3.5%	3.1%	10.5%	6.6%			
Health Care	0.1%	-0.1%	0.1%	0.0%	13.5%	14.9%	4.9%	2.7%			
Financials	-0.2%	-0.4%	0.2%	0.0%	8.4%	9.7%	15.8%	24.9%			
Information Technology	-1.4%	-1.3%	-0.6%	0.5%	8.9%	18.6%	4.8%	14.5%			
Communication Services	-0.2%	-0.3%	0.0%	0.1%	8.0%	10.1%	11.0%	11.6%			
Utilities	-0.1%	0.0%	-0.3%	0.1%	6.5%	4.6%	6.9%	2.8%			
Real Estate	-0.2%	-0.2%	0.2%	-0.2%	10.5%	17.9%	6.6%	2.9%			
Cash	-0.1%	0.0%	-0.1%	0.0%	0.4%	--	0.6%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	-3.2%	=	-3.2%	+	-1.2%	+	1.3%	8.7%	11.9%	100.0%	100.0%

Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

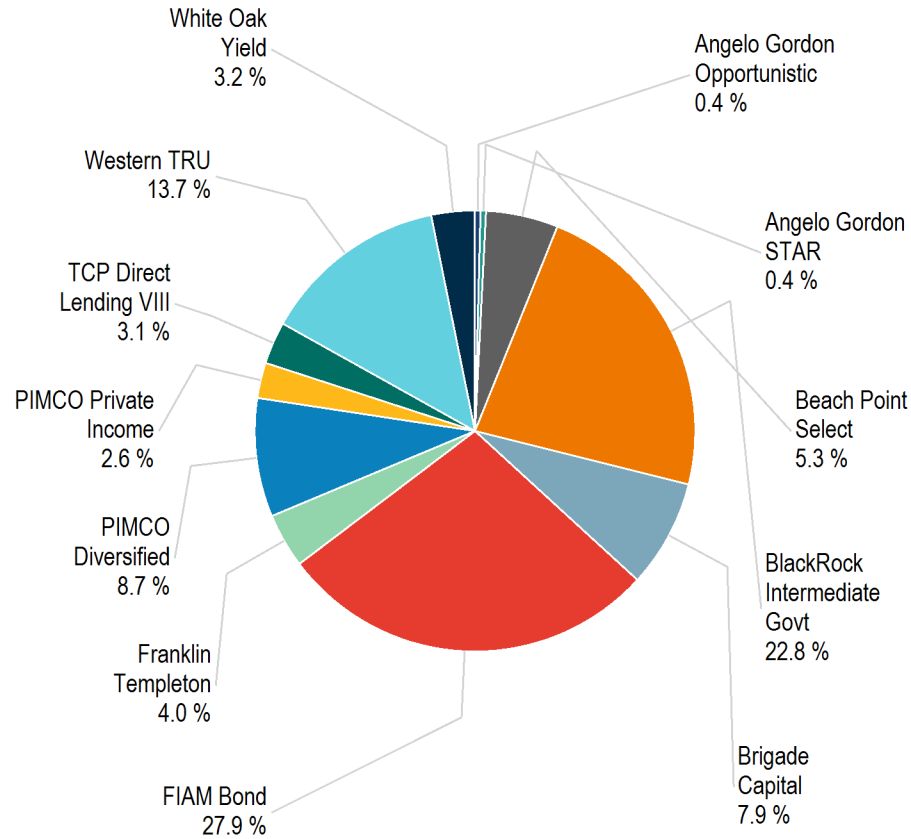
	Returns and Weights				Attribution Effects				Total Effects	
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect		
Europe										
Belgium	3.5%	-1.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	9.4%	9.3%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Greece*	11.9%	13.1%	1.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Hungary*	20.9%	22.0%	0.8%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Luxembourg	13.4%	11.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	5.4%	7.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	8.7%	4.1%	3.3%	1.0%	0.0%	-0.3%	0.1%	0.1%	0.0%	0.0%
Russia*	17.0%	18.0%	7.0%	4.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%
United Kingdom	13.9%	10.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AsiaPacific										
China*	13.4%	14.8%	6.3%	32.5%	-0.4%	-1.2%	-0.2%	0.3%	-1.5%	
Hong Kong	12.0%	7.7%	5.4%	0.0%	0.0%	-0.1%	0.0%	0.2%	0.1%	
India*	4.4%	5.6%	7.4%	8.4%	-0.1%	0.0%	0.0%	0.0%	0.0%	
Indonesia*	4.1%	7.8%	3.6%	2.1%	-0.1%	-0.1%	0.0%	-0.1%	-0.2%	
Korea*	8.7%	12.1%	6.8%	12.0%	-0.4%	0.1%	-0.2%	0.2%	-0.4%	
Malaysia*	3.7%	3.3%	3.2%	2.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%	
Pakistan*	27.3%	27.0%	0.7%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	
Philippines*	0.5%	2.9%	3.5%	1.1%	0.0%	-0.2%	0.1%	-0.1%	-0.2%	
Singapore	3.2%	7.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Taiwan*	9.8%	17.9%	7.4%	11.3%	-0.9%	-0.2%	-0.2%	0.3%	-0.9%	
Thailand*	-0.3%	-0.9%	3.5%	2.9%	0.0%	-0.1%	0.0%	0.0%	0.0%	
Americas										
Argentina*	24.4%	18.1%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
Brazil*	16.2%	14.3%	7.5%	7.5%	0.2%	0.0%	0.0%	0.0%	0.1%	
Chile*	-11.4%	-9.6%	3.4%	1.0%	0.0%	-0.4%	-0.1%	-0.1%	-0.5%	
Colombia*	11.4%	15.2%	1.8%	0.4%	0.0%	0.0%	0.1%	0.0%	0.0%	
Mexico*	7.9%	6.3%	6.8%	2.5%	0.1%	-0.3%	0.1%	0.1%	0.0%	
Peru*	2.6%	6.1%	1.4%	0.4%	0.0%	0.0%	0.0%	0.0%	-0.1%	
United States	8.5%	9.2%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	-2.3%	5.8%	0.8%	0.2%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Kuwait**	9.8%	11.9%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	3.1%	2.4%	1.7%	1.0%	0.0%	-0.1%	0.0%	0.0%	0.0%
Saudi Arabia*	--	3.7%	0.0%	2.5%	--	0.1%	0.0%	--	0.1%
South Africa*	14.7%	12.1%	6.3%	5.2%	0.1%	-0.1%	0.1%	0.0%	0.2%
Turkey*	4.8%	0.1%	1.9%	0.6%	0.0%	-0.1%	-0.1%	0.1%	0.0%
United Arab Emirates*	-0.8%	-1.1%	1.5%	0.7%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Totals									
Americas	8.0%	10.5%	23.5%	11.9%	-0.2%	-0.3%	0.1%	-0.1%	-0.5%
Europe	14.0%	15.3%	14.0%	5.7%	0.0%	0.1%	0.3%	0.0%	0.3%
Asia/Pacific	7.5%	12.4%	48.0%	72.2%	-3.6%	-0.3%	-0.4%	1.2%	-3.0%
Other	8.6%	7.4%	13.9%	10.1%	0.2%	-0.2%	0.0%	0.1%	0.1%
Cash	0.4%	--	0.6%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Total	8.7%	11.9%	100.0%	100.0%	-3.6%	-0.8%	0.0%	1.1%	-3.2%
Totals									
Developed	10.8%	--	8.4%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
Emerging*	8.5%	11.9%	89.3%	100.0%	-3.6%	0.0%	0.0%	0.4%	-3.3%
Frontier**	9.8%	--	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.4%	--	0.6%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%

Fixed Income
 Manager Allocation Analysis

Period Ending: December 31, 2019



	Actual \$	Actual %	Manager Contribution to Excess Return %
Angelo Gordon Opportunistic	\$4,346,389	0.4%	0.0%
Angelo Gordon STAR	\$3,678,183	0.4%	0.0%
Beach Point Select	\$55,137,254	5.3%	0.1%
BlackRock Intermediate Govt	\$236,638,615	22.8%	0.0%
Brigade Capital	\$81,482,442	7.9%	0.1%
FIAM Bond	\$289,118,024	27.9%	0.1%
Franklin Templeton	\$41,472,564	4.0%	0.0%
PIMCO Diversified	\$90,318,923	8.7%	0.0%
PIMCO Private Income	\$27,291,328	2.6%	0.0%
TCP Direct Lending VIII	\$32,550,535	3.1%	0.0%
Western TRU	\$142,225,506	13.7%	0.3%
White Oak Yield	\$32,692,859	3.2%	-0.1%
Actual vs. Policy Weight Difference			-0.2%
Total	\$1,036,952,624	100.0%	0.3%

Statistics Summary

3 Years

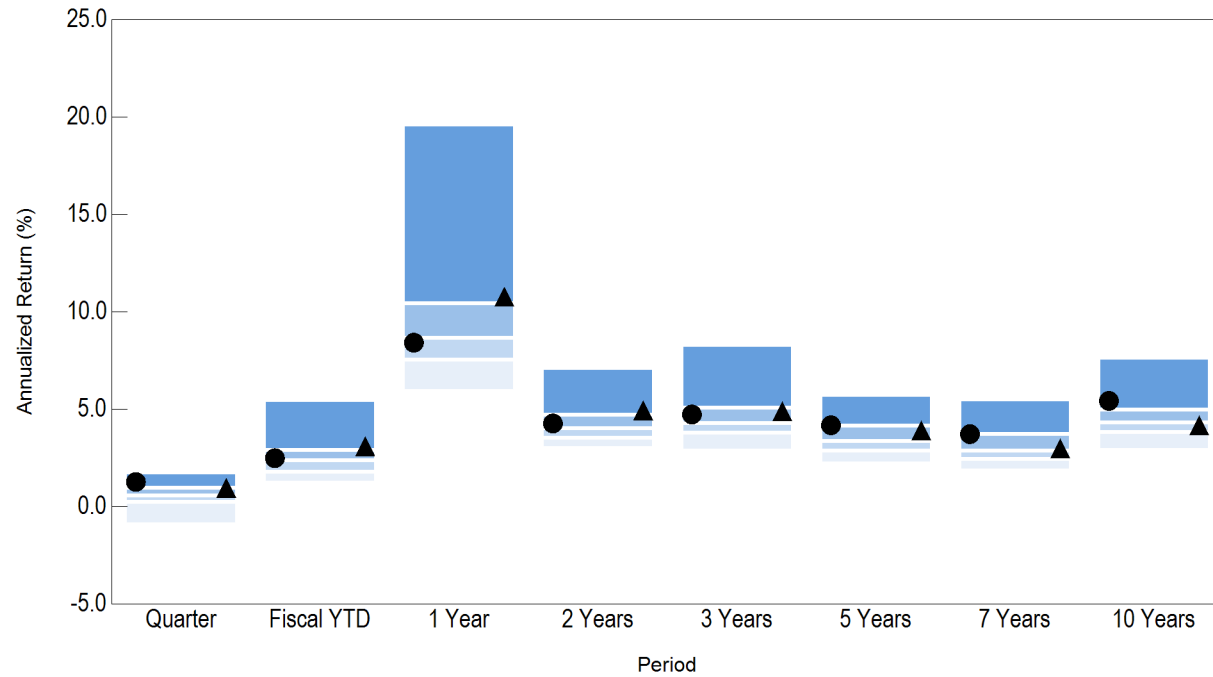
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	4.7%	1.7%	1.8	-0.1	1.6%
Blended Fixed Income Index	4.9%	2.5%	1.3	--	0.0%
Core Fixed	4.0%	2.1%	1.1	0.0	1.2%
BBgBarc US Aggregate TR	4.0%	2.9%	0.8	--	0.0%
FIAM Bond	4.4%	2.7%	1.0	0.8	0.5%
BBgBarc US Aggregate TR	4.0%	2.9%	0.8	--	0.0%
Western TRU	4.9%	3.5%	0.9	0.8	3.5%
3-Month Libor Total Return USD	2.0%	0.2%	2.3	--	0.0%
Opportunistic Credit	6.4%	2.6%	1.8	0.1	2.6%
BBgBarc BA Intermediate HY	6.1%	3.5%	1.3	--	0.0%
Angelo Gordon Opportunistic	16.9%	8.9%	1.7	1.3	9.6%
BBgBarc US Aggregate TR	4.0%	2.9%	0.8	--	0.0%
Angelo Gordon STAR	18.8%	8.0%	2.2	1.7	8.5%
BBgBarc US Aggregate TR	4.0%	2.9%	0.8	--	0.0%
Beach Point Select	7.3%	3.1%	1.8	0.5	2.6%
BBgBarc BA Intermediate HY	6.1%	3.5%	1.3	--	0.0%
Brigade Capital	5.2%	4.1%	0.9	-0.3	3.5%
BBgBarc BA Intermediate HY	6.1%	3.5%	1.3	--	0.0%
Franklin Templeton	1.7%	6.8%	0.0	-0.3	8.0%
BBgBarc Multiverse TR	4.4%	3.5%	0.8	--	0.0%

Statistics Summary

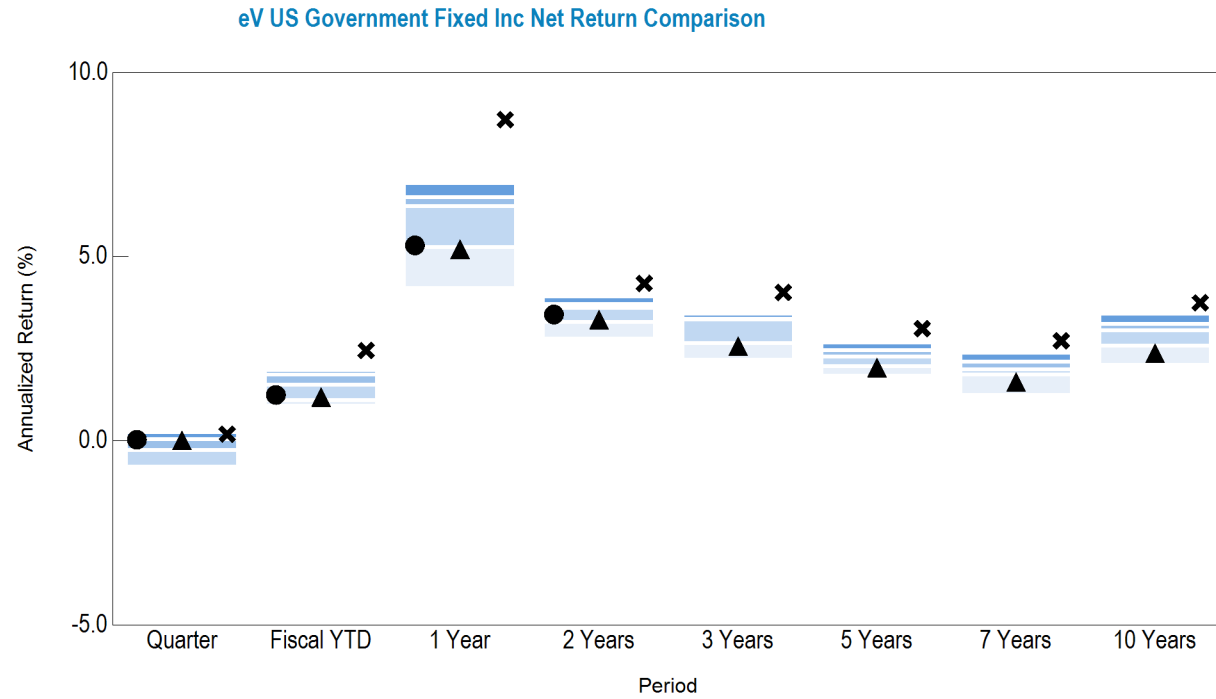
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	4.2%	2.5%	1.3	0.1	1.9%
Blended Fixed Income Index	3.9%	2.8%	1.0	--	0.0%
Core Fixed	3.4%	2.7%	0.9	0.2	1.6%
BBgBarc US Aggregate TR	3.0%	3.1%	0.7	--	0.0%
FIAM Bond	3.6%	3.1%	0.8	0.7	0.8%
BBgBarc US Aggregate TR	3.0%	3.1%	0.7	--	0.0%
Opportunistic Credit	6.3%	3.4%	1.5	0.2	3.0%
BBgBarc BA Intermediate HY	5.8%	4.2%	1.1	--	0.0%
Angelo Gordon Opportunistic	11.6%	7.5%	1.4	1.0	8.3%
BBgBarc US Aggregate TR	3.0%	3.1%	0.7	--	0.0%
Angelo Gordon STAR	13.3%	7.0%	1.8	1.4	7.5%
BBgBarc US Aggregate TR	3.0%	3.1%	0.7	--	0.0%
Brigade Capital	5.1%	6.3%	0.6	-0.2	4.2%
BBgBarc BA Intermediate HY	5.8%	4.2%	1.1	--	0.0%
Franklin Templeton	1.7%	6.9%	0.1	-0.1	8.5%
BBgBarc Multiverse TR	2.5%	4.4%	0.3	--	0.0%

InvMetrics All DB Total Fix Inc Net Return Comparison



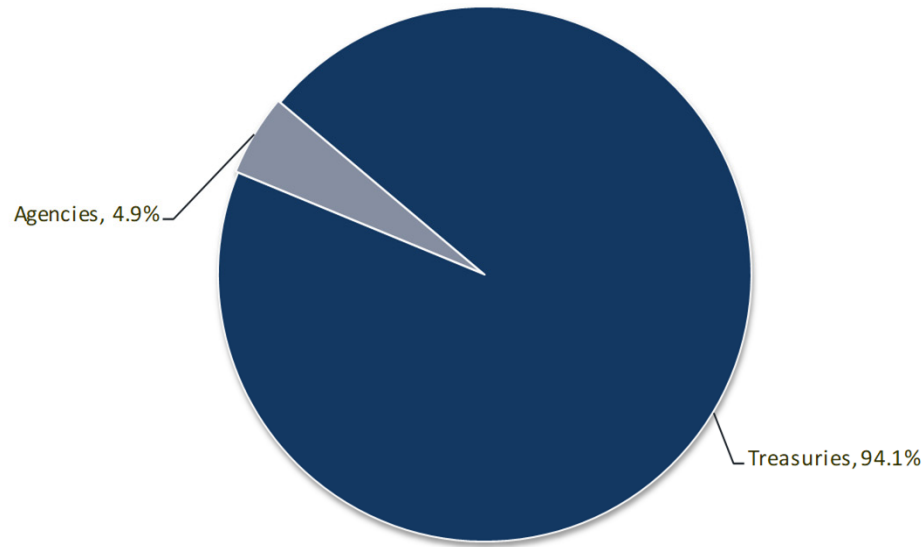
	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	1.7	5.5	19.6	7.1	8.3	5.7	5.5	7.6
25th Percentile	1.0	2.9	10.4	4.7	5.1	4.2	3.8	5.0
Median	0.6	2.4	8.7	4.1	4.3	3.4	2.9	4.3
75th Percentile	0.2	1.8	7.6	3.5	3.8	2.9	2.5	3.8
95th Percentile	-0.9	1.2	6.0	3.0	2.9	2.2	1.9	2.9
# of Portfolios	319	319	318	314	302	285	262	201
● Fixed Income	1.3 (17)	2.5 (46)	8.4 (56)	4.3 (43)	4.7 (33)	4.2 (25)	3.7 (27)	5.4 (17)
▲ Blended Fixed Income Index	0.9 (27)	3.1 (22)	10.8 (23)	4.9 (21)	4.9 (28)	3.9 (33)	3.0 (46)	4.2 (59)



	Return (Rank)															
	Quarter		Fiscal YTD		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
5th Percentile	0.2	1.9	0.2	1.9	7.0	3.9	3.4	2.7	2.4	3.4	2.7	2.4	2.4	3.4	3.4	3.4
25th Percentile	0.0	1.8	0.0	1.8	6.6	3.7	3.3	2.5	2.2	3.2	2.5	2.2	2.2	3.2	3.2	3.2
Median	-0.2	1.5	-0.2	1.5	6.4	3.6	3.3	2.3	1.9	3.0	2.3	1.9	1.9	3.0	3.0	3.0
75th Percentile	-0.7	1.1	-0.7	1.1	5.3	3.2	2.7	2.0	1.8	2.6	2.0	1.8	1.8	2.6	2.6	2.6
95th Percentile	-0.8	1.0	-0.8	1.0	4.2	2.8	2.2	1.8	1.3	2.1	1.8	1.3	1.3	2.1	2.1	2.1
# of Portfolios	12	12	12	12	12	12	11	11	11	11	11	11	11	11	11	11
● BlackRock Intermediate Govt	0.0 (31)	1.2 (69)	5.3 (75)	3.4 (61)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
▲ BBgBarc US Govt Int TR	0.0 (34)	1.2 (71)	5.2 (77)	3.3 (73)	2.6 (82)	2.0 (86)	1.6 (86)	2.4 (87)								
✕ BBgBarc US Aggregate TR	0.2 (7)	2.5 (1)	8.7 (1)	4.3 (1)	4.0 (1)	3.0 (1)	2.7 (1)	3.7 (1)								

BlackRock Intermediate Govt Market Duration Pool
 Bond Sector Allocation

Period Ending: December 31, 2019



Sector	Account Weight	BBgBarc Intermediate	
		Govt Weight	Difference
Treasuries	94.1%	97.1%	-3.0%
Agencies	4.9%	2.9%	1.9%
Corporates	0.0%	0.0%	0.0%
Utilities	0.0%	0.0%	0.0%
Foreign	0.0%	0.0%	0.0%
MBS	0.0%	0.0%	0.0%
CMO	0.0%	0.0%	0.0%
ABS	0.0%	0.0%	0.0%
Municipals	0.0%	0.0%	0.0%
Others/Cash	1.1%	0.0%	1.1%
TOTAL	100.0%	100.0%	0.0%

BlackRock Intermediate Govt Market Duration Pool

Bond Summary Statistics

Period Ending: December 31, 2019

Portfolio Characteristics		Portfolio	BBgBarc Intermediate Govt
Total Number of Securities		240	
Total Market Value	\$	236,638,615	
Current Coupon		2.73	2.18
Yield to Maturity		1.70	1.68
Average Life		4.05	4.03
Duration		3.74	3.76
Quality		AA+	AA+

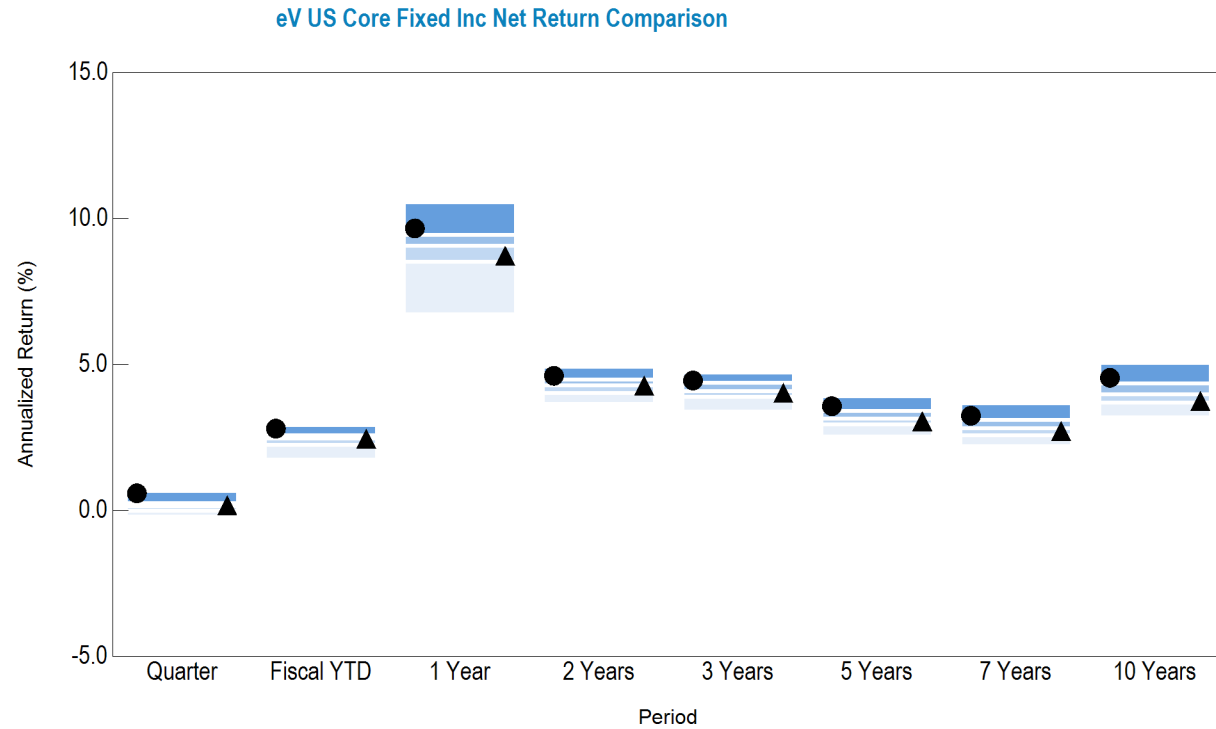
Yield to Maturity	
Range	% Held
0.0 - 5.0	100.0
5.0 - 7.0	0.0
7.0 - 9.0	0.0
9.0 - 11.0	0.0
11.0 - 13.0	0.0
13.0+	0.0
Unclassified	0.0

Average Life	
Range	% Held
0.0 - 1.0	n/a
1.0 - 3.0	n/a
3.0 - 5.0	n/a
5.0 - 10.0	n/a
10.0 - 20.0	n/a
20.0+	n/a
Unclassified	n/a

Duration	
Range	% Held
0.0 - 2.0	26.6
2.0 - 4.0	33.1
4.0 - 6.0	21.2
6.0 - 8.0	17.2
8.0+	1.9
Unclassified	0.0

Quality	
Range	% Held
Govt (10)	0.0
Aaa (10)	100.0
Aa (9)	0.0
A (8)	0.0
Baa (7)	0.0
Below Baa (6-1)	0.0
Other	0.0

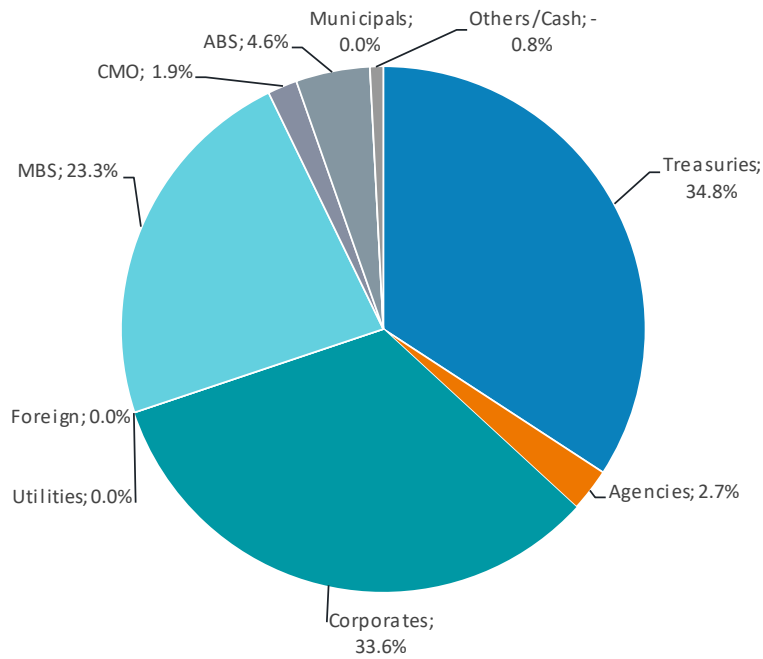
Coupon	
Range	% Held
0.0 - 5.0	100.0
5.0 - 7.0	0.0
7.0 - 9.0	0.0
9.0 - 10.0	0.0
10.0+	0.0
Unclassified	0.0



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	0.7	2.9	10.5	4.9	4.7	3.9	3.7	5.0
25th Percentile	0.3	2.6	9.4	4.5	4.4	3.4	3.1	4.4
Median	0.1	2.5	9.1	4.3	4.1	3.2	2.8	4.0
75th Percentile	0.0	2.3	8.5	4.0	3.9	3.0	2.6	3.7
95th Percentile	-0.2	1.8	6.7	3.7	3.4	2.5	2.2	3.2
# of Portfolios	137	137	137	136	135	131	129	118
● FIAM Bond	0.6 (7)	2.8 (9)	9.7 (16)	4.6 (16)	4.4 (18)	3.6 (16)	3.2 (16)	4.5 (16)
▲ BBgBarc US Aggregate TR	0.2 (43)	2.5 (53)	8.7 (69)	4.3 (53)	4.0 (57)	3.0 (66)	2.7 (60)	3.7 (72)

FIAM Bond Market Duration Pool
Bond Sector Allocation

Period Ending: December 31, 2019



Sector	BBgBarc Aggregate		
	Account Weight	Weight	Difference
Treasuries	34.8%	39.7%	-4.9%
Agencies	2.7%	5.8%	-3.1%
Corporates	33.6%	25.2%	8.4%
Utilities	0.0%	0.0%	0.0%
Foreign	0.0%	0.0%	0.0%
MBS	23.3%	26.9%	-3.6%
CMO	1.9%	0.0%	1.9%
ABS	4.6%	2.5%	2.2%
Municipals	0.0%	0.0%	0.0%
Others/Cash	-0.8%	0.0%	-0.9%
TOTAL	100.0%	100.0%	0.0%

FIAM Bond Market Duration Pool
Bond Summary Statistics

Period Ending: December 31, 2019

Portfolio Characteristics		
	Portfolio	
Total Number of Securities		933
Total Market Value	\$	289,118,024
Current Coupon		3.26
Yield to Maturity		2.56
Average Life		8.09
Duration		5.73
Quality		AA-

BBgBarc Aggregate	
	3.24
	2.32
	8.02
	5.79
	AA

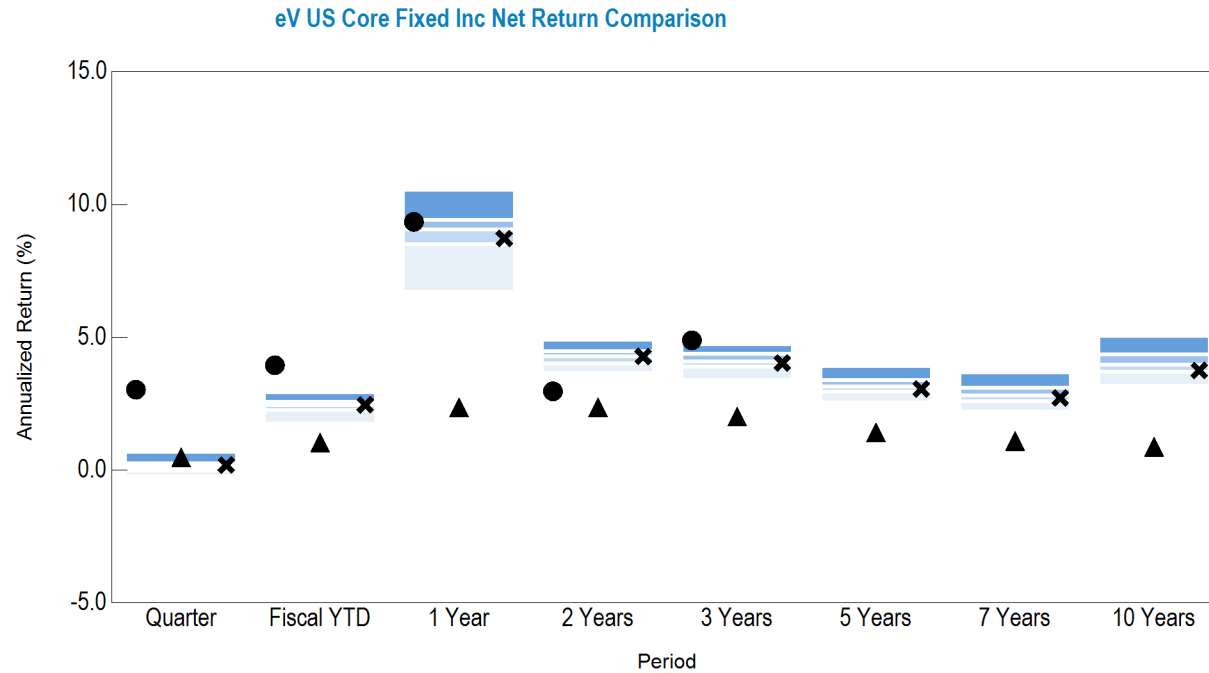
Yield to Maturity	
Range	% Held
0.0 - 5.0	98.3
5.0 - 7.0	2.0
7.0 - 9.0	0.1
9.0 - 11.0	0.0
11.0 - 13.0	0.0
13.0+	-0.4
Unclassified	0.0

Average Life	
Range	% Held
0.0 - 1.0	0.6
1.0 - 3.0	13.1
3.0 - 5.0	32.4
5.0 - 10.0	41.3
10.0 - 20.0	3.8
20.0+	8.6
Unclassified	0.0

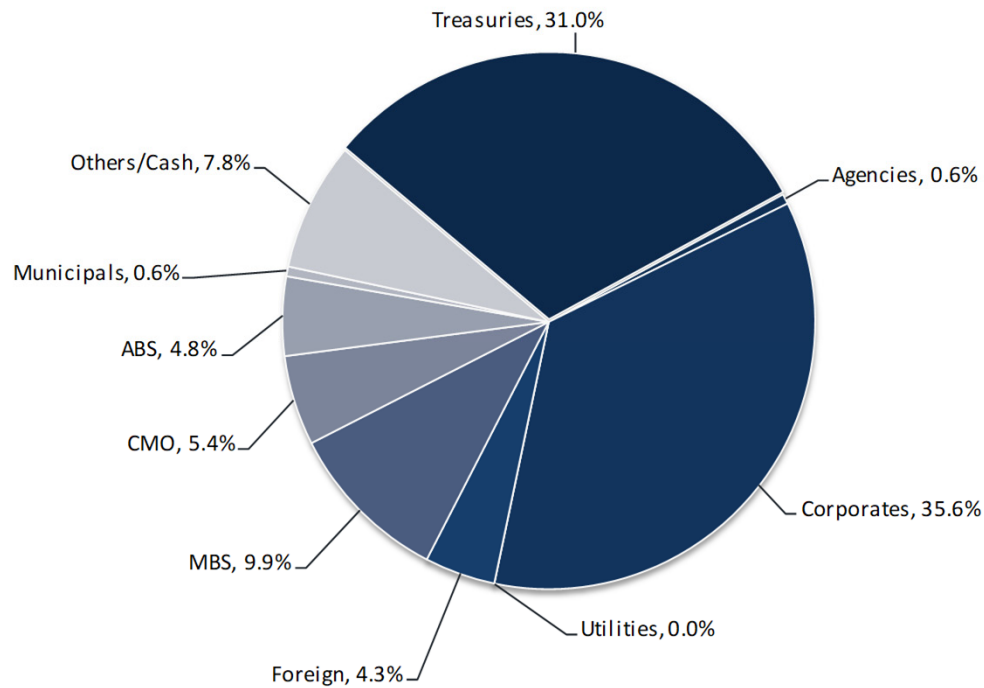
Duration	
Range	% Held
0.0 - 1.0	0.9
1.0 - 3.0	22.8
3.0 - 5.0	34.9
5.0 - 7.0	17.5
7.0 - 10.0	9.4
10.0+	14.5
Unclassified	0.0

Quality	
Range	% Held
Govt (10)	62.1
Aaa (10)	2.6
Aa (9)	2.0
A (8)	15.2
Baa (7)	20.0
Below Baa (6-1)	0.6
Other	-2.5

Coupon	
Range	% Held
0.0 - 5.0	88.2
5.0 - 7.0	9.1
7.0 - 9.0	1.1
9.0 - 11.0	0.0
11.0 - 13.0	0.0
13.0+	1.7
Unclassified	0.0



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	0.7	2.9	10.5	4.9	4.7	3.9	3.7	5.0
25th Percentile	0.3	2.6	9.4	4.5	4.4	3.4	3.1	4.4
Median	0.1	2.5	9.1	4.3	4.1	3.2	2.8	4.0
75th Percentile	0.0	2.3	8.5	4.0	3.9	3.0	2.6	3.7
95th Percentile	-0.2	1.8	6.7	3.7	3.4	2.5	2.2	3.2
# of Portfolios	137	137	137	136	135	131	129	118
● Western TRU	3.0 (1)	3.9 (1)	9.3 (33)	3.0 (99)	4.9 (4)	-- (--)	-- (--)	-- (--)
▲ 3-Month Labor Total Return USD	0.5 (10)	1.0 (99)	2.4 (99)	2.4 (99)	2.0 (99)	1.4 (99)	1.1 (99)	0.9 (99)
✕ BBgBarc US Aggregate TR	0.2 (43)	2.5 (53)	8.7 (69)	4.3 (53)	4.0 (57)	3.0 (66)	2.7 (60)	3.7 (72)



Sector	Account Weight	BBgBarc Aggregate	
		Weight	Difference
Treasuries	31.0%	39.7%	-8.7%
Agencies	0.6%	5.8%	-5.2%
Corporates	35.6%	25.2%	10.4%
Utilities	0.0%	0.0%	0.0%
Foreign	4.3%	0.0%	4.3%
MBS	9.9%	26.9%	-17.0%
CMO	5.4%	0.0%	5.4%
ABS	4.8%	2.5%	2.3%
Municipals	0.6%	0.0%	0.6%
Others/Cash	7.8%	0.0%	7.7%
TOTAL	100.0%	100.0%	-0.1%

Portfolio Characteristics		
		Portfolio
Total Number of Securities		5,034
Total Market Value	\$	142,225,506
Current Coupon		4.56
Yield to Maturity		4.16
Average Life		9.74
Duration		2.78
Quality		A-

BBgBarc Aggregate	
	3.24
	2.32
	8.02
	5.79
	AA

Yield to Maturity	
Range	% Held
0.0 - 5.0	68.2
5.0 - 7.0	24.4
7.0 - 9.0	2.9
9.0 - 11.0	1.3
11.0 - 13.0	0.8
13.0+	1.7
Unclassified	0.7

Average Life	
Range	% Held
0.0 - 1.0	14.4
1.0 - 3.0	16.5
3.0 - 5.0	16.0
5.0 - 10.0	18.6
10.0 - 20.0	16.1
20.0+	18.4
Unclassified	0.0

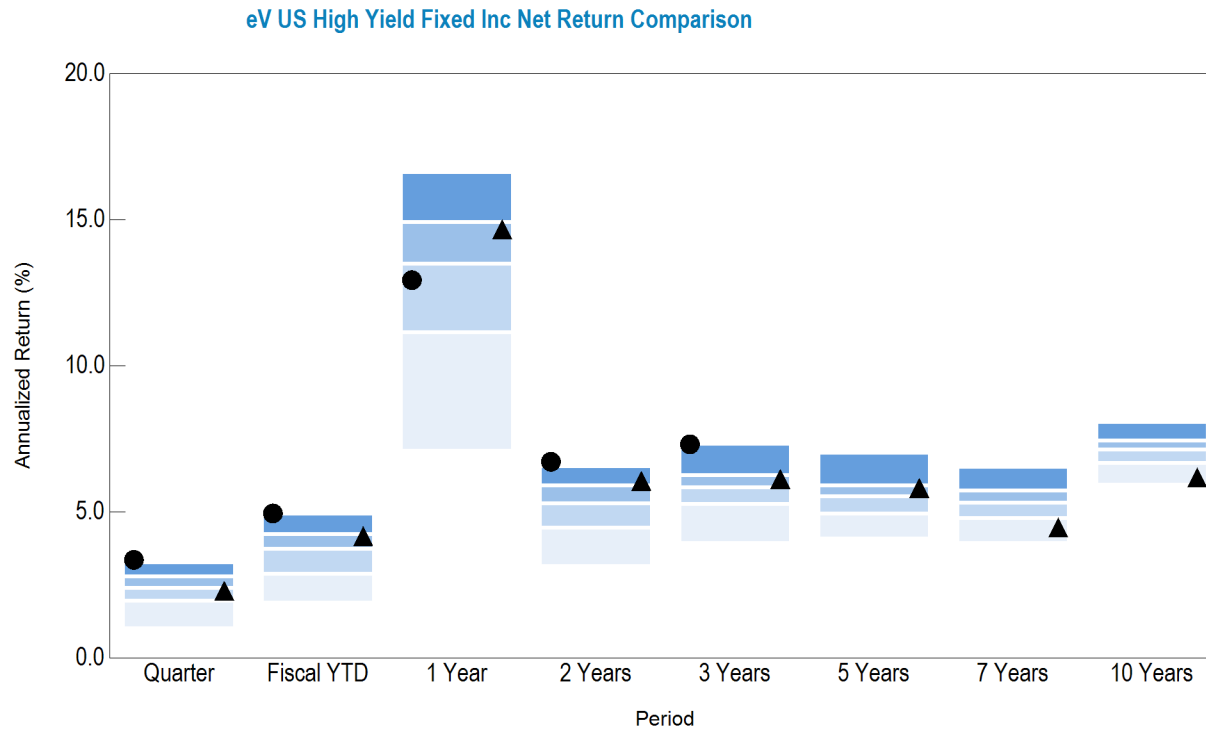
Duration	
Range	% Held
< 1.0	28.6
1.0 - 3.0	11.4
3.0 - 5.0	20.3
5.0 - 7.0	19.5
7.0 - 10.0	3.6
10.0+	16.5
Unclassified	0.0

*Unclassified includes negative YTM

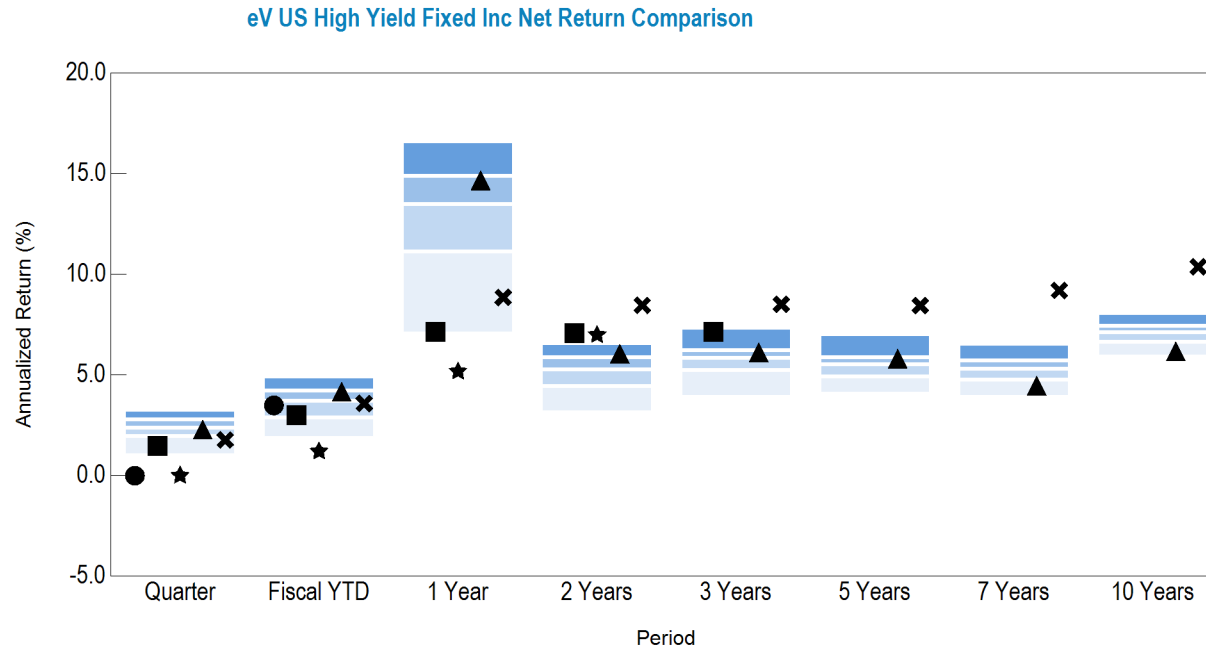
Quality	
Range	% Held
Govt* (10)	7.6
Aaa (10)	17.1
Aa (9)	1.9
A (8)	19.8
Baa (7)	27.5
Below Baa (6-1)	25.9
Other	0.2

Coupon	
Range	% Held
0.0 - 5.0	55.1
5.0 - 7.0	25.7
7.0 - 9.0	13.9
9.0 - 10.0	0.4
10.0+	4.8
Unclassified	0.0

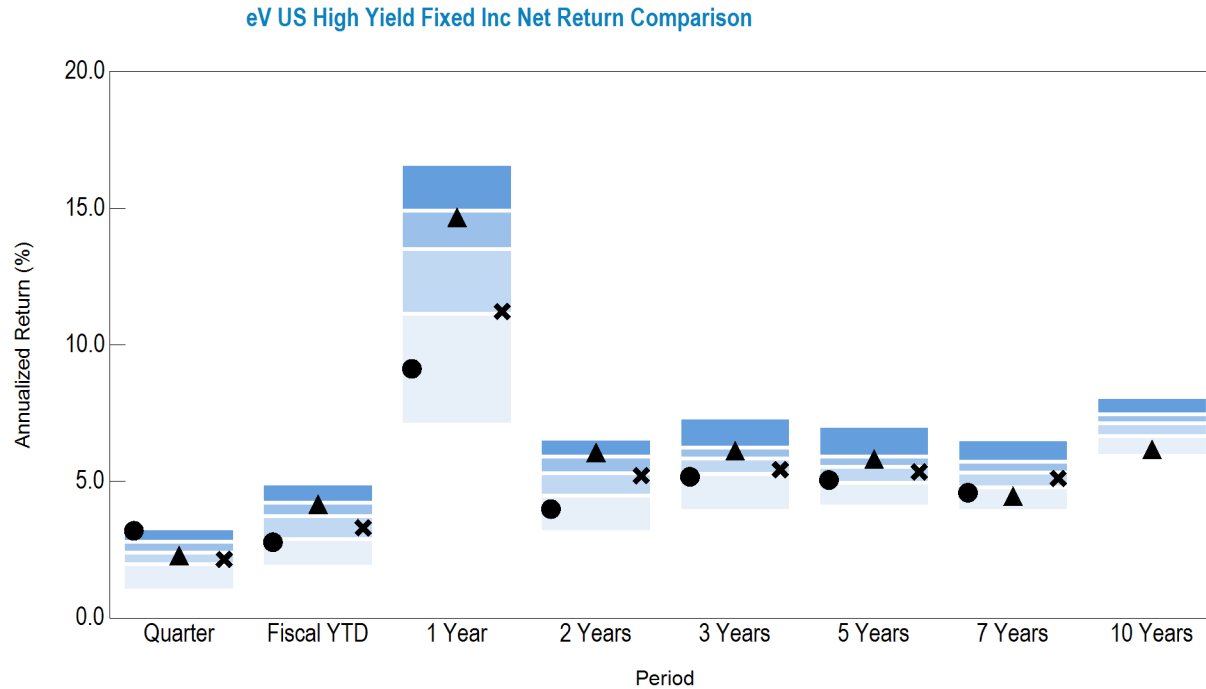
*Govt is specifically U.S Govt securities



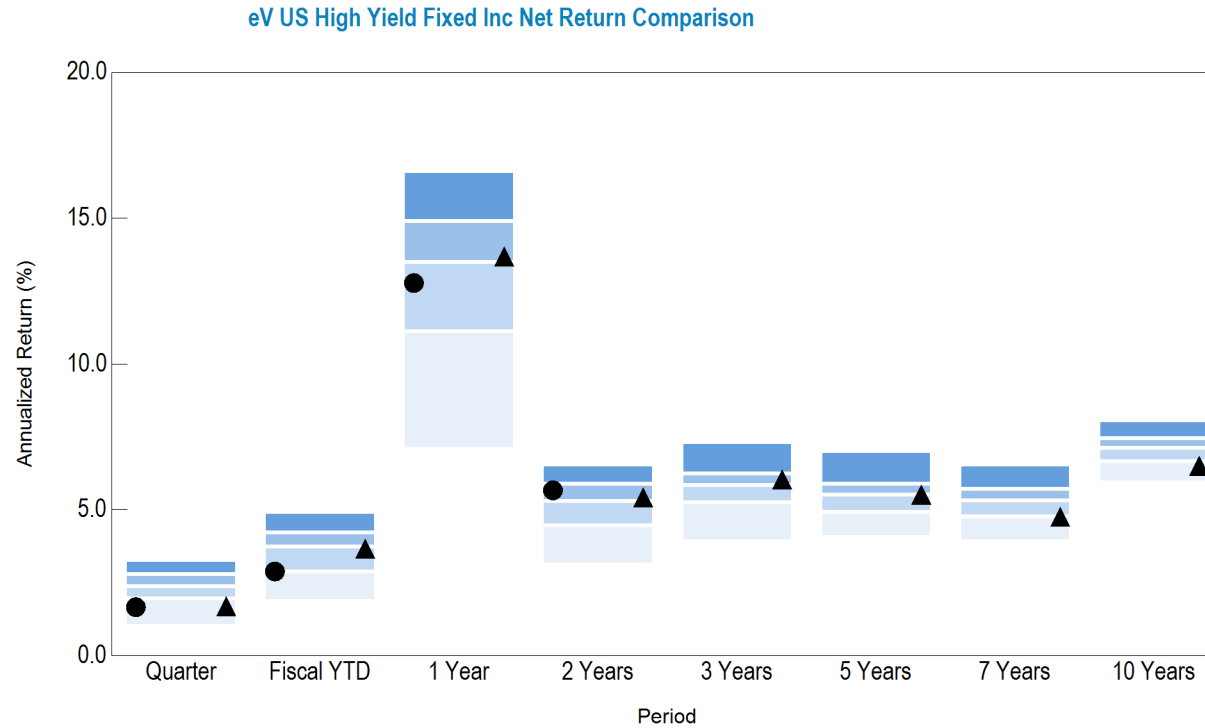
	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.3	4.9	16.6	6.6	7.3	7.0	6.5	8.1
25th Percentile	2.8	4.2	14.9	5.9	6.3	5.9	5.7	7.5
Median	2.4	3.7	13.5	5.3	5.9	5.5	5.3	7.1
75th Percentile	2.0	2.9	11.1	4.5	5.3	5.0	4.8	6.7
95th Percentile	1.0	1.9	7.1	3.1	3.9	4.1	3.9	5.9
# of Portfolios	131	131	131	131	127	114	95	74
● Beach Point Select	3.4 (3)	4.9 (5)	12.9 (58)	6.7 (4)	7.3 (6)	-- (--)	-- (--)	-- (--)
▲ BBgBarc BA Intermediate HY	2.3 (58)	4.2 (32)	14.7 (30)	6.1 (15)	6.1 (33)	5.8 (32)	4.5 (87)	6.2 (91)



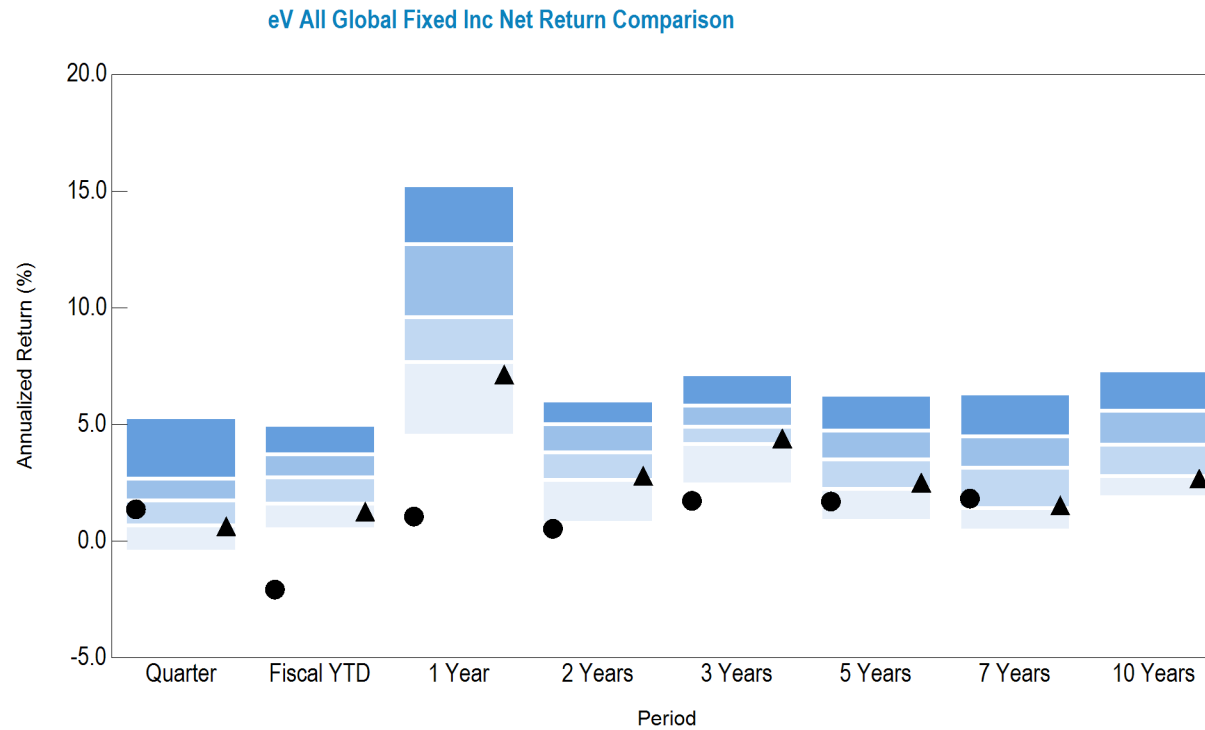
	Return (Rank)													
5th Percentile	3.3	4.9	16.6	6.6	7.3	7.0	6.5	8.1						
25th Percentile	2.8	4.2	14.9	5.9	6.3	5.9	5.7	7.5						
Median	2.4	3.7	13.5	5.3	5.9	5.5	5.3	7.1						
75th Percentile	2.0	2.9	11.1	4.5	5.3	5.0	4.8	6.7						
95th Percentile	1.0	1.9	7.1	3.1	3.9	4.1	3.9	5.9						
# of Portfolios	131	131	131	131	127	114	95	74						
● PIMCO Private Income	0.0 (99)	3.5 (63)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
■ TCP Direct Lending VIII	1.5 (88)	3.0 (73)	7.2 (95)	7.1 (2)	7.1 (7)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
★ White Oak Yield	0.0 (99)	1.2 (97)	5.2 (99)	7.0 (3)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
▲ BBgBarc BA Intermediate HY	2.3 (58)	4.2 (32)	14.7 (30)	6.1 (15)	6.1 (33)	5.8 (32)	4.5 (87)	6.2 (91)						
✕ Cliffwater Direct Lending Index	1.8 (84)	3.6 (56)	8.9 (88)	8.5 (1)	8.5 (2)	8.4 (1)	9.2 (1)	10.4 (1)						



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.3	4.9	16.6	6.6	7.3	7.0	6.5	8.1
25th Percentile	2.8	4.2	14.9	5.9	6.3	5.9	5.7	7.5
Median	2.4	3.7	13.5	5.3	5.9	5.5	5.3	7.1
75th Percentile	2.0	2.9	11.1	4.5	5.3	5.0	4.8	6.7
95th Percentile	1.0	1.9	7.1	3.1	3.9	4.1	3.9	5.9
# of Portfolios	131	131	131	131	127	114	95	74
● Brigade Capital	3.2 (8)	2.8 (79)	9.1 (85)	4.0 (90)	5.2 (80)	5.1 (72)	4.6 (83)	-- (--)
▲ BBgBarc BA Intermediate HY	2.3 (58)	4.2 (32)	14.7 (30)	6.1 (15)	6.1 (33)	5.8 (32)	4.5 (87)	6.2 (91)
✕ 50% Barclays HY/ 50% Bank Loan	2.1 (65)	3.3 (68)	11.2 (75)	5.2 (56)	5.4 (70)	5.3 (61)	5.1 (60)	-- (--)



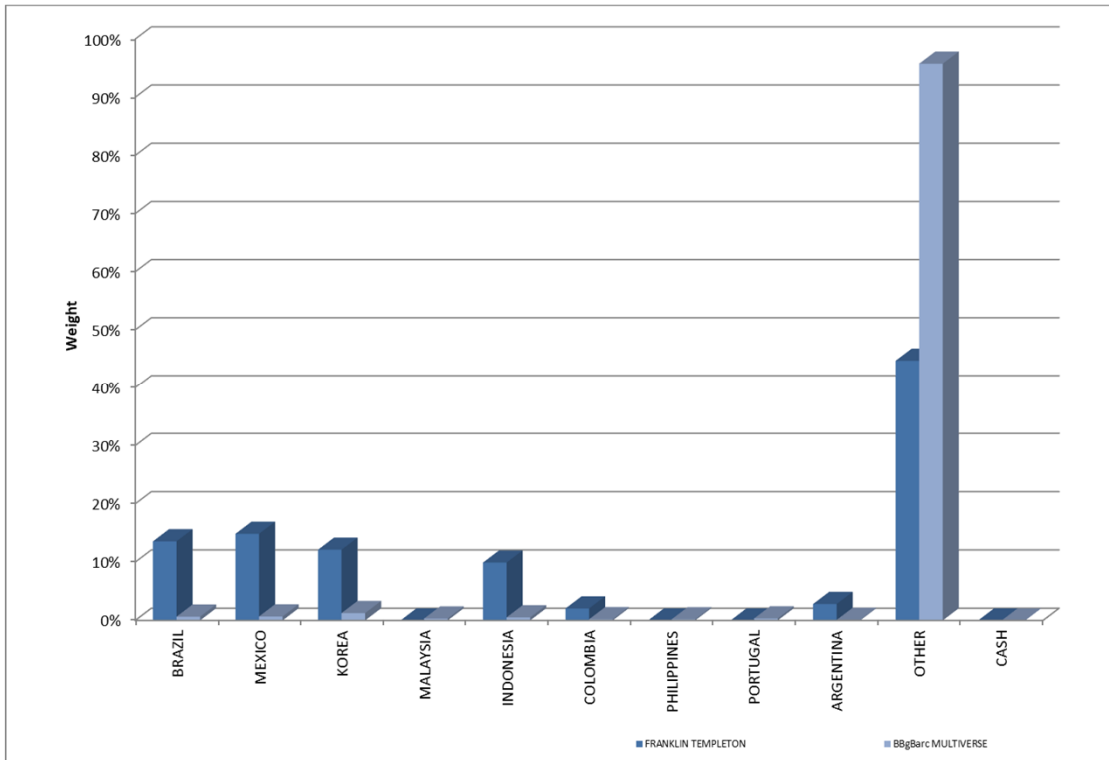
	Return (Rank)															
	Quarter		Fiscal YTD		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
5th Percentile	3.3	4.9	16.6	6.6	7.3	7.0	6.5	8.1								
25th Percentile	2.8	4.2	14.9	5.9	6.3	5.9	5.7	7.5								
Median	2.4	3.7	13.5	5.3	5.9	5.5	5.3	7.1								
75th Percentile	2.0	2.9	11.1	4.5	5.3	5.0	4.8	6.7								
95th Percentile	1.0	1.9	7.1	3.1	3.9	4.1	3.9	5.9								
# of Portfolios	131	131	131	131	127	114	95	74								
● PIMCO Diversified	1.7 (85)	2.9 (76)	12.8 (61)	5.7 (37)	-- (--)	-- (--)	-- (--)	-- (--)								
▲ Blended PIMCO Diversified Index	1.7 (85)	3.7 (53)	13.7 (47)	5.4 (45)	6.0 (39)	5.5 (53)	4.8 (76)	6.5 (78)								



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	5.3	5.0	15.2	6.0	7.1	6.3	6.3	7.3
25th Percentile	2.7	3.7	12.8	5.0	5.8	4.8	4.5	5.6
Median	1.8	2.7	9.6	3.8	4.9	3.5	3.2	4.1
75th Percentile	0.7	1.6	7.7	2.6	4.2	2.2	1.4	2.8
95th Percentile	-0.4	0.5	4.5	0.8	2.4	0.9	0.5	1.9
# of Portfolios	233	233	231	228	223	204	177	122
● Franklin Templeton	1.4 (57)	-2.1 (99)	1.1 (99)	0.5 (96)	1.7 (99)	1.7 (88)	1.8 (69)	-- (--)
▲ BBgBarc Multiverse TR	0.6 (77)	1.3 (84)	7.1 (81)	2.8 (72)	4.4 (68)	2.5 (72)	1.5 (73)	2.7 (82)

Franklin Templeton
Portfolio Country Weights

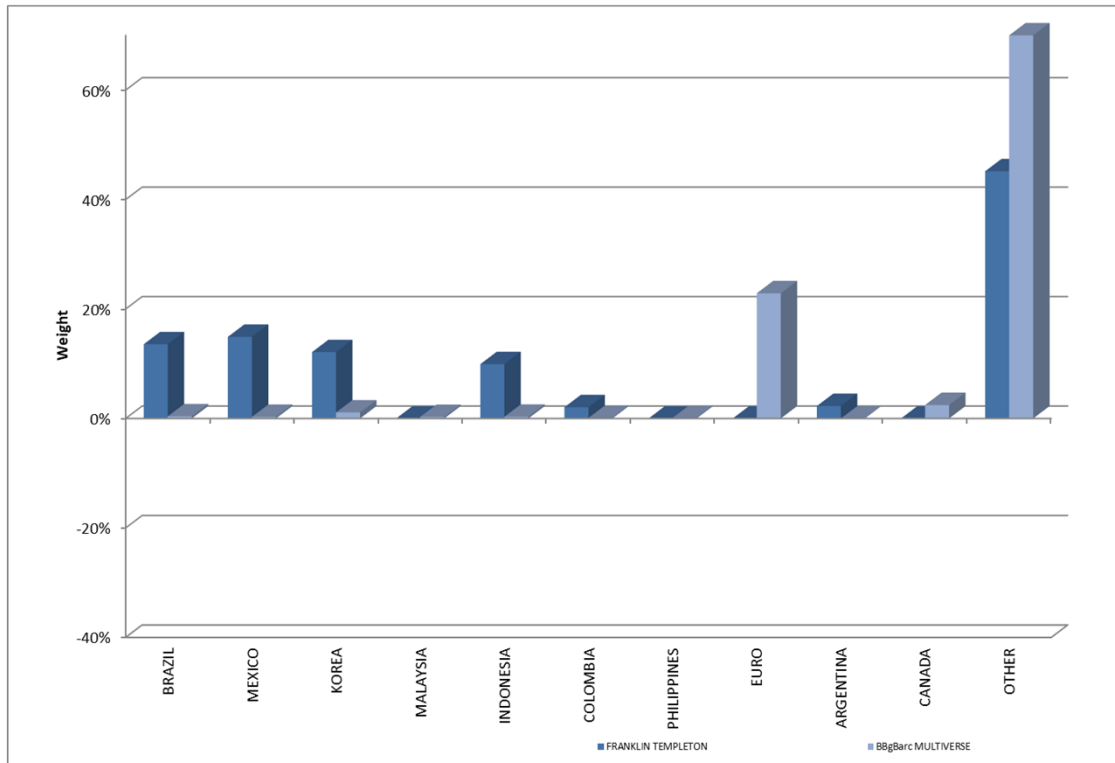
Period Ending: December 31, 2019



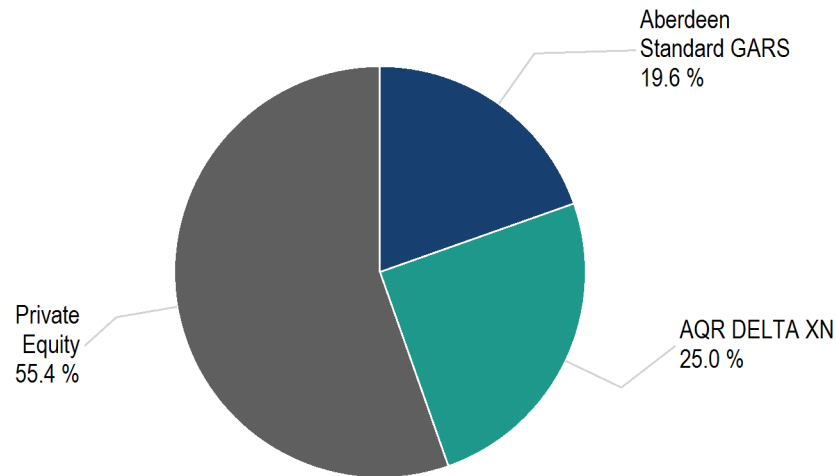
COUNTRY	MARKET VALUE	FRANKLIN TEMPLETON	BBgBarc MULTIVERSE	DIFF
BRAZIL	\$ 5,624	13.6%	0.6%	+12.9%
MEXICO	\$ 6,159	14.9%	0.7%	+14.2%
KOREA	\$ 5,026	12.1%	1.3%	+10.9%
MALAYSIA	\$ -	0.0%	0.3%	-0.3%
INDONESIA	\$ 4,114	9.9%	0.5%	+9.4%
COLOMBIA	\$ 850	2.1%	0.2%	+1.9%
PHILIPPINES	\$ -	0.0%	0.2%	-0.2%
PORTUGAL	\$ -	0.0%	0.3%	-0.3%
ARGENTINA	\$ 1,165	2.8%	0.1%	+2.7%
OTHER	\$ 18,534	44.7%	95.8%	-51.1%
CASH	\$ -	0.0%	0.0%	0.0%
	\$ 41,473	100.0%	100.0%	0.0%

Franklin Templeton
Portfolio Currency Exposures

Period Ending: December 31, 2019



CURRENCY	MARKET VALUE	FRANKLIN TEMPLETON	BBgBarc MULTIVERSE	DIFF
BRAZIL	\$ 5,624	13.6%	0.4%	+13.2%
MEXICO	\$ 6,184	14.9%	0.3%	+14.6%
KOREA	\$ 5,026	12.1%	1.1%	+11.0%
MALAYSIA	\$ -	0.0%	0.3%	-0.3%
INDONESIA	\$ 4,114	9.9%	0.3%	+9.6%
COLOMBIA	\$ 850	2.1%	0.1%	+2.0%
PHILIPPINES	\$ -	0.0%	0.1%	-0.1%
EURO	\$ -	0.0%	22.9%	-22.9%
ARGENTINA	\$ 941	2.3%	0.0%	+2.3%
CANADA	\$ -	0.0%	2.5%	-2.5%
OTHER	\$ 18,733	45.2%	72.1%	-26.9%
	\$ 41,473	100.0%	100.0%	0.0%



	Actual \$	Actual %	Manager Contribution to Excess Return %
Aberdeen Standard GARS	\$105,385,764	19.6%	0.0%
AQR DELTA XN	\$134,651,837	25.0%	-1.1%
Private Equity	\$298,636,081	55.4%	-3.3%
Actual vs. Policy Weight Difference			0.1%
Total	\$538,673,682	100.0%	-4.4%

Statistics Summary

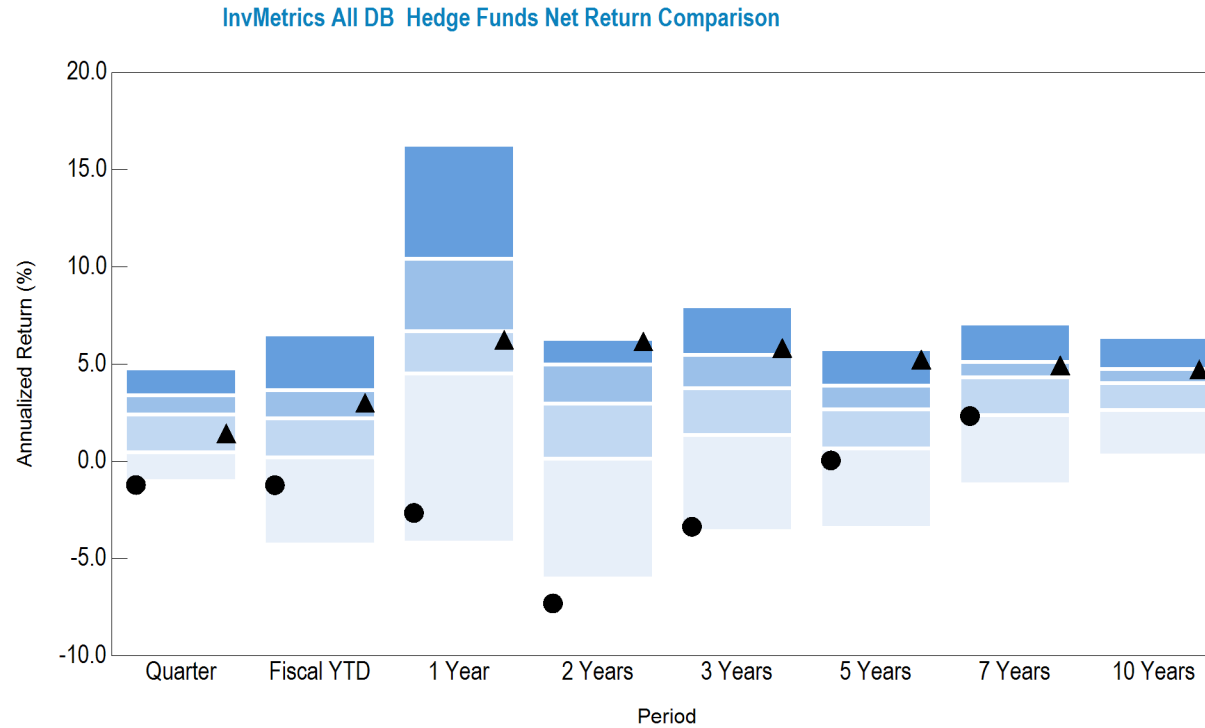
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	6.5%	6.8%	0.7	-0.5	7.5%
Blended Alternatives Index	10.3%	6.4%	1.4	--	0.0%
Private Equity	16.0%	11.5%	1.3	0.1	14.0%
Blended Private Equity Index	14.1%	12.5%	1.0	--	0.0%
Hedge Fund/Absolute Return	-3.4%	4.6%	-1.1	-2.0	4.6%
Libor 1 month +4%	5.8%	0.2%	22.7	--	0.0%
AQR DELTA XN	-7.1%	6.0%	-1.4	-2.1	6.1%
Libor 1 month +4%	5.8%	0.2%	22.7	--	0.0%
Aberdeen Standard GARS	2.2%	3.6%	0.2	-1.0	3.6%
Libor 1 month +4%	5.8%	0.2%	22.7	--	0.0%

Statistics Summary

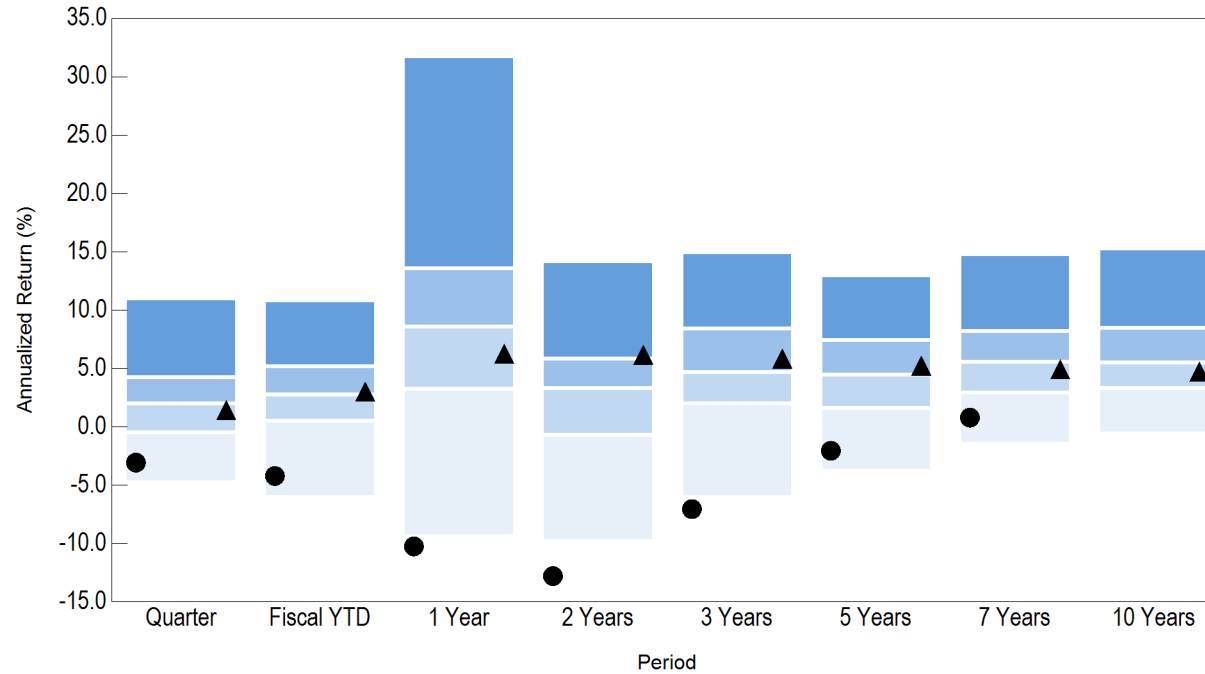
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	6.9%	6.4%	0.9	-0.1	7.7%
Blended Alternatives Index	7.9%	6.4%	1.1	--	0.0%
Private Equity	16.6%	11.1%	1.4	0.3	14.6%
Blended Private Equity Index	12.2%	12.2%	0.9	--	0.0%
Hedge Fund/Absolute Return	0.0%	4.9%	-0.2	-1.0	5.0%
Libor 1 month +4%	5.2%	0.3%	16.3	--	0.0%
AQR DELTA XN	-2.1%	6.0%	-0.5	-1.2	6.1%
Libor 1 month +4%	5.2%	0.3%	16.3	--	0.0%



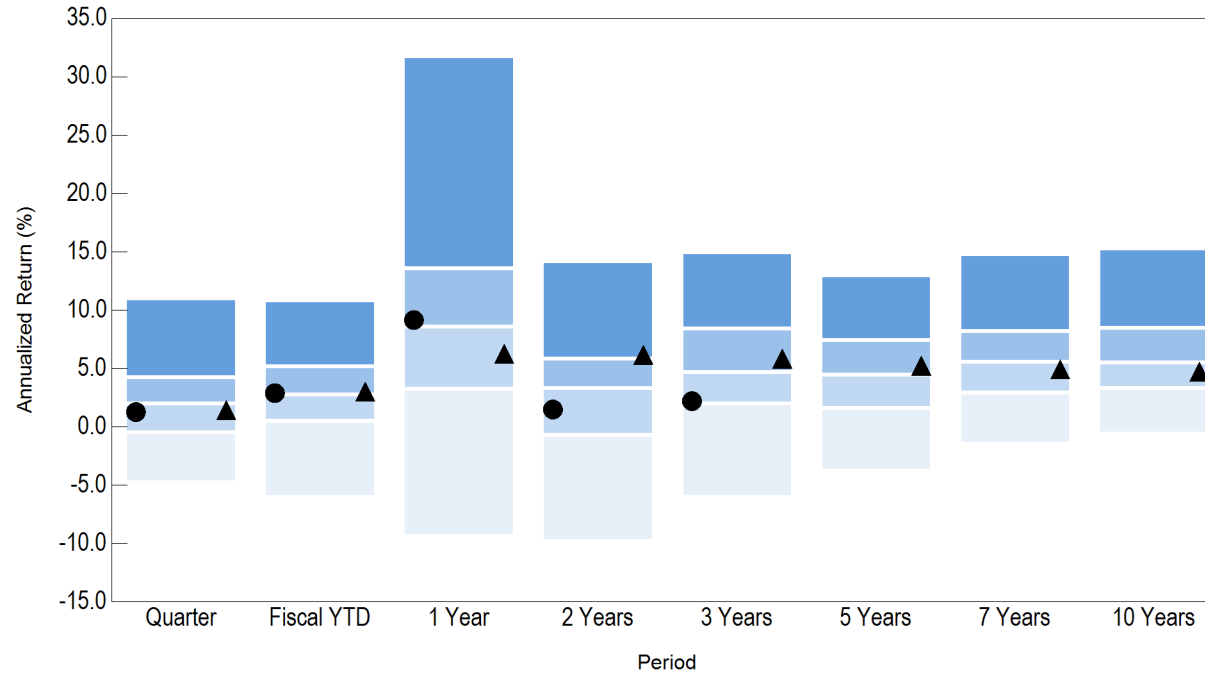
	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	4.8	6.5	16.3	6.3	8.0	5.8	7.1	6.4
25th Percentile	3.4	3.7	10.4	5.0	5.5	3.9	5.1	4.8
Median	2.4	2.2	6.7	3.0	3.8	2.7	4.3	4.1
75th Percentile	0.5	0.2	4.5	0.2	1.4	0.7	2.4	2.7
95th Percentile	-1.0	-4.3	-4.2	-6.0	-3.6	-3.4	-1.2	0.3
# of Portfolios	201	201	200	194	190	180	166	110
● Hedge Fund/Absolute Return	-1.2 (97)	-1.2 (87)	-2.7 (92)	-7.3 (97)	-3.4 (95)	0.0 (80)	2.3 (77)	-- (--)
▲ Libor 1 month +4%	1.4 (67)	3.0 (35)	6.3 (53)	6.2 (10)	5.8 (21)	5.2 (10)	4.9 (30)	4.7 (29)

eV Alt All Multi-Strategy Return Comparison

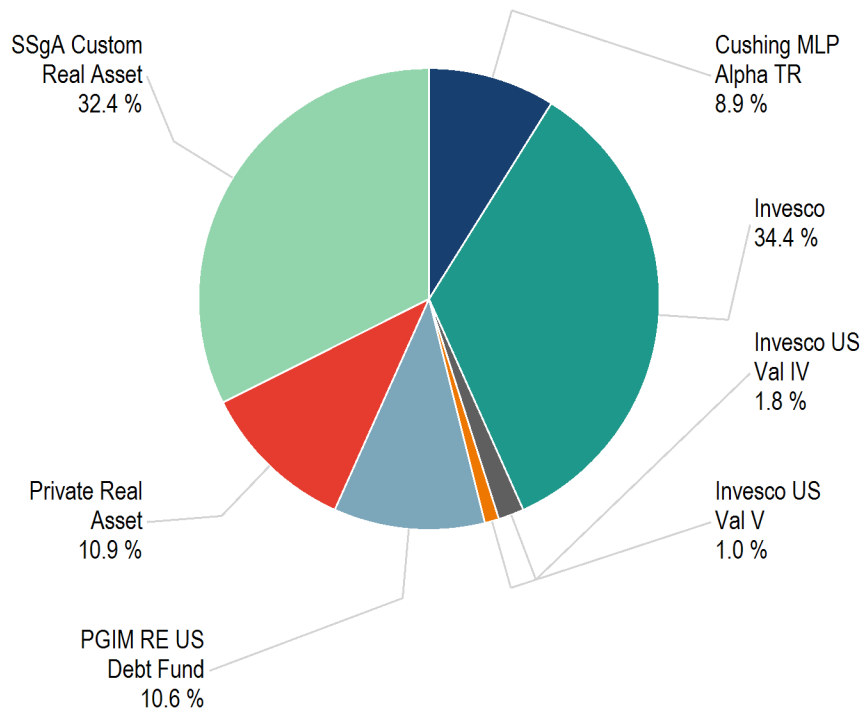


	Return (Rank)							
5th Percentile	11.0	10.8	31.8	14.2	15.0	12.9	14.7	15.3
25th Percentile	4.3	5.2	13.6	5.8	8.5	7.5	8.2	8.5
Median	2.0	2.8	8.6	3.4	4.7	4.5	5.6	5.5
75th Percentile	-0.5	0.6	3.3	-0.7	2.0	1.7	3.0	3.4
95th Percentile	-4.7	-6.0	-9.3	-9.8	-6.0	-3.7	-1.4	-0.6
# of Portfolios	247	247	242	230	215	184	160	117
● AQR DELTA XN	-3.1 (92)	-4.2 (93)	-10.3 (96)	-12.8 (98)	-7.1 (96)	-2.1 (93)	0.8 (89)	-- (--)
▲ Libor 1 month +4%	1.4 (58)	3.0 (48)	6.3 (63)	6.2 (24)	5.8 (44)	5.2 (43)	4.9 (57)	4.7 (60)

eV Alt All Multi-Strategy Return Comparison



	Return (Rank)							
5th Percentile	11.0	10.8	31.8	14.2	15.0	12.9	14.7	15.3
25th Percentile	4.3	5.2	13.6	5.8	8.5	7.5	8.2	8.5
Median	2.0	2.8	8.6	3.4	4.7	4.5	5.6	5.5
75th Percentile	-0.5	0.6	3.3	-0.7	2.0	1.7	3.0	3.4
95th Percentile	-4.7	-6.0	-9.3	-9.8	-6.0	-3.7	-1.4	-0.6
# of Portfolios	247	247	242	230	215	184	160	117
● Aberdeen Standard GARS	1.3 (59)	2.9 (49)	9.1 (46)	1.5 (63)	2.2 (75)	-- (--)	-- (--)	-- (--)
▲ Libor 1 month +4%	1.4 (58)	3.0 (48)	6.3 (63)	6.2 (24)	5.8 (44)	5.2 (43)	4.9 (57)	4.7 (60)



	Actual \$	Actual %	Manager Contribution to Excess Return %
Brown Brother Harriman	\$5	0.0%	0.0%
Cushing MLP Alpha TR	\$71,126,241	8.9%	-0.4%
Invesco	\$275,736,268	34.4%	0.2%
Invesco US Val IV	\$14,544,147	1.8%	0.1%
Invesco US Val V	\$7,808,539	1.0%	0.0%
PGIM RE US Debt Fund	\$85,250,317	10.6%	0.0%
Private Real Asset	\$87,423,517	10.9%	0.3%
SSgA Custom Real Asset	\$259,144,313	32.4%	0.0%
Actual vs. Policy Weight Difference			0.0%
Total	\$801,033,347	100.0%	0.2%

Statistics Summary

3 Years

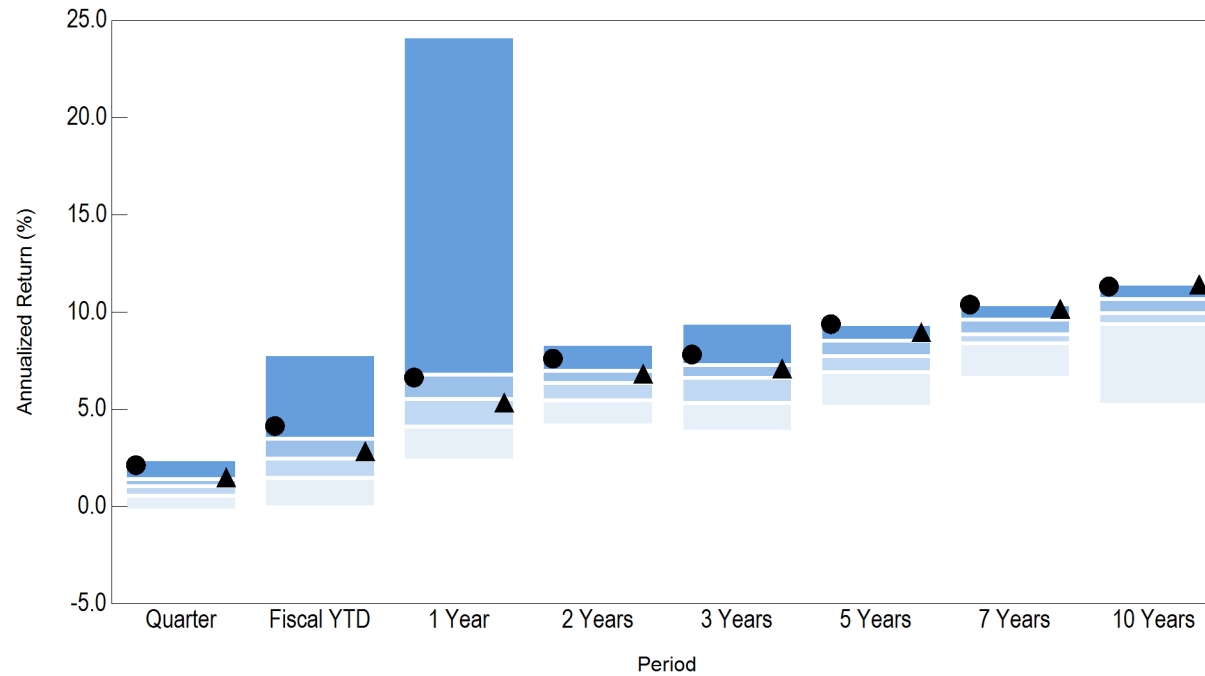
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Inflation Hedge	4.9%	4.1%	0.8	-0.7	1.3%
Blended Inflation Hedge Index	5.8%	3.8%	1.1	--	0.0%
Real Estate	7.8%	3.3%	1.9	0.9	0.8%
NCREIF ODCE	7.1%	2.9%	1.8	--	0.0%
Invesco	7.7%	3.3%	1.9	0.8	0.8%
NCREIF ODCE	7.1%	2.9%	1.8	--	0.0%
Invesco US Val IV	12.4%	5.6%	1.9	1.5	3.5%
NCREIF ODCE	7.1%	2.9%	1.8	--	0.0%
Private Real Asset	-3.3%	8.9%	-0.6	-0.7	11.5%
Blended Private Real Asset Index	4.3%	10.8%	0.2	--	0.0%
Private Real Asset	-3.3%	8.9%	-0.6	-0.7	11.5%
Blended Private Real Asset Index	4.3%	10.8%	0.2	--	0.0%
Public Real Assets	4.5%	10.3%	0.3	-0.7	1.7%
Blended Public Real Asset Index	5.7%	9.6%	0.4	--	0.0%
SSgA Custom Real Asset	5.8%	9.6%	0.4	1.1	0.1%
SSgA Custom Real Asset Index	5.7%	9.6%	0.4	--	0.0%
TIPS	2.9%	2.3%	0.5	-0.5	1.0%
BBgBarc US TIPS TR	3.3%	3.0%	0.6	--	0.0%
Brown Brothers Harriman	2.9%	2.3%	0.5	-0.5	1.0%
BBgBarc US TIPS TR	3.3%	3.0%	0.6	--	0.0%

Statistics Summary

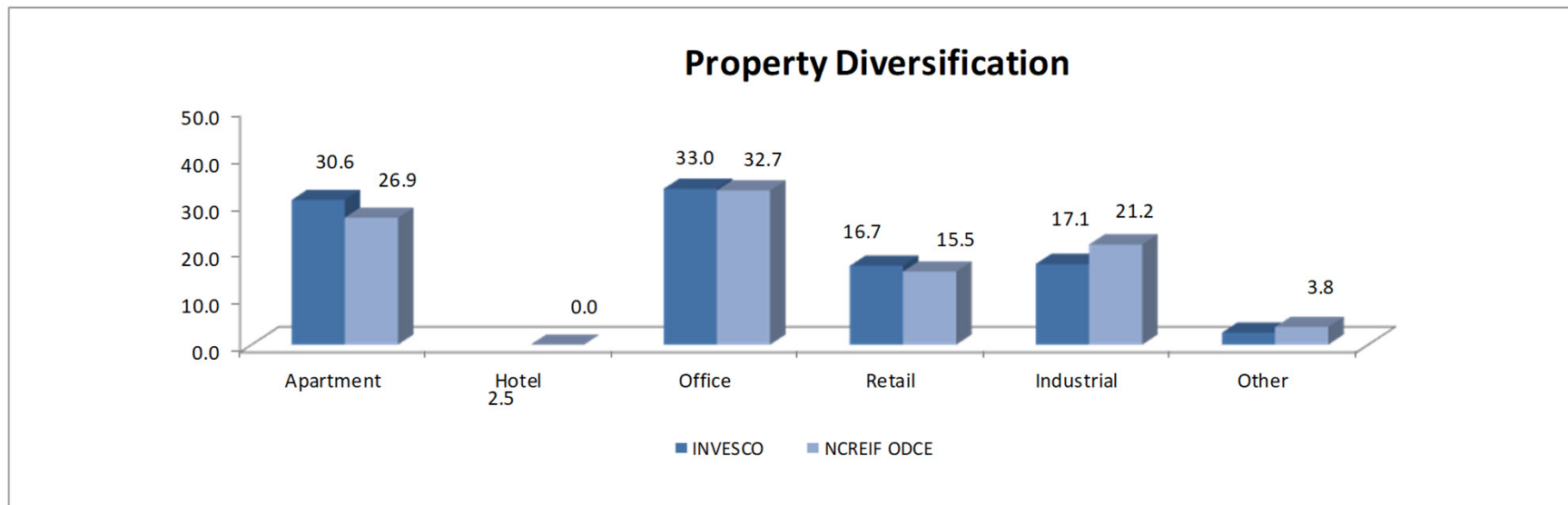
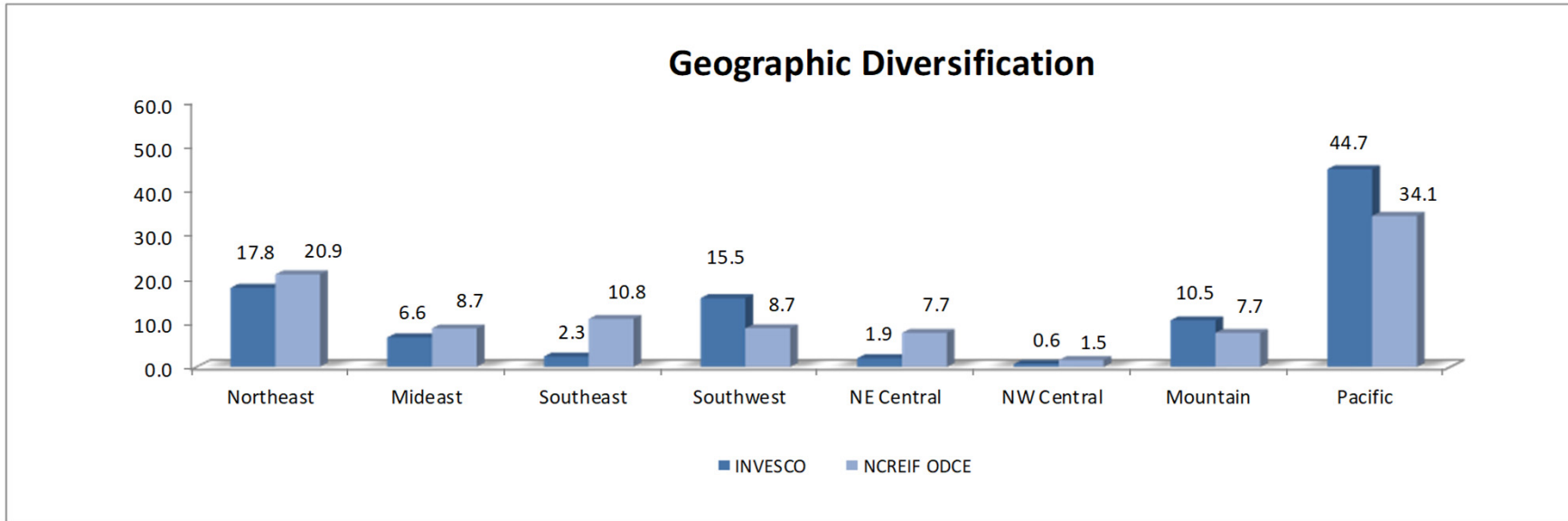
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error Rank
Real Estate	9.4%	4.2%	2.0	0.3	33
NCREIF ODCE	9.0%	3.9%	2.0	--	1
Invesco	9.3%	4.2%	2.0	0.2	--
NCREIF ODCE	9.0%	3.9%	2.0	--	--
Private Real Asset	4.7%	21.6%	0.2	0.0	--
Blended Private Real Asset Index	4.8%	8.5%	0.4	--	--
TIPS	2.4%	2.5%	0.5	-0.1	--
BBgBarc US TIPS TR	2.6%	3.4%	0.5	--	--
Brown Brothers Harriman	2.4%	2.5%	0.5	-0.1	58
BBgBarc US TIPS TR	2.6%	3.4%	0.5	--	1

InvMetrics All DB Real Estate Pub Net Return Comparison



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.4	7.8	24.2	8.4	9.4	9.4	10.4	11.4
25th Percentile	1.4	3.5	6.8	7.0	7.3	8.5	9.6	10.7
Median	1.1	2.5	5.5	6.4	6.6	7.7	8.9	10.0
75th Percentile	0.6	1.5	4.1	5.5	5.4	6.9	8.4	9.4
95th Percentile	-0.2	0.0	2.4	4.2	3.9	5.2	6.6	5.2
# of Portfolios	90	90	86	86	82	82	72	61
● Real Estate	2.1 (8)	4.1 (20)	6.6 (27)	7.6 (13)	7.8 (17)	9.4 (5)	10.4 (6)	11.3 (8)
▲ NCREIF ODCE	1.5 (21)	2.8 (40)	5.3 (54)	6.8 (33)	7.1 (30)	9.0 (12)	10.2 (8)	11.4 (6)



INVESCO Core Real Estate
Real Estate Valuation Analysis

Period Ending: December 31, 2019

Property Name	MSA	Prior Quarter Carry Value	Current Quarter Carry Value	Net Market Value	Date Added to Fund	Last Valuation Date	SamCERA ownership as of 12/31/2019 2.60%
APARTMENTS							
Stoneridge Apartments	Pleasanton, CA	\$240,000,000	\$240,000,000	\$240,000,000	4Q06	December-19	\$6,247,232
Instrata Pentagon City	Arlington, VA	\$167,000,000	\$168,000,000	\$168,000,000	3Q10	December-19	\$4,373,063
Ladd Tower	Portland, OR	\$126,000,000	\$126,000,000	\$76,343,838	4Q10	December-19	\$1,987,240
Legacy Fountain Plaza	San Jose, CA	\$166,000,000	\$167,000,000	\$86,007,591	1Q11	December-19	\$2,238,789
Instrata Gramercy (fka The Elektra)	New York, NY	\$174,000,000	\$175,000,000	\$103,834,319	1Q11	December-19	\$2,702,821
Instrata Brooklyn Heights (fka 75 Clinton Street)	Brooklyn, NY	\$62,900,000	\$62,900,000	\$62,900,000	1Q12	December-19	\$1,637,295
The Artisan Laguna Beach	Orange County, CA	\$169,000,000	\$169,000,000	\$90,702,674	3Q12	December-19	\$2,361,003
The GoodWynn	Atlanta, GA	\$0	\$0	\$0	4Q12	December-19	\$0
Instrata Hell's Kitchen	New York, NY	\$190,000,000	\$190,000,000	\$190,000,000	1Q13	December-19	\$4,945,726
Sunset Vine Tower	Los Angeles, CA	\$104,300,000	\$105,300,000	\$105,300,000	2Q13	December-19	\$2,740,973
Instrata Ashton Uptown	Dallas, TX	\$115,000,000	\$0	\$0	4Q13	Sold 4Q19	\$0
206 Bell	Seattle, WA	\$49,100,000	\$48,000,000	\$48,000,000	4Q13	December-19	\$1,249,446
Cadence Union Station	Denver, CO	\$92,800,000	\$93,600,000	\$53,488,879	1Q14	December-19	\$1,392,323
Joseph Arnold Lofts	Seattle, WA	\$72,771,160	\$0	\$0	2Q14	Sold 4Q19	\$0
Verve	Denver, CO	\$107,500,000	\$107,500,000	\$107,500,000	3Q14	December-19	\$2,798,239
Broadstone Little Italy	San Diego, CA	\$120,000,000	\$118,000,000	\$65,030,608	3Q14	December-19	\$1,692,755
33 Tehama	San Francisco, CA	\$304,641,337	\$303,205,047	\$164,434,799	3Q14	December-19	\$4,280,260
The Parker	Portland, OR	\$62,600,000	\$62,700,000	\$31,017,962	1Q15	December-19	\$807,402
Legacy West Apartments	Plano, TX	\$145,000,000	\$145,000,000	\$52,965,428	1Q15	December-19	\$1,378,697
The Royce	Irvine, CA	\$217,614,827	\$218,110,537	\$110,633,089	2Q15	December-19	\$2,879,794
Jefferson Marketplace	Washington, DC	\$160,000,000	\$161,000,000	\$89,901,240	4Q15	December-19	\$2,340,141
Retreat at Park Meadows	Littleton, CO	\$162,000,000	\$163,000,000	\$163,000,000	4Q15	December-19	\$4,242,912
North Water Apartments	Chicago, IL	\$256,000,000	\$254,000,000	\$254,000,000	1Q16	December-19	\$6,611,654
2270 Broadway	Oakland, CA	\$28,211,284	\$28,211,284	\$28,211,284	1Q16	December-19	\$734,344
Runway at Playa Vista Apartments	Playa Vista, CA	\$167,480,000	\$168,540,000	\$106,098,669	1Q16	December-19	\$2,761,763
Clayton Lane Apartments	Denver, CO	\$42,072,964	\$42,401,309	\$42,401,309	1Q16	December-19	\$1,103,712
Biscayne 27	Miami, FL	\$106,190,134	\$109,135,267	\$56,862,381	2Q16	December-19	\$1,480,135
Flats 8300	Washington DC	\$236,000,000	\$236,000,000	\$236,000,000	2Q16	December-19	\$6,143,112
407 1st Ave	New York, NY	\$204,200,000	\$204,000,000	\$204,000,000	4Q16	December-19	\$5,310,147
5250 Park	Miami, FL	\$46,045,322	\$48,667,833	\$31,115,651	2Q17	December-19	\$809,945
The Mason	Pleasanton, CA	\$104,000,000	\$104,000,000	\$104,000,000	3Q17	December-19	\$2,707,134
The Arnold	Austin, TX	\$110,000,000	\$111,000,000	\$111,000,000	4Q18	December-19	\$2,889,345
The Harlo	Boston, MA	\$158,000,000	\$159,000,000	\$159,000,000	1Q19	December-19	\$4,138,791
Sunset Vine Tower II	Hollywood, CA	\$19,019,023	\$23,958,645	\$23,958,645	2Q19	December-19	\$623,647
Legacy West - Block H - Apartment	Plano, TX	\$6,291,532	\$15,732,365	\$15,732,365	2Q19	December-19	\$409,516
		\$4,491,737,584	\$4,327,962,287	\$3,381,440,732			\$88,019,358

INVESCO Core Real Estate
Real Estate Valuation Analysis

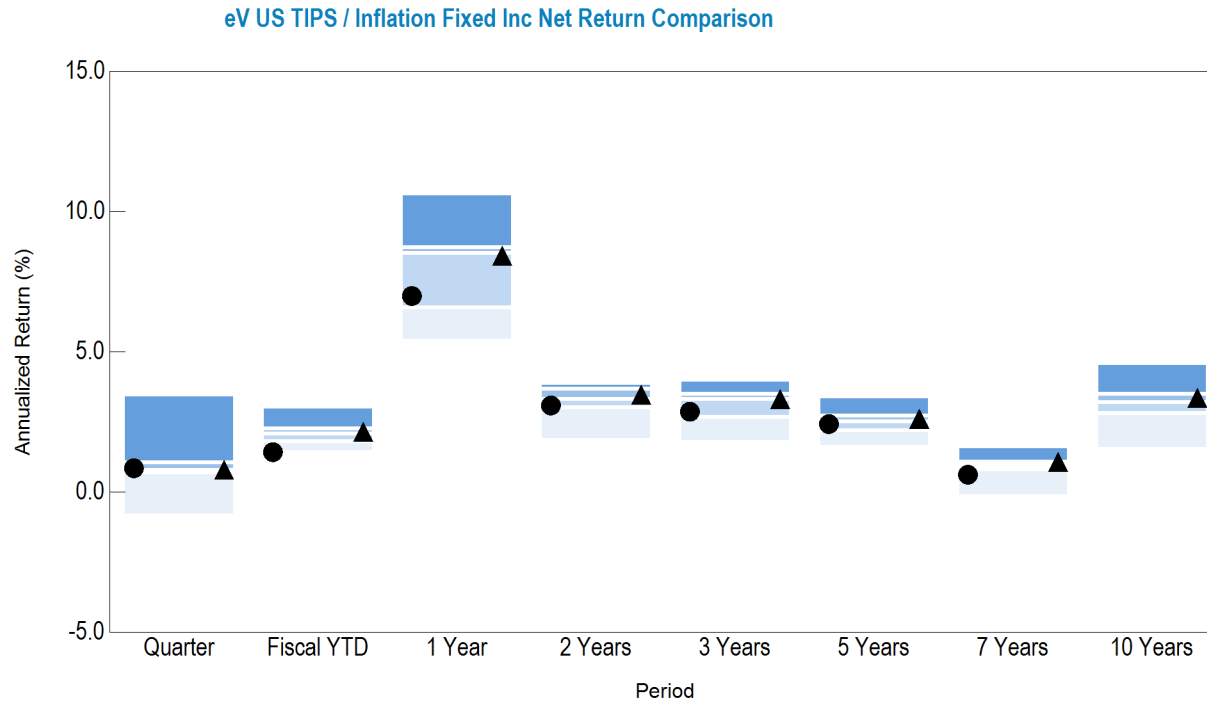
Period Ending: December 31, 2019

INDUSTRIAL							
Arjons Industrial Park	San Diego CA	\$49,700,000	\$50,200,000	\$50,200,000	2Q04	December-19	\$1,306,713
Gateway Business Park	Dallas TX	\$14,600,000	\$15,600,000	\$15,600,000	2Q04	December-19	\$406,070
Hayward Industrial	Oakland CA	\$224,900,000	\$240,000,000	\$240,000,000	3Q04-3Q07	December-19	\$6,247,232
Oakesdale Commerce Center	Seattle - Belle - Eve WA	\$71,400,000	\$73,700,000	\$73,700,000	1Q06	December-19	\$1,918,421
South Bay Industrial	Los Angeles, CA	\$70,700,000	\$71,500,000	\$71,500,000	4Q06	December-19	\$1,861,155
Steeplechase Portfolio	Capitol Heights, MD	\$110,300,000	\$115,200,000	\$115,200,000	1Q11	December-19	\$2,998,672
Airport Trade Center Portfolio	Dallas, TX	\$148,400,000	\$149,800,000	\$149,800,000	1Q11	December-19	\$3,899,314
IE Logistics	San Bernardino, CA	\$172,800,000	\$175,100,000	\$175,100,000	3Q11	December-19	\$4,557,877
Railhead Industrial	Dallas, TX	\$66,100,000	\$65,800,000	\$65,800,000	4Q11	December-19	\$1,712,783
Empire Gateway aka Chino South Logistics Center	Chino, CA	\$317,000,000	\$319,000,000	\$319,000,000	4Q12	December-19	\$8,303,613
SFO Logistics Center	San Francisco, CA	\$165,000,000	\$177,000,000	\$177,000,000	4Q13	December-19	\$4,607,334
Miami Industrial Portfolio	Various ,FL	\$87,654,891	\$88,107,509	\$61,525,541	1Q16	December-19	\$1,601,518
Miami Industrial Portfolio - Fedex	Hollywood, FL	\$47,600,000	\$48,000,000	\$34,184,641	1Q16	December-19	\$889,831
OMP Burbank	Los Angeles, CA	\$143,095,390	\$179,504,652	\$179,504,652	2Q16	December-19	\$4,672,530
Pacific Commons	Freemont, CA	\$256,112,410	\$273,046,317	\$218,466,944	1Q17	December-19	\$5,686,724
Gateway 80 Business Park	Fairfield, CA	\$107,800,000	\$108,000,000	\$108,000,000	1Q18	December-19	\$2,811,255
Meridian Distribution Center II	Riverside, CA	\$61,100,000	\$62,600,000	\$62,600,000	3Q18	December-19	\$1,629,486
Bayport North Industrial Building II and III	Riverside, CA	\$60,700,000	\$61,000,000	\$61,000,000	4Q18	December-19	\$1,587,838
Skyline Industrial	Riverside, CA	\$65,684,266	\$66,600,000	\$66,600,000	3Q19	December-19	\$1,733,607
North PDX Logistics Portfolio	Portland, OR	\$0	\$75,000,000	\$75,000,000	4Q19	Acq in 4Q19	\$1,952,260
		\$2,240,646,956	\$2,414,758,478	\$2,319,781,777			\$58,431,972
OFFICE							
55 Cambridge Parkway	Boston MA - NH	\$369,000,000	\$391,000,000	\$391,000,000	4Q06	December-19	\$10,177,783
1800 Larimer	Denver, CO	\$338,000,000	\$333,000,000	\$333,000,000	1Q11	December-19	\$8,668,035
Hillview Office	San Jose, CA	\$68,700,000	\$68,700,000	\$68,700,000	3Q12	December-19	\$1,788,270
Williams Tower	Houston, TX	\$613,000,000	\$616,000,000	\$430,682,796	1Q13	December-19	\$11,210,731
Westlake Park Place	Westlake Village, CA	\$109,000,000	\$108,000,000	\$108,000,000	4Q13	December-19	\$2,811,255
101 Second	San Francisco, CA	\$493,000,000	\$505,000,000	\$505,000,000	1Q14	December-19	\$13,145,218
Energy Crossing II	Houston, TX	\$104,000,000	\$104,000,000	\$104,000,000	2Q14	December-19	\$2,707,134
1776 Wilson Blvd.	Arlington, VA	\$85,100,000	\$84,900,000	\$84,900,000	3Q14	December-19	\$2,209,958
631 Howard	San Francisco, CA	\$117,000,000	\$117,000,000	\$117,000,000	3Q14	December-19	\$3,045,526
Barton Oaks	Austin, TX	\$112,000,000	\$113,000,000	\$113,000,000	3Q14	December-19	\$2,941,405
Hercules East and South Campus	Los Angeles, CA	\$193,429,166	\$200,740,591	\$200,740,591	3Q14	December-19	\$5,225,305
The Reserve	Playa Vista, CA	\$400,189,063	\$420,673,141	\$420,673,141	1Q15	December-19	\$10,950,179
Fort Point Portfolio	Boston, MA	\$291,857,083	\$298,782,506	\$298,782,506	2Q15	December-19	\$7,777,349
Legacy West Office	Plano, TX	\$152,000,000	\$154,000,000	\$61,965,428	1Q15	December-19	\$1,612,968
1101 Westlake	Seattle, WA	\$148,000,000	\$150,000,000	\$150,000,000	3Q15	December-19	\$3,904,520
PearlWest	Boulder, CO	\$135,000,000	\$135,000,000	\$135,000,000	4Q16	December-19	\$3,514,068
The Mark 302	Santa Monica, CA	\$60,074,234	\$64,458,940	\$64,458,940	1Q18	December-19	\$1,677,875
430 West 15th Street	New York NY	\$164,000,000	\$166,000,000	\$166,000,000	2Q18	December-19	\$4,321,002
Ten Fawcett	Cambridge, MA	\$60,916,000	\$65,087,000	\$35,987,000	3Q18	December-19	\$936,746
Press Blocks	Portland, OR	\$27,070,467	\$38,918,740	\$38,918,740	3Q18	December-19	\$1,013,060
Union Tower West	Denver, CO	\$70,600,000	\$69,600,000	\$69,600,000	4Q18	December-19	\$1,811,697
Tryon South End	Denver, CO	\$57,115,990	\$75,109,006	\$75,109,006	1Q19	December-19	\$1,955,098
22 Boston Wharf Rd	Boston, MA	\$183,000,000	\$185,000,000	\$185,000,000	1Q19	December-19	\$4,815,575
Legacy West - Block H - Office	Plano, TX	\$10,244,324	\$13,530,737	\$13,530,737	2Q19	December-19	\$352,207
Pasadena Commons - Office	Pasadena, CA	\$0	\$47,300,000	\$25,000,000	4Q19	December-19	\$650,753
Shops at Legacy - Office	Plano, TX	\$0	\$25,000,000	\$47,300,000	4Q19	December-19	\$1,231,225
		\$4,476,296,327	\$4,664,800,660	\$4,358,348,884			\$111,566,430

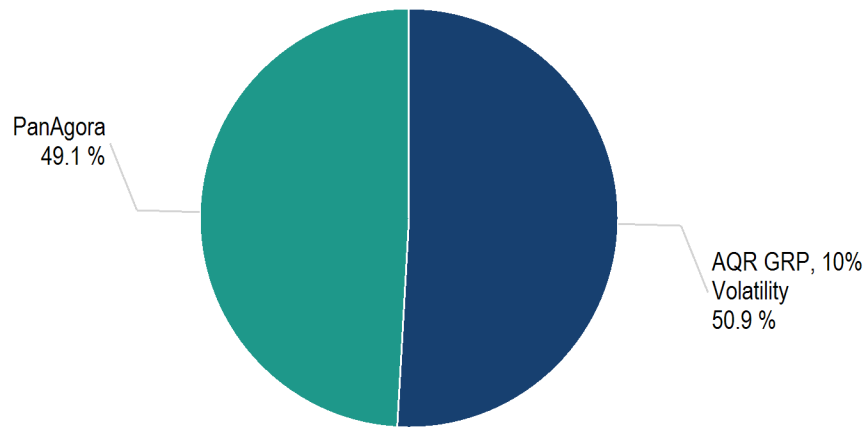
INVESCO Core Real Estate
Real Estate Valuation Analysis

Period Ending: December 31, 2019

RETAIL							
Chandler Pavilion	Phoenix - Mesa AZ	\$22,500,000	\$21,800,000	\$21,800,000	2Q04	December-19	\$567,457
Cityline at Tenley	Washington, D.C.	\$66,000,000	\$67,300,000	\$67,300,000	4Q05	December-19	\$1,751,828
The Beacon Retail	San Francisco, CA	\$74,300,000	\$73,700,000	\$73,700,000	1Q06	December-19	\$1,918,421
The Beacon Garage (units)	San Francisco, CA	\$38,800,000	\$39,200,000	\$39,200,000	1Q06	December-19	\$1,020,381
The Beacon Office (210 King)	San Francisco, CA	\$31,400,000	\$31,600,000	\$31,600,000	1Q15	December-19	\$822,552
Hawthorne Plaza	Overland Park, KS	\$52,000,000	\$49,550,000	\$49,550,000	4Q07	December-19	\$1,289,793
The Loop	Boston MA - NH	\$73,400,000	\$72,300,000	\$72,300,000	1Q08	December-19	\$1,881,979
Westbank Market	Austin, TX	\$66,100,000	\$67,100,000	\$67,100,000	3Q10	December-19	\$1,746,622
910 Lincoln Road	Miami, FL	\$30,900,000	\$29,400,000	\$29,400,000	4Q10	December-19	\$765,286
Lake Pointe Village	Houston, TX	\$88,250,000	\$88,250,000	\$88,250,000	4Q11	December-19	\$2,297,159
Safeway Kapahulu	Hawaii	\$95,100,000	\$95,800,000	\$59,563,598	4Q11	December-19	\$1,550,448
Safeway Burlingame	San Francisco, CA	\$58,300,000	\$58,400,000	\$35,676,947	4Q11	December-19	\$928,676
Shamrock Plaza	Oakland, CA	\$40,800,000	\$40,800,000	\$24,533,676	4Q11	December-19	\$638,615
Pavilions Marketplace	West Hollywood, CA	\$71,200,000	\$71,300,000	\$46,599,924	1Q12	December-19	\$1,213,002
130 Prince	New York, NY	\$0	\$0	\$0	2Q12	December-19	\$0
Safeway Pleasanton	Pleasanton, CA	\$86,500,000	\$86,500,000	\$86,500,000	4Q12	December-19	\$2,251,607
Liberty Wharf	Boston, MA	\$92,000,000	\$93,300,000	\$93,300,000	4Q12	December-19	\$2,428,612
Shops at Legacy	Plano, TX	\$126,000,000	\$73,600,000	\$73,600,000	3Q13	December-19	\$1,915,818
Pasadena Commons	Pasadena, CA	\$63,800,000	\$40,000,000	\$40,000,000	4Q14	December-19	\$1,041,205
Rush Street Retail	Chicago, IL	\$16,900,000	\$16,900,000	\$16,900,000	4Q14	December-19	\$439,909
Legacy West Retail	Plano, TX	\$280,000,000	\$285,000,000	\$162,287,237	1Q15	December-19	\$4,224,359
131-137 Spring Street	New York, NY	\$231,000,000	\$218,000,000	\$218,000,000	3Q15	December-19	\$5,674,569
Runway at Playa Vista - Retail	Playa Vista, CA	\$133,560,000	\$131,970,000	\$70,571,531	1Q16	December-19	\$1,836,986
139 Spring	New York, NY	\$100,151,600	\$88,252,400	\$88,252,400	1Q16	December-19	\$2,297,222
Clayton Lane	Denver, CO	\$150,754,381	\$149,842,165	\$103,950,916	1Q16	December-19	\$2,705,856
4th & Colorado	Santa Monica, CA	\$13,280,000	\$13,280,000	\$13,280,000	1Q16	December-19	\$345,680
Legacy West - Block H	Plano, TX	\$13,153,668	\$15,630,501	\$15,630,501	4Q17	December-19	\$406,864
Shops at Crystals	Las Vegas, NV	\$302,000,000	\$301,500,000	\$163,854,787	2Q16	December-19	\$4,265,162
		\$2,458,249,649	\$2,360,075,066	\$1,892,501,517			\$49,262,069
Other							
Baranof - Walden Park	San Marcos, TX	\$9,816,617	\$9,724,008	\$9,724,008	1Q18	December-19	\$253,117
Baranof - Ranch Road 620	San Marcos, TX	\$9,353,569	\$9,353,569	\$9,353,569	1Q18	December-19	\$243,475
Baranof - Glenwood Avenue	Raleigh, NC	\$9,816,617	\$9,724,008	\$9,724,008	1Q18	December-19	\$253,117
Baranof - 1-84 & 60th	Vancouver, WA	\$23,708,057	\$23,800,667	\$23,800,667	1Q18	December-19	\$619,535
Baranof - Fishers Landing Vancouver	Vancouver, WA	\$17,503,214	\$17,595,824	\$17,595,824	1Q18	December-19	\$458,022
US Storage - Compton	Compton, CA	\$29,099,353	\$29,642,339	\$19,046,168	4Q17	December-19	\$495,774
The Quad	New York NY	\$118,473,747	\$132,601,284	\$92,398,293	2Q18	December-19	\$2,405,140
Baranof - 622 Capital	Raleigh, NC	\$20,837,160	\$20,837,160	\$20,837,160	3Q18	December-19	\$542,394
51st Street Self Storage	Austin, TX	\$12,400,000	\$12,900,000	\$12,900,000	3Q18	December-19	\$335,789
Campbell Self Storage	Campbell, CA	\$18,600,000	\$18,700,000	\$18,700,000	3Q18	December-19	\$486,764
Baranof - Belmont and 7th	Portland, OR	\$19,540,625	\$19,633,235	\$19,633,235	4Q18	December-19	\$511,056
Boston Lane Self Storage	Austin, TX	\$16,300,000	\$16,500,000	\$16,500,000	4Q18	December-19	\$429,497
US Storage - 4800 Valley	Los Angeles, CA	\$6,091,061	\$6,325,923	\$6,325,923	1Q19	December-19	\$164,665
Newark Self Storage	Newark, CA	\$8,593,119	\$12,757,360	\$12,757,360	1Q19	December-19	\$332,076
Norwood Extra Space	Norwood, MA	\$19,300,000	\$19,400,000	\$19,400,000	1Q19	December-19	\$504,985
		\$339,433,141	\$359,495,376	\$308,696,215			\$8,035,404
Portfolio Total		\$14,006,363,657	\$14,127,091,867	\$12,260,769,125			\$315,315,233



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.5	3.0	10.7	3.9	4.0	3.4	1.6	4.6
25th Percentile	1.1	2.3	8.7	3.7	3.5	2.7	1.1	3.5
Median	0.8	2.1	8.5	3.3	3.3	2.5	1.0	3.2
75th Percentile	0.7	1.8	6.6	3.0	2.7	2.2	0.8	2.8
95th Percentile	-0.8	1.4	5.4	1.9	1.8	1.6	-0.1	1.5
# of Portfolios	19	19	19	19	19	18	16	12
● Brown Brothers Harriman	0.8 (48)	1.4 (99)	7.0 (71)	3.1 (73)	2.9 (67)	2.4 (60)	0.6 (87)	-- (--)
▲ BBgBarc US TIPS TR	0.8 (50)	2.1 (42)	8.4 (54)	3.5 (33)	3.3 (52)	2.6 (42)	1.1 (26)	3.4 (34)



	Actual \$	Actual %	Manager Contribution to Excess Return %
AQR GRP, 10% Volatility	\$207,741,992	50.9%	-0.2%
PanAgora	\$200,241,754	49.1%	-2.6%
Actual vs. Policy Weight Difference			0.0%
Total	\$407,983,746	100.0%	-2.8%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Risk Parity	9.5%	7.1%	1.1	0.0	4.8%
Blended Risk Parity Index	9.4%	6.6%	1.2	--	0.0%
AQR GRP, 10% Volatility	10.4%	7.5%	1.2	0.2	4.3%
Blended Risk Parity Index	9.4%	6.6%	1.2	--	0.0%
PanAgora	8.7%	7.3%	1.0	-0.1	5.9%
Blended Risk Parity Index	9.4%	6.6%	1.2	--	0.0%

Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Risk Parity	6.6%	7.8%	0.7	-0.2	6.0%
Blended Risk Parity Index	7.5%	6.8%	0.9	--	0.0%
AQR GRP, 10% Volatility	6.1%	7.9%	0.6	-0.2	5.6%
Blended Risk Parity Index	7.5%	6.8%	0.9	--	0.0%
PanAgora	6.9%	8.3%	0.7	-0.1	7.0%
Blended Risk Parity Index	7.5%	6.8%	0.9	--	0.0%

Total Fund
Performance Summary (Gross of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Total Fund	3.9	5.6	16.5	5.7	8.7	7.1	8.5
<i>Policy Index</i>	4.7	5.9	17.1	6.3	9.3	7.3	8.8
Total Fund ex Overlay	4.1	5.6	16.2	5.5	8.5	7.0	8.5
<i>Policy Index</i>	4.7	5.9	17.1	6.3	9.3	7.3	8.8
Public Equity	8.3	8.9	26.5	7.1	12.5	9.0	10.3
<i>Blended Public Equity Index</i>	8.6	9.0	26.7	7.0	12.5	8.9	10.4
US Equity	7.7	9.5	29.0	10.4	14.0	10.9	13.0
<i>Blended US Equity Index</i>	9.1	10.4	31.0	11.4	14.6	11.1	13.4
<i>Russell 3000</i>	9.1	10.4	31.0	11.4	14.6	11.2	13.4
Large Cap Equity	7.5	9.6	29.7	11.5	15.6	12.0	13.4
<i>Russell 1000</i>	9.0	10.6	31.4	11.9	15.0	11.5	13.5
Acadian US MGD V	5.2	8.2	25.4	--	--	--	--
BlackRock Russell 1000	9.0	10.6	31.5	11.9	--	--	--
DE Shaw	9.0	10.7	28.1	10.8	15.6	13.2	14.5
PanAgora Defuseq	3.3	6.6	29.4	--	--	--	--
<i>Russell 1000</i>	9.0	10.6	31.4	11.9	15.0	11.5	13.5
Small Cap Equity	9.4	8.7	22.8	3.8	6.8	6.4	11.6
<i>Russell 2000</i>	9.9	7.3	25.5	5.7	8.6	8.2	11.8
QMA US Small Cap	9.4	8.7	22.8	3.8	6.8	--	--
<i>Russell 2000</i>	9.9	7.3	25.5	5.7	8.6	8.2	11.8
International Equity	9.0	8.1	23.6	3.4	10.8	6.6	5.4
<i>Blended International Equity Index</i>	8.0	7.4	21.8	1.9	10.1	6.0	5.5
<i>MSCI EAFE Gross</i>	8.2	7.1	22.7	3.1	10.1	6.2	6.0
Developed Markets	10.5	8.8	25.2	3.9	11.1	6.9	5.8
<i>MSCI ACWI ex USA Gross</i>	9.0	7.1	22.1	2.6	10.4	6.0	5.4
Baillie Gifford	12.6	11.6	34.1	5.9	14.1	8.9	--
<i>MSCI ACWI ex US</i>	9.0	7.1	22.1	2.6	10.4	6.0	--
<i>MSCI ACWI ex US Growth</i>	9.6	8.8	27.8	4.8	13.3	7.7	--

Total Fund
Performance Summary (Gross of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
BlackRock EAFE Index	8.2	7.1	22.5	3.0	10.0	6.1	--
<i>MSCI EAFE</i>	8.2	7.0	22.0	2.6	9.6	5.7	5.5
<i>MSCI EAFE Gross</i>	8.2	7.1	22.7	3.1	10.1	6.2	6.0
Mondrian	10.8	7.9	19.5	2.7	9.2	5.4	5.3
<i>MSCI ACWI ex USA Value Gross</i>	8.3	5.4	16.5	0.4	7.5	4.3	4.2
<i>MSCI ACWI ex USA Gross</i>	9.0	7.1	22.1	2.6	10.4	6.0	5.4
Emerging Markets	8.2	3.6	14.0	-0.7	8.2	4.0	--
<i>MSCI Emerging Markets Gross</i>	11.9	7.3	18.9	1.0	12.0	6.0	4.0
Parametric Core	8.2	3.6	14.0	-0.7	8.2	--	--
<i>MSCI Emerging Markets Gross</i>	11.9	7.3	18.9	1.0	12.0	6.0	4.0
Parametric Currency Overlay	-18.5	7.1	18.6	--	--	--	--
Fixed Income	1.3	2.5	8.5	4.4	4.8	4.4	5.7
<i>Blended Fixed Income Index</i>	0.9	3.1	10.8	4.9	4.9	3.9	4.2
Core Fixed	0.9	2.6	8.2	4.0	4.2	3.6	4.9
<i>BBgBarc US Aggregate TR</i>	0.2	2.5	8.7	4.3	4.0	3.0	3.7
BlackRock Intermediate Govt	0.0	1.3	5.3	3.5	--	--	--
<i>BBgBarc US Govt Int TR</i>	0.0	1.2	5.2	3.3	2.6	2.0	2.4
FIAM Bond	0.6	2.9	9.8	4.7	4.6	3.7	4.7
<i>BBgBarc US Aggregate TR</i>	0.2	2.5	8.7	4.3	4.0	3.0	3.7
Western TRU	3.1	4.1	9.7	3.3	5.4	--	--
<i>3-Month Libor Total Return USD</i>	0.5	1.0	2.4	2.4	2.0	1.4	0.9
<i>BBgBarc US Aggregate TR</i>	0.2	2.5	8.7	4.3	4.0	3.0	3.7
Opportunistic Credit	1.9	2.5	9.2	5.2	6.4	6.7	10.1
<i>BBgBarc BA Intermediate HY</i>	2.3	4.2	14.7	6.1	6.1	5.8	6.2
Angelo Gordon Opportunistic	2.2	5.6	12.1	16.6	16.9	12.1	--
Angelo Gordon STAR	2.2	4.3	16.1	18.9	18.8	14.0	--
<i>BBgBarc US Aggregate TR</i>	0.2	2.5	8.7	4.3	4.0	3.0	3.7

Total Fund
Performance Summary (Gross of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Beach Point Select	3.4	4.9	12.9	6.7	7.3	--	--
<i>BBgBarc BA Intermediate HY</i>	2.3	4.2	14.7	6.1	6.1	5.8	6.2
Brigade Capital	3.2	2.8	9.1	4.0	5.2	5.4	--
<i>BBgBarc BA Intermediate HY</i>	2.3	4.2	14.7	6.1	6.1	5.8	6.2
<i>50% Barclays HY/ 50% Bank Loan</i>	2.1	3.3	11.2	5.2	5.4	5.3	--
PIMCO Diversified	1.7	2.9	12.8	5.7	--	--	--
<i>Blended PIMCO Diversified Index</i>	1.7	3.7	13.7	5.4	6.0	5.5	6.5
<i>BBgBarc BA Intermediate HY</i>	2.3	4.2	14.7	6.1	6.1	5.8	6.2
Franklin Templeton	1.4	-2.1	1.1	0.5	1.7	1.7	--
<i>BBgBarc Multiverse TR</i>	0.6	1.3	7.1	2.8	4.4	2.5	2.7
Private Credit	0.5	2.4	6.4	7.1	6.9	--	--
<i>Cliffwater Direct Lending Index</i>	1.8	3.6	8.9	8.5	8.5	8.4	10.4
PIMCO Private Income	0.0	3.5	--	--	--	--	--
<i>BBgBarc BA Intermediate HY</i>	2.3	4.2	14.7	6.1	6.1	5.8	6.2
<i>Cliffwater Direct Lending Index</i>	1.8	3.6	8.9	8.5	8.5	8.4	10.4
TCP Direct Lending VIII	1.5	3.0	7.2	7.1	7.1	--	--
White Oak Yield	0.0	1.2	5.2	7.0	--	--	--
<i>Cliffwater Direct Lending Index</i>	1.8	3.6	8.9	8.5	8.5	8.4	10.4
Risk Parity	2.1	4.9	23.2	6.9	9.5	6.6	--
<i>Blended Risk Parity Index</i>	4.9	6.3	19.8	7.0	9.4	7.5	--
AQR GRP, 10% Volatility	4.5	5.8	24.2	7.6	10.4	6.1	--
PanAgora	-0.2	4.0	22.1	6.2	8.7	6.9	--
<i>Blended Risk Parity Index</i>	4.9	6.3	19.8	7.0	9.4	7.5	--
<i>S&P Risk Parity 10% Target Volatility Index TR USD</i>	3.2	5.6	19.0	6.9	7.3	5.1	6.3
Alternatives	-2.6	5.7	7.6	4.9	6.5	6.9	--
<i>Blended Alternatives Index</i>	1.9	4.9	6.5	8.0	10.3	7.9	--
Private Equity	-3.6	11.7	16.8	17.2	16.0	16.6	--
<i>Blended Private Equity Index</i>	2.3	6.5	5.9	9.3	14.1	12.2	15.4

Total Fund
Performance Summary (Gross of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Hedge Fund/Absolute Return	-1.2	-1.2	-2.7	-7.3	-3.4	0.0	--
<i>Libor 1 month +4%</i>	1.4	3.0	6.3	6.2	5.8	5.2	4.7
AQR DELTA XN	-3.1	-4.2	-10.3	-12.8	-7.1	-2.1	--
Aberdeen Standard GARS	1.3	2.9	9.1	1.5	2.2	--	--
<i>Libor 1 month +4%</i>	1.4	3.0	6.3	6.2	5.8	5.2	4.7
Inflation Hedge	2.8	2.6	8.5	3.6	5.2	--	--
<i>Blended Inflation Hedge Index</i>	2.5	2.8	9.3	4.3	5.8	--	--
Real Estate	2.2	4.4	7.1	8.1	8.3	9.8	11.8
<i>NCREIF ODCE</i>	1.5	2.8	5.3	6.8	7.1	9.0	11.4
Invesco	2.3	4.3	6.6	7.9	8.1	9.6	11.7
<i>NCREIF ODCE</i>	1.5	2.8	5.3	6.8	7.1	9.0	11.4
Invesco US Val IV	3.6	9.0	14.9	13.6	13.4	--	--
<i>NCREIF ODCE</i>	1.5	2.8	5.3	6.8	7.1	9.0	11.4
<i>NCREIF CEVA 1Q Lag - NET</i>	3.0	6.0	12.3	12.1	11.5	12.9	--
Invesco US Val V	5.2	6.3	--	--	--	--	--
<i>NCREIF ODCE</i>	1.5	2.8	5.3	6.8	7.1	9.0	11.4
<i>NCREIF CEVA 1Q Lag - NET</i>	3.0	6.0	12.3	12.1	11.5	12.9	--
PGIM RE US Debt Fund	1.6	3.3	6.8	6.7	--	--	--
<i>NCREIF ODCE</i>	1.5	2.8	5.3	6.8	7.1	9.0	11.4
Private Real Asset	0.1	-0.6	-10.9	-3.5	-3.3	5.8	--
<i>Blended Private Real Asset Index</i>	-2.7	1.0	4.1	0.4	4.3	4.8	--
<i>Blended Secondary CA Private RA Index</i>	-1.2	-1.3	-1.3	4.2	7.2	3.7	--
Public Real Assets	4.3	1.4	15.0	0.3	4.7	--	--
<i>Blended Public Real Asset Index</i>	5.8	3.0	15.8	1.9	5.7	5.9	--
Cushing MLP Alpha TR	-0.9	-4.6	11.2	--	--	--	--
<i>50% BBgBarc US TIPS/ 50% Blended PRA Index</i>	3.3	2.7	12.3	--	--	--	--
<i>Alerian MLP TR USD</i>	-4.1	-8.9	6.6	-3.4	-4.4	-7.0	4.2
SSgA Custom Real Asset	5.9	3.2	16.1	2.1	6.0	--	--
<i>SSgA Custom Real Asset Index</i>	5.8	3.0	15.8	1.9	5.7	--	--

Total Fund
Performance Summary (Gross of Fees)

Period Ending: December 31, 2019

	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
TIPS	0.8	1.4	7.1	3.2	3.0	2.6	--
<i>BBgBarc US TIPS TR</i>	0.8	2.1	8.4	3.5	3.3	2.6	3.4
Brown Brothers Harriman	0.8	1.4	7.1	3.2	3.0	2.6	--
<i>BBgBarc US TIPS TR</i>	0.8	2.1	8.4	3.5	3.3	2.6	3.4
Cash	0.3	0.5	1.2	1.2	1.1	1.1	0.9
<i>91 Day T-Bills</i>	0.4	0.9	2.1	2.0	1.6	1.1	0.6
General Account	0.5	1.1	3.1	4.0	3.3	2.5	1.4
Treasury & LAIF	0.7	1.4	3.1	3.9	3.0	2.1	1.5
<i>91 Day T-Bills</i>	0.4	0.9	2.1	2.0	1.6	1.1	0.6

Acadian Asset Management – Acadian U.S. Managed Volatility

Acadian attempts to take advantage of the mispricing of risk by building low-risk equity portfolios that hold predominantly low-risk stocks, and then also adding information on the correlation structure of equities to help further reduce risk through diversification.

Angelo, Gordon & Co. – AG STAR Fund

The STAR Fund will focus on CMBS and non-Agency RMBS priced between 25-75% of par, which AG believes are even today mispriced due to their complex nature and a dearth of natural buyers capable of accurately valuing these assets. In addition, AG will target securities that are well-positioned to benefit from home and commercial property price stabilization and recovery, and/or borrower credit quality improvement. In this regard the STAR Fund will be more aggressive than the PPIP Fund since it will target securities that are more geared to a recovery of the commercial and residential real estate markets. The Fund will utilize a moderate amount of leverage (1x to 1.5x) and is targeting a base-case 15% net IRR with a downside return in the mid/high single digits and an upside projection of 25%+ returns.

Angelo, Gordon & Co. – AG Opportunistic Whole Loan Fund

As bank balance sheets have strengthened since the crisis, Angelo Gordon expects approximately \$40 billion of re-performing loans and non-performing loans will trade hands each year in the near term. By acquiring these loans at a discounted price and replacing original servicers with better-focused special servicers, Angelo Gordon believes it can improve operational efficiency and generate attractive returns. To take advantage of this opportunity, Angelo Gordon established this Opportunistic Whole Loan Fund to make investments primarily in a portfolio of non-performing loans and re-performing, but will also include investments in new residential mortgage loans and excess mortgage servicing rights. Opportunistic investments in commercial mortgage loans and other mortgage related investments may also be included in the Fund's portfolio. Angelo Gordon has been an active participant in the residential and consumer debt market since 2008. The Partnership's investment approach to residential mortgage loans and securities is guided by an analytically based investment process anchored by distressed asset valuation and cash flow modeling. Angelo Gordon's analysis of re-performing and non-performing loans begins with its loan due diligence process. This process will include a review of substantially all of the properties in the pool, as well as a review of the loan files backing the loan pool. In addition, a macro overlay is embedded in the investment process which incorporates general economic trends, along with specific views on interest rates, unemployment, collateral appreciation or depreciation, governmental intervention in creditors' rights and liquidation timelines.

AQR Capital Management - AQR Delta

The AQR DELTA Fund aims to deliver efficient exposure to a well-diversified portfolio of hedge fund strategies, including Convertible Arbitrage, Event Driven, Fixed Income Relative Value, Equity Market Neutral, Long/Short Equity, Dedicated Short Bias, Global Macro, Managed Futures, and Emerging Markets. The Delta Fund's approach is to capture and deliver the "hedge fund risk premiums" that explain much of the returns of each of these strategies by building bottom-up positions in each strategy. AQR's research has demonstrated that many hedge funds use similar strategies to generate returns. These strategies are often well-known, widely understood and share common exposures. AQR's experience and research suggests much of the insight underlying these strategies - as well as a meaningful portion of their returns - can be captured using a dynamic, disciplined investment approach. Just as the equity risk premium can explain a large portion of the returns from equity investing, hedge fund risk premiums can explain the returns from hedge fund investing. Importantly, while compensation for equity risk is dependent on economic growth, hedge fund risk premiums are largely unrelated to economic activity, and thus provide attractive diversification properties.

AQR – Risk Parity

The objective of Global Risk Parity (GRP) is to generate excess returns from a risk diversified portfolio of asset exposures. AQR believes that its approach maximizes the diversification benefit across a broad range of economic environments. For many institutional portfolios, equity risk has historically been the predominant risk and the source of most return expectations since equities offer higher expected returns to compensate for their high risk. Investor preference for and concentration in equities has been driven by their expected return needs, which cannot be satisfied in a well-diversified un-levered portfolio. GRP is a diversified portfolio that can be scaled to similar levels of risk as a portfolio concentrated in equities, but with a higher expected return resulting from diversification across asset class risk. The approach helps do away with the compromise of concentrating in high risk assets to meet high return needs. Consistent with portfolio theory, the GRP strategy is designed to maximize diversification across a broad spectrum of liquid global risk premia to create a portfolio with higher expected risk-adjusted returns. Research shows that risk-adjusted returns across asset classes are similar over the long-term. Since realized risk-adjusted returns across asset classes are similar, AQR expects a portfolio that is diversified equally by risk to perform better. The Global Risk Premium strategy aims to deliver efficient market exposure across four broad asset classes in a risk balanced fashion.

Baillie Gifford – ACWI ex US Focus Equities

ACWI ex US Focus is a fundamental growth strategy. Research is organized primarily by regional teams, with each member of the ACWI ex US Focus Portfolio Construction Group representing a regional team. Four global sector groups also contribute research. Baillie Gifford conducts approximately 2000 company meetings annually both in Edinburgh and onsite. Companies are evaluated on their growth opportunity relative to the average company, their ability to execute on that opportunity, and the degree to which probability of future success is already valued by the market. Baillie Gifford's basic philosophy is that share prices ultimately follow earnings. They believe that the stock market has a recurring tendency to under-appreciate the value of long-term compound growth. The process seeks to add value through use of proprietary fundamental research to identify companies exhibiting some combination of sustained above average growth, and attractive financial characteristics. The portfolio generally holds 80-120 stocks, with country and sector weights +/-6% relative to the index and industry weights +/- 5% relative to the index.

Beach Point Capital Management, L.P. - Beach Point Select Fund

Beach Point Select Fund is a commingled fund vehicle within the firm's Opportunistic Credit strategy. This fund focuses on off-the-run, complex, and less-liquid securities. It is a best ideas portfolio of distressed debt, special situations, private/direct loans, catalyst-driven high yield bonds and bank loans, and credit-informed equities with a North American and European focus. The Select Fund differs from other funds and accounts in the Opportunistic Credit strategy by pursuing a more concentrated portfolio and emphasizing a higher percentage of less-liquid/private investments. Beach Point invests up and down the entire capital structure and it constructs portfolios with a bottom-up, research-driven approach that also takes into account top-down macro considerations. Its investment process includes idea generation, detailed credit analysis, relative value decision making and investment selection, portfolio construction and on-going monitoring. The ultimate goal of its investment process is to produce a well-diversified investment portfolio with limited downside risk and substantial upside potential.

BlackRock – EAFE Index

The EAFE Index Fund seeks to replicate the return of the MSCI EAFE Index. This index represents the developed equity markets outside of North America: Europe, Austral, Asia and the Far East.

BlackRock – Intermediate Government Index

The Intermediate Government Index Fund seeks to track the results of an index composed of U.S. dollar-denominated government, government related, and investment grade U.S. corporate bonds with maturities between 1 and 10 years.

BlackRock – Russell 1000 Index

The Russell 1000 Index Fund tracks large U.S. companies and achieve broad diversification with low costs by fully replicating the Russell 1000 Index.

Brigade – Opportunistic Credit

Opportunistic Credit is a fundamental, bottom-up strategy focused on high yield corporate bonds and bank loans with tactical allocations to structured securities, convertibles and other sectors of the bond markets as they become attractive on a relative value basis. While performing credits represent the majority, Brigade will invest up to 35% of the portfolio in distressed securities and restructuring situations if these types of opportunities are attractive on a risk-adjusted basis and the timing is right with respect to the credit cycle. The portfolio is comprised of mostly North American issuers, but they are not restricted geographically and expect to have a moderate allocation to Europe over time. Although the portfolio is generally long-only, Brigade has the ability to implement a limited amount of tactical macro hedges.

Brown Brothers Harriman – Inflation Indexed Securities

BBH manages TIPS using three main types of strategies: Fundamental, Technical and Opportunistic. The Fundamental bucket has two sub-strategies, real yield duration and real yield curve slope vs. nominal yield curve slope. The Technical strategies consist of yield curve roll-down, auction cycle trading, seasonal vs. non-seasonal CPI and security selection/option value analysis. Finally, nominal Treasuries vs. TIPS, sector relative value (i.e., corporate or Agency inflation-linked bonds) and non-Dollar inflation-linked bonds make up the Opportunistic group. Real yield duration is held to +/- 1 year vs. the benchmark and the portfolio has a limited allocation to non-index securities, typically 5-10% with a maximum of 20% (including nominal Treasuries).

Cushing MLP Alpha TR

A strategy focusing on bottom-up research of company and sectors that will allow them to identify superior distribution growth opportunities in public MLPs.

DE Shaw – DE Shaw US Broad Market Core Alpha Extension Fund

The D. E. Shaw group believes that there exist some market inefficiencies that may be identified through quantitative analysis, advanced technology, and the insight of practitioners. Identifying these inefficiencies involves a process of hypothesis formulation, testing, and validation. Importantly, to avoid data-mining, the hypothesis formulation precedes the analysis of the historical data. D.E. Shaw's Structured Equity strategies rely largely on quantitative and computational investment techniques developed by the D. E. Shaw over the last 19 years in the course of research conducted for purposes of managing the firm's hedge funds. In addition to its beta one strategies, D.E. Shaw manages substantial assets in its hedge fund strategies. D.E. Shaw's investment process involves a suite of quantitative models, each designed to capitalize on a distinct and uncorrelated set of market inefficiencies. Some of these models are technical in nature and involve price and volume inputs. Other models rely on fundamental data, such as figures gleaned from corporate balance sheets or income statements. Still others, again quantitative, anticipate or react to a particular corporate event or set of events. These models typically operate with forecast horizons of a few weeks to many months. The ability to trade on shorter-term signals distinguishes D.E. Shaw from many of its long only and 130/30 peers. Portfolio construction involves the use of a proprietary optimizer which runs dynamically throughout the trading day. The portfolio is broadly diversified with several hundred long and short positions. Over- and under-weighting of sectors and industries relative to the benchmark will be quite modest, with the intention that most of the alpha be generated by security selection. The US Broad Market Core Alpha Extension Fund is a 130/30 strategy which maintains a beta that is approximately neutral to the Russell 1000 Index.

Eaton Vance/Parametric – Structured Emerging Markets Core Equity

Parametric utilizes a structured, rules-based approach, which they believe is capable of generating enhanced returns with lower volatility compared to both traditional active management and passive capitalization weighted indices. The basic idea is to structure the portfolio with more balanced country weights than the market cap weighted indices, and also to capture a rebalancing premium. This provides more diversification and greater exposure to smaller countries than is provided by the market cap weighted indices. The approach is to divide emerging markets countries into three tiers, and to equally weight the countries within each tier. Tier 1 countries are the largest eight countries that dominate the cap weighted index. Each successive tier is comprised of smaller countries, each of which is given a smaller target weighting in the model portfolio. In aggregate, the eight Tier 1 countries are given a much lower weighting than in the capitalization weighted index, but they nevertheless comprise more than 50% of the portfolio. The Core SEM strategy targets excess return of 3% over a market cycle with 2.5%-4.5% tracking error. It is designed to generate a level of volatility 90%-100% of the MSCI EM index. The strategy invests in 44 countries and will typically hold 700-1,000 securities. Turnover is expected to be in the range of 5%-15%.

Franklin Templeton Investments – Global Fixed Income

Franklin Templeton manages the global bond mandate in an unconstrained fashion using a top-down, fundamental framework. In the short term and on a country-by-country basis there are often inefficiencies in global bond and currency markets, however, over the longer term the market will generally price to fundamentals. Thus, FT focuses on fundamental research to identify long-term opportunities and uses short-term market inefficiencies to build positions in such investments. The investment and portfolio construction process begin with the determination of the Fund's or institutional client's investment objectives, resulting in a set of risk-return parameters and exposure limits within which the portfolio is managed. Next the firm's global economic outlook for the industrialized countries is developed, with a focus on interest rate and exchange rate forecasts. The portfolio's interest rate outlook is a function of global general equilibrium macroeconomic analysis as well as country-specific research. Macroeconomic conditions in the G-3 economies are analyzed first, primarily with respect to how current and projected growth and inflation dynamics are expected to influence monetary policy. This analysis is then extended out to the rest of the industrialized countries (G-13) as well as emerging markets, which results in broad targets for cash, duration, currencies and the developed/emerging market mix. Using the firm's interest rate and exchange rate outlook, probability-weighted horizon returns for bonds of various countries are then calculated. This analysis is used to establish specific country weights and duration targets based on risk-adjusted expected total return measured in the portfolio's base currency. Analysis of emerging markets includes sovereign credit analysis along with greater emphasis on capital flows, inter-market dynamics and trends in the level of risk aversion in the market.

INVESCO Realty Advisors – INVESCO Core Equity, LLC

SamCERA is a founding member of INVESCO's open-end Core Equity real estate fund and rolled its separate account properties into the fund. INVESCO Core Equity, LLC (the "Fund") is a perpetual life, open-end vehicle which invests in a diversified portfolio of institutional quality office, retail, industrial and multifamily residential real estate assets. The Fund buys core properties that are located within the United States, typically requiring an investment of \$10 million or more. The portfolio cannot be more than 30% leveraged.

INVESCO Realty Advisors – INVESCO US Val IV

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund. The Invesco real estate team manages around \$62B in assets with investments and offices around the globe. Invesco Value Fund IV will look to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments will be limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA's). Invesco Value Fund IV will provide a nice compliment to the more conservative Invesco Core Fund and offer the potential of enhanced returns to the SamCERA Real Estate portfolio.

INVESCO Realty Advisors – INVESCO US Val V

Invesco has provided SamCERA with Core Real Estate exposure since 2004 through the Invesco Core Equity Fund and through the Invesco US Value IV Fund since December 2015. The Invesco real estate team manages around \$62B in assets with investments and offices around the globe. Invesco Value Fund V will be similar to the Value Add IV and look to acquire fundamentally sound but broken "core" assets that can be repositioned into institutional-quality, income producing properties. Investments will be limited to direct equity interests in office, multi-family, retail and industrial properties across the US. The Fund is expected to be geographically concentrated in U.S. gateway cities and top 25 Metropolitan Statistical Areas (MSA's).

Mondrian Investment Partners – International Equity

Mondrian is a value-oriented, defensive manager whose investment philosophy is based on the principle that investments must be evaluated for their fundamental long-term value. The firm's philosophy involves three stated investment objectives: 1) provide a rate of return meaningfully greater than the client's domestic rate of inflation, 2) structure client portfolios that preserve capital during protracted international market declines, and 3) provide portfolio performance that is less volatile than benchmark indices and other international managers. Mondrian applies typical value screening criteria to a universe of 1,500 stocks, from which 500 are selected for more detailed work. Through fundamental research, and the deliberations of the Investment Committee, the universe is further reduced to a list of 150 stocks. The investment team conducts detailed fundamental analysis on the remaining stocks, a process which includes applying the firm's dividend discount model consistently across all markets and industries. Mondrian also uses a purchasing power parity model to give an accurate currency comparison of the value of the stocks under consideration. The firm will only consider buying stocks in countries with good investor protection practices and relatively simple repatriation procedures. A computer-based optimization program is employed in the portfolio construction process. Mondrian's portfolio holds 80-125 issues.

PanAgora Asset Management – Defensive U.S. Equity Low Volatility

PanAgora's Defensive Equity strategy seeks to balance risk exposures within the portfolio across multiple dimensions to achieve true diversification. The Defensive Equity approach is used to construct equity portfolios designed to achieve tailored exposure to certain factors, including low volatility, multi-factor (value, quality, and momentum), and high dividend yield while maintaining less risk concentration throughout the portfolio.

Panagora – Diversified Risk Multi Asset Fund

The Multi Asset team is headed up by Edward Qian, CIO of the group, and the founder of Panagora’s risk parity strategy. A staff of approximately thirteen works in this group on research and portfolio construction, with some people spending more time on the former and some more on the latter. Panagora implements risk parity by distinguishing between three categories of assets: equities, nominal fixed income, and inflation protection. Each of these categories corresponds to a respective economic environment: economic growth, economic contraction and inflation. Panagora’s risk allocation targets 40% each from equities and nominal fixed income, and 20% from inflation protection. In addition to applying concept of risk parity between asset classes, Panagora also applies it within each asset class. The 40/40/20 allocation to equities/nominal fixed income/inflation protection is a long-term strategic allocation. In 2009 Panagora introduced what they refer to as “Dynamic Risk Allocation” or “DRA,” which involves tactically tilting the risk allocations away from the neutral targets in order to enhance returns and reduce risk.

Parametric Currency Overlay – Currency Hedge

An overlay hedge placed on half of the notional value of international equities. The portfolio uses Parametric for this overlay.

PIMCO Diversified

PIMCO Diversified Income Fund offers a broad and flexible multi-credit approach in a liquid and cost-effective format. The Diversified Income Fund seeks to produce consistent above benchmark performance using diversified sources of alpha from a universe that includes global credit as well as “non-core” credit sectors (ex., securitized, emerging markets).

PIMCO Private Income Fund

PIMCO Private Income Fund provides an attractive total return oriented global credit exposure utilizing both top-down sector relative value and bottom up security selection. The strategy invests across private residential, commercial, corporate and specialty finance markets.

PGIM RE Debt

PGIM Real Estate US Debt Fund focuses on a loan origination strategy with a mix of 20% senior long duration loans on stable assets, 60% senior short/medium duration loans on stable and transitional assets, and 20% mezzanine mid/long duration debt.

Pyramis Global Advisors – Broad Market Duration Commingled Pool

Pyramis’ Broad Market Duration (BMD) investment strategy seeks to achieve absolute and risk-adjusted returns in excess of the BC U.S. Aggregate Index, focusing its investments in US Treasuries, agencies, investment grade corporate bonds, mortgage-backed and asset-backed securities. The BMD commingled pool can also hold small, opportunistic positions in out-of-benchmark securities, such as inflation-linked bonds. The investable universe includes all US dollar denominated, investment grade debt securities. The BMD investment approach emphasizes issuer and sector valuation and individual security selection. Through the integration of fundamental and quantitative research and trading, the BMD strategy is implemented in a team environment. Risk management technology is utilized to explicitly quantify benchmark exposures on a daily basis, and Pyramis uses the same analytical framework to assess both index and portfolio risk. Tracking error should range between 40 and 60 basis points per annum over the benchmark, and stringent portfolio construction risk control rules are strictly adhered to.

Quantitative Management Associates – QMA Small-Cap Core

Quantitative Management Associates (QMA) utilizes a bottom-up quantitative framework in order provide a diversified exposure to core U.S. small-cap stocks, while attempting to produce consistent outperformance versus the benchmark with moderate tracking error levels. QMA uses an adaptive, systematic investment process to exploit opportunities created by mispriced securities to consistently add value over long time periods. Bottom-up stock selection drives exposure to key sources of alpha (valuation, growth, and quality). The QMA stock selection model adapts to changes in company growth rates and market environments by putting more emphasis on valuation for slowly growing companies, and more emphasis on future growth projections for companies with higher projected growth rates.

Standard Life Aberdeen Global Absolute Return Strategy (GARS)

The Standard Life Aberdeen Global Absolute Return Strategy (GARS) was initially launched in 2005 to help address Standard Life's own pension plan's deficit problem. GARS' primary investment objective is to deliver a positive absolute return over the medium to long term with lower volatility than equities, irrespective of market conditions. It seeks returns through dynamic allocation to investment opportunities in traditional and advanced asset classes, and also separately exploits the team's security selection expertise. In the search for attractive investment positions, the team follows a rigorous research process. This includes a variety of research techniques, including broad global macro-economic, fundamental analysis, quantitative research and valuation modeling. The GARS investment process is designed to capitalize on an array of research and investment techniques and draws together the team's three-year investment insights. The team then rigorously examines and review position proposals to approve a high conviction, short list of positions that work well together. Having a cash benchmark means that GARS has a potentially unrestricted investment universe and all portfolio holdings are at the Portfolio Manager's discretion. The GARS portfolio also routinely uses a variety of conventional derivatives for investment, liquidity, efficiency and hedging purposes. The GARS strategy has experienced significant growth in its asset under management since it becomes available to external investors in 2006.

State Street Global Advisors (SSgA) Custom Real Asset

SSgA Custom Real Asset portfolio uses a portfolio of liquid real assets to proxy private real assets. The portfolio is comprised of equal weightings of the Bloomberg Commodity Index, S&P Global Natural Resources Index, and S&P Global Infrastructure Index. The portfolio is used to fund upcoming private real asset mandates.

Tennenbaum Capital Partners - TCP Direct Lending Fund VIII

TCP Direct Lending Fund VIII is a private investment fund managed by Tennenbaum Capital Partners ("TCP"). The Fund is designed to continue TCP's successful strategy of investing in privately-originated, performing senior secured debt primarily in North America-based companies with target enterprise values between \$100 million and \$1.5 billion. The Fund will include positions in 1st lien, 2nd lien and unitranche debt, with a preference for floating-rate debt, which TCP believes provides better flexibility to adapt to market conditions. TCP's direct lending strategy has generated attractive investment opportunities across market cycles, as evidenced by the Firm's prior direct lending track record. Fund VIII targets an unlevered annual yield of approximately 9-12%, with its return primarily driven by current income.

Western Asset Management – Total Return Unconstrained (TRU)

Western Asset's Total Return Unconstrained strategy (TRU) seeks to provide bond-like risk and return over the long term but does not have a benchmark. This allows for asset allocation based on value rather than using the construction of a benchmark as baseline positioning. The investment approach is active with very broad latitude on duration (-3 to +8 years) and on asset allocation across all of the eligible sectors in a core plus mandate. The portfolio must have at least 50% of its holdings in investment-grade securities. The flexibility offered by this strategy allows for defensive positioning in rising rate environments and opportunistic deployment of capital when value opportunities arise. It also allows the portfolio managers to emphasize (or deemphasize) either credit or rates when one or the other appears to offer greater (or lesser) value. um non-US exposure.

White Oak - White Oak Yield Spectrum Fund

The White Oak Yield Spectrum Fund's objective is to earn substantial current income by originating, extending, and/or investing in a diversified portfolio of primarily senior secured corporate credit and debt instruments consisting of term loans, asset-based loans and equipment leases and loans issued by small to middle-market companies located primarily in the United States and Canada. It focuses on providing self-originated deals for predominantly non-sponsored, privately-held borrowers.

Policy Index and Benchmark History

Period Ending: December 31, 2019

Total Plan Policy Index	As of					
	10/1/19	7/1/19	4/1/19	1/1/19	10/1/18	4/1/18
10 Year Treasury +2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
60/40 MSCI World/BBgBarc Global Aggregate (RP)	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
60/40 Russell 3000/BBgBarc US Aggregate (RP)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
91 Day T-Bills	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Aggregate	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%
BBgBarc BA Intermediate HY	8.0%	7.0%	7.0%	7.0%	7.0%	7.0%
BBgBarc BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Credit BAA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Multiverse	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc TIPS	1.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Bloomberg Commodity	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Citigroup non-US WGBI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CPI + 5% (RA)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Blended Liquid Real Asset	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Blended Private Real Asset	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Libor +4% (HF)	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
MSCI ACWI ex-US	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex US IMI 100% Hedged (Net)	9.0%	7.6%	5.7%	3.8%	1.9%	0.0%
MSCI ACWI ex-US IMI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI (Net)	9.0%	11.4%	13.3%	15.2%	17.1%	19.0%
MSCI EAFE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NCREIF ODCE	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
NCREIF Property	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 1000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 1000 Value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 2000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 3000	22.0%	22.0%	22.0%	22.0%	22.0%	21.0%
Russell 3000 +3% (PE)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 3000 +3% 1Q Lag (PE)	6.0%	6.0%	6.0%	6.0%	6.0%	7.0%
S&P 500	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	10/1/17	2/1/17	1/1/17	10/1/16	9/1/16	1/1/16	7/1/14	1/1/14	2/1/13	1/1/11	10/1/10	1/1/09	5/1/07	6/1/00	3/1/99	9/1/98	7/1/96
10 Year Treasury +2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	10.0%	10.0%
60/40 MSCI World/BBgBarc Global Aggregate (RP)	8.0%	8.0%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
60/40 Russell 3000/BBgBarc US Aggregate (RP)	0.0%	0.0%	0.0%	8.0%	8.0%	8.0%	8.0%	8.0%	6.0%	6.0%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Aggregate	14.0%	12.0%	10.0%	10.0%	10.0%	10.0%	10.0%	9.3%	11.0%	11.0%	12.9%	27.0%	27.0%	29.0%	25.0%	21.0%	21.0%
BBgBarc BA Intermediate HY	7.0%	6.0%	6.0%	6.0%	5.0%	5.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Credit BAA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Multiverse	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.8%	4.4%	4.4%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc TIPS	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	3.1%	3.3%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bloomberg Commodity	0.0%	0.0%	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Citigroup non-US WGBI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	9.0%	9.0%
CPI + 5% (RA)	0.0%	0.0%	0.0%	0.0%	2.0%	2.0%	2.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Blended Liquid Real Asset	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Blended Private Real Asset	8.0%	7.0%	5.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Libor +4% (HF)	6.0%	6.0%	5.0%	5.0%	5.0%	5.0%	4.0%	4.0%	3.0%	3.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.0%	18.0%	18.0%	21.0%	21.0%	15.0%	0.0%	0.0%	0.0%
MSCI ACWI ex US IMI 100% Hedged (Net)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI	0.0%	19.0%	19.0%	19.0%	20.0%	20.0%	20.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI (Net)	19.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI EAFE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	20.0%	20.0%
NCREIF ODCE	8.0%	7.0%	7.0%	7.0%	7.0%	7.0%	6.0%	6.0%	5.0%	5.0%	5.0%	6.0%	6.0%	6.0%	0.0%	0.0%	0.0%
NCREIF Property	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	6.0%	0.0%	0.0%	0.0%
Russell 1000	0.0%	0.0%	0.0%	0.0%	0.0%	24.0%	24.0%	24.0%	28.0%	28.0%	28.0%	37.0%	37.0%	40.0%	22.0%	20.0%	20.0%
Russell 1000 Value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%	0.0%
Russell 2000	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	6.0%	6.0%	7.0%	7.0%	7.0%	9.0%	9.0%	10.0%	15.0%	15.0%	15.0%
Russell 3000	21.0%	23.0%	28.0%	28.0%	28.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 3000 +3% (PE)	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	8.0%	8.0%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Russell 3000 +3% 1Q Lag (PE)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S&P 500	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Policy Index and Benchmark History

Period Ending: December 31, 2019

Public Equity Benchmark	As of:																
	10/1/19	7/1/19	4/1/19	1/1/19	10/1/18	10/1/17	2/1/17	10/1/16	9/1/16	1/1/16	1/1/14	10/1/10	5/1/07	6/1/00	3/1/99	9/1/98	1/1/96
MSCI ACWI ex-US	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	34.0%	31.3%	23.1%	0.0%	0.0%	0.0%
MSCI ACWI ex US IMI 100% Hedged (Net)	22.5%	18.5%	13.9%	9.3%	4.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI	0.0%	0.0%	0.0%	0.0%	0.0%	47.5%	45.2%	40.4%	41.7%	41.7%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI ACWI ex US IMI (Net)	22.5%	27.8%	32.4%	37.0%	41.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MSCI EAFE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	32.3%	33.3%	33.3%
Russell 1000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	48.0%	52.8%	55.2%	61.5%	35.5%	33.3%	33.3%
Russell 1000 Value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	8.4%	0.0%
Russell 2000	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%	12.0%	13.2%	13.5%	15.4%	24.2%	25.0%	25.0%
Russell 3000	55.0%	53.7%	53.7%	53.7%	53.7%	52.5%	54.8%	59.6%	58.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S&P 500	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

US Equity Benchmark	As of:						
	9/1/16	1/1/16	6/1/00	3/1/99	9/1/98	7/1/96	1/1/95
Russell 1000	0.0%	85.7%	80.0%	52.0%	50.0%	50.0%	69.0%
Russell 1000 Value	0.0%	0.0%	0.0%	12.0%	12.5%	0.0%	0.0%
Russell 2000	0.0%	14.3%	20.0%	36.0%	37.5%	37.5%	14.0%
Russell 3000	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
S & P 500	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	17.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

International Equity Benchmark	As of:								
	10/1/19	7/1/19	4/1/19	1/1/19	10/1/18	10/1/17	1/1/14	6/1/00	1/1/96
MSCI ACWI ex US	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
MSCI ACWI ex US IMI 100% Hedged (Net)	50.0%	40.0%	30.0%	20.0%	10.0%	0.0%	0.0%	100.0%	0.0%
MSCI ACWI ex US IMI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
MSCI ACWI ex US IMI (Net)	50.0%	60.0%	70.0%	80.0%	90.0%	100.0%	0.0%	0.0%	0.0%
MSCI EAFE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Fixed Income Benchmark	As of:												
	10/1/19	10/1/17	2/1/17	10/1/16	4/1/16	7/1/14	1/1/14	2/1/13	1/1/11	10/1/10	6/1/00	3/1/99	7/1/96
BBgBarc Aggregate	63.6%	66.7%	57.1%	52.6%	55.5%	50.0%	46.3%	50.0%	50.0%	58.6%	100.0%	83.3%	70.0%
BBgBarc BA Intermediate HY	36.4%	33.3%	28.6%	31.6%	27.8%	25.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc BBB	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.3%	0.0%	0.0%	0.0%
BBgBarc Credit BAA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	15.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Multiverse	0.0%	0.0%	14.3%	15.8%	16.7%	15.0%	18.8%	20.0%	20.0%	20.5%	0.0%	0.0%	0.0%
BBgBarc TIPS	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	10.0%	14.0%	15.0%	13.6%	0.0%	0.0%	0.0%
Citigroup non-US WGBI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.7%	30.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Opportunistic Credit Benchmark	As of:	
	1/1/14	12/1/09
BBgBarc BA Intermediate HY	100.0%	0.0%
BBgBarc Credit BAA	0.0%	100.0%
	100.0%	100.0%

Risk Parity Benchmark	As of:	
	1/1/17	10/1/10
BBgBarc Aggregate	0.0%	40.0%
BBgBarc Global Aggregate	40.0%	0.0%
MSCI World	60.0%	0.0%
Russell 3000	0.0%	60.0%
	100.0%	100.0%

Policy Index and Benchmark History

Period Ending: December 31, 2019

Alternatives Benchmark	As of:						
	10/1/18	4/1/18	2/1/17	4/1/16	1/1/16	1/1/14	1/1/11
60/40 Russell 3000/BBgBarc US Aggregate (RP)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%
Bloomberg Commodity	0.0%	0.0%	0.0%	0.0%	17.7%	18.8%	15.0%
CPI + 5% (RA)	0.0%	0.0%	0.0%	0.0%	11.8%	12.5%	0.0%
Libor +4% (HF)	50.0%	46.2%	46.2%	41.7%	29.4%	25.0%	15.0%
Russell 3000 +3% (PE)	0.0%	0.0%	53.8%	58.3%	41.2%	43.8%	40.0%
Russell 3000 +3% 1Q Lag (PE)	50.0%	53.8%	0.0%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Private Equity Benchmark	As of:	
	4/1/18	10/1/10
Russell 3000 +3% 1Q Lag	100.0%	0.0%
Russell 3000 +3%	0.0%	100.0%
	100.0%	100.0%

Hedge Fund Benchmark	As of:
	10/1/10
Libor +4%	100.0%
	100.0%

Inflation Hedge	As of:				
	10/1/19	4/1/18	2/1/17	10/1/16	4/1/16
BBgBarc TIPS	5.88%	11.11%	12.50%	14.3%	14.3%
Bloomberg Commodity	0.00%	0.00%	0.00%	0.0%	21.4%
CPI + 5% (RA)	0.00%	0.00%	0.00%	0.0%	14.3%
Blended Liquid Real Asset	35.29%	33.34%	0.00%	0.0%	0.0%
Blended Private Real Asset	11.77%	11.11%	43.75%	35.7%	0.0%
NCREIF ODCE	47.06%	44.44%	43.75%	50.0%	50.0%
	100.0%	100.0%	100.0%	100.0%	100.0%

Public Real Asset Benchmark	As of:	
	10/1/16	1/1/14
Bloomberg Roll Select Commodity	34.0%	0.0%
S&P Global Large-MidCap Commodity and Resources	33.0%	0.0%
S&P Global Infrastructure	33.0%	0.0%
CPI + 5%	0.0%	100.0%
	100.0%	100.0%

Private Real Asset Benchmark	As of:		
	4/1/18	10/1/16	1/1/14
Bloomberg Roll Select Commodity	0.0%	34.0%	0.0%
S&P Global Large-MidCap Commodity and Resources	0.0%	33.0%	0.0%
50/50 S&P Global Infra & Lrg-MidCap Com & Resources +2% 1QL	100.0%	0.0%	0.0%
S&P Global Infrastructure	0.0%	33.0%	0.0%
CPI + 5%	0.0%	0.0%	100.0%
	100.0%	100.0%	100.0%

Private RA Secondary Benchmark	As of:
	9/1/14
Cambridge Associates Private Natural Resources 1 Qtr Lag	50.0%
Cambridge Associates Private Infrastructure 1 Qtr Lag	50.0%
	100.0%

Real Estate Benchmark	As of:		
	1/1/09	6/1/00	7/1/96
10 Year Treasury +2%	0.0%	0.0%	100.0%
NCREIF ODCE	100.0%	0.0%	0.0%
NCREIF Property	0.0%	100.0%	0.0%
	100.0%	100.0%	100.0%

Policy Index and Benchmark History

Period Ending: December 31, 2019

Baillie Gifford Benchmark	As of:		
		1/1/14	5/1/12
MSCI ACWI ex-US		100.0%	0.0%
MSCI EAFE		0.0%	100.0%
		100.0%	100.0%

Baillie Gifford Secondary Benchmark	As of:		
		1/1/14	5/1/12
MSCI ACWI ex-US Growth		100.0%	0.0%
MSCI EAFE Growth		0.0%	100.0%
		100.0%	100.0%

Brigade Secondary Benchmark	As of:		
		8/1/10	
BBgBarc High Yield		50.0%	
Credit Suisse Leveraged Loans		50.0%	
		100.0%	

AQR GRP, 10% Volatility	As of:		
		1/1/17	3/1/11
BBgBarc Aggregate		0.0%	40.0%
BBgBarc Global Aggregate		40.0%	0.0%
MSCI World		60.0%	0.0%
Russell 3000		0.0%	60.0%
		100.0%	100.0%

PanAgora	As of:		
		1/1/17	8/1/14
BBgBarc Aggregate		0.0%	40.0%
BBgBarc Global Aggregate		40.0%	0.0%
MSCI World		60.0%	0.0%
Russell 3000		0.0%	60.0%
		100.0%	100.0%

PIMCO Diversified	As of:		
		9/1/17	
JPMorgan EMBI Global		33.3%	
ICE BofAMLBB-BRatedDvlpdMktsHYHdgdUSD		33.3%	
Global Agg Credit Ex EM USD hedged		33.4%	
		100.0%	

SSgA Custom Real Asset	As of:		
		10/1/16	
Bloomberg Roll Select Commodity TR		33.34%	
S&P Global Large-MidCap Commodity and Resources		33.33%	
S&P Global Infrastructure		33.33%	
		100.0%	

Fee Schedule

Period Ending: December 31, 2019

Baillie Gifford

First \$25 million:	0.60% per annum
Next \$75 million:	0.50% per annum
Next \$300 million:	0.40% per annum
Thereafter:	0.30% per annum

BlackRock-EAFE Equity Index Fund

On All Assets:	0.03% per annum
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BlackRock-Russell 1000 Index Fund

On All Assets:	0.01% per annum
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BlackRock-Intermediate Govt Bond Index Fund

On All Assets:	0.025% per annum
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Brown Brothers Harriman

On All Assets:	0.15% per annum
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Parametric

On All Assets:	0.30% per annum
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Acadian Asset Management

First \$50 million:	0.27% per annum
Next \$50 million:	0.225% per annum
Thereafter:	0.18% per annum

Parametric Overlay

First \$50 million:	0.12% per annum
Next \$100 million:	0.10% per annum
Thereafter:	0.05% per annum
Plus monthly reporting fee of \$1500	

Parametric Currency Overlay

First \$250 million:	0.05% per annum
Thereafter:	0.03% per annum

Cushing Asset Management

First \$50 million:	0.70% per annum
Next \$50 million:	0.60% per annum
Thereafter:	0.55% per annum

Franklin Templeton Investment

First \$50 million:	0.40% per annum
Next \$50 million:	0.30% per annum
Thereafter:	0.25% per annum

FIAM Bond

First \$50 million:	0.20% per annum
Next \$50 million:	0.175% per annum
Next \$100 million:	0.10% per annum
Thereafter:	0.085% per annum

PanAgora Asset Management

First \$50 million:	0.25% per annum
Next \$50 million:	0.15% per annum
Thereafter:	0.10% per annum

PIMCO Diversified

On All Assets:	0.75% per annum
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QMA

First \$50 million:	0.55% per annum
Thereafter:	0.50% per annum

Western Asset Management

On All Assets:	0.25% per annum
Performance Fee:	20.00%

Mondrian Investment Partners

Assets Below \$190 million

First \$20 million:	1.00% per annum
Thereafter:	0.33% per annum

Assets Above \$190 million

First \$50 million:	1.00% per annum
Next \$150 million:	0.19% per annum
Thereafter:	0.33% per annum

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
Acadian US MGD V	Russell 1000	--	--	--
DE Shaw	Russell 1000	✓	✓	✓
PanAgora Defuseq	Russell 1000	--	--	--
QMA US Small Cap	Russell 2000	--	--	--
Baillie Gifford	MSCI ACWI ex US	✓	✗	✓
Mondrian	MSCI ACWI ex USA Value Gross	✓	✓	✓
Parametric Core	MSCI Emerging Markets Gross	--	--	--
FIAM Bond	BBgBarc US Aggregate TR	✓	✓	✓
Western TRU	3-Month Libor Total Return USD	--	--	--
Angelo Gordon Opportunistic	BBgBarc US Aggregate TR	✓	--	✓
Angelo Gordon STAR	BBgBarc US Aggregate TR	✓	--	✓
Beach Point Select	BBgBarc BA Intermediate HY	--	--	--
Brigade Capital	BBgBarc BA Intermediate HY	✗	✗	✗
PIMCO Diversified	Blended PIMCO Diversified Index	--	--	--
Franklin Templeton	BBgBarc Multiverse TR	--	--	--
PIMCO Private Income	BBgBarc BA Intermediate HY	--	--	--
TCP Direct Lending VIII	Cliffwater Direct Lending Index	--	--	--
White Oak Yield	Cliffwater Direct Lending Index	--	--	--
AQR DELTA XN	Libor 1 month +4%	✗	✗	✗
Aberdeen Standard GARS	Libor 1 month +4%	--	--	--

Rule 1 - Manager has underperformed the benchmark index for the five year period.

Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive

Manager Compliance (Gross)

Period Ending: December 31, 2019

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
Acadian US MGD V	Russell 1000	--	--	--
DE Shaw	Russell 1000	✓	✓	✓
PanAgora Defuseq	Russell 1000	--	--	--
QMA US Small Cap	Russell 2000	--	--	--
Baillie Gifford	MSCI ACWI ex US	✓	✓	✓
Mondrian	MSCI ACWI ex USA Value Gross	✓	✓	✓
Parametric Core	MSCI Emerging Markets Gross	--	--	--
FIAM Bond	BBgBarc US Aggregate TR	✓	✓	✓
Western TRU	3-Month Libor Total Return USD	--	--	--
Angelo Gordon Opportunistic	BBgBarc US Aggregate TR	✓	--	✓
Angelo Gordon STAR	BBgBarc US Aggregate TR	✓	--	✓
Beach Point Select	BBgBarc BA Intermediate HY	--	--	--
Brigade Capital	BBgBarc BA Intermediate HY	✗	✗	✗
PIMCO Diversified	Blended PIMCO Diversified Index	--	--	--
Franklin Templeton	BBgBarc Multiverse TR	--	--	--
PIMCO Private Income	BBgBarc BA Intermediate HY	--	--	--
TCP Direct Lending VIII	Cliffwater Direct Lending Index	--	--	--
White Oak Yield	Cliffwater Direct Lending Index	--	--	--
AQR DELTA XN	Libor 1 month +4%	✗	✗	✗
Aberdeen Standard GARS	Libor 1 month +4%	--	--	--

Rule 1 - Manager has underperformed the benchmark index for the five year period.

Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.

Rule 3 - Excess 5 Year Sharpe Ratio vs. Benchmark is positive

Manager Performance Comparison (Gross of Fees)

Period Ending: December 31, 2019

	Oct	Nov	Dec	4th Qtr. 2019	Difference	3rd Qtr. 2019	Difference	2nd Qtr. 2019	Difference	1st Qtr. 2019	Difference	4th Qtr. 2018	Difference
Verus	-0.21%	2.51%	2.85%	5.21%		2.82%		4.71%		10.70%		-13.79%	
Acadian US MGD V	-0.21%	2.51%	2.85%	5.21%	0.00%	2.82%	0.00%	4.71%	0.00%	10.69%	0.01%	-13.79%	0.00%
Russell 1000 Index	2.12%	3.78%	2.89%	9.04%		1.42%		4.25%		14.00%		-13.82%	
Verus	2.12%	3.78%	2.89%	9.04%		1.43%		4.25%		14.02%		-13.79%	
BlackRock Russell 1000	2.12%	3.78%	2.89%	9.04%	0.00%	1.42%	0.01%	4.25%	0.00%	14.02%	0.00%	-13.79%	0.00%
Russell 1000 Index	2.12%	3.78%	2.89%	9.04%		1.42%		4.25%		14.00%		-13.82%	
Verus	2.50%	3.72%	2.52%	8.98%		1.53%		2.75%		12.68%		-14.04%	
D.E. Shaw	2.50%	3.72%	2.52%	8.98%	0.00%	1.54%	-0.01%	2.75%	0.00%	12.69%	-0.01%	-14.04%	0.00%
Russell 1000 Index	2.12%	3.78%	2.89%	9.04%		1.42%		4.25%		14.00%		-13.82%	
Verus	-0.68%	1.37%	2.62%	3.32%		3.20%		5.51%		15.01%		-14.04%	
PanAgora Defuseq	-0.67%	1.37%	2.62%	3.33%	-0.01%	3.19%	0.01%	5.55%	-0.04%	15.01%	0.00%	-14.04%	0.00%
Russell 1000 Index	2.12%	3.78%	2.89%	9.04%		1.42%		4.25%		14.00%		-13.82%	
Verus	3.10%	3.78%	2.20%	9.35%		-0.62%		0.37%		12.59%		-20.52%	
QMA US Small Cap	3.10%	3.78%	2.20%	9.35%	0.00%	-0.62%	0.00%	0.38%	-0.01%	12.59%	0.00%	-20.52%	0.00%
Russell 2000 Index	2.63%	4.12%	2.88%	9.94%		-2.40%		2.10%		14.58%		-20.20%	
Verus	4.84%	2.07%	5.22%	12.60%		-0.92%		5.96%		13.47%		-15.28%	
Baillie Gifford (net)	4.80%	2.02%	5.18%	12.46%	0.15%	-0.95%	0.03%	5.89%	0.08%	13.41%	0.06%	-15.28%	0.00%
MSCI ACWI ex US	3.50%	0.90%	4.36%	8.99%		-1.70%		3.22%		10.44%		-11.41%	
MSCI ACWI ex US Growth	3.65%	1.53%	4.17%	9.63%		-0.79%		4.55%		12.42%		-12.16%	
Verus	3.60%	1.15%	3.26%	8.22%		-1.05%		3.92%		10.08%		-12.52%	
BlackRock EAFE Equity	3.60%	1.16%	3.26%	8.22%	0.00%	-1.05%	0.00%	3.92%	0.00%	10.08%	0.00%	-12.52%	0.00%
MSCI EAFE (Net)	3.59%	1.13%	3.25%	8.17%		-1.07%		3.68%		9.98%		-12.54%	
MSCI EAFE (Gross)	3.60%	1.14%	3.27%	8.21%		-1.00%		3.97%		10.13%		-12.50%	
Verus	4.83%	0.91%	4.76%	10.81%		-2.66%		1.47%		9.19%		-8.82%	
Mondrian	4.82%	0.90%	4.77%	10.81%	0.00%	-2.62%	-0.04%	1.48%	-0.01%	9.18%	0.01%	-8.79%	-0.03%
MSCI ACWI -ex US Value Index	3.35%	0.22%	4.56%	8.29%		-2.66%		1.86%		8.46%		-10.63%	
MSCI ACWI -ex US	3.50%	0.90%	4.36%	8.99%		-1.70%		3.22%		10.44%		-11.41%	
Verus	2.81%	-0.71%	5.98%	8.18%		-4.23%		2.13%		7.73%		-5.81%	
Parametric Core	2.82%	-0.70%	6.00%	8.23%	-0.05%	-4.19%	-0.04%	2.19%	-0.06%	7.80%	-0.07%	-5.77%	-0.04%
MSCI EM Market Index	4.23%	-0.13%	7.53%	11.92%		-4.11%		0.74%		9.97%		-7.40%	
Verus	0.30%	-0.23%	-0.03%	0.04%		1.22%		2.37%		1.63%		2.24%	
BlackRock Intermediate Govt	0.30%	-0.23%	-0.03%	0.04%	0.00%	1.22%	0.00%	2.37%	0.00%	1.63%	0.00%	2.24%	0.00%
BBgBarc US Govt Int Index	0.29%	-0.24%	-0.03%	0.01%		1.18%		2.34%		1.58%		2.22%	
Verus	0.48%	0.06%	0.08%	0.62%		2.23%		3.16%		3.47%		1.07%	
FIAM Bond	0.48%	0.06%	0.08%	0.62%	0.00%	2.23%	0.00%	3.16%	0.00%	3.47%	0.00%	1.07%	0.00%
BBgBarc US Aggregate Index	0.30%	-0.05%	-0.07%	0.18%		2.27%		3.08%		2.94%		1.64%	

Manager Performance Comparison (Gross of Fees)

Period Ending: December 31, 2019

	Oct	Nov	Dec	4th Qtr. 2019	Difference	3rd Qtr. 2019	Difference	2nd Qtr. 2019	Difference	1st Qtr. 2019	Difference	4th Qtr. 2018	Difference
Verus	1.04%	-0.06%	2.10%	3.09%		1.02%		2.31%		2.95%		0.74%	
Western TRU	1.04%	-0.06%	2.10%	3.09%	0.00%	1.02%	0.00%	2.31%	0.00%	2.95%	0.00%	0.74%	0.00%
3-Month Libor Total Return USD Index	0.16%	0.16%	0.16%	0.49%		0.55%		0.62%		0.67%		0.68%	
BBgBarc US Aggregate Index	0.30%	-0.05%	-0.07%	0.18%		2.27%		3.08%		2.94%		1.64%	
Verus (Net)				2.21%		3.34%		5.43%		0.89%		0.45%	
Angelo Gordon Opportunistic				2.21%	0.00%	3.34%	0.00%	5.43%	0.00%	0.89%	0.00%	0.45%	0.00%
BBgBarc US Aggregate Index				0.18%		2.27%		3.08%		2.94%		1.64%	
Verus (Net)				2.20%		-3.95%		6.24%		5.44%		2.51%	
Angelo Gordon STAR Fund (Net)				2.20%	0.00%	-3.95%	0.00%	6.24%	0.00%	5.44%	0.00%	2.51%	0.00%
BBgBarc US Aggregate Index				0.18%		2.27%		3.08%		2.94%		1.64%	
Verus	-0.24%	1.19%	2.38%	3.36%		1.54%		3.03%		4.44%		-3.98%	
Beach Point Select (Net)	-0.24%	1.19%	2.38%	3.35%	0.00%	1.54%	0.00%	3.03%	0.00%	4.44%	0.00%	-3.98%	0.00%
BBgBarc BA Intermediate HY	0.54%	0.59%	1.14%	2.29%		1.84%		2.87%		7.00%		-2.67%	
Verus	0.19%	-0.20%	3.21%	3.19%		-0.41%		1.92%		4.26%		-5.56%	
Brigade Capital (Net)	0.19%	-0.20%	3.21%	3.19%	0.00%	-0.41%	0.00%	1.92%	0.00%	4.18%	0.08%	-5.55%	-0.01%
BBgBarc BA Intermediate HY	0.54%	0.59%	1.14%	2.29%		1.84%		2.87%		7.00%		-2.67%	
50% BBgBarc HY/ 50% Bank Loan	-0.10%	0.44%	1.81%	2.15%		1.13%		2.05%		5.51%		-3.81%	
Verus	0.51%	0.34%	0.82%	1.67%		1.20%		3.59%		5.82%		-1.26%	
PIMCO Diversified (Net)	0.51%	0.34%	0.82%	1.67%	0.00%	1.20%	0.00%	3.59%	0.00%	5.81%	0.01%	-1.26%	0.00%
Blended PIMCO Diversified Index	0.31%	0.21%	1.18%	1.70%		1.93%		3.48%		5.97%		-1.47%	
BBgBarc BA Intermediate HY	0.54%	0.59%	1.14%	2.29%		1.84%		2.87%		7.00%		-2.67%	
Verus	-0.04%	-0.55%	1.96%	1.36%		-3.39%		1.45%		1.72%		2.14%	
Franklin Templeton Investments	-0.04%	-0.55%	1.96%	1.36%	0.01%	-3.39%	0.00%	1.45%	0.00%	1.72%	0.00%	2.14%	0.00%
BBgBarc Multiverse Index	0.70%	-0.75%	0.70%	0.64%		0.63%		3.31%		2.40%		1.02%	
Verus				-0.01%		0.00%							
PIMCO Private Income				-0.01%	0.00%	0.00%	0.00%						
BBgBarc BA Intermediate HY				2.29%		1.84%							
Cliffwater Direct Lending Index				1.77%		2.25%							
Verus				1.46%		1.57%		1.75%		2.41%		1.75%	
TCP Direct Lending VIII				1.46%	0.00%	1.57%	0.00%	1.75%	0.00%	2.41%	0.00%	1.75%	0.00%
Cliffwater Direct Lending Index				1.77%		2.25%		2.78%		0.84%		2.38%	
Verus				0.00%		0.00%		0.00%		0.00%		2.03%	
White Oak Yield				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.03%	0.00%
Cliffwater Direct Lending Index				1.77%		2.25%		2.78%		0.84%		2.38%	

Manager Performance Comparison (Gross of Fees)

Period Ending: December 31, 2019

	Oct	Nov	Dec	4th Qtr. 2019	Difference	3rd Qtr. 2019	Difference	2nd Qtr. 2019	Difference	1st Qtr. 2019	Difference	4th Qtr. 2018	Difference
Verus	1.16%	0.16%	3.11%	4.47%		1.23%		5.70%		11.14%		-5.44%	
AQR GRP, 10% Volatility (Net)	1.16%	0.16%	3.11%	4.47%	0.00%	1.23%	0.00%	5.70%	0.00%	11.14%	0.00%	-5.44%	0.00%
60% R3000/ 40% BBgBarc Agg	1.46%	1.62%	1.72%	4.87%		1.38%		3.68%		8.65%		-7.49%	
S&P Risk Parity 10% Target Volatility TR	1.35%	0.32%	1.46%	3.16%		2.41%		4.34%		7.98%			
Verus	0.07%	-0.70%	0.42%	-0.21%		4.18%		5.44%		11.43%		-4.10%	
PanAgora (Net)	0.07%	-0.70%	0.42%	-0.21%	0.00%	4.18%	0.00%	5.44%	0.00%	11.43%	0.00%	-4.10%	0.00%
60% R3000/ 40% BBgBarc Agg	1.46%	1.62%	1.72%	4.87%		1.38%		3.68%		8.65%		-7.49%	
S&P Risk Parity 10% Target Volatility TR	1.35%	0.32%	1.46%	3.16%		2.41%		4.34%		7.98%		-8.05%	
Verus	-2.53%	-1.62%	1.08%	-3.07%		-1.18%		-4.43%		-1.95%		-4.31%	
AQR DELTA XN (Net)	-2.53%	-1.62%	1.08%	-3.07%	0.00%	-1.18%	0.00%	-4.43%	0.00%	-1.97%	0.02%	-4.31%	0.00%
Libor + 4%	0.48%	0.47%	0.48%	1.44%		1.54%		1.62%		1.52%		1.59%	
Verus	-0.25%	0.00%	1.51%	1.26%		1.60%		1.39%		4.63%		-2.24%	
Aberdeen Standard GARS (Net)	-0.25%	0.00%	1.51%	1.26%	0.00%	1.60%	0.00%	1.39%	0.00%	4.63%	0.00%	-2.25%	0.01%
Libor + 4%	0.48%	0.47%	0.48%	1.44%		1.54%		1.62%		1.52%		1.59%	
Verus				2.27%		2.01%		1.04%		1.09%		2.16%	
INVESCO Real Estate				2.29%	-0.02%	2.00%	0.01%	1.04%	0.00%	1.11%	-0.02%	2.16%	0.00%
NCREIF NFI ODCE Index				1.51%		1.31%		0.99%		1.42%		1.76%	
Verus				3.64%		2.12%		1.20%		4.17%		4.25%	
Invesco US Val IV				3.64%	0.00%	2.12%	0.00%	1.20%	0.00%	4.17%	0.00%	4.25%	0.00%
NCREIF NFI ODCE Index				1.51%		1.31%		0.99%		1.42%		1.76%	
NCREIF CEVA 1Q Lag - NET				2.95%		2.95%		2.95%		2.95%		2.95%	
Verus				5.17%		1.09%		5.72%					
Invesco US Val V				5.17%	0.00%	1.09%	0.00%	5.72%	0.00%				
NCREIF NFI ODCE Index				1.51%		1.31%		0.99%					
NCREIF CEVA 1Q Lag - NET				2.95%		2.95%		2.95%					
Verus (net)				1.38%		1.57%		1.45%		1.61%		1.64%	
PGIM RE US Debt Fund (net)				1.38%	0.00%	1.57%	0.00%	1.45%	0.00%	1.61%	0.00%	1.64%	0.00%
NCREIF NFI ODCE Index				1.51%		1.31%		0.99%		1.42%		1.76%	
Verus	-4.85%	-3.49%	7.89%	-0.93%		-3.73%		-1.06%		17.88%		-17.65%	
Cushing MLP Alpha TR	-4.85%	-3.49%	7.89%	-0.93%	0.00%	-3.73%	0.00%	-1.06%	0.00%	17.88%	0.00%	-17.65%	0.00%
50% BBgBarc US TIPS/ 50% Blended PRA	0.75%	-0.34%	2.89%	3.31%		-0.63%		2.17%		6.62%		-4.98%	
Alerian MLP TR USD	-6.22%	-5.75%	8.53%	-4.08%		-5.02%		0.12%		16.82%		-17.30%	

1 MSCI

1.1 MSCI US MARKET BREAKPOINTS

Break Point*	Companies included
Large Cap	1-200
Medium-Large Cap	201-550
Medium Cap	551-750
Medium-Small Cap	751-2500
Small Cap	2501+

*MSCI only categorizes equities per size into large, mid and small cap. For InvestorForce Report analytics coherence regarding domestic benchmarks the buffer zones of the mid-cap category are used to determine Medium-Large and Medium-Small Cap categories.

As Of	Large Cap	Medium Large Cap	Medium Cap	Medium Small Cap	Small Cap
12/31/2019	19.41	11.708	5.699	2.981	0
9/30/2019	19.41	11.708	5.699	2.981	0
6/30/2019	17.991	11.416	5.265	3.039	0
3/31/2019	17.991	11.416	5.265	3.039	0
12/31/2018	18.559	11.536	5.547	3.012	0
09/30/2018	18.559	11.536	5.547	3.012	0
06/30/2018	17.921	10.888	5.334	3.023	0
03/31/2018	17.921	10.888	5.334	3.023	0
12/31/2017	17.679	9.979	5.011	2.793	0
9/30/2017	17.696	9.979	5.011	2.793	0
6/30/2017	15.834	9.267	4.517	2.573	0
3/31/2017	15.834	9.267	4.517	2.573	0
12/31/2016	15.239	9.375	4.416	2.520	0
9/30/2016	15.239	9.375	4.416	2.520	0
6/30/2016	15.358	9.43	4.548	2.591	0
3/31/2016	15.358	9.43	4.548	2.591	0
12/31/2015	16.507	9.968	5.069	2.917	0
9/30/2015	16.507	9.968	5.069	2.917	0
6/30/2015	15.288	9.09	4.506	2.596	0
3/31/2015	15.356	9.083	4.491	2.577	0
12/31/2014	15.356	9.083	4.491	2.577	0

Number in billion USD

InvestorForce Report reflects changes in the MSCI breakpoints once MSCI publishes new breakpoints. For months when no new breakpoints are published always the last breakpoints are applied. Changes usually but always happen around re-balancing of the indexes. Some index reviews do not contain changes to the market-cap breakpoints.

1.2 MSCI DEVELOPED AND EMERGING MARKET BREAKPOINTS

In case of MSCI Indexes to define the Size - Segment Indexes for a market, the following free float - adjustedmarket capitalization Market Coverage Target Ranges are applied to the Market Investable Equity Universe:

Break Point	Companies included
Large Cap Index	70% ±5%
Standard Index*	85% ±5%
Investable Market Index**	99%+1% or -0.5%

* Standard Index (Large+Mid)

**Investable Market Index (Large+Mid+Small)

MSCI Country Classification can be found here: <https://www.msci.com/market-classification>

For Emerging Markets, the Global Minimum Size Reference is set at *one-half* the corresponding level of full market capitalization used for the Developed Markets for each size-segment.

As Of	Large Cap DM	Large Cap EM	Medium Cap DM	Medium Cap EM	Small Cap
12/31/2019	17.828	8.914	6.127	3.0635	0
9/30/2019	17.274	8.637	6.203	3.1015	0
6/30/2019	17.274	8.637	6.203	3.1015	0
3/31/2019	16.204	8.102	5.928	2.964	0
12/31/2018	16.204	8.102	5.928	2.964	0
9/30/2018	17.201	8.6005	6.374	3.187	0
6/30/2018	17.201	8.6005	6.374	3.187	0
3/31/2018	16.392	8.196	6.106	3.053	0
12/31/2017	16.392	8.196	6.106	3.053	0
9/30/2017	15.008	7.504	5.500	2.750	0
6/30/2017	15.008	7.504	5.500	2.750	0

3/31/2017	14.361	7.180	5.077	2.538	0
12/31/2016	14.361	7.180	5.077	2.538	0
9/30/2016	14.180	7.090	5.076	2.538	0
6/30/2016	14.180	7.090	5.076	2.538	0
3/31/2016	14.077	7.0385	5.046	2.523	0
12/31/2015	14.077	7.0385	5.046	2.5230	0
9/30/2015	14.883	7.4415	5.359	2.6795	0
6/30/2015	14.883	7.4415	5.359	2.6795	0
3/31/2015	13.368	6.684	4.781	2.3905	0
12/31/2014	13.368	6.684	4.781	2.3905	0

Number in billion USD

InvestorForce Report shows changes in the MSCI breakpoints once MSCI publishes a new one. For months when no new breakpoints are published always the last breakpoint is applied. Changes usually happen around re-balancing of the indexes.

2 RUSSELL US BREAKPOINTS

The market capitalization breakpoints that appear in the Market Capitalization Chart are defined by the Russell 3000 Index and change for each period end. Russell calculated the total market capitalization of each security for the end of the period, based on the total shares and price, to determine whether it is large enough for inclusion in one or more of the Russell Breakpoints.

Once the market capitalization for each security is determined, each security is then placed in the appropriate market capitalization breakpoint. A market capitalization breakpoint is determined by the break between the companies below.

Break Point	Companies included
Large Cap	50 Largest US Companies
Medium Large Cap	Next largest 150 US Companies
Medium Cap	Next largest 300 US Companies
Medium Small Cap	Next largest 500 US Companies
Small Cap	All US Companies below 1,000 largest

After the breakpoints are determined by the ranges above, new members are assigned on the basis of the breakpoints and existing members are reviewed to determine if they fall within a cumulative 5% market cap range around the new market capitalization breakpoints. If an existing securities market cap falls within this 5%, it will remain in its current index rather than move into a new market capitalization based index.

Market Capitalization Breakpoints

Period Ending: December 31, 2019

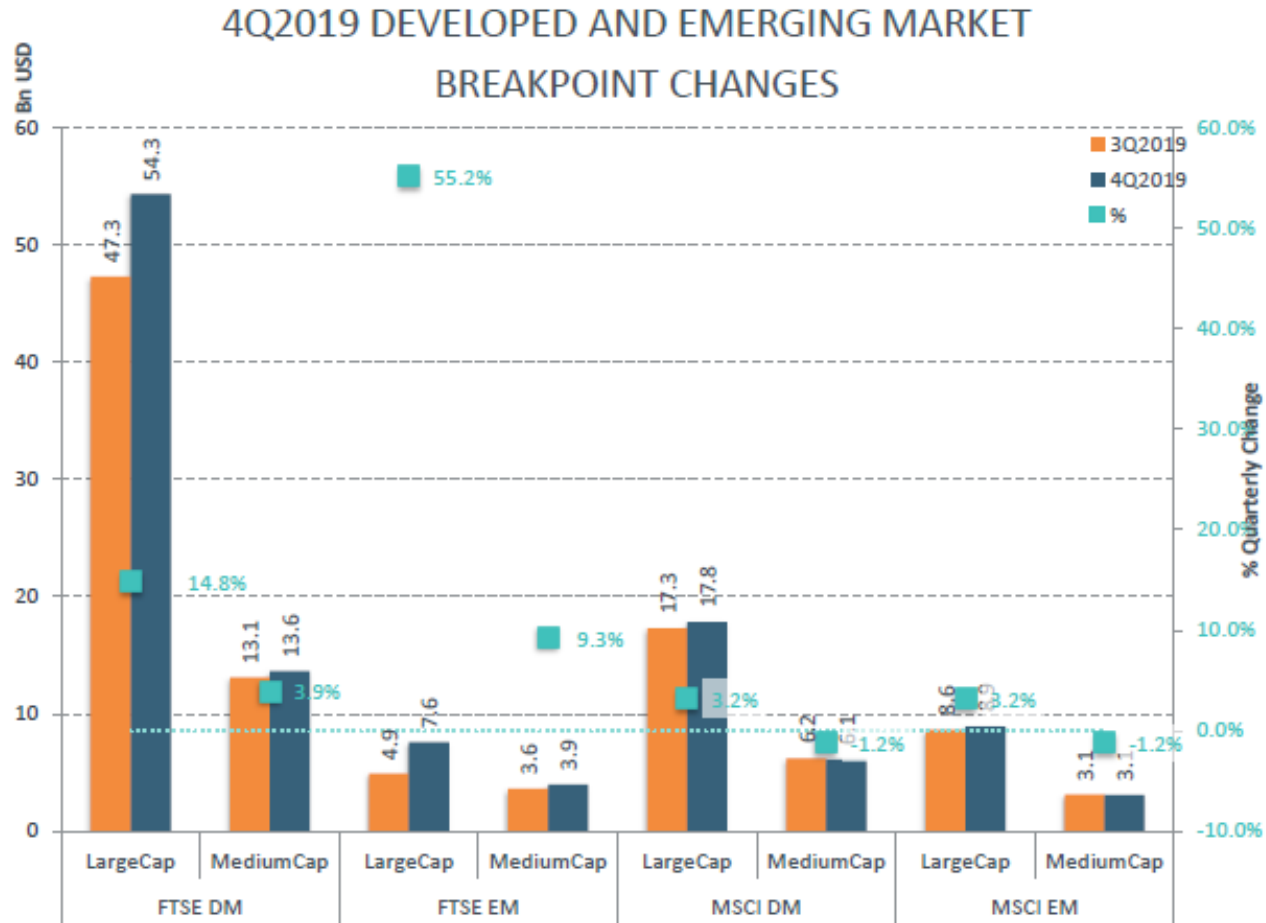
As Of	Large Cap	Medium Large Cap	Medium Cap	Medium Small Cap	Small Cap
12/31/2019	111.442	29.379	11.055	4.376	0
9/30/2019	111.164	28.416	9.142	3.059	0
6/30/2019	110.136	28.151	9.061	3.057	0
3/31/2019	113.008	26.539	8.787	2.951	0
12/31/2018	93.377	23.285	7.693	2.595	0
9/30/2018	106.633	28.088	9.457	3.273	0
6/30/2018	104.455	26.511	9.202	3.171	0
3/31/2018	101.922	26.399	8.890	2.958	0
12/31/2017	95.036	26.237	8.819	3.021	0
9/30/2017	93.539	24.882	8.344	2.935	0
6/30/2017	87.845	25.481	8.204	2.859	0
3/31/2017	89.968	25.293	8.241	2.737	0
12/31/2016	84.960	23.168	7.890	2.702	0
9/30/2016	78.745	23.385	7.394	2.533	0
6/30/2016	77.349	22.250	7.1432	2.444	0
3/31/2016	83.360	22.414	7.435	2.395	0
12/31/2015	90.075	24.308	8.141	2.936	0
9/30/2015	88.944	23.139	7.993	2.946	0
6/30/2015	92.87	25.07	8.797	3.352	0
3/31/2015	93.082	25.494	8.794	3.384	0
12/31/2014	89.92	25.19	8.51	3.29	0
9/30/2014	84.51	24.44	7.97	3.04	0
6/30/2014	80.39	23.62	8.07	3.24	0
3/31/2014	76.77	23.15	7.83	3.06	0
12/31/2013	77.11	22.27	7.65	3.03	0
9/30/2013	72.4	19.93	7.15	2.71	0
6/30/2013	68.47	19.36	6.48	2.46	0
3/31/2013	64.31	18.64	6.39	2.39	0
12/31/2012	58.45	16.8	5.75	2.13	0
9/30/2012	57.06	16.48	5.49	2.08	0
6/30/2012	55.65	16.13	5.14	1.99	0
3/31/2012	57.58	16.43	5.55	2.13	0
12/31/2011	51.97	14.66	4.93	1.93	0

Market Capitalization Breakpoints

Period Ending: December 31, 2019

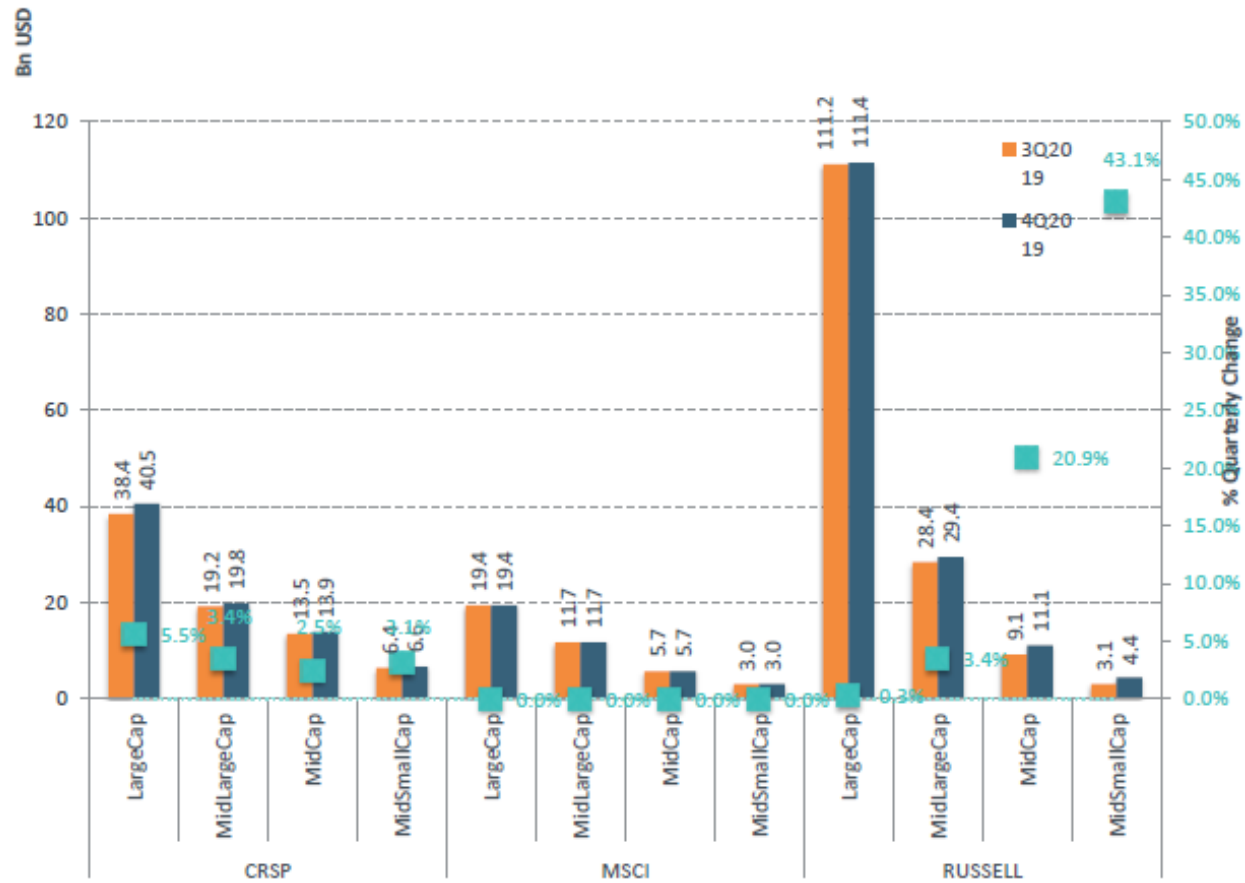
9/30/2011	45.35	13.88	4.38	1.66	0
6/30/2011	54.25	15.95	5.66	2.16	0
3/31/2011	52.22	15.69	5.7	2.16	0
12/31/2010	49.54	14.8	5.16	2.04	0
9/30/2010	42.83	13.13	4.64	1.8	0
6/30/2010	39.95	11.58	4.1	1.59	0

Numbers are billions USD



MSCI is releasing market capitalization breakpoints less frequently than others, hence the market capitalization breakpoints are longer in effect. This could result in no change.

4Q2019 US MARKET BREAKPOINT CHANGES



MSCI is releasing market capitalization breakpoints less frequently than others, hence the market capitalization breakpoints are longer in effect. This could result in no change.



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Annual outlooks

CAPITAL MARKET ASSUMPTIONS

Some important developments occurred in the last year. During our 2020 Capital Market Assumptions webinar, we discussed:

- Market movements of 2019 and how these shifts have affected our long-term outlook
- The impact of falling interest rates on fixed income expectations
- Why it is important to differentiate between shorter-term and longer-term forecasting exercises

Topics of interests

WHY BENCHMARKS MATTER

In this Topics of Interest paper, we seek to outline the importance of benchmark selection within the investment process. The white paper addresses the following points:

- Benchmarks which appear similar can behave very differently, even over long periods of time
- Unconsidered benchmark selection can introduce uncompensated tracking error
- Tools available to investors to assist in determining appropriate benchmark indexes

RISK IN MANAGER SELECTION

In our latest Topics of Interest paper, we provide a framework for assessing the candidacy of a manager for portfolio inclusion and consider the implications of one manager versus alternatives. It addresses the following questions:

- Does the manager add a desired exposure?
- Does the manager exhibit skill?
- What does the manager add to the broader portfolio relative to other candidates?

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VERUSINVESTMENTS.COM

SEATTLE 206-622-3700

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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. **p. 7**
- 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. **p. 15**

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%). **p. 40**
- 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. **p. 9**

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. **p. 18**
- 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. **p. 18**

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. **p. 40**
- 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. **p. 35**
- 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. **p. 25**

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

What drove the market in Q4?

“U.S. trade deficit falls 7.6% in October to 16-month low on decline in Chinese imports”

U.S. FEDERAL TRADE DEFICIT (\$BILLIONS)

Jun	Jul	Aug	Sep	Oct	Nov
53.7	52.7	53.5	51.1	46.9	43.1

Article Source: MarketWatch, December 5th, 2019

“As markets climb higher, are stocks becoming overvalued?”

BLENDED FORWARD 12-MONTH P/E RATIO OF THE S&P 500 INDEX

Jul	Aug	Sep	Oct	Nov	Dec
17.0x	16.6x	16.9x	17.3x	17.8x	18.3x

Article Source: CNBC, December 30th, 2019

“Fed ‘prepared to adjust’ balance sheet to prevent repo market flare-up”

MONTHLY CHANGE IN THE SIZE OF THE FED BALANCE SHEET (\$BILLIONS)

Jul	Aug	Sep	Oct	Nov	Dec
-47.7	-19.2	97.8	162.1	33.1	112.7

Article Source: Yahoo Canada Finance, December 11th, 2019

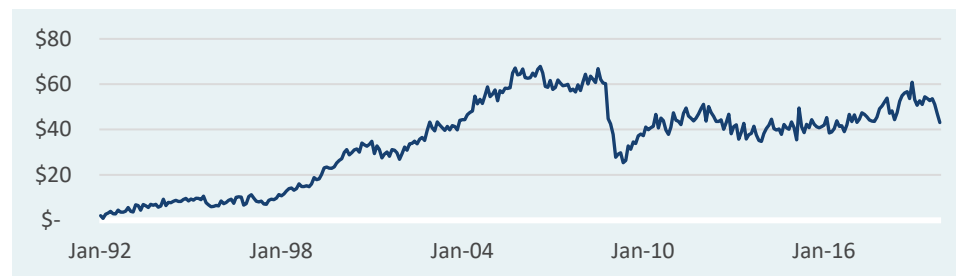
“China’s pork price jumps 110 per cent, sending consumer inflation rocketing to eight-year high”

CHINA CPI INFLATION (YoY % CHANGE)

Jul	Aug	Sep	Oct	Nov	Dec
2.8	2.8	3.0	3.8	4.5	4.5

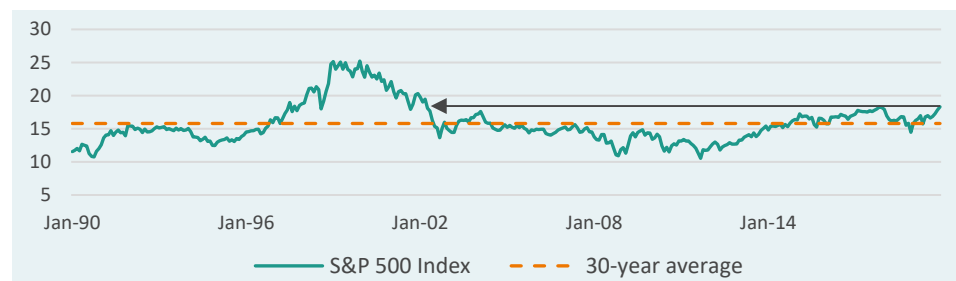
Article Source: South China Morning Post, December 10th, 2019

U.S. MONTHLY TRADE DEFICIT (BILLIONS)



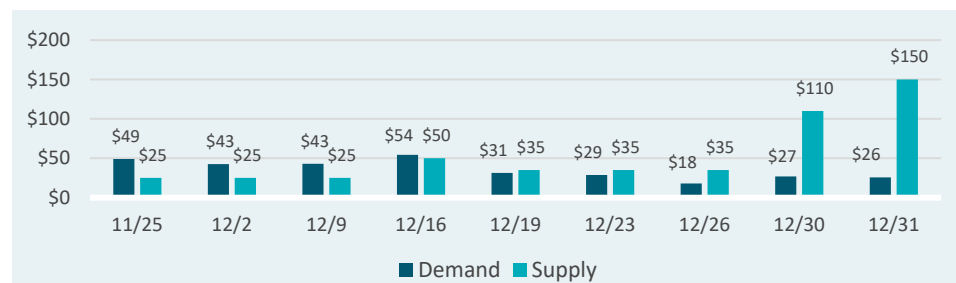
Source: Bloomberg, as of 11/30/19

FORWARD PRICE/EARNINGS RATIO (BLENDED 12-MONTH EARNINGS)



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

YEAR-END LIQUIDITY OFFERED UP BY THE NEW YORK FED (BILLIONS)



Source: New York Fed, as of 12/31/19.

Economic 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>

GDP growth

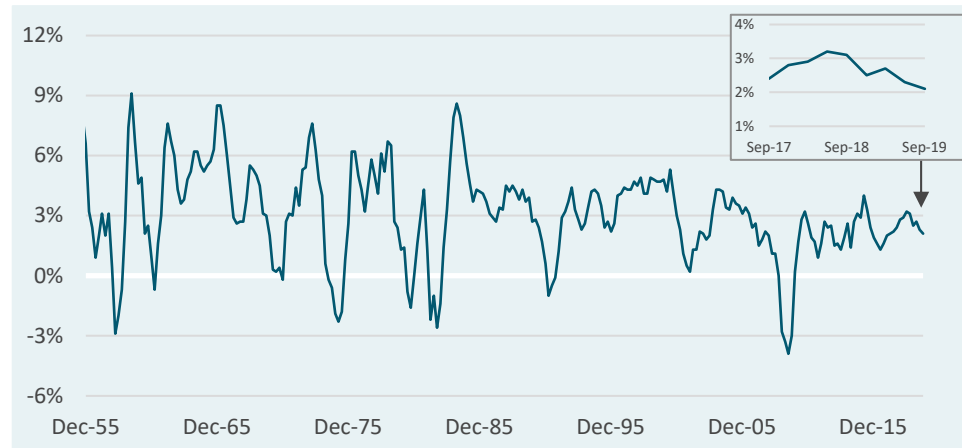
Real GDP grew at a 2.1% rate year-over-year in the third quarter (2.1% quarterly annualized rate). Falling imports detracted -0.3% from the overall GDP print, along with weak fixed investment (-0.2% contribution). Personal consumption, the largest component of gross domestic product, continued to drive the economy forward. The U.S. economy is pacing near the 2.0% rate that economists generally expect for full year 2020.

While trade policies and conflict likely resulted in a mild drag on economic growth in 2019, the U.S. and China have signed

the “phase one” trade deal. A partial trade resolution, or at least an indication that negotiations are headed in a more positive direction, could provide a lift to the economy and markets.

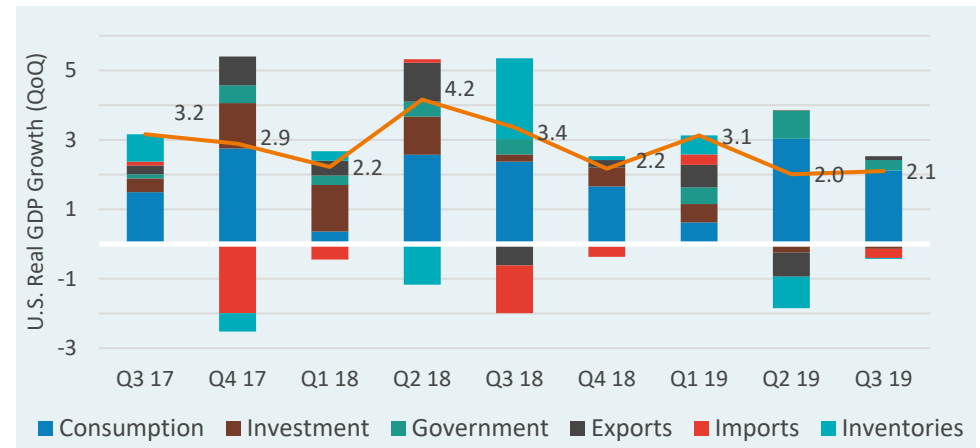
On January 17th, the Federal Reserve Bank of Atlanta GDPNow forecast indicated GDP growth of 1.8% in the fourth quarter. This forecast dipped recently due to weak personal consumption expenditures.

U.S. REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 9/30/19

U.S. GDP GROWTH ATTRIBUTION



Source: BEA, annualized quarterly rate, as of 9/30/19

Inflation

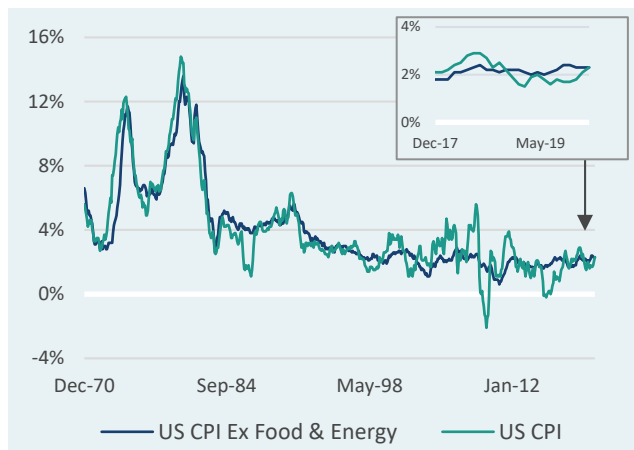
U.S. headline inflation increased 2.3% YoY in December, in line with the core inflation growth figure, and up from 1.7% in September. Although this is a notable jump in the inflation rate, investors appear more concerned about global deflationary forces. Cyclical price pressures remain surprisingly absent from the current environment.

During the quarter, the market's pricing of inflation increased from a low of 1.48% to 1.73%. While the breakeven rate has risen materially from its cycle low of 1.18% achieved in February 2016, it remains depressed by historical standards.

Consumer expectations moved in the opposite direction, falling from 2.7% at the beginning of the year to 2.3% in December.

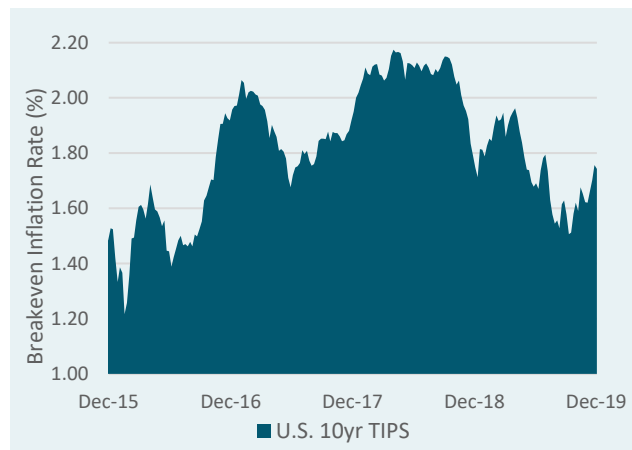
We believe it is likely that inflation will remain subdued. But it is also worth noting that if inflation or inflation fears returned to the markets, this might place central banks in a perilous position. It is doubtful that central banks could hike interest rates for any sustained period of time without risking recession.

U.S. CPI (YOY)



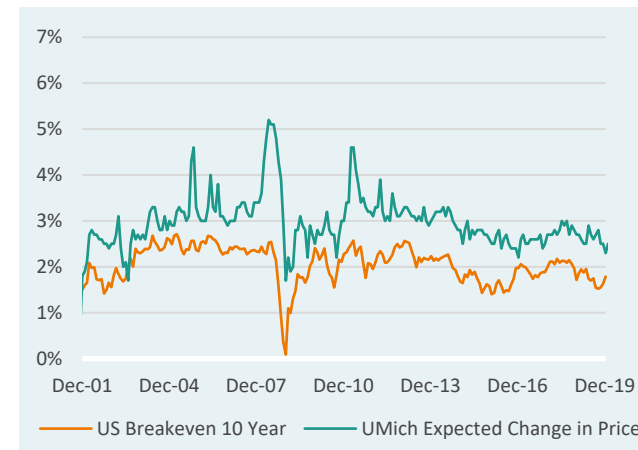
Source: Bloomberg, as of 12/31/19

U.S. BREAKEVEN INFLATION RATE



Source: FRED, as of 12/31/19

INFLATION EXPECTATIONS



Source: Bloomberg, as of 12/31/19

Labor market

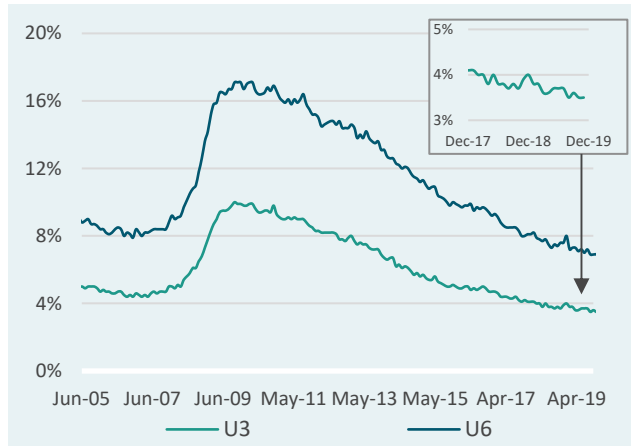
The U.S. labor market continued to show strength in Q4 and unemployment remained at 50-year lows of 3.5%. Year-over-year growth in non-farm payroll additions slowed to its lowest level since September 2017 at 1.4%. Nearly 1.24 jobs are now available per unemployed worker in the labor force, which suggests there is a limited remaining supply of workers to meet business hiring demands.

Average hourly earnings for production and nonsupervisory employees grew 3.0% year-over-year in December, outpacing inflation (2.3%). Sustained real wage growth would support sentiment, which is near cycle highs.

One plausible case for strong consumption to continue hinges on the fact that several key unemployment rates are near historic lows. The unemployment rate for workers who are at least 25 years old and lack high school diplomas (5.3%) is at an at all-time-low level since the data was first recorded in the year 2000. Typically, workers with less education earn less in nominal terms, but have a higher marginal propensity to consume per each dollar earned. These recent increases in employment for those workers who are more likely to spend may lead to outsized positive impacts on economic growth.

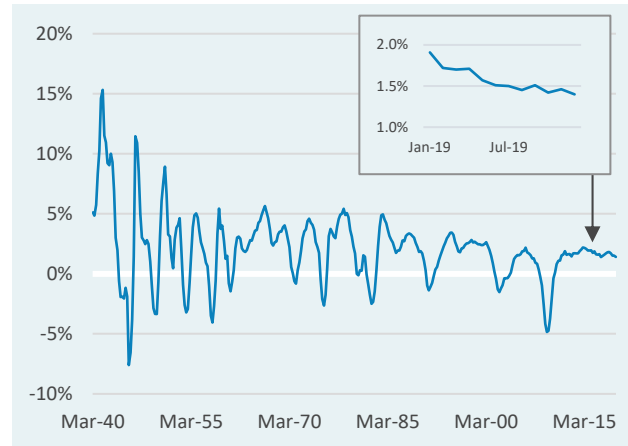
U.S. labor market remains strong, though further upside may be limited

U.S. UNEMPLOYMENT



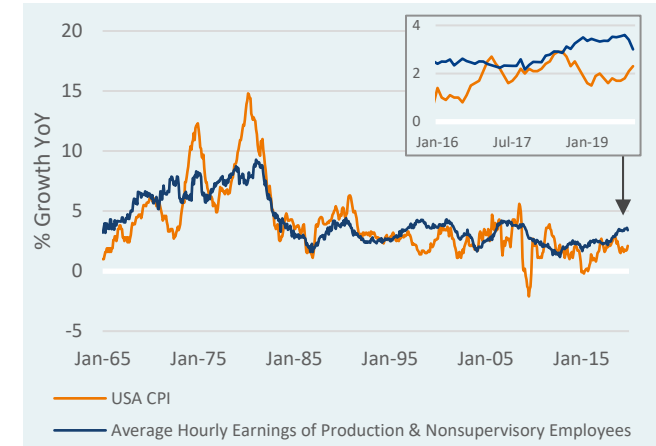
Source: FRED, as of 12/31/19

NON-FARM PAYROLL GROWTH (YOY)



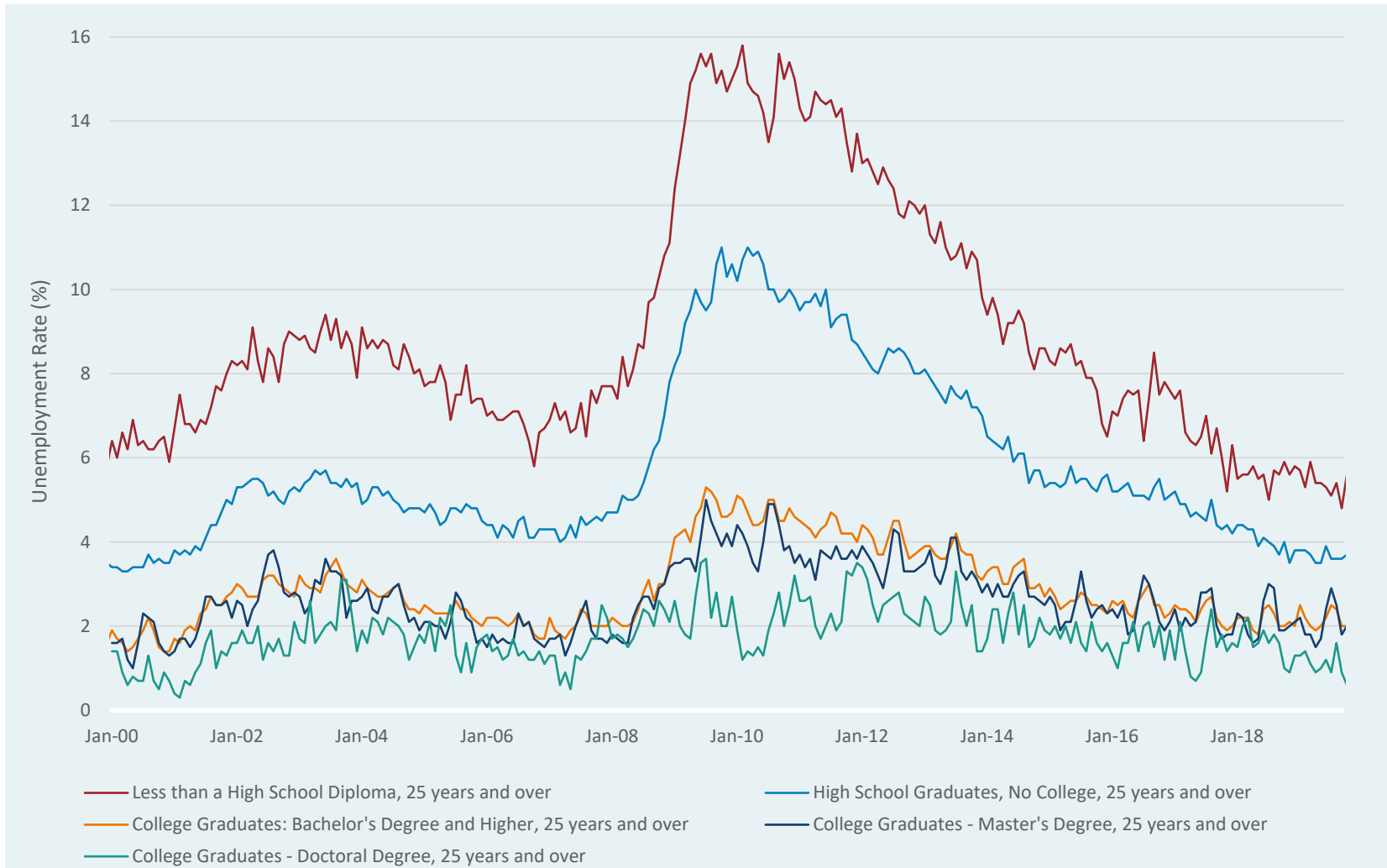
Source: BLS, as 12/31/19

U.S. WAGE GROWTH



Source: FRED, as of 11/30/19

U.S. unemployment



The U.S. job market is very strong, for all levels of education

Source: FRED, as of 11/30/19

The consumer

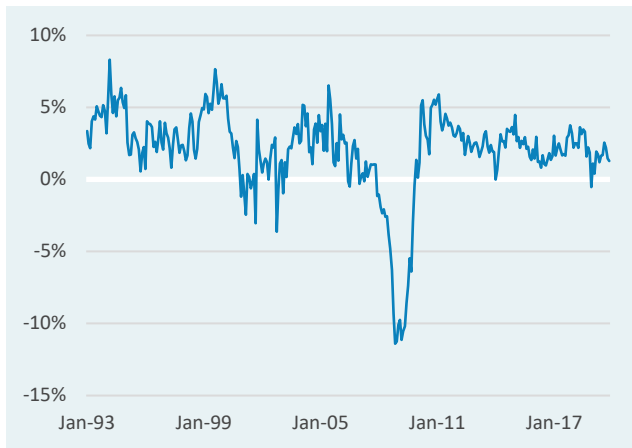
The U.S. consumer continued to push the U.S. economy forward, supported by low unemployment, solid wage gains, and high sentiment. American households are in a strong financial position, with balance sheets that appear robust. At the end of Q3, U.S. household debt outstanding was equal to about 74% of GDP, the healthiest level since Q4 2001.

Retail sales growth slid a bit in real terms, but much of this move was due to a pickup in inflation. The price of a barrel of WTI crude oil rose from \$53 to \$61, helping to propel year-over-year growth in headline inflation from 1.7% to 2.3%. Overall, retail sales growth remains solid, and has been boosted

recently by a surge in e-commerce sales. Cyber Monday sales grew nearly 20% this year, hitting a record \$9.4 billion U.S. dollars according to data from Adobe Analytics. Shoppers' carts were also about 6% larger at checkout than they were last year, perhaps hinting at a more optimistic consumer outlook.

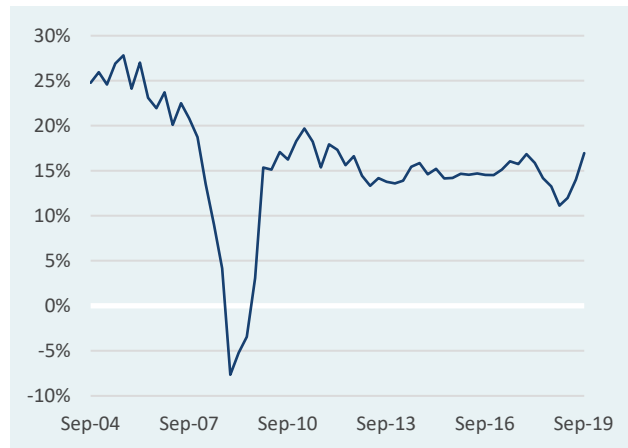
Credit conditions remain benign. Credit-card borrowing ticked down slightly and was offset by faster growth in auto and student loans. Some might consider credit-card debt "worse debt" and auto and student loan debt "better debt" in that prudent investments in transportation and human capital are likely higher-returning than ultra-short-term consumption.

REAL RETAIL SALES GROWTH (YOY)



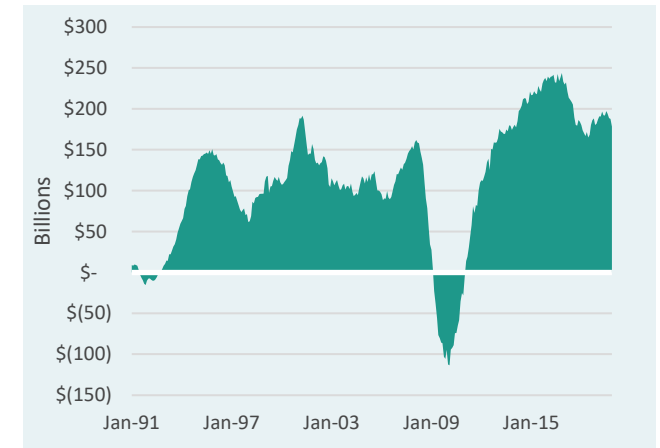
Source: FRED, as of 11/30/19

E-COMMERCE SALES GROWTH (QUARTERLY YOY)



Source: U.S. Census Bureau, Bloomberg, as of 9/30/19

12-MONTH GROWTH IN CONSUMER CREDIT



Source: Federal Reserve, Bloomberg, as of 11/30/19

Sentiment

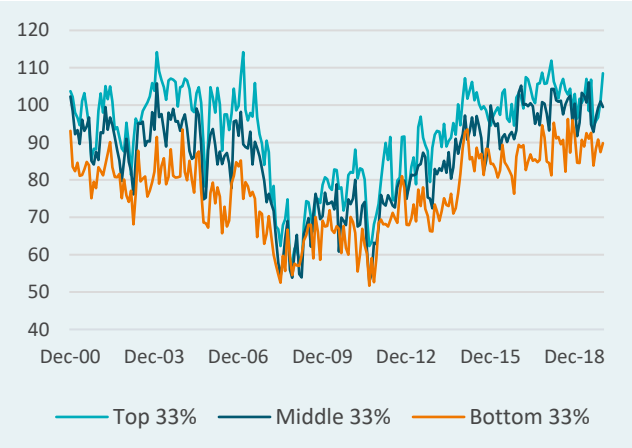
Consumer sentiment indicators remain near all-time-highs and improved slightly as a number of closely-followed geopolitical storylines appeared to move closer to resolution. The U.S. and China “phase one” trade deal, and the victory of Boris Johnson’s Conservative Party in the U.K. appears to have at least removed some uncertainty from the geopolitical landscape over the short- to intermediate-term.

Over the quarter, the difference between the sentiment reading for the top third of income earners and the bottom

third of income earners moved from the 10th percentile to the 65th percentile of monthly periods since 2001, indicating a widening in the gap between the “haves” and “have-nots”.

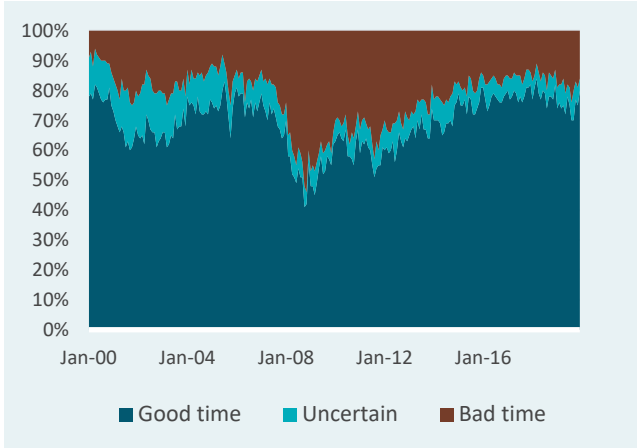
Consumers view the economic conditions for buying big-ticket household items such as furniture, refrigerators and televisions as close to as favorable as they have been over the course of the expansion. This belief appears to be rooted in dual expectations for job security and real wage gains.

CONSUMER SENTIMENT BY INCOME BRACKET



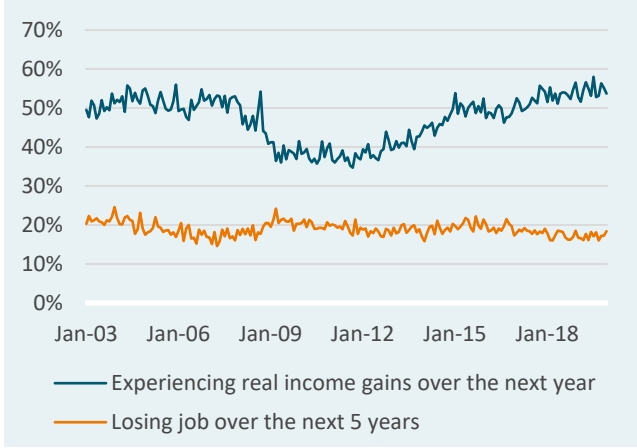
Source: University of Michigan, as of 12/31/19

CONDITIONS FOR BUYING BIG-TICKET ITEMS (%)



Source: University of Michigan, as of 12/31/19

CONSUMER FEAR GAUGE



Source: University of Michigan, as of 12/31/19

Housing

In the first half of 2019 the housing market appeared to be cooling off, coming down from a strong boom throughout the recent economic expansion. The average home sales price is down -8% from the highs of late-2017, although other variables such as the types and location of homes sold can impact these numbers. Homebuilding activity ticked up in the second half of the year as homebuilder sentiment jolted higher in 2019.

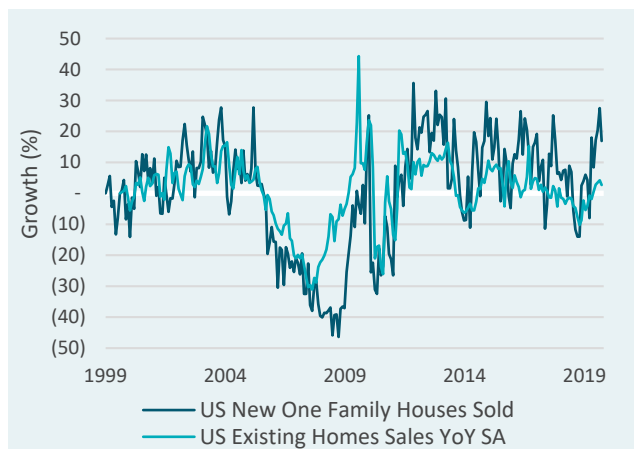
Existing home sales grew +2.7% YoY in November. New home sales, a far smaller portion of the overall market, grew at a stronger rate of +16.9% YoY, as construction activity further accelerated. Rising homebuilder activity in recent years may

ease some of the low inventory pressures in the current market environment.

The housing boom has contributed to a rebound in the U.S. homeownership rate. A decade-long trend away from buying and towards renting appears to have reversed in mid-2016. Since that time, the rate of homeownership has risen to 64.7% from a low of 63.1%.

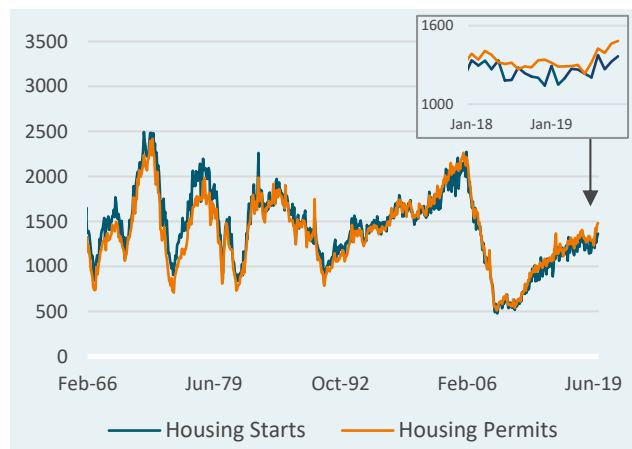
It is always helpful to remember that home price trends can vary meaningfully by location, which means national statistics are sometimes difficult to interpret at a local level.

U.S. HOME SALES (YOY)



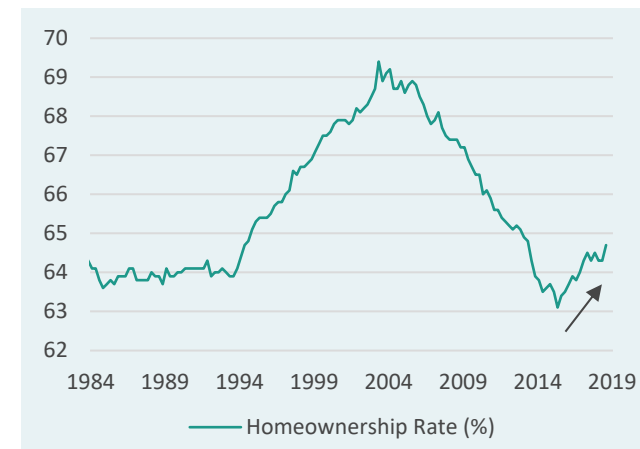
Source: FRED, as of 11/30/19

HOUSING STARTS & PERMITS



Source: Bloomberg, NAHB, as of 11/30/19 (see appendix)

HOMEOWNERSHIP RATE



Source: FRED, as of 9/30/19

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>

International economics

The United States grew at a pace of 2.1% year-over-year in the third quarter, moving more closely in line with other developed nations which have posted growth of 1.0%-2.0%.

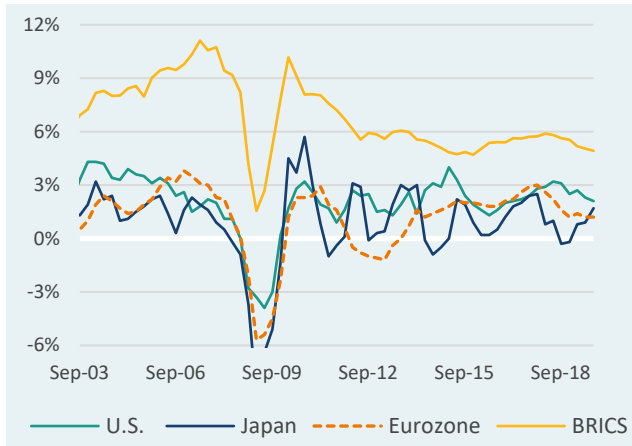
While the global economy has exhibited mild growth, labor markets continue to tighten across the board. By traditional unemployment measures, job markets are now stronger than pre-2008 levels in most major economies.

Inflation has remained subdued across international developed markets, and many pundits have viewed the mild inflation data as a cue for central banks to step in and

attempt to bolster economic growth through more accommodative policy. Inflation remains muted in emerging economies, and most economies are experiencing CPI below the 5-year average.

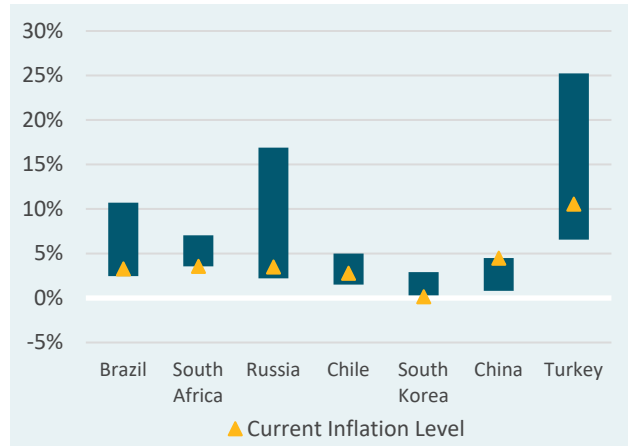
China's inflation rate has become an outlier, jumping to 4.5% as an outbreak of African swine fever resulted in a doubling of pork prices in the country during the year. This compares to a 5-year average inflation rate of 1.9%. Prices of other meats in China have also increased on heightened demand for pork substitutes. An acceleration of inflation may create issues for Chinese leadership in an already-slowing economy.

REAL GDP GROWTH (YOY)



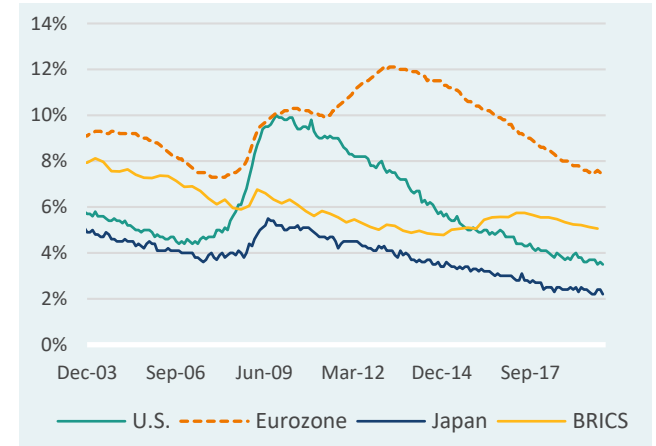
Source: Bloomberg, as of 9/30/19

INFLATION (CPI YOY)



Source: Bloomberg, inflation range of past 5 years, as of 11/30/19

UNEMPLOYMENT RATE



Source: Bloomberg, as of 11/30/19 or most recent release

Fixed income rates & credit

Interest rate environment

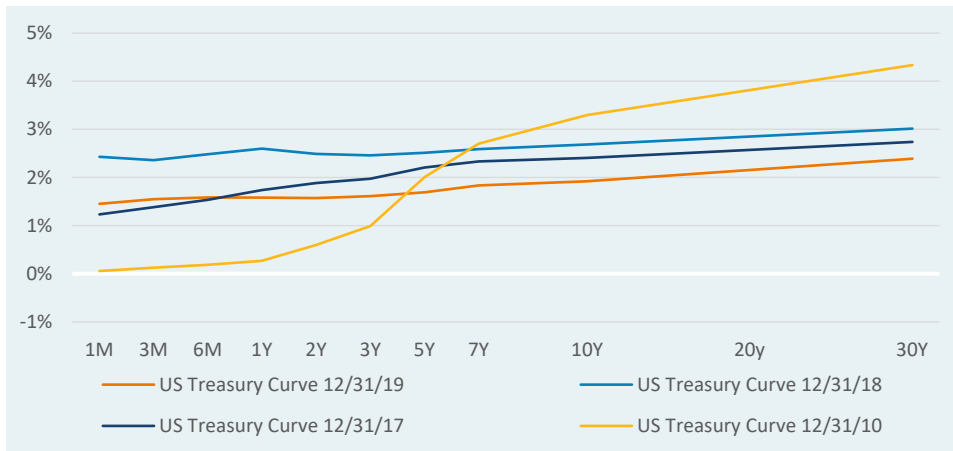
- The global sovereign bond rally lost steam in Q4 as inflation and growth prospects mildly reflat. Central bankers at the European Central Bank and the Federal Reserve signaled that policy would likely remain on hold in the absence of significant economic developments.
- Global ten-year sovereign bond 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%

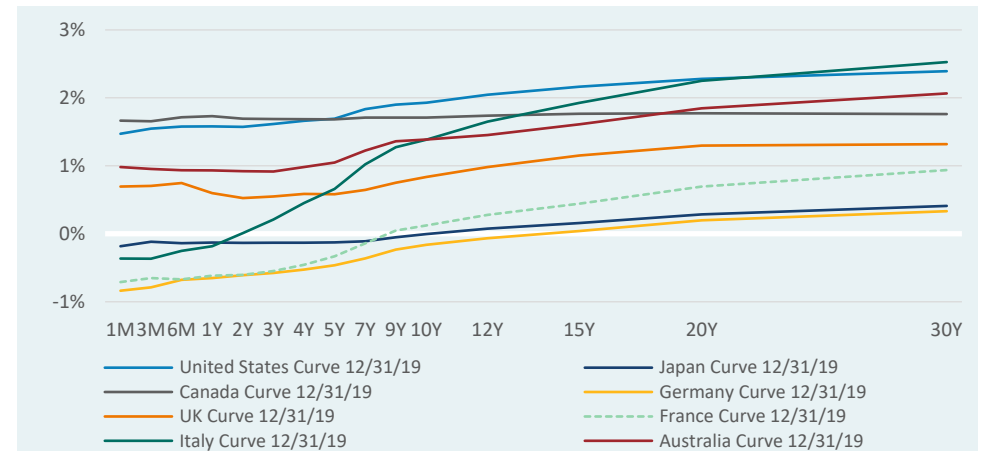
Source: Bloomberg, as of 12/31/19

Yield environment

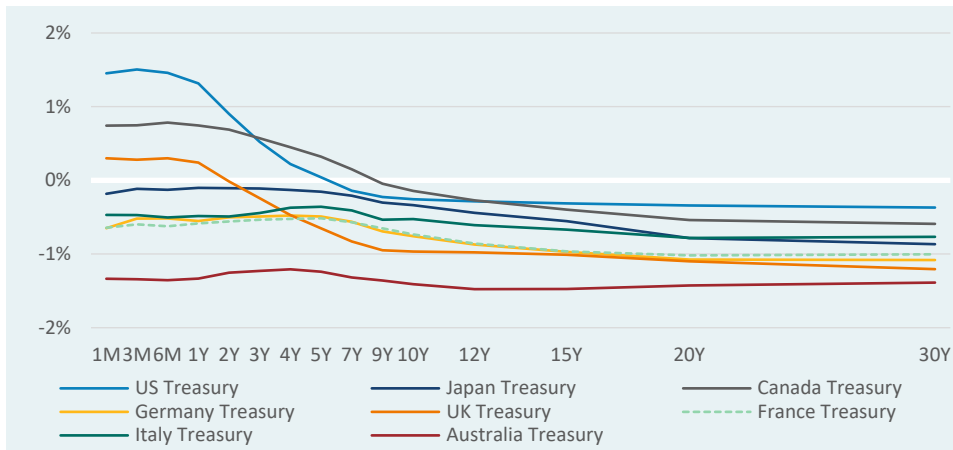
U.S. YIELD CURVE



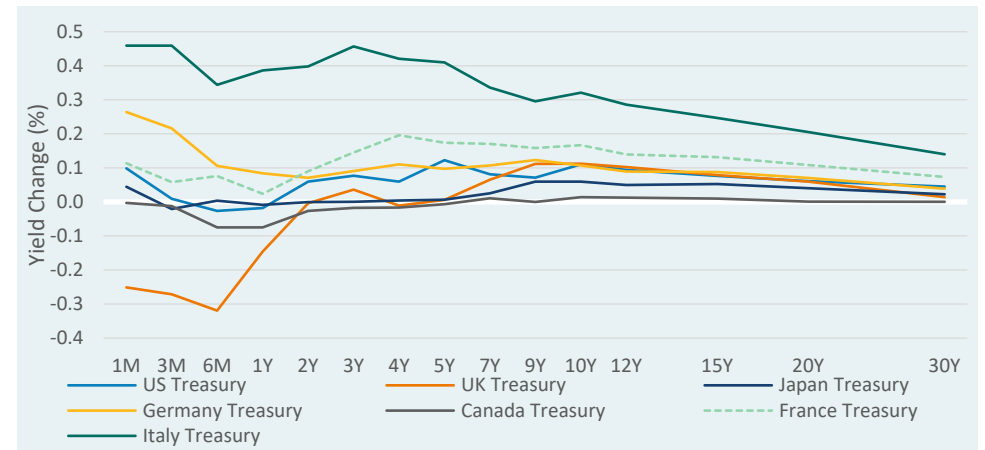
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 12/31/19

Credit environment

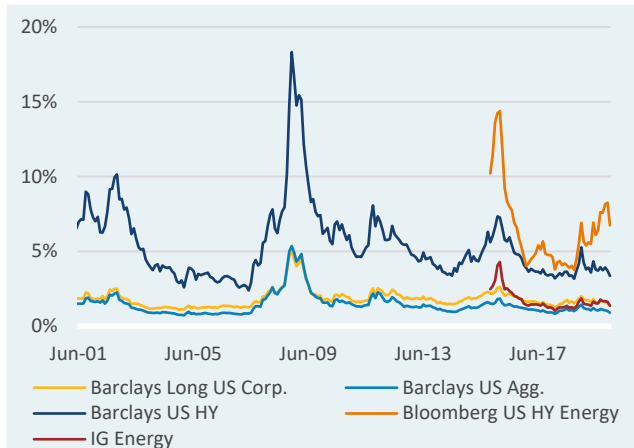
Credit enjoyed a positive 2019 driven by tightening spreads. Both investment grade and below-investment grade assets remained somewhat stable over the period. In high yield, CCCs and energy-related bonds were the best performers during Q4. High yield spreads tightened meaningfully over the year and the quarter (190 bps and 37 bps, respectively). Investment grade bonds also enjoyed positive performance fueled by this year's rate rally, attractive profit margins, and continued demand from investors for higher quality credit.

In the fourth quarter, high yield bonds have returned +3.4%, materially outperforming bank loans (+1.7%) and investment grade credit (+1.1%). In 2019, high yield bonds have returned +14.4%, materially outperforming bank loans (+8.6%) and slightly

outperforming investment grade credit (+13.8%). Bank loans have experienced outflows for much of the year driven by lessening demand for the asset class.

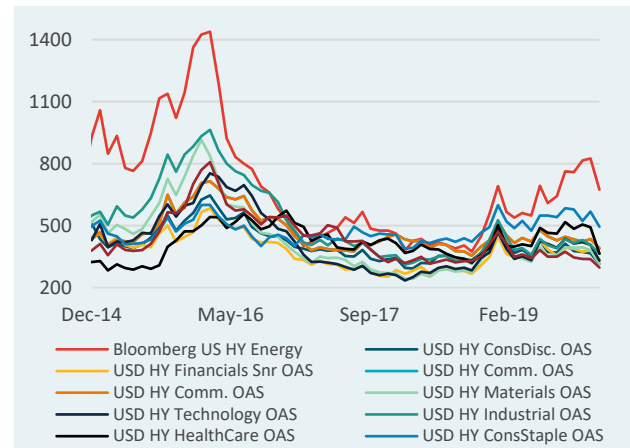
Based on concerns over late-cycle behavior in credit markets, we do not believe investors are being adequately compensated for credit risk. Late-cycle volatility tends to coincide with widening credit spreads and higher propensity for default activity. An underweight to U.S. investment grade, high yield credit, and bank loans may be warranted, with an overweight to emerging market debt which appears to offer more attractive value. This positioning should result in an overall neutral credit risk stance. Within U.S. markets, higher quality and more liquid assets appear most attractive.

SPREADS



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

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 12/31/19

Market	Credit Spread (OAS)	
	12/31/19	12/31/18
Long U.S. Corp	1.4%	2.0%
U.S. Inv Grade Corp	0.9%	1.5%
U.S. High Yield	3.4%	5.3%
U.S. Bank Loans*	4.4%	5.1%

Source: Barclays, Credit Suisse, Bloomberg, as of 12/31/19

*Discount margin (4-year life)

High yield – what’s in it?

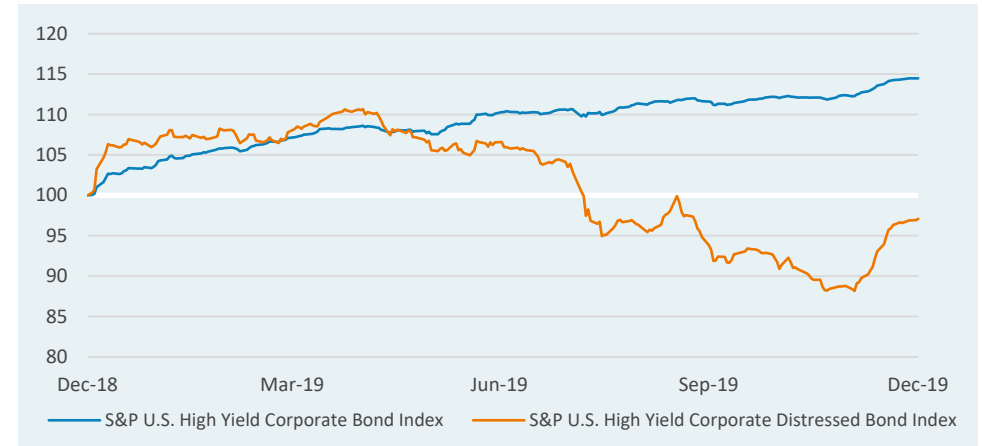
The high yield market rallied in 2019 to provide double digit positive returns for only the fourth time since the 2008-2009 global financial crisis. However, the market was characterized by significant divergences as investors rotated into upper-tier credits relative to lower-tier credits due to volatility and geopolitical uncertainty picking up during the year. This was evidenced by the ratio of CCC/BB credit spread levels, which climbed to levels last seen two decades ago. Investors generally see CCC credits as a proxy for less liquid and/or more complex situations and risks, especially relative to the BB segment.

The distressed market was negatively impacted by investor distaste for less liquid risk during the year. This was particularly true in the energy sector, and in certain retail and healthcare industries. Selling pressures peaked in November as the riskiest segment of the high yield market suffered losses in excess of those experienced during the 2018 year-end drawdown. Market participants pulled money from the space, which resulted in significant redemptions amongst distressed-focused hedge funds and even closures of hedge funds that had previously successfully navigated the global financial crisis.

CCC/BB SPREAD RATIO



HIGH YIELD VS. HIGH YIELD DISTRESSED (INDEXED 12/31/2018=100)



Source: Standard & Poor's, J.P. Morgan, Wall Street Journal, as of 12/31/19

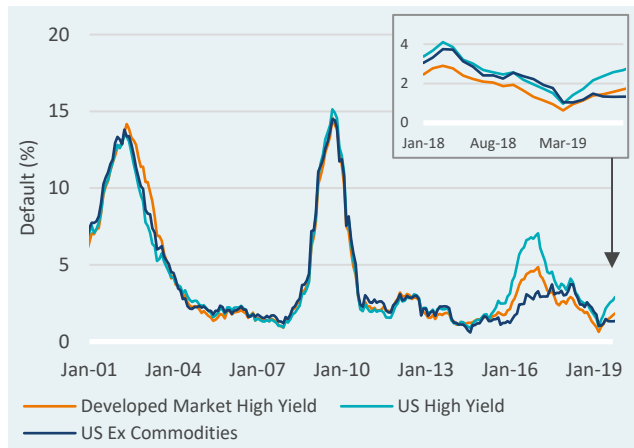
Default & issuance

Default activity for 2019 was slightly higher than 2018 by roughly 0.8%. This was mainly due to elevated defaults in commodity-related industries such as energy and metals/mining. The par-weighted default rate for high yield ended the year at 2.6% and remained below its long-term average range of 3.0-3.5%.

For loans, the par-weighted default rate for 2019 was 1.6% and remained below the long-term average of 3.1%, according to data from J.P. Morgan. Notably, defaults in commodity-related sectors accounted for essentially half of the year's default/distressed activity.

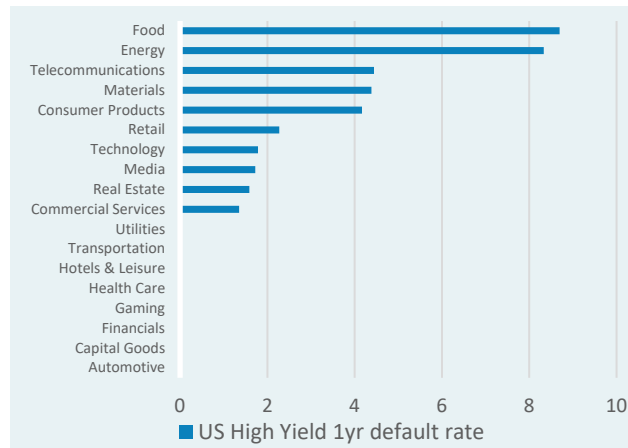
Gross high yield issue activity for 2019 was \$287 billion which was up 52% from a year ago. Loan market issuance is significantly behind last year's pace, likely influenced by lower demand for floating rate securities now that the Federal Reserve has paused monetary tightening. Gross loan issuance is essentially down 44% from a year ago although there was an increase in issuance at the end of December.

HY DEFAULT RATE (ROLLING 1-YEAR)



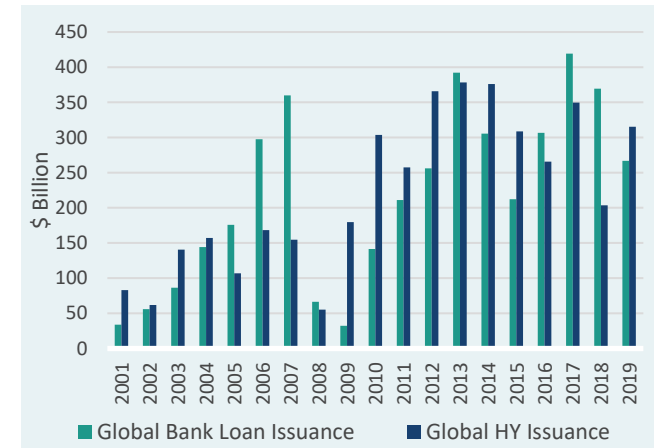
Source: BofA Merrill Lynch, as of 12/31/19

U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)



Source: BofA Merrill Lynch, as of 12/31/19 – par weighted

GLOBAL ISSUANCE (\$ BILLIONS)



Source: Bloomberg, BofA Merrill Lynch, as of 12/31/19

Equity

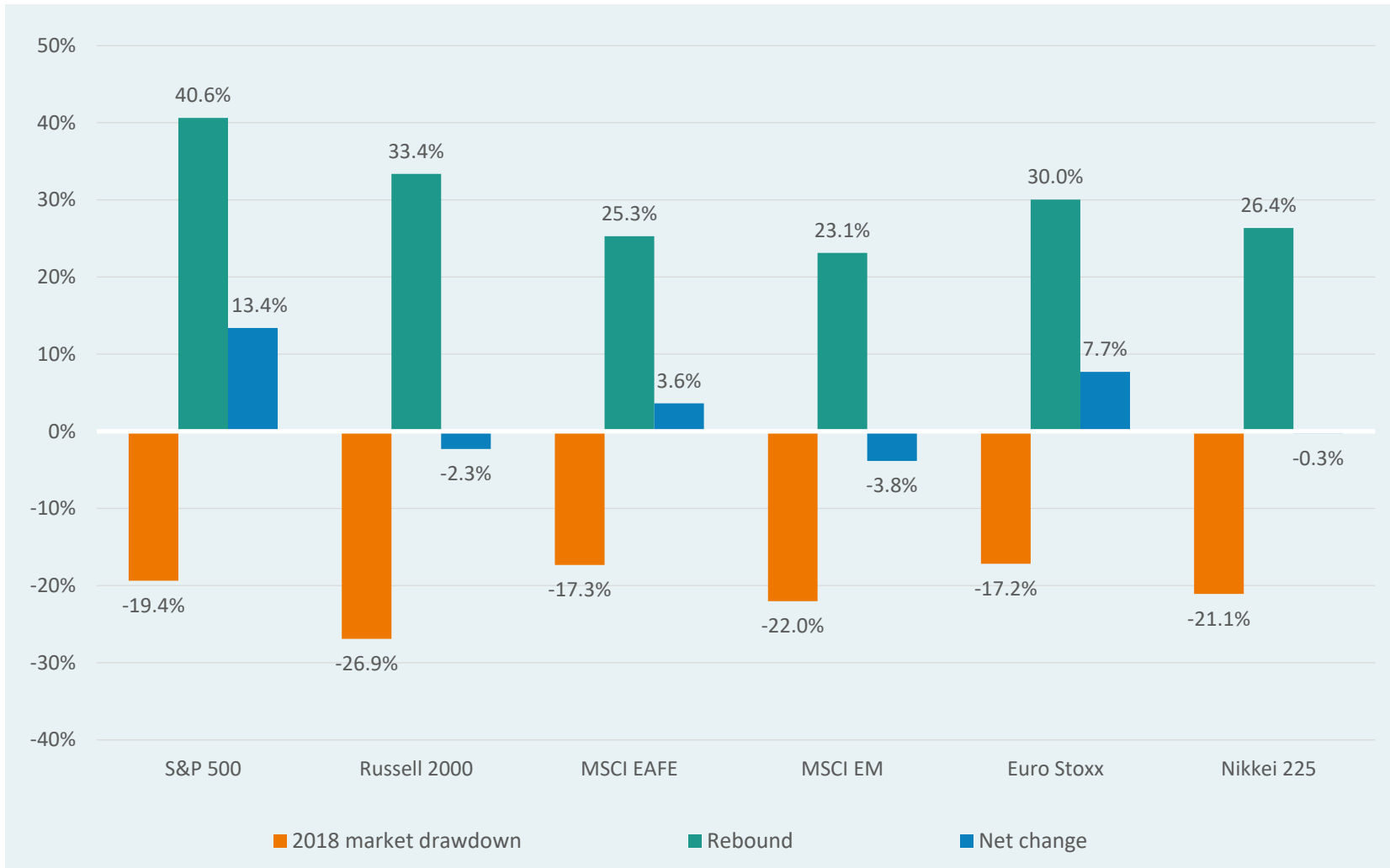
Equity environment

- 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

A different look at 2019 performance



Most of the high returns of 2019 were due to markets recovering from the 2018 drop

Adjusting for this effect shows us that 2019 was a fairly average year

Source: Standard & Poor's, MSCI, Verus, as of 12/31/19 – "Drawdown" defined as the total market fall in 2018, "Rebound" defined as the total % return from the low point of the fall to the end of 2019. "Net Change" defined as the % market return from the 2018 high point to the end of 2019.

Domestic equity

U.S. equities outpaced international in the third 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%.

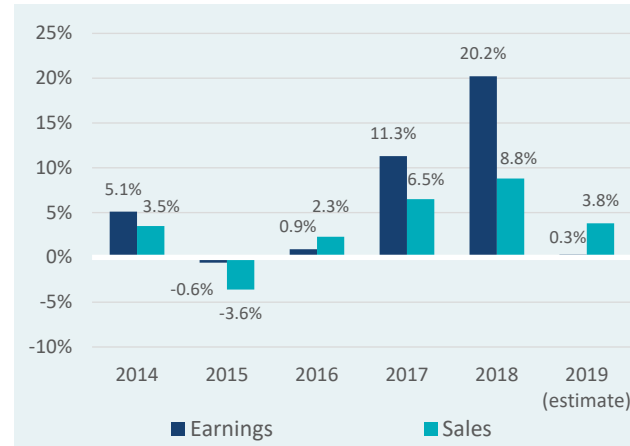
U.S. markets may continue to outperform over the shorter-term due to relative economic and market strength, and prices may certainly rise further. But history suggests that a widening gap between U.S. and international stock valuations will constrain U.S. performance over the longer-term.

U.S. EQUITIES



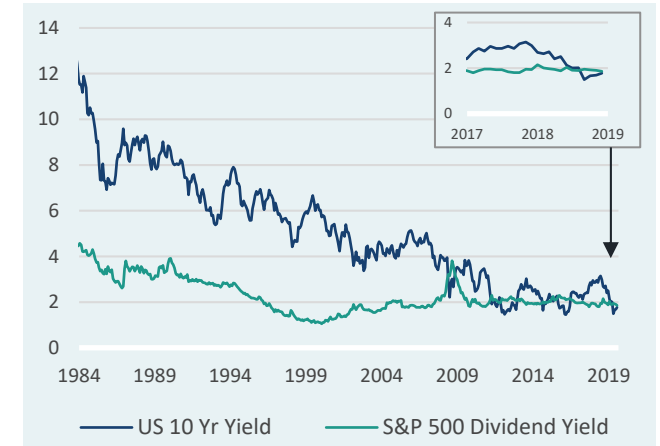
Source: Standard & Poor's, as of 12/31/19

EARNINGS



Source: FactSet, as of 12/20/19

RELATIVE YIELDS



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

Domestic equity size & style

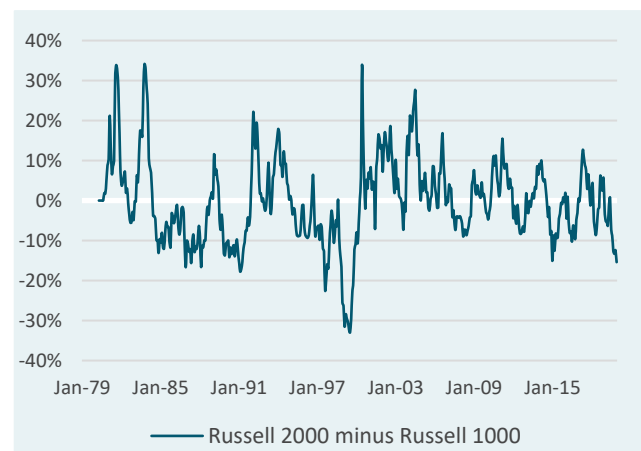
Value stocks lagged growth stocks during the fourth quarter (Russell 1000 Growth +10.6%, Russell 1000 Value +7.4%) while small cap stocks outperformed large stocks (Russell 2000 +9.9%, Russell 1000 +9.0%). During calendar year 2019, both size and value factors significantly underperformed (Russell 1000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

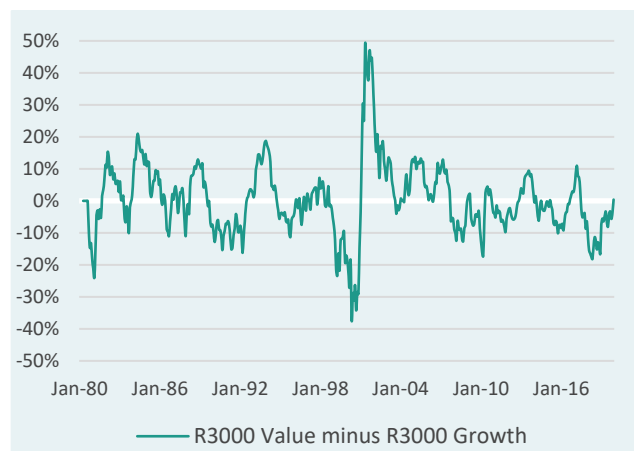
In mid-2016 we argued that there were clear and economic reasons for long-term value factor underperformance, and that a tactical overweight to the value factor did not appear warranted. This view has continued to be correct, as those who bought into value anytime of the past three years would have underperformed. 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)



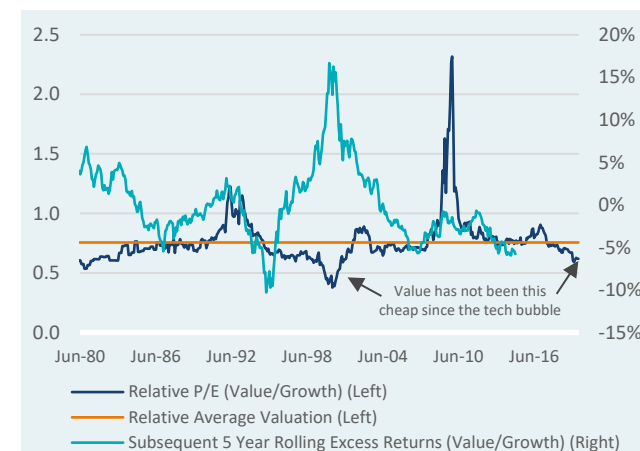
Source: FTSE, as of 12/31/19

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.

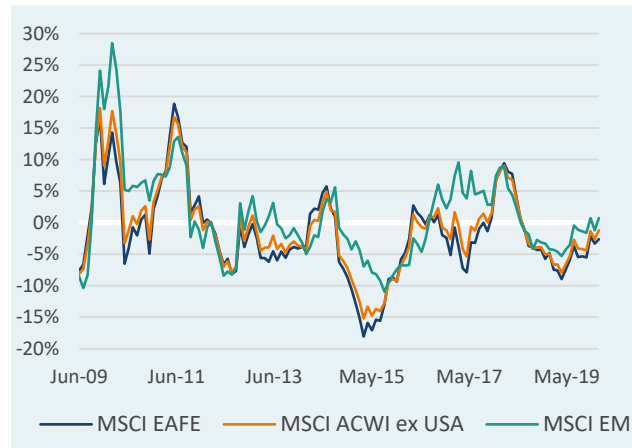
International equity valuations remain elevated, but unlike in the U.S., they do not yet appear stretched. Forward price-to-earnings ratios for the MSCI U.K. and Italy indices rank in the 59th and 52nd percentiles respectively, relative to the monthly expansion average. Valuations are a bit richer in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

INTERNATIONAL DEVELOPED EQUITIES



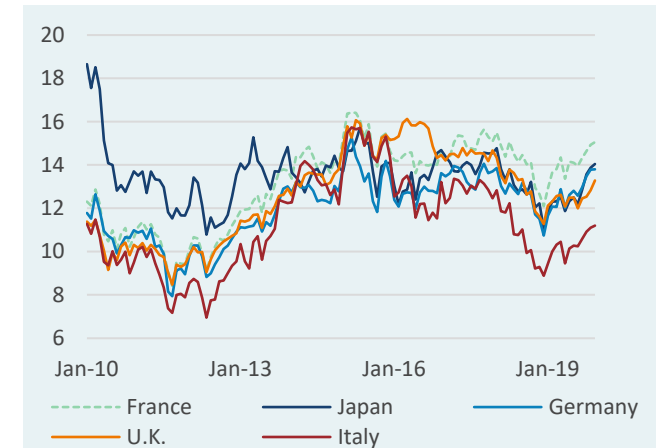
Source: MSCI, as of 12/31/19

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

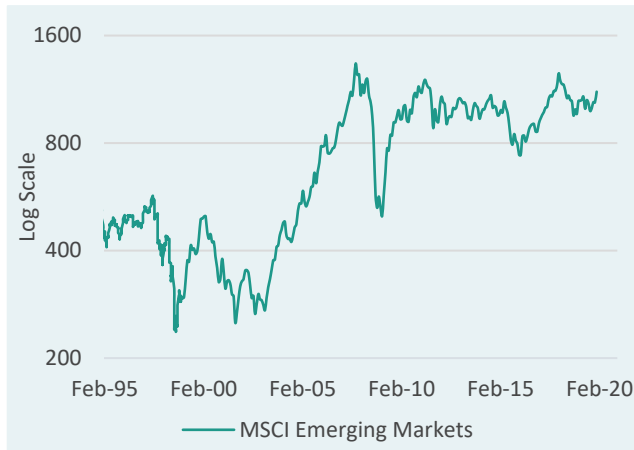
Emerging market equities (+11.8%) outperformed both U.S. (+9.1%) and international developed equities (+8.2%) over the quarter, but still lagged over the full calendar year. In 2019, emerging market equities delivered a total return of 18.4%, and trailed the total return of international developed equities 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.

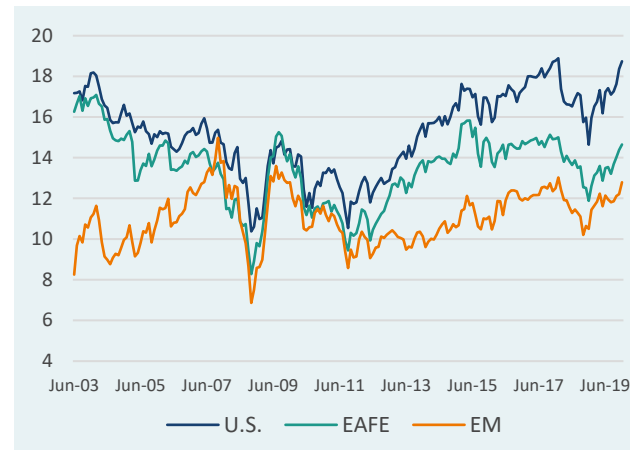
Inflation remains muted in emerging economies, and most economies are experiencing CPI below the 5-year average. Central bank policy has remained accommodative in many major countries within the universe such as China, South Korea, Brazil, and South Africa. This accommodation could provide a boost for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

EMERGING MARKET EQUITY



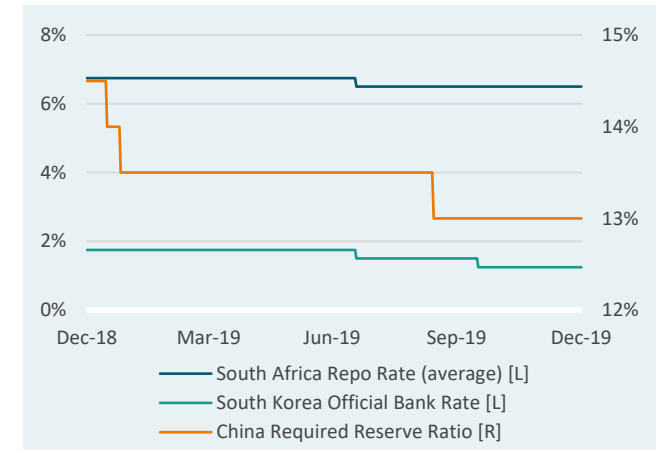
Source: MSCI, as of 12/31/19

FORWARD P/E



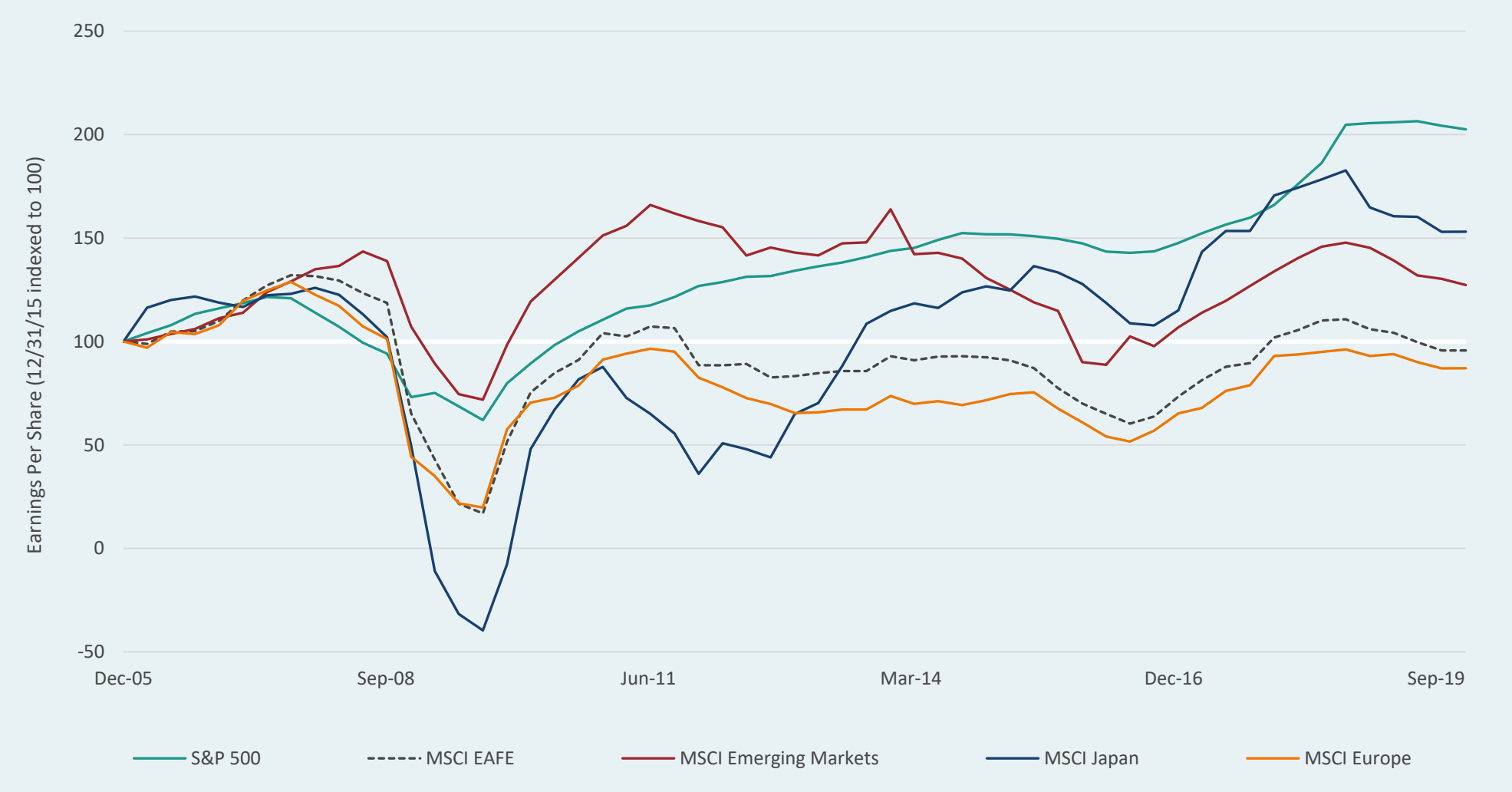
Source: MSCI, as of 12/31/19

CENTRAL BANK ACCOMODATION



Source: MSCI, as of 12/31/19

Equity earnings growth



Source: Bloomberg, as of 12/31/19

Equity valuations

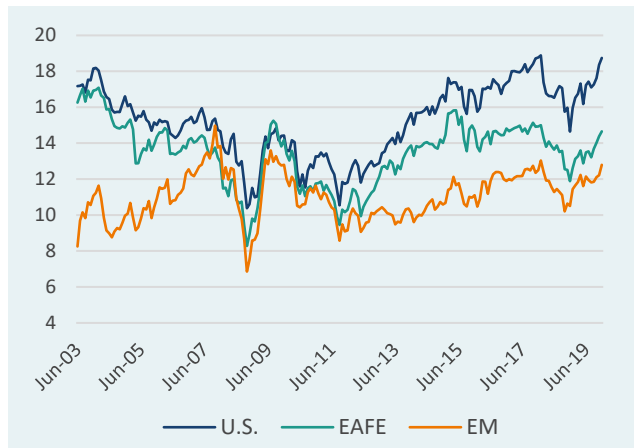
Equity valuations expanded materially in 2019 as prices recovered from their year-end 2018 fall and then continued climbing through the fourth quarter. U.S. equities are expensive relative to their long-run average and prices may become more difficult to justify in an environment of flat earnings growth. International and emerging equity valuations are near average levels. We remain watchful of earnings trends in 2020, which may have important implications for the future path of equities.

In the United States, stocks within the Information Technology

(22.7x) and Communication Services (19.5x) sectors have retained forward P/E ratios elevated well above their respective 5- and 10-year averages. Last year, growing concerns over data privacy, support for anti-trust regulation, and several idiosyncratic scandals weighed on the tech sector. Over the course of this election year, we expect the issue of mega-cap tech regulation to remain beneath the microscope.

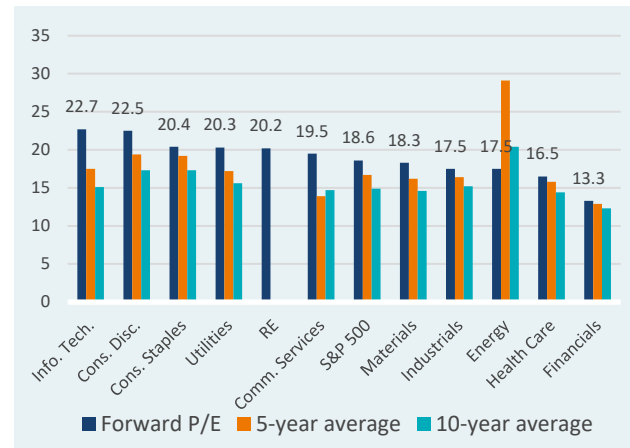
Compared to U.S. and EM equities, international developed equities offer the greatest yield at present, offering a three-month average trailing dividend yield of 3.4%.

FORWARD P/E RATIOS



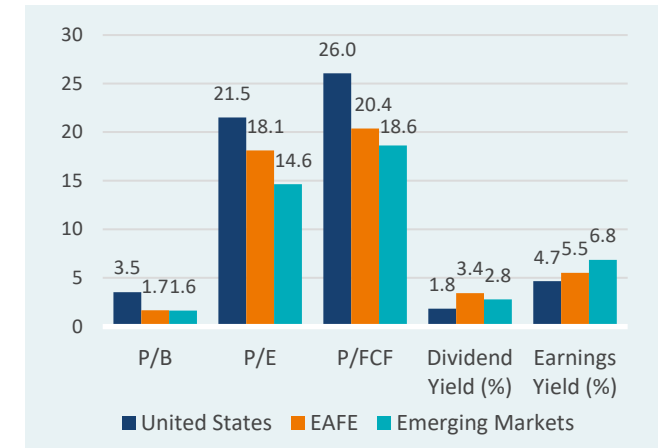
Source: MSCI, 12m forward P/E, as of 12/31/19

S&P 500 INDEX FORWARD SECTOR P/E RATIOS



Source: Standard & Poor's, FactSet, as of 1/17/20

VALUATION METRICS (3-MONTH AVERAGE)



Source: Bloomberg, MSCI as of 12/31/19 - trailing P/E

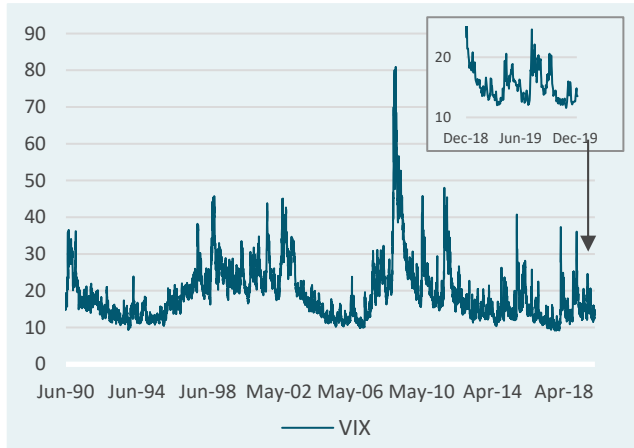
Equity volatility

The implied volatility of large-cap U.S. stocks returned to a subdued level. The CBOE VIX Index, which calculates the market's expectation for volatility implied by S&P 500 Index options, declined from 16.2 to 13.8, a reading which lies in the 15th percentile of weekly readings over the last thirty years. Net non-commercial short VIX positioning reached new all-time-highs in the 4th quarter, meaning that many people are betting on volatility to remain low and push lower. Some investors view this assumption as concerning, and as a signal that the market may be ready for a correction.

U.S. large-cap and emerging market stocks have experienced a higher degree of volatility than international developed stocks over the last several years. Some of the divergence may be attributable to the impacts of the ever-changing U.S.-China trade narrative which has held the full attention of market participants for much of the prior two years.

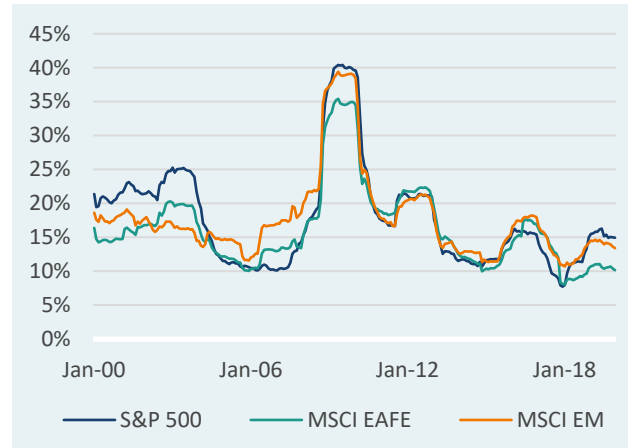
The MSCI EM Index touched new all-time highs in April and did not eclipse that level for another 174 days. In 2019, the S&P 500 and MSCI EAFE indices spent a maximum of 65 and 82 trading days between fresh all-time highs, respectively.

U.S. IMPLIED VOLATILITY (VIX)



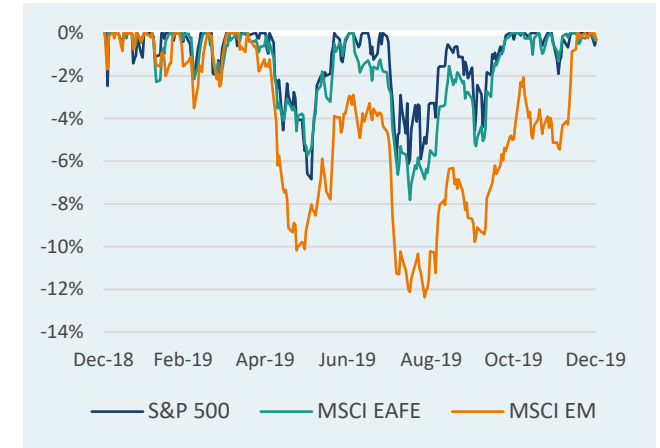
Source: CBOE, as of 12/31/19

ROLLING 1-YEAR REALIZED VOLATILITY



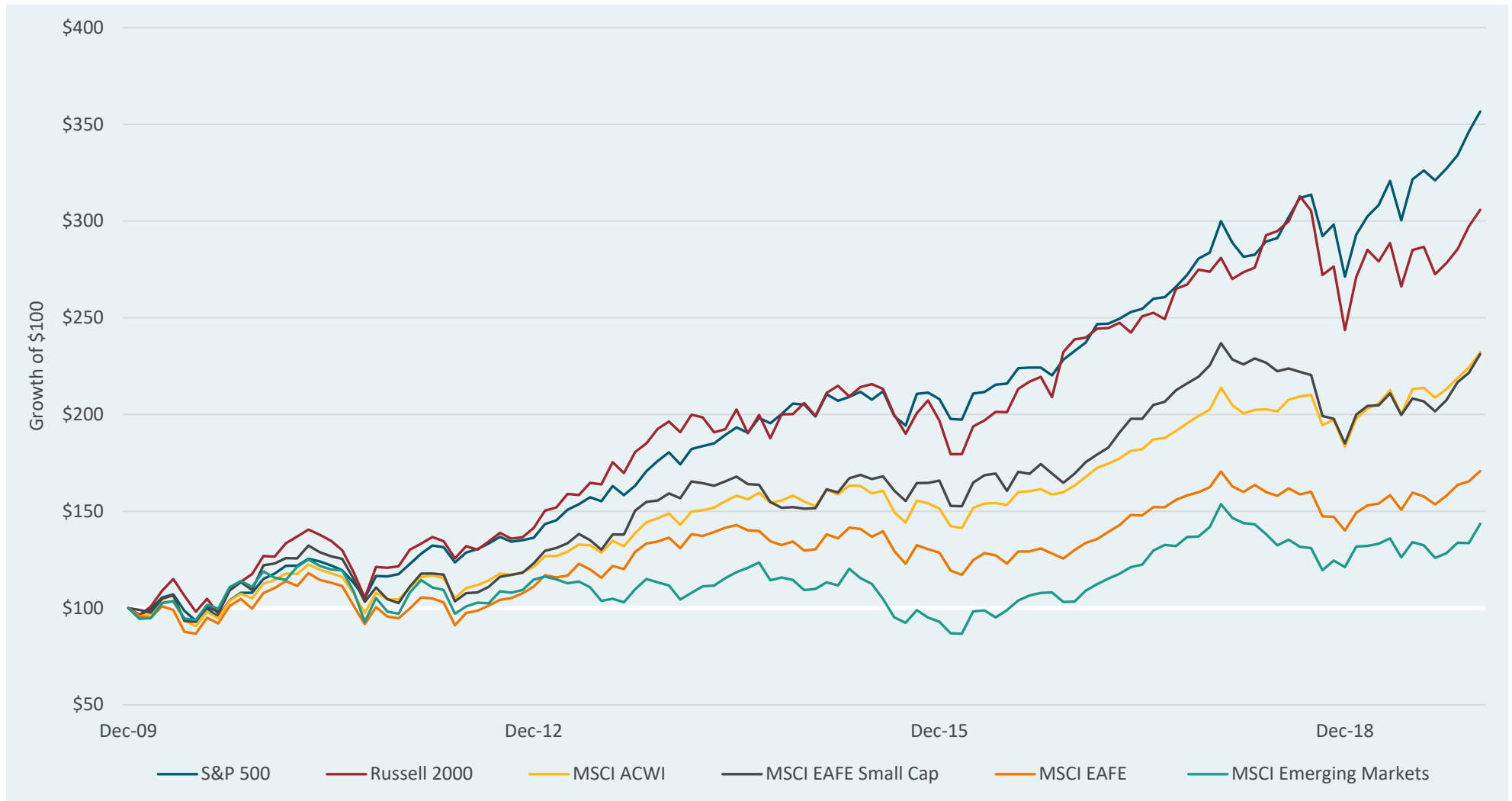
Source: Standard & Poor's, MSCI, Bloomberg, as of 12/31/19

2019 MAX DRAWDOWNS FROM PREVIOUS ALL-TIME-HIGH INDEX LEVELS



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

Long-term equity performance



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

Other assets

Currency

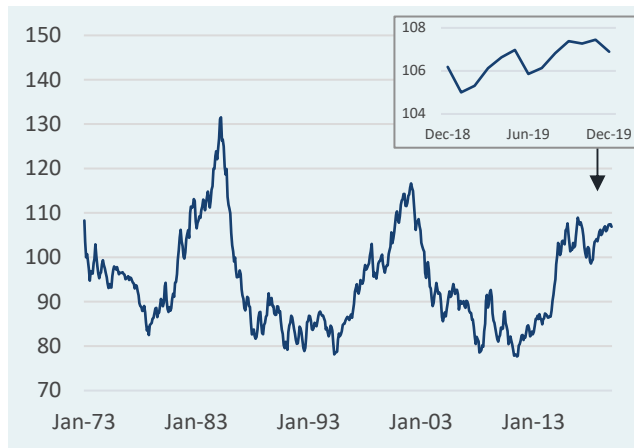
The U.S. dollar weakened versus both developed and emerging market currency baskets in the 4th quarter, fading some of the strong relative performance it had experienced back in Q3 2019. An index tracking the weighted average of the foreign exchange value of the U.S. dollar against major currencies fell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

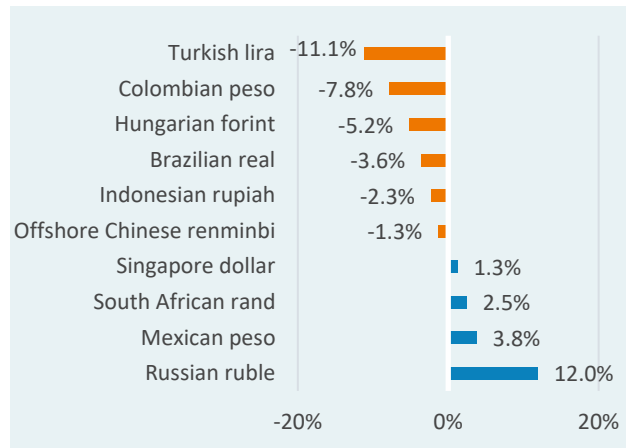
The British pound sterling bounced back sharply in Q4, rising from \$1.23 to \$1.33. Prime Minister Boris Johnson’s Conservative Party secured a firm majority in Parliament, lifting the shroud of “Brexit” from the geopolitical landscape.

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

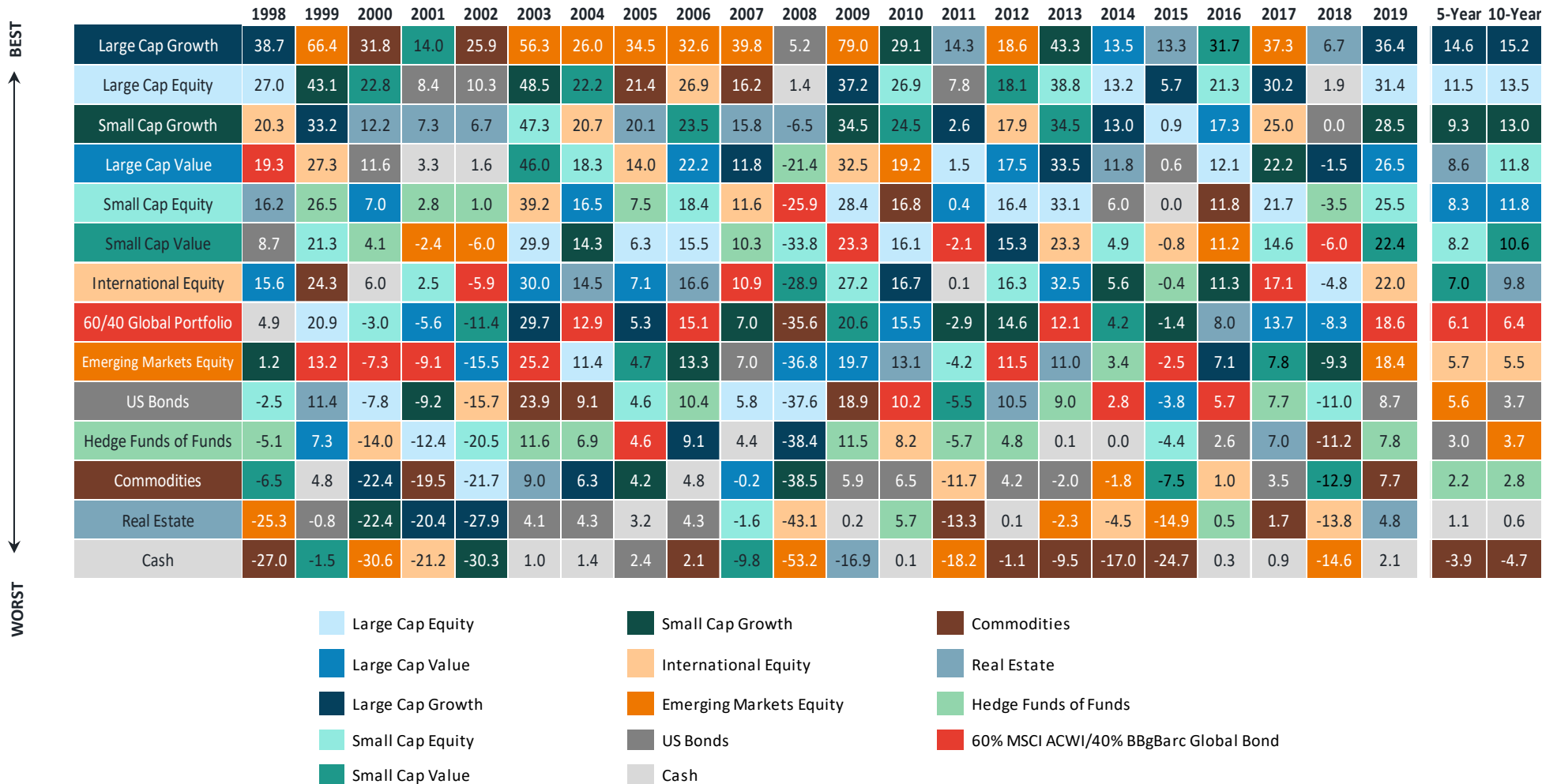
GBP/USD



Source: Bloomberg, as of 12/31/19

Appendix

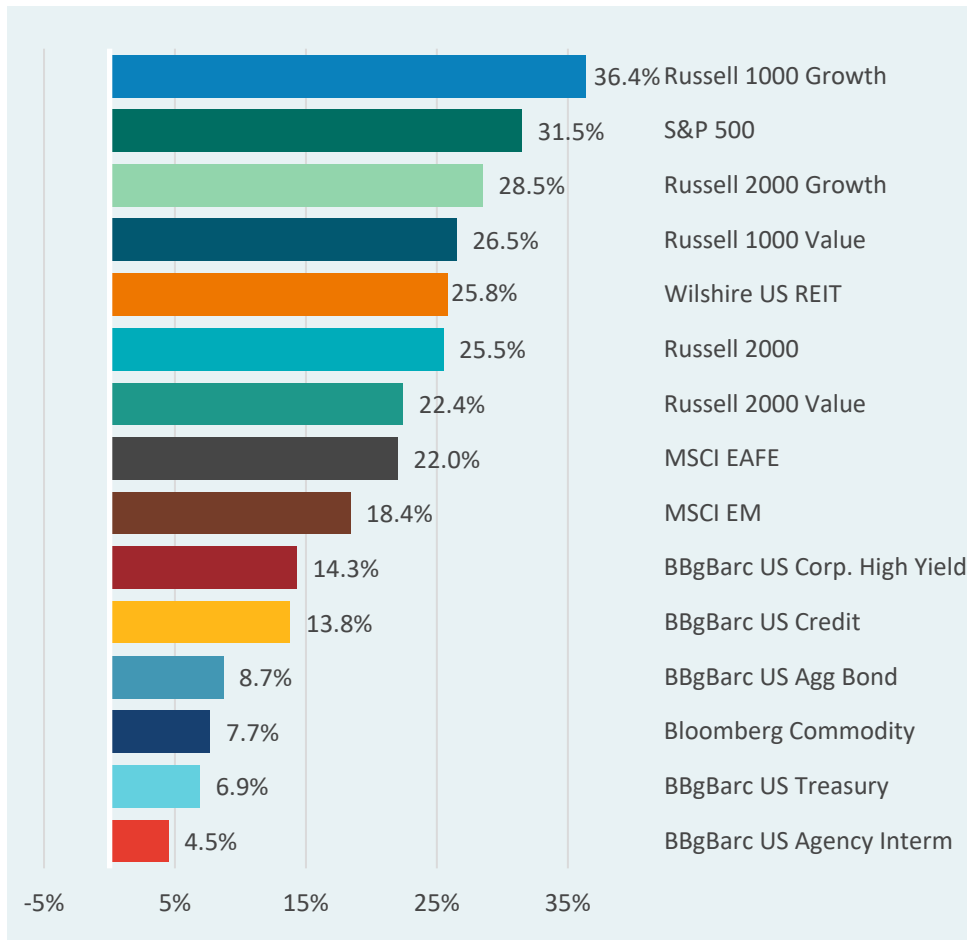
Periodic table of returns



Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBgBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, BBgBarc Global Bond. NCREIF Property Index performance data as of 9/30/19.

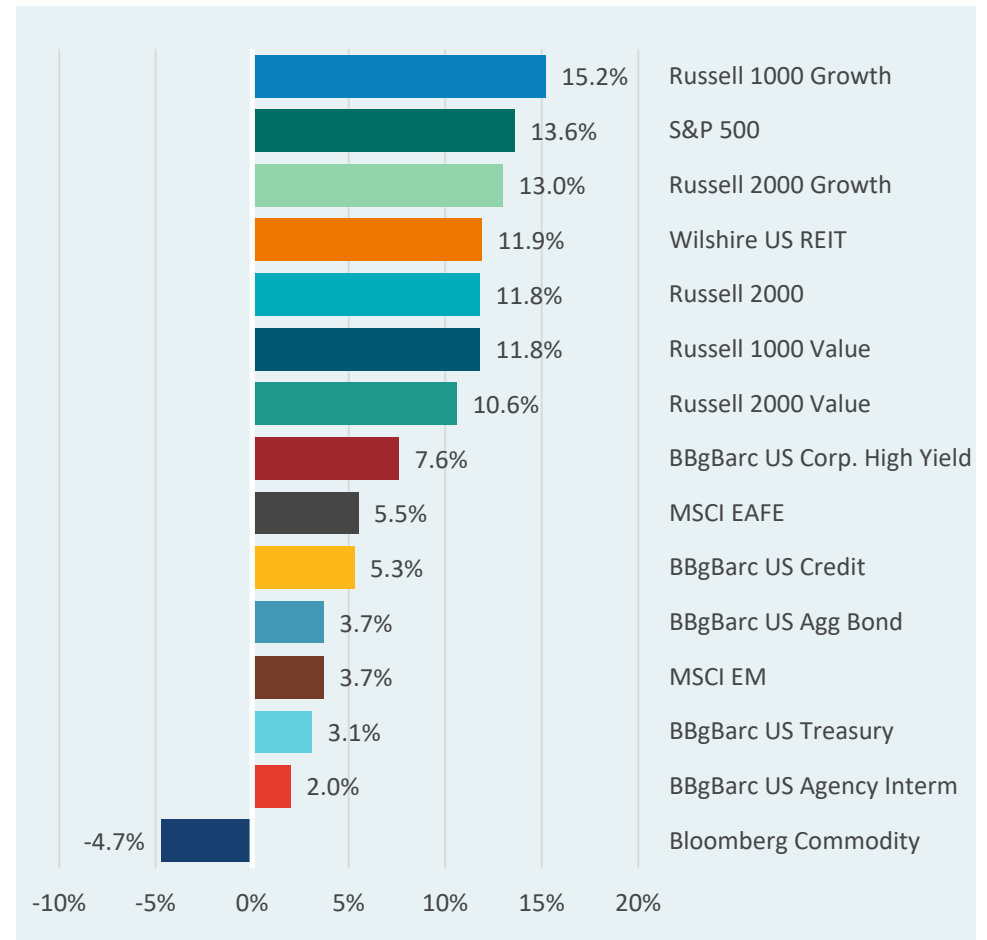
Major asset class returns

ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/19

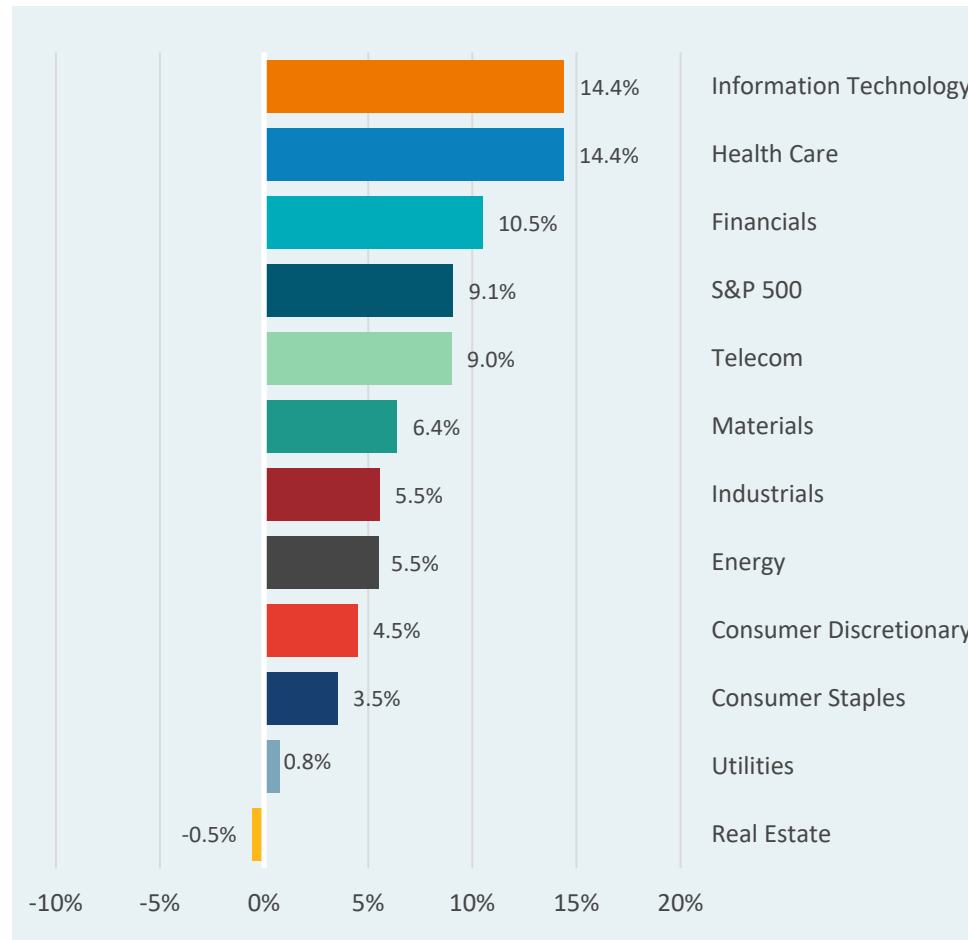
TEN YEARS ENDING DECEMBER



Source: Morningstar, as of 12/31/19

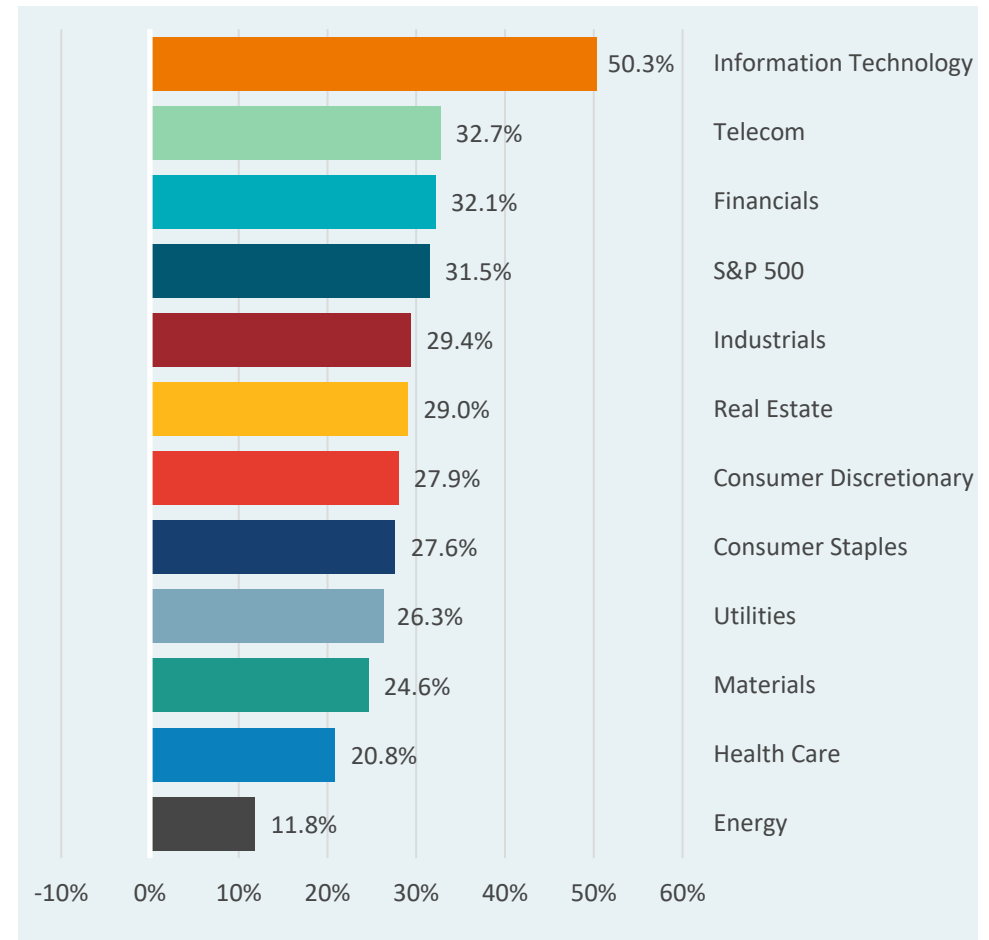
S&P 500 sector returns

Q4 2019



Source: Morningstar, as of 12/31/19

ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/19

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	3.0	9.1	31.5	31.5	15.3	11.7	13.6
S&P 500 Equal Weighted	2.8	7.6	29.2	29.2	12.4	9.8	13.5
DJ Industrial Average	1.9	6.7	25.3	25.3	15.7	12.6	13.4
Russell Top 200	3.1	9.8	31.8	31.8	16.2	12.3	13.7
Russell 1000	2.9	9.0	31.4	31.4	15.0	11.5	13.5
Russell 2000	2.9	9.9	25.5	25.5	8.6	8.2	11.8
Russell 3000	2.9	9.1	31.0	31.0	14.6	11.2	13.4
Russell Mid Cap	2.3	7.1	30.5	30.5	12.1	9.3	13.2
Style Index							
Russell 1000 Growth	3.0	10.6	36.4	36.4	20.5	14.6	15.2
Russell 1000 Value	2.8	7.4	26.5	26.5	9.7	8.3	11.8
Russell 2000 Growth	2.3	11.4	28.5	28.5	12.5	9.3	13.0
Russell 2000 Value	3.5	8.5	22.4	22.4	4.8	7.0	10.6

INTERNATIONAL EQUITY

Broad Index							
MSCI ACWI	3.5	9.0	26.6	26.6	12.4	8.4	8.8
MSCI ACWI ex US	4.3	8.9	21.5	21.5	9.9	5.5	5.0
MSCI EAFE	3.2	8.2	22.0	22.0	9.6	5.7	5.5
MSCI EM	7.5	11.8	18.4	18.4	11.6	5.6	3.7
MSCI EAFE Small Cap	4.4	11.5	25.0	25.0	10.9	8.9	8.7
Style Index							
MSCI EAFE Growth	2.9	8.4	27.9	27.9	12.8	7.7	6.9
MSCI EAFE Value	3.7	7.8	16.1	16.1	6.3	3.5	4.0
Regional Index							
MSCI UK	5.2	10.0	21.0	21.0	8.3	3.3	5.0
MSCI Japan	2.1	7.6	19.6	19.6	8.9	7.7	6.6
MSCI Euro	2.9	7.9	22.9	22.9	9.1	5.1	3.7
MSCI EM Asia	7.1	12.5	19.2	19.2	12.9	6.6	5.8
MSCI EM Latin American	10.3	10.5	17.5	17.5	10.7	4.2	(0.6)

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
BBgBarc US TIPS	0.4	0.8	8.4	8.4	3.3	2.6	3.4
BBgBarc US Treasury Bills	0.1	0.5	2.3	2.3	1.7	1.1	0.6
BBgBarc US Agg Bond	(0.1)	0.2	8.7	8.7	4.0	3.0	3.7
Duration							
BBgBarc US Treasury 1-3 Yr	0.2	0.5	3.6	3.6	1.9	1.4	1.2
BBgBarc US Treasury Long	(2.8)	(4.1)	14.8	14.8	6.9	4.1	7.0
BBgBarc US Treasury	(0.6)	(0.8)	6.9	6.9	3.3	2.4	3.1
Issuer							
BBgBarc US MBS	0.3	0.7	6.4	6.4	3.2	2.6	3.2
BBgBarc US Corp. High Yield	2.0	2.6	14.3	14.3	6.4	6.1	7.6
BBgBarc US Agency Interm	0.1	0.3	4.5	4.5	2.4	1.9	2.0
BBgBarc US Credit	0.3	1.1	13.8	13.8	5.8	4.4	5.3

OTHER

Index							
Bloomberg Commodity	5.0	4.4	7.7	7.7	(0.9)	(3.9)	(4.7)
Wilshire US REIT	(0.7)	(1.1)	25.8	25.8	7.6	6.9	11.9
CS Leveraged Loans	1.6	1.7	8.2	8.2	4.5	4.5	5.2
Alerian MLP	8.9	(4.6)	6.7	6.7	(5.0)	(7.0)	4.8
Regional Index							
JPM EMBI Global Div	2.0	1.8	15.0	15.0	6.7	6.2	6.9
JPM GBI-EM Global Div	4.1	5.2	13.5	13.5	7.0	2.8	2.7
Hedge Funds							
HFRI Composite	1.8	3.5	10.4	10.4	4.5	3.5	4.0
HFRI FOF Composite	1.3	2.5	7.8	7.8	3.7	2.2	2.8
Currency (Spot)							
Euro	1.8	3.0	(1.8)	(1.8)	2.1	(1.5)	(2.4)
Pound	2.4	7.5	4.0	4.0	2.3	(3.2)	(2.0)
Yen	0.8	(0.6)	1.0	1.0	2.4	2.0	(1.5)

Source: Morningstar, HFR, as of 12/31/19

Definitions

Bloomberg US Weekly Consumer Comfort Index - tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. (www.lanqerresearch.com)

University of Michigan Consumer Sentiment Index - A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. (www.Bloomberg.com)

NFIB Small Business Outlook - Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (<http://www.nfib-sbet.org/about/>)

NAHB Housing Market Index - the housing market index is a weighted average of separate diffusion indices for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula $(\text{Good-Poor} + 100)/2$ to the present and future sales series and $(\text{High/Very High-Low/Very Low} + 100)/2$ to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.

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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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