



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: DECEMBER 31, 2017

Investment Performance Review for

San Mateo County Employees' Retirement Association

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SEATTLE 206-622-3700

LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

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THE ECONOMIC CLIMATE

- Global growth forecasts for 2018 have been revised higher, most notably in the Eurozone. U.S. expected 2018 GDP growth is 2.6%, above the expansion average.
- The Eurozone has experienced an impressive economic recovery. In the third quarter, real GDP accelerated to 2.6%, the fastest pace of growth since 2011.
- The House and Senate agreed to a final tax bill that was signed into law by President Trump on December 22nd. The bill, formally known as the Tax Cuts & Jobs Act, represents a major overhaul of the U.S. tax system.

PORTFOLIO IMPACTS

- A synchronized pickup in global economic growth, low inflation, strong employment, and accommodative central banks should support global equities moving forward. We recommend maintaining an overweight equity position.
- Markets remain expensive by most measures. However, it is important to note the merits and flaws of various valuation metrics.

THE INVESTMENT CLIMATE

- Global equities produced strong returns over the quarter and finished the year on a positive note. Emerging market equities led the way, driven by high earnings growth and expansion of valuation multiples off of low levels.
- The outlook for U.S. equity earnings has improved further, following the signing of the Tax Cuts and Jobs Act. S&P 500 earnings expectations for 2018 were revised upwards from 11.1% to 13.1%.
- U.S. high yield spreads became increasingly tight. Credit premiums are near all time lows, which may warrant an underweight to U.S. credit.

ASSET ALLOCATION ISSUES

- Risk assets continue to deliver strong performance, fueled by improving fundamentals and accelerating growth. The current environment appears accommodative for further gains.
- Equity volatility is very low, helped by stable economic conditions and inflation. Historically, low volatility has indicated less risk of an equity downside event.

We believe a moderate overweight to risk is warranted

U.S. economics summary

- U.S. real GDP grew 2.3% from the previous year in Q3, the fastest pace in more than two years. Growth was driven by consumer spending, private inventory accumulation, and business investment.
- Growth in business investment has provided a material support to the economy over recent periods for the first time in the recovery. Rising domestic and external demand has influenced companies to ramp up production. Survey based measures indicate firms are planning to increase capex over the next six months.
- Core inflation rose slightly from 1.7% to 1.8% over the quarter, driven by higher shelter prices. Strong demand, higher raw material prices, and a weaker dollar may provide modest pressures on inflation, but overall levels remain low. Any material rise in inflation would likely be met by more aggressive monetary tightening than what is priced into markets.
- The U3 unemployment rate fell further from 4.2% to 4.1%, its lowest level in 17 years.
- Net job creation averaged 204,000 per month in Q3 - above the expansion average of 196,000. Despite robust job gains and low unemployment, wage growth remained modest at 2.5% YoY.
- The Fed raised interest rates for the third time this year to a target rate of 1.25-1.50%. Fed dot plots indicate three more interest rate hikes in 2018, while the market is only forecasting two. Officials noted that strong economic growth is expected to continue, and raised the 2018 GDP forecast from 2.1% to 2.5%.

	Most Recent	12 Months Prior
GDP (YoY)	2.3% 9/30/17	1.5% 9/30/16
Inflation (CPI YoY, Core)	1.8% 12/31/17	2.2% 12/31/16
Expected Inflation (5yr-5yr forward)	2.1% 12/31/17	2.1% 12/31/16
Fed Funds Target Range	1.25 – 1.50% 12/31/17	0.50 – 0.75% 12/31/16
10 Year Rate	2.4% 12/31/17	2.4% 12/31/16
U-3 Unemployment	4.1% 12/31/17	4.7% 12/31/16
U-6 Unemployment	8.1% 12/31/17	9.1% 12/31/16

International economics summary

- Economic growth advanced in the third quarter across developed and emerging markets. The United States grew at 2.3% YoY, the Eurozone improved to 2.6%, and overall growth in the BRICS nations accelerated to 5.6%. Central bank policy is still broadly accommodative, which is supportive of continued progress.
- Expectations for global GDP growth for the next two years has been revised upward in the past six months, according to the consensus estimate from Bloomberg. The upward revision to global growth forecasts were driven by the Eurozone and emerging markets.
- A pickup in lending and investment, strong external demand, and accommodative monetary policy has helped fuel an impressive economic recovery in the Eurozone. GDP grew 2.6% in Q3 from the

previous year and the unemployment rate fell to 8.8%, the lowest level in nine years.

- PMIs across major markets were all above 50, indicating further expansion in the manufacturing sector.
- There are still concerns of a hard landing in China because the central bank has been tightening financial conditions on the short-end of the yield curve to reign in excessive leverage. Thus far, this process has been successful with economic growth slowing only moderately.
- Low inflation in developed economies has persisted, contributing to slower monetary tightening as central banks have been reluctant to raise rates too quickly.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.3% <i>9/30/17</i>	2.1% <i>12/31/17</i>	4.1% <i>12/31/17</i>
Western Europe	2.5% <i>9/30/17</i>	1.6% <i>12/31/17</i>	7.4% <i>12/31/17</i>
Japan	2.1% <i>9/30/17</i>	0.6% <i>11/30/17</i>	2.7% <i>11/30/17</i>
BRICS Nations	5.6% <i>9/30/17</i>	2.0% <i>12/31/17</i>	5.7% <i>9/30/17</i>
Brazil	1.4% <i>9/30/17</i>	3.0% <i>12/31/17</i>	12.1% <i>12/31/17</i>
Russia	1.8% <i>9/30/17</i>	2.5% <i>12/31/17</i>	5.1% <i>11/30/17</i>
India	5.3% <i>9/30/17</i>	4.9% <i>11/30/17</i>	8.0% <i>12/31/16</i>
China	6.8% <i>9/30/17</i>	1.8% <i>12/31/17</i>	4.0% <i>9/30/17</i>

Equity environment

- We maintain an overweight position to equities with a preference for emerging markets. Equity markets delivered strong returns over the quarter and were supported by robust earnings growth. Emerging markets provided outsized gains as is often the case in periods of strong economic growth.
- U.S. corporate earnings are expected to increase by 13.1% YoY in 2018 according to Factset. Expectations improved by a net 2% following the Tax Cuts & Jobs Act, which lowered the corporate tax rate from 35% to 21%, effective January 1st, 2018. Energy and Financial sectors are expected to lead in earnings with growth of 47% and 25%, respectively.
- The way businesses spend tax savings may have significant positive effects on wages, capital investment, and equity returns.

We will be monitoring this activity throughout the year.

- Equity volatility has stayed extraordinarily low. U.S. market volatility over the past year was 3.9% (S&P 500), followed by International at 4.2% (MSCI EAFE) and emerging markets at 6.5% (MSCI Emerging Markets). Low equity volatility has historically indicated less risk of an equity downside event.
- Currency movement contributed to volatility and uncertainty in international assets for investors with unhedged exposure. Recently, the U.S. dollar has weakened, creating a tailwind for unhedged performance.

	QTD TOTAL RETURN		YTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	6.6%		21.7%		21.7%	
US Small Cap (Russell 2000)	3.3%		14.6%		14.6%	
US Large Value (Russell 1000 Value)	5.3%		13.7%		13.7%	
US Large Growth (Russell 1000 Growth)	7.9%		30.2%		30.2%	
International Large (MSCI EAFE)	4.3%	4.0%	25.7%	16.8%	25.7%	16.8%
Eurozone (Euro Stoxx 50)	(0.4%)	(1.8%)	25.3%	11.1%	25.3%	11.1%
U.K. (FTSE 100)	6.0%	5.3%	22.6%	12.9%	22.6%	12.9%
Japan (NIKKEI 225)	12.0%	12.3%	25.7%	21.9%	25.7%	21.9%
Emerging Markets (MSCI Emerging Markets)	7.3%	5.3%	37.3%	28.6%	37.3%	28.6%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 12/31/17

Domestic equity

U.S. equities produced gains over the quarter (S&P 500 +6.6%), adding to record highs. Over the past year, U.S. equity performance (S&P 500 +21.8%) has lagged international developed equities (MSCI EAFE +25.0%) and emerging markets (MSCI Emerging Markets +37.3%). Performance of each equity market is in line with the degree of earnings growth – emerging markets have produced the strongest year-over-year growth and the U.S. has produced the weakest earnings growth. However, earnings growth in the U.S. has still been strong relative to history.

U.S. corporate earnings are expected to increase by 13.1% YoY in 2018, according to Factset. Forecasts were revised upwards by a net 2% following the passing of tax cuts. Energy and Financial sectors are expected to lead in earnings with growth of 47% and 25%, respectively. The way businesses spend additional tax savings may have significant positive effects on wages, capital investment, and equity returns. We will be monitoring the situation throughout the year.

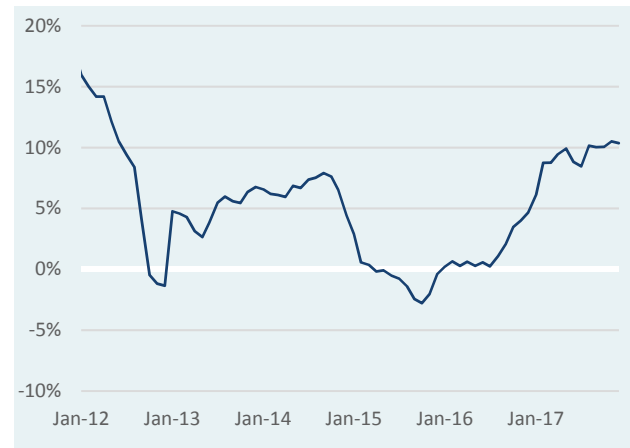
We maintain a neutral weight to U.S. equities

U.S. EQUITIES



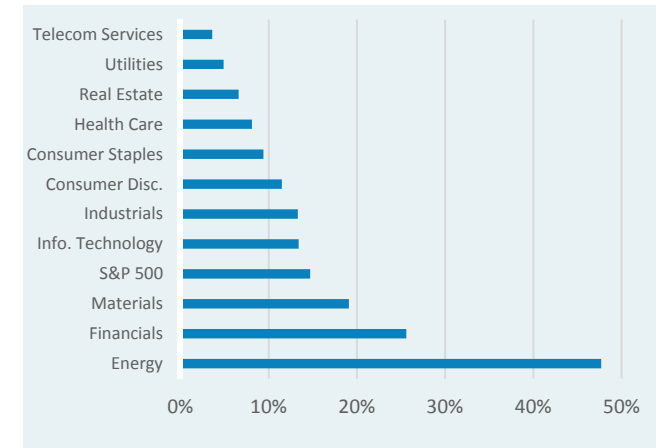
Source: Russell Investments, as of 12/31/17

EARNINGS GROWTH



Source: MSCI, as of 12/31/17, YoY growth in forward earnings

2018 S&P 500 EARNINGS EXPECTATIONS



Source: FactSet, as of 1/12/18

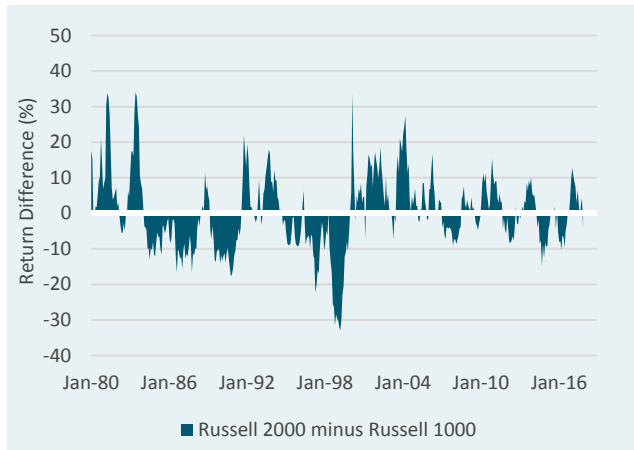
Domestic equity size and style

Large cap equities (Russell 1000 +6.6%) continued to outperform small cap equities (Russell 2000 +3.3%) during the quarter. Small cap stocks are very expensive relative to history based on traditional measures. It appears that a greater number of companies in the small cap universe with low or negative earnings has contributed to rising price-to-earnings multiples of the index.

technology sector performance (growth stocks are highly concentrated in the tech sector). Value has now underperformed on a 1-, 3-, 5-, and 10-year basis. Value stocks have underperformed over a 10-year period only twice in the past 100 years – during the great depression (1937) and during the dotcom bubble (1999). Both of these occasions were followed by an impressive bounce back in value performance.

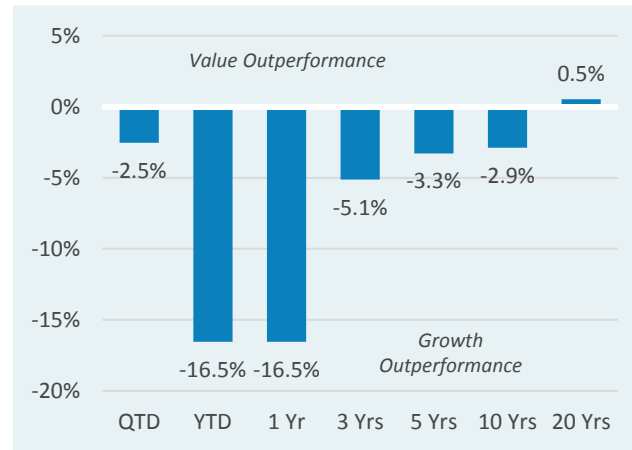
Value equities underperformed growth equities over the quarter and the past year – caused by extremely positive

SMALL CAP VS LARGE CAP (YOY)



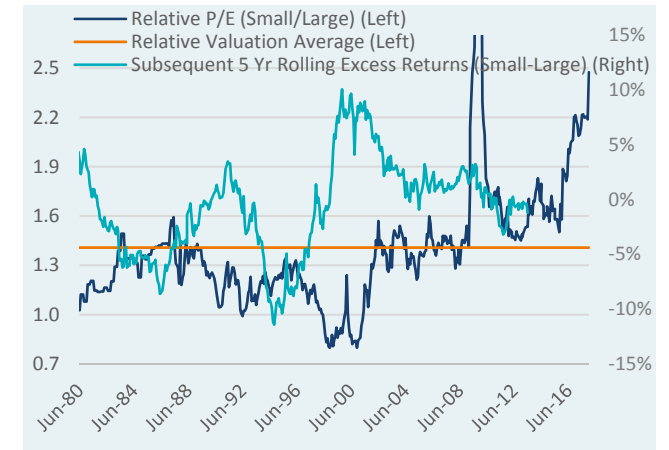
Source: Russell Investments, as of 12/31/17

U.S. VALUE VS GROWTH RELATIVE PERFORMANCE



Source: Morningstar, as of 12/31/17

U.S. LARGE VS. SMALL RELATIVE VALUATIONS



Source: Russell, Bloomberg, as of 12/31/17

International developed equity

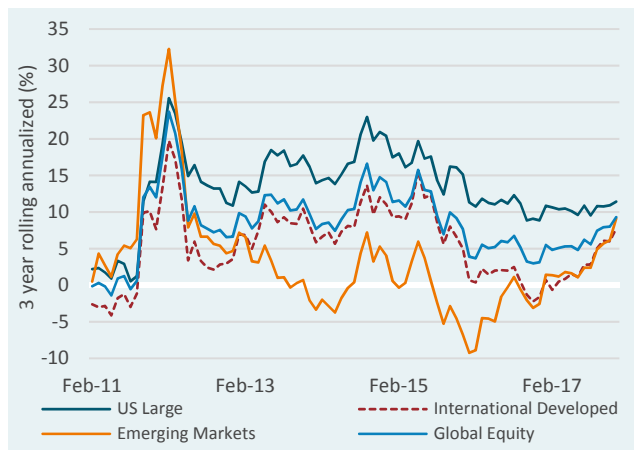
International equities lagged U.S. equities during the fourth quarter as U.S. tax reform contributed to a strong domestic rally. The MSCI EAFE Index returned 4.3% (+4.0% hedged) while the S&P 500 returned 6.6%. Emerging markets continued to outperform (MSCI EM +7.4% unhedged).

Japan outperformed among developed markets, which is particularly notable when considering the pessimism baked into Japan's equity valuations. Japan generated a

12.0% return in the fourth quarter and a 25.7% return in 2017 (Nikkei 225 unhedged). Recent equity gains were fundamentally supported by earnings growth.

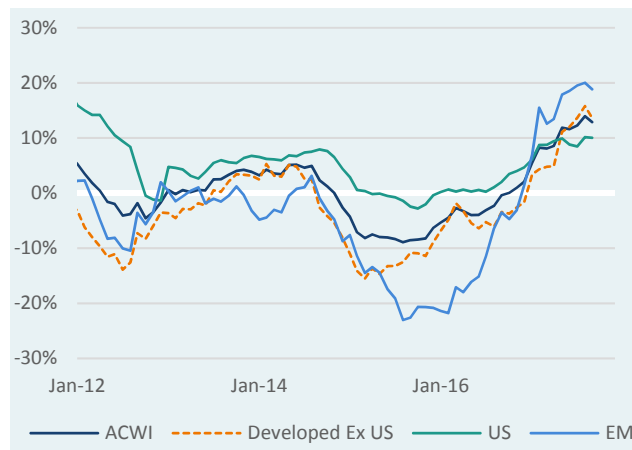
Currency effects added a positive 0.3% to the unhedged MSCI EAFE in Q4 (+8.9% year-to-date), as the U.S. dollar weakened slightly against a trade weighted basket of currencies.

EQUITY PERFORMANCE (3YR ROLLING)



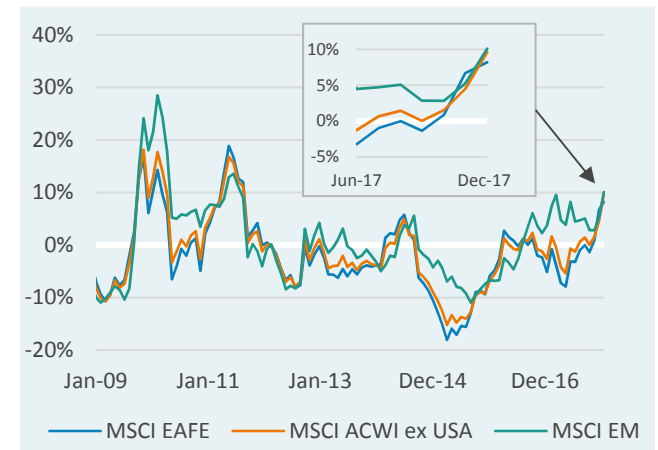
Source: Bloomberg, as of 12/31/17

EARNINGS GROWTH



Source: MSCI, as of 12/31/17 – YoY growth in forward earnings

EFFECT OF CURRENCY (1 YEAR ROLLING)



Source: MSCI, as of 12/31/17

Emerging market equity

We maintain an overweight to emerging market equities. These markets have led the way in economic growth, earnings, and equity performance. Emerging market equities delivered exceptional returns in 2017 (MSCI Emerging Markets +37.3%) relative to developed markets (MSCI ACWI +24.2%) and during the fourth quarter (7.4% vs. 4.2%).

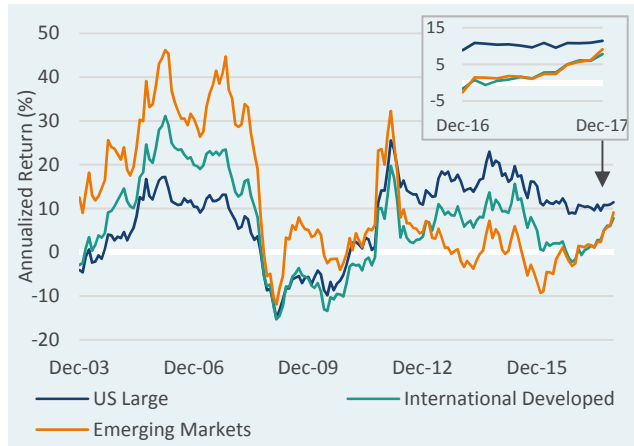
Emerging markets have lagged the U.S. significantly since the global financial crisis, prior to the recent rotation. Emerging market currencies remain depressed relative to

history, and a reversal could provide additional tailwinds to recent outperformance.

Equity multiples have risen modestly, supported by a brighter earnings outlook. As these economies evolve, it has become more difficult to refer to emerging markets as a distinct category. Different levels of economic progress, capital market development, and valuations can be witnessed across emerging market indices. Active management is typically preferred in this asset class.

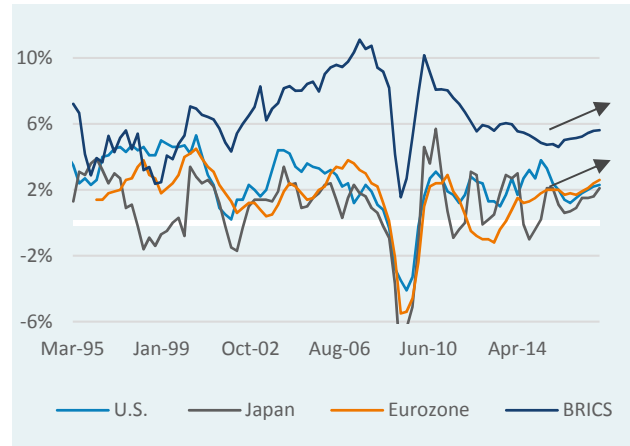
Coordinated global growth has helped propel emerging market equities

EQUITY PERFORMANCE (3YR ROLLING)



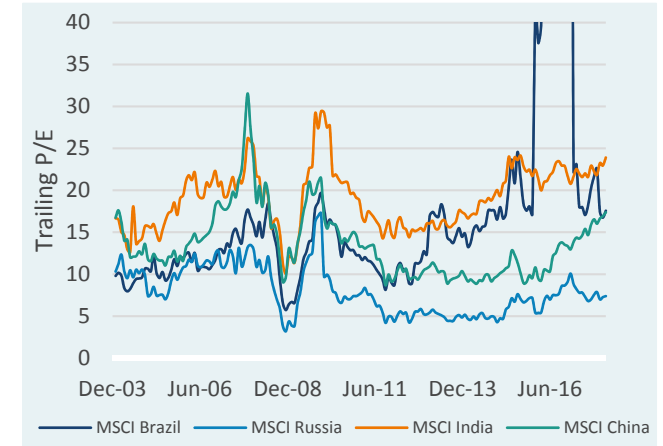
Source: Standard & Poor's, MSCI, as of 12/31/17

ECONOMIC MOMENTUM



Source: Bloomberg, as of 9/30/17

BRIC VALUATIONS



Source: MSCI, as of 12/31/17

Interest rate environment

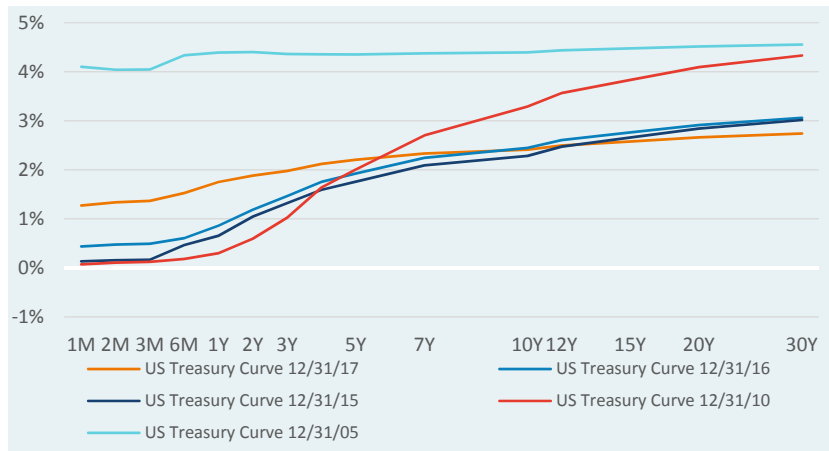
- On December 13th, the Federal Reserve raised the benchmark interest rate by 25 bps to a target range of 1.25%-1.50%. The Fed has communicated three rate hikes in 2018, while the market is pricing in only two.
- U.S. Treasury yields experienced significant increases on the short end of the curve, while longer term rates were modestly higher. The 2- and 10-year yields rose 40 bps and 8 bps, respectively. The increase in short-term rates was likely caused by the Fed raising overnight borrowing rates.
- The Fed began to reduce its balance sheet slowly. Approximately \$30 billion in Treasuries and mortgage-backed securities were trimmed from the balance sheet over the quarter, which did not have a material impact on the market.
- Minutes from the ECB meeting in December showed that officials discussed additional tapering of asset purchases in early 2018 due to stronger than expected economic growth.
- Markets generally expect minimal yield rises across developed markets – between 0% and 0.3% movement over the next year in U.S., U.K., German, and Japanese sovereign bonds. However, we remain watchful of bond market reactions to balance sheet unwinding, given the unprecedented size of central bank assets.
- We remain underweight to U.S. and developed sovereign bonds (currency hedged) primarily due to low yields. It is important to keep in mind the diversification benefits that fixed income provides to the portfolio, despite near record prices.

Area	Short Term (3M)	10 Year
United States	1.38%	2.41%
Germany	(0.80%)	0.42%
France	(0.78%)	0.78%
Spain	(0.58%)	1.56%
Italy	(0.63%)	2.00%
Greece	1.40%	4.10%
U.K.	0.36%	1.19%
Japan	(0.15%)	0.04%
Australia	1.74%	2.63%
China	3.95%	3.90%
Brazil	6.77%	10.25%
Russia	6.55%	7.42%

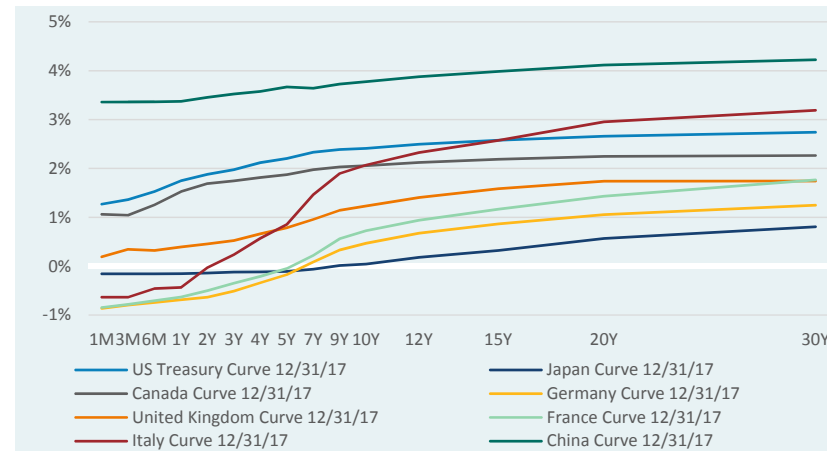
Source: Bloomberg, as of 12/31/17

Yield environment

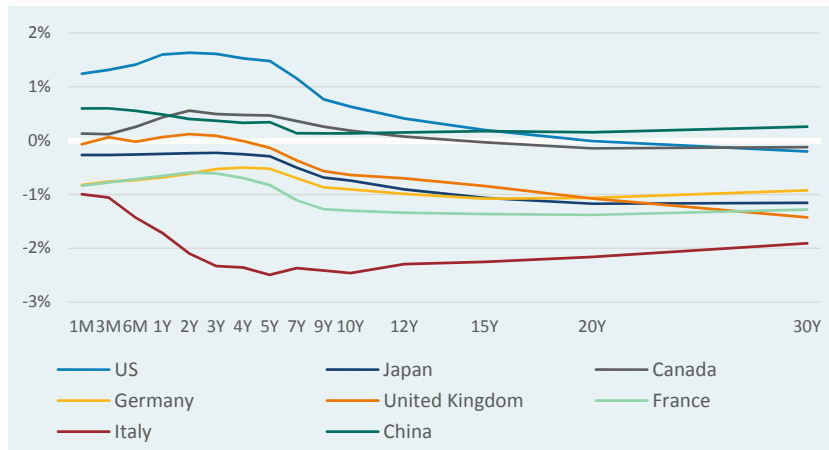
U.S. YIELD CURVE



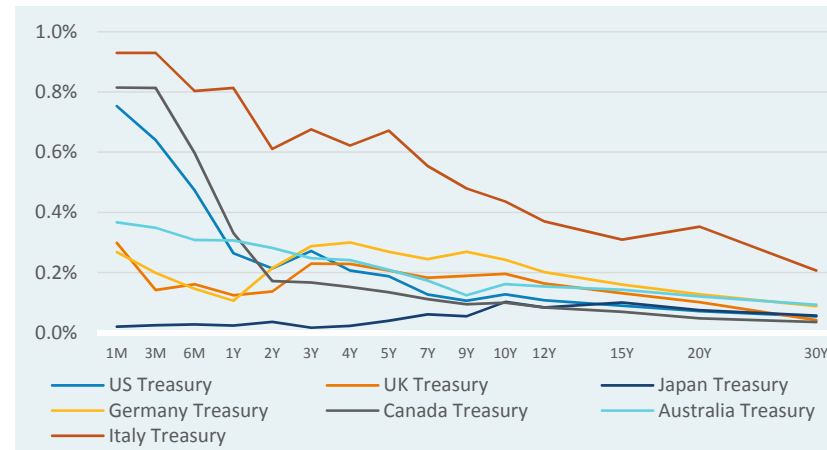
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 12/31/17

Currency

The U.S. dollar was little changed in the fourth quarter, but finished the year down 7%. Investors with unhedged international asset exposure have seen large disparities in performance as currency movement continued to contribute to volatility and uncertainty.

Recent strengthening of developed and developing economies relative to the U.S. has likely contributed to U.S. dollar weakness. The U.S. Federal Reserve is engaged in monetary tightening, which implies a stronger dollar on a standalone basis. However, U.S. growth expectations

have shifted relative to international economies which has influenced exchange rates and contributed to recent U.S. dollar movement. Fluctuations in relative growth expectations implies changes in expected inflation and interest rate levels, which directly impacts the foreign exchange market.

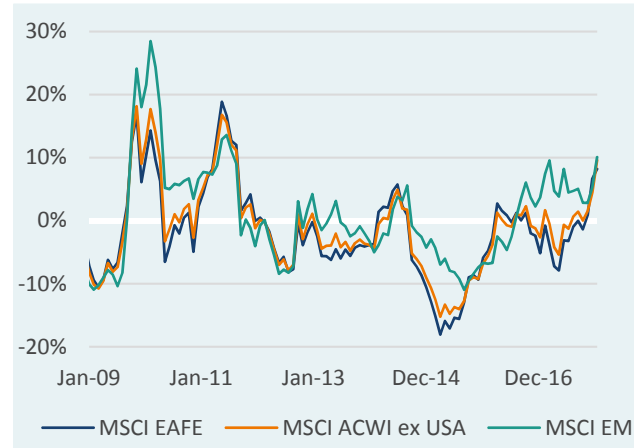
Forecasting currency movement over short periods of time can be extremely difficult. Hedging currency risk is an appropriate method for mitigating currency volatility and uncertainty.

U.S. DOLLAR TRADE WEIGHTED INDEX



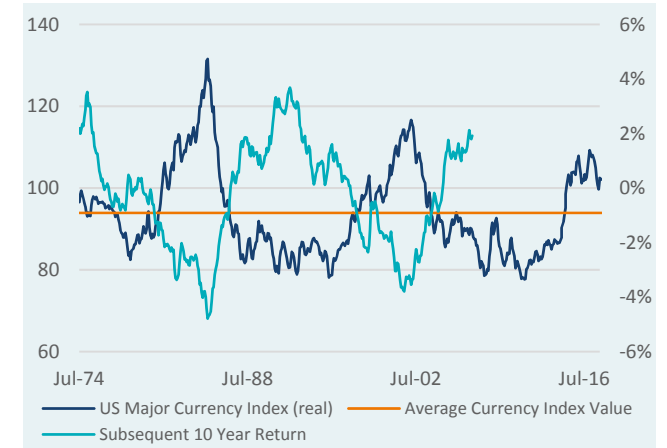
Source: Federal Reserve, as of 12/27/17

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MPI, as of 12/31/17

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 12/31/17

- The Total Fund, net of manager fees, returned 3.2% in the fourth quarter of 2017 and ranked 79th percentile among other public plans greater than \$1 billion (median of 3.5%). It lagged the policy index return of 3.8%. The Total Fund ex Overlay was 3.3% for the quarter. The Total Fund one year return of 14.7% lagged the policy index 15.6%, and ranked in 64th percentile of its peer universe. The three-year return of 7.8% (32nd percentile) was above median among large public plans (7.5%).
- Fourth quarter results were enhanced by the following factors:
 1. Western TRU ranked in the 1st percentile of Core Fixed Income managers, gaining 1.3% versus the Barclays Aggregate (0.4%). For a third quarter in a row, risk assets did well this quarter, and macro strategies were strong contributors to performance. Spread sector performance also contributed to performance.
- Fourth quarter results were hindered by the following factors:
 1. Franklin Templeton lost 1.3% trailing the Bloomberg Barclays Multiverse (1.1%). Currency positions (an underweight in the euro) detracted from the portfolio's relative performance.
 2. Parametric Core gained 5.2% while the MSCI Emerging Markets gained 7.5%. An underweight to China and overweight to Mexico detracted from relative performance.
 3. QMA underperformed the Russell 2000 by 1% with an absolute return of 2.3% for the quarter. Stock selection within information technology and healthcare contributed to the underperformance.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2017

	3 Mo (%)	Rank *	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Fund**	3.2	79	6.6	76	14.7	64	11.4	61	7.8	32	9.2	29	5.4	52
<i>Policy Index¹</i>	3.8	33	7.7	32	15.6	50	12.2	25	7.9	25	9.4	20	6.1	22
<i>Allocation Index</i>	3.8	36	7.6	35	15.4	52	12.0	34	7.8	33	9.3	23	--	--
<i>InvestorForce Public DB > \$1B Net Median</i>	3.5		7.4		15.6		11.7		7.5		8.7		5.4	
Total Fund ex Overlay	3.3	76	6.6	77	14.6	68	11.3	63	7.7	40	9.1	34	5.3	55
<i>Policy Index¹</i>	3.8	33	7.7	32	15.6	50	12.2	25	7.9	25	9.4	20	6.1	22
<i>Allocation Index</i>	3.8	36	7.6	35	15.4	52	12.0	34	7.8	33	9.3	23	--	--
<i>InvestorForce Public DB > \$1B Net Median</i>	3.5		7.4		15.6		11.7		7.5		8.7		5.4	
Public Equity	5.2	78	10.7	55	23.6	37	15.6	64	10.0	41	12.4	50	5.7	69
<i>Blended Public Equity Index²</i>	5.9	25	11.6	19	24.3	27	16.8	20	10.3	21	12.5	46	6.5	37
<i>InvestorForce All DB Total Eq Net Median</i>	5.6		10.8		22.7		15.8		9.8		12.4		6.2	
US Equity	5.9	67	11.3	28	21.2	34	16.1	61	10.8	44	15.0	51	7.9	66
<i>Blended US Equity Index²</i>	6.3	33	11.2	35	21.1	39	17.0	25	11.0	38	15.4	33	8.7	24
<i>Russell 3000</i>	6.3	33	11.2	35	21.1	39	16.9	31	11.1	28	15.6	20	8.6	26
<i>InvestorForce All DB US Eq Net Median</i>	6.2		11.0		20.5		16.5		10.7		15.0		8.3	
Large Cap Equity	6.5	51	11.9	42	24.2	32	17.2	21	12.1	17	16.0	28	8.2	52
<i>Russell 1000</i>	6.6	48	11.4	50	21.7	46	16.8	29	11.2	27	15.7	33	8.6	39
<i>eV US Large Cap Equity Net Median</i>	6.5		11.3		21.1		15.5		10.0		14.8		8.3	
<i>BlackRock Russell 1000***</i>	6.6	49	11.4	48	--	--	--	--	--	--	--	--	--	--
<i>eV US Large Cap Core Equity Net Median</i>	6.6		11.2		21.4		15.3		10.2		14.8		8.3	
<i>DE Shaw</i>	6.3	58	14.2	9	25.3	14	19.5	4	14.0	1	17.3	4	--	--
<i>Russell 1000</i>	6.6	49	11.4	48	21.7	47	16.8	25	11.2	22	15.7	28	8.6	33
<i>eV US Large Cap Core Equity Net Median</i>	6.6		11.2		21.4		15.3		10.2		14.8		8.3	

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

** Includes Parametric Minneapolis manager funded in August 2013.

***Funded January 2017.

1. Effective 10/1/17, Policy Index is 21% Russell 3000/19% MSCI ACWI ex US IMI NI/ 14% BBgBarc Aggregate/ 2% BBgBarc TIPS/ 7% BBgBarc BA Intermediate HY / 8% NCREIF NFI ODCE/ 7% Russell 3000 + 3% 8% (60% Russell 3000/40% BBgBarc Aggregate)/ 6% Labor +4%/ 8% (34% Bloomberg Roll Select Commodity/ 33% S&P Global Large-MidCap Commodity and Resources/ 33% S&P Global Infrastructure)

2. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2017

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Small Cap Equity	2.3	80	8.1	71	12.6	60	14.9	78	7.4	87	12.2	82	7.2	86
<i>Russell 2000</i>	3.3	64	9.2	55	14.6	49	17.9	42	10.0	52	14.1	53	8.7	56
<i>eV US Small Cap Equity Net Median</i>	3.9		9.6		14.4		17.4		10.0		14.3		9.0	
QMA US Small Cap	2.3	80	8.1	70	12.6	66	--	--	--	--	--	--	--	--
<i>Russell 2000</i>	3.3	59	9.2	54	14.6	46	17.9	40	10.0	58	14.1	58	8.7	58
<i>eV US Small Cap Core Equity Net Median</i>	3.7		9.3		14.4		17.2		10.5		14.6		9.1	
International Equity	4.4	60	9.9	75	26.9	71	14.5	72	8.4	51	7.6	46	1.2	81
<i>MSCI ACWI ex US IMI²</i>	5.2	26	11.9	22	28.3	45	16.0	32	8.8	34	7.6	46	2.5	47
<i>MSCI EAFE Gross</i>	4.3	66	10.0	73	25.6	81	12.9	88	8.3	56	8.4	28	2.4	48
<i>InvestorForce All DB ex-US Eq Net Median</i>	4.7		11.0		27.9		15.5		8.4		7.4		2.4	
Developed Markets	4.3	48	9.6	71	26.8	43	13.8	45	8.6	47	8.2	53	1.4	80
<i>MSCI ACWI ex USA Gross</i>	5.1	19	11.6	24	27.8	32	15.8	20	8.3	52	7.3	69	2.3	48
<i>InvestorForce All DB Dev Mkt ex-US Eq Net Median</i>	4.3		10.2		26.5		13.6		8.5		8.3		2.2	
Baillie Gifford	4.8	70	10.1	89	31.7	73	15.1	54	10.4	57	9.9	44	--	--
<i>MSCI ACWI ex US²</i>	5.1	64	11.6	74	27.8	94	15.8	44	8.3	90	8.6	68	--	--
<i>MSCI ACWI ex US Growth²</i>	5.8	49	12.6	64	32.5	68	15.4	52	9.7	66	9.6	48	--	--
<i>eV ACWI ex-US Growth Equity Net Median</i>	5.7		13.5		34.2		15.5		10.8		9.3		4.5	
BlackRock EAFE Index	4.2	50	9.9	62	25.5	63	12.8	55	8.2	63	--	--	--	--
<i>MSCI EAFE</i>	4.2	50	9.9	63	25.0	67	12.4	62	7.8	69	7.9	74	1.9	87
<i>MSCI EAFE Gross</i>	4.3	49	10.0	61	25.6	62	12.9	52	8.3	60	8.4	67	2.4	73
<i>eV EAFE Core Equity Net Median</i>	4.2		10.4		27.1		13.0		8.7		9.1		3.1	
Mondrian	4.0	55	9.1	61	22.9	69	13.5	61	6.8	78	6.9	82	2.0	69
<i>MSCI ACWI ex USA Value Gross</i>	4.3	48	10.7	42	23.3	66	16.3	46	6.9	77	6.2	85	1.8	77
<i>MSCI ACWI ex USA Gross</i>	5.1	21	11.6	34	27.8	26	15.8	50	8.3	54	7.3	79	2.3	54
<i>eV ACWI ex-US Value Equity Net Median</i>	4.2		10.0		25.8		15.8		8.5		8.4		2.4	

2. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2017

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Emerging Markets	5.2	84	12.4	69	28.1	90	20.3	72	6.8	86	3.4	68	--	--
MSCI Emerging Markets Gross	7.5	15	16.1	16	37.8	17	24.0	26	9.5	18	4.7	27	2.0	47
InvestorForce All DB Emg Mkt Eq Net Median	6.3		13.5		33.8		21.4		8.3		3.9		1.9	
Parametric Core	5.2	84	12.4	77	28.1	90	20.3	70	--	--	--	--	--	--
MSCI Emerging Markets Gross	7.5	29	16.1	35	37.8	44	24.0	33	9.5	42	4.7	63	2.0	63
eV Emg Mkts Equity Net Median	6.7		14.9		37.1		22.8		9.1		5.4		2.7	
Fixed Income	0.6	46	1.8	52	5.7	41	6.9	23	4.1	23	3.5	25	5.3	36
Blended Fixed Income Index ²	0.4	67	1.7	55	4.9	53	5.2	46	3.3	45	2.2	64	4.3	69
InvestorForce All DB Total Fix Inc Net Median	0.5		1.8		5.0		5.1		3.1		2.6		4.8	
Core Fixed	0.3	--	1.4	--	4.5	--	4.6	--	3.1	--	2.8	--	4.6	--
BBgBarc US Aggregate TR	0.4	--	1.2	--	3.5	--	3.1	--	2.2	--	2.1	--	4.0	--
BlackRock Intermediate Govt*	-0.4	75	0.0	75	--	--	--	--	--	--	--	--	--	--
BBgBarc US Govt Int TR	-0.4	93	-0.1	83	1.1	78	1.1	75	1.1	73	0.9	67	2.7	88
eV US Government Fixed Inc Net Median	-0.1		0.4		2.0		1.7		1.3		1.2		3.2	
FIAM Bond	0.4	51	1.5	20	4.1	30	4.3	11	2.9	18	2.7	20	4.9	20
Western TRU	1.3	1	3.3	1	8.8	1	7.1	1	--	--	--	--	--	--
3-Month Libor Total Return USD	0.4	66	0.7	92	1.3	99	1.0	99	0.8	99	0.6	99	0.8	99
BBgBarc US Aggregate TR	0.4	66	1.2	60	3.5	66	3.1	68	2.2	69	2.1	62	4.0	77
eV US Core Fixed Inc Net Median	0.4		1.3		3.8		3.4		2.4		2.3		4.4	
Opportunistic Credit	1.1	--	2.8	--	9.0	--	11.9	--	7.1	--	7.6	--	--	--
BBgBarc BA Intermediate HY	0.1	--	1.9	--	6.3	--	9.0	--	5.7	--	3.8	--	--	--
Angelo Gordon Opportunistic**	11.1	--	10.4	--	19.9	--	13.4	--	9.1	--	--	--	--	--
Angelo Gordon STAR**	3.1	--	8.0	--	19.1	--	12.4	--	9.9	--	12.5	--	--	--
BBgBarc US Aggregate TR	0.4	--	1.2	--	3.5	--	3.1	--	2.2	--	2.1	--	4.0	--

* Funded January 2017.

** Preliminary return as of 12/31/2017.

2. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2017

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Beach Point Select	1.8	2	3.9	4	8.5	12	12.2	14	--	--	--	--	--	--
BBgBarc BA Intermediate HY ²	0.1	85	1.9	78	6.3	72	9.0	73	5.7	49	3.8	95	--	--
eV US High Yield Fixed Inc Net Median	0.5		2.4		7.1		10.2		5.6		5.2		7.2	
Brigade Capital	0.3	71	1.7	82	7.6	36	14.9	1	5.8	47	4.8	70	--	--
BBgBarc BA Intermediate HY ²	0.1	85	1.9	78	6.3	72	9.0	73	5.7	49	3.8	95	--	--
50% Barclays HY/ 50% Bank Loan	0.8	31	2.3	53	5.9	78	9.6	64	5.4	58	5.1	63	--	--
eV US High Yield Fixed Inc Net Median	0.5		2.4		7.1		10.2		5.6		5.2		7.2	
PIMCO Diversified**	0.8	31	--	--	--	--	--	--	--	--	--	--	--	--
Blended PIMCO Diversified Index ²	0.8	33	2.6	38	7.3	45	8.5	76	5.6	52	4.5	80	6.7	72
BBgBarc BA Intermediate HY ²	0.1	85	1.9	78	6.3	72	9.0	73	5.7	49	3.8	95	--	--
eV US High Yield Fixed Inc Net Median	0.5		2.4		7.1		10.2		5.6		5.2		7.2	
Franklin Templeton	-1.3	99	-0.1	99	4.2	89	5.9	61	2.5	69	2.3	58	--	--
BBgBarc Multiverse TR	1.1	31	3.0	36	7.7	46	5.2	69	2.3	73	1.0	79	3.3	77
eV All Global Fixed Inc Net Median	0.8		2.6		7.5		6.6		3.3		2.9		4.7	
Private Credit	3.2	--	4.3	--	8.2	--	--	--	--	--	--	--	--	--
Cliffwater Direct Lending Index	2.0	--	4.0	--	8.6	--	9.9	--	8.4	--	9.5	--	--	--
TCP Direct Lending VIII*	4.7	1	6.6	1	10.7	2	--	--	--	--	--	--	--	--
White Oak Yield* ***	0.5	51	-1.0	99	--	--	--	--	--	--	--	--	--	--
Cliffwater Direct Lending Index	2.0	1	4.0	4	8.6	12	9.9	58	8.4	3	9.5	1	--	--
eV US High Yield Fixed Inc Net Median	0.5		2.4		7.1		10.2		5.6		5.2		7.2	
Risk Parity	4.5	--	8.4	--	14.8	--	13.4	--	6.3	--	5.5	--	--	--
Blended Risk Parity Index ²	3.6	--	6.9	--	14.3	--	11.5	--	7.8	--	10.2	--	--	--

* Preliminary return as of 12/31/2017.

** Funded August 2017.

*** Funded June 2017.

2. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2017

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
AQR GRP, 10% Volatility	4.7	--	9.4	--	16.1	--	13.3	--	5.2	--	4.1	--	--	--
PanAgora	4.4	--	7.5	--	13.8	--	13.5	--	7.4	--	--	--	--	--
Blended Risk Parity Index ²	3.6	--	6.9	--	14.3	--	11.5	--	7.8	--	10.2	--	--	--
Blended RP Secondary Index ²	3.9	--	7.1	--	13.8	--	10.0	--	6.6	--	8.2	--	--	--
Alternatives	1.5	--	3.2	--	9.6	--	9.4	--	8.3	--	6.5	--	--	--
Alternatives Allocation Index ²	4.3	--	8.0	--	14.7	--	12.6	--	7.4	--	7.5	--	--	--
Blended Alternatives Index ²	4.5	--	8.2	--	15.2	--	13.0	--	7.8	--	9.2	--	--	--
Private Equity**	1.4	64	2.1	89	13.6	46	14.1	15	16.3	5	15.9	9	--	--
Russell 3000 +3%	7.1	3	13.1	2	24.1	2	19.9	2	14.1	12	18.6	5	11.7	1
InvestorForce All DB Private Eq Net Median	2.6		5.5		13.2		10.4		10.0		11.3		7.3	
Hedge Fund/Absolute Return	1.5	56	4.3	35	5.0	65	3.0	72	5.3	12	6.5	18	--	--
Libor 1 month +4%	1.5	60	2.8	71	5.3	61	4.9	42	4.7	19	4.5	52	--	--
InvestorForce All DB Hedge Funds Net Median	1.7		3.8		6.1		4.3		2.7		4.7		2.3	
AQR DELTA XN	1.3	61	5.4	41	5.6	61	3.6	71	5.8	41	6.8	42	--	--
Aberdeen Standard GARS	1.9	50	2.2	69	3.7	73	0.8	86	--	--	--	--	--	--
Libor 1 month +4%	1.5	56	2.8	62	5.3	64	4.9	61	4.7	47	4.5	62	--	--
eV Alt All Multi-Strategy Median	1.9		4.0		7.5		6.5		4.2		5.5		5.7	
Inflation Hedge	2.6	--	5.0	--	8.2	--	--	--	--	--	--	--	--	--
Blended Inflation Pool Index ²	3.0	--	6.3	--	9.0	--	--	--	--	--	--	--	--	--
Real Estate	2.2	14	3.8	21	8.2	12	8.5	12	10.6	7	11.5	5	4.9	18
NCREIF ODCE	2.1	17	4.0	13	7.6	22	8.2	22	10.4	7	11.5	5	5.4	8
InvestorForce All DB Real Estate Pub Net Median	1.6		3.2		6.3		6.8		8.8		9.9		4.0	
Invesco	2.2	--	3.6	--	8.1	--	8.5	--	10.4	--	11.4	--	4.9	--
NCREIF ODCE	2.1	--	4.0	--	7.6	--	8.2	--	10.4	--	11.5	--	5.4	--

** Returns are one-quarter lag.

2. See Appendix for Benchmark History.

Total Fund
Performance Summary (Net of Fees)

Period Ending: December 31, 2017

	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	2 Yrs (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Invesco US Val IV	1.8	--	7.3	--	11.9	--	9.2	--	--	--	--	--	--	--
NCREIF ODCE	2.1	--	4.0	--	7.6	--	8.2	--	10.4	--	11.5	--	5.4	--
NCREIF CEVA 1Q Lag - NET	3.0	--	5.7	--	10.2	--	11.6	--	13.4	--	--	--	--	--
PGIM RE US Debt Fund***	2.4	--	--	--	--	--	--	--	--	--	--	--	--	--
NCREIF ODCE	2.1	--	4.0	--	7.6	--	8.2	--	10.4	--	11.5	--	5.4	--
Private Real Asset**	-2.5	--	-5.5	--	-2.8	--	18.6	--	10.5	--	--	--	--	--
Blended Real Asset Index ²	4.4	--	9.7	--	12.5	--	9.4	--	7.8	--	--	--	--	--
Liquid Pool	4.6	--	10.4	--	14.0	--	--	--	--	--	--	--	--	--
Blended Real Asset Index ²	4.4	--	9.7	--	12.5	--	9.4	--	7.8	--	--	--	--	--
SSgA Custom Real Asset	4.6	--	10.4	--	14.0	--	--	--	--	--	--	--	--	--
Blended Real Asset Index ²	4.4	--	9.7	--	12.5	--	9.4	--	7.8	--	--	--	--	--
TIPS	1.2	--	1.9	--	2.4	--	3.6	--	2.0	--	-0.4	--	--	--
BBgBarc US TIPS TR	1.3	--	2.1	--	3.0	--	3.8	--	2.0	--	0.1	--	3.5	--
Brown Brothers Harriman	1.2	72	1.9	85	2.4	81	3.6	65	2.0	48	-0.4	81	--	--
BBgBarc US TIPS TR	1.3	64	2.1	68	3.0	57	3.8	49	2.0	36	0.1	38	3.5	57
eV US TIPS / Inflation Fixed Inc Net Median	1.3	--	2.2	--	3.1	--	3.8	--	1.9	--	0.1	--	3.6	--
Cash	0.3	--	0.5	--	0.9	--	0.9	--	1.0	--	0.8	--	0.6	--
91 Day T-Bills	0.3	--	0.6	--	0.9	--	0.6	--	0.4	--	0.3	--	0.3	--
General Account	0.7	--	1.2	--	1.8	--	1.4	--	1.6	--	1.1	--	0.9	--
Treasury & LAIF	0.2	--	0.5	--	1.1	--	1.0	--	0.9	--	0.8	--	0.6	--
91 Day T-Bills	0.3	--	0.6	--	0.9	--	0.6	--	0.4	--	0.3	--	0.3	--

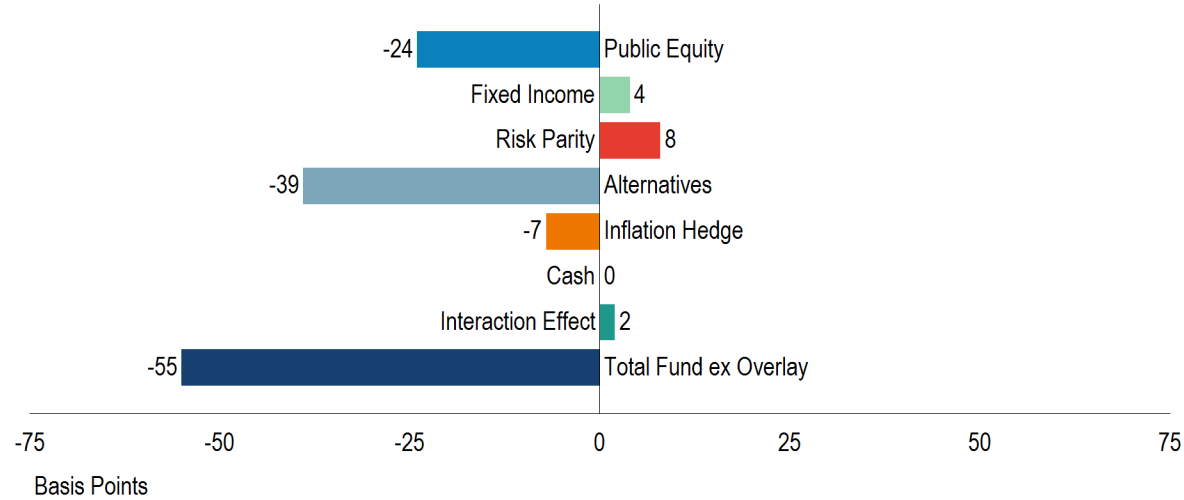
** Returns are one-quarter lag.

*** Funded July 2017.

2. See Appendix for Benchmark History.

Total Fund ex Overlay
Performance Attribution

Period Ending: December 31, 2017

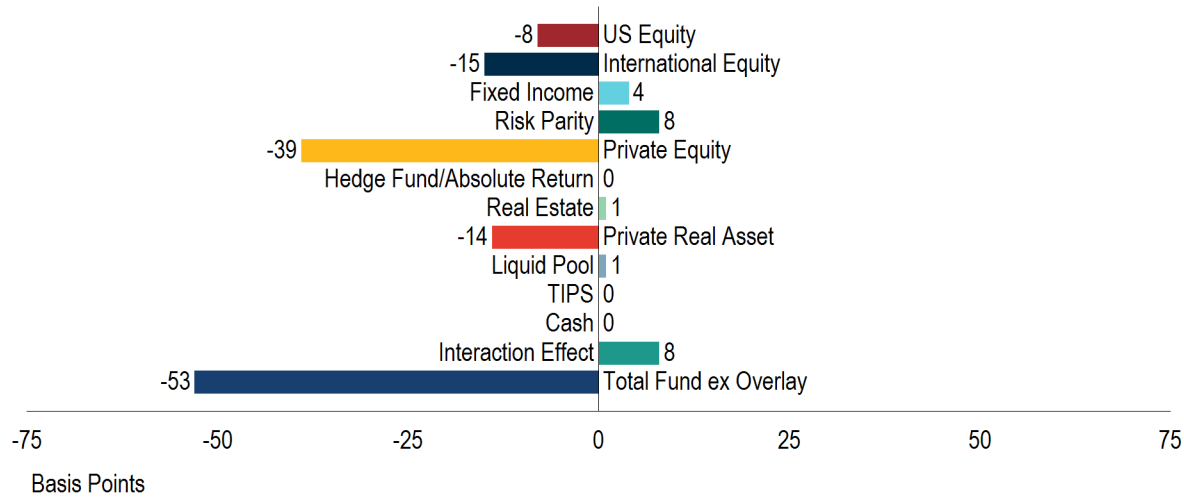


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction* Effects	Total Effects
Public Equity	5.25%	5.87%	-0.62%	-0.24%	0.06%	-0.02%	-0.21%
Fixed Income	0.59%	0.42%	0.17%	0.04%	0.02%	0.00%	0.06%
Risk Parity	4.54%	3.61%	0.93%	0.08%	0.00%	-0.01%	0.07%
Alternatives	1.48%	4.45%	-2.97%	-0.39%	-0.01%	0.04%	-0.36%
Inflation Hedge	2.60%	2.98%	-0.38%	-0.07%	0.02%	0.01%	-0.04%
Cash	0.26%	0.30%	-0.04%	0.00%	-0.07%	0.00%	-0.07%
Total	3.28%	3.83%	-0.55%	-0.59%	0.02%	0.02%	-0.55%

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, 2017

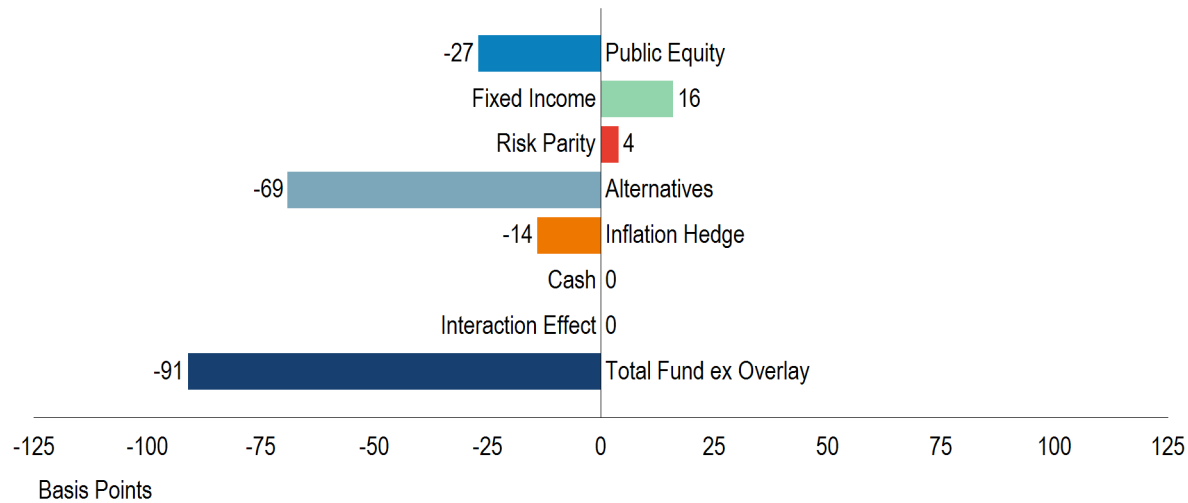


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction* Effects	Total Effects
US Equity	5.93%	6.34%	-0.41%	-0.08%	0.05%	-0.01%	-0.04%
International Equity	4.44%	5.23%	-0.79%	-0.15%	0.01%	-0.01%	-0.14%
Fixed Income	0.59%	0.42%	0.17%	0.04%	0.02%	0.00%	0.06%
Risk Parity	4.54%	3.61%	0.93%	0.08%	0.00%	-0.01%	0.07%
Private Equity	1.42%	7.07%	-5.65%	-0.39%	-0.03%	0.06%	-0.37%
Hedge Fund/Absolute Return	1.50%	1.46%	0.04%	0.00%	0.00%	0.00%	0.01%
Real Estate	2.19%	2.07%	0.12%	0.01%	0.02%	0.00%	0.03%
Private Real Asset	-2.46%	4.38%	-6.84%	-0.14%	0.00%	0.05%	-0.09%
Liquid Pool	4.59%	4.38%	0.21%	0.01%	0.00%	0.00%	0.01%
TIPS	1.21%	1.26%	-0.05%	0.00%	0.01%	0.00%	0.01%
Cash	0.26%	0.30%	-0.04%	0.00%	-0.07%	0.00%	-0.07%
Total	3.28%	3.81%	-0.53%	-0.63%	0.01%	0.08%	-0.53%

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, 2017

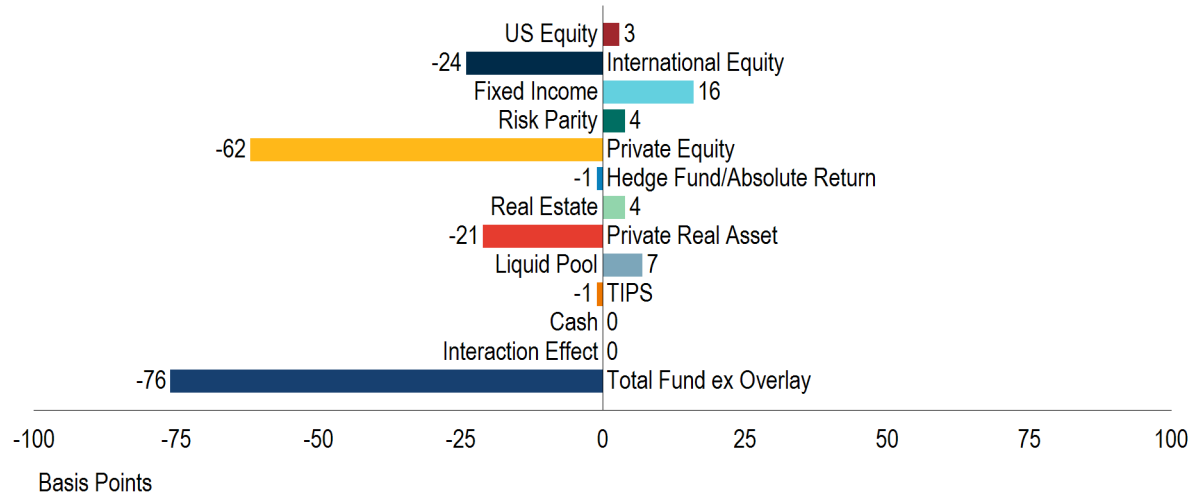


	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction *	Total Effects
Public Equity	23.62%	24.30%	-0.68%	-0.27%	0.00%	0.00%	-0.27%
Fixed Income	5.73%	4.94%	0.79%	0.16%	0.00%	0.00%	0.16%
Risk Parity	14.84%	14.30%	0.54%	0.04%	0.00%	0.00%	0.04%
Alternatives	9.61%	15.17%	-5.56%	-0.69%	0.00%	0.00%	-0.69%
Inflation Hedge	8.21%	9.01%	-0.80%	-0.14%	0.00%	0.00%	-0.14%
Cash	0.92%	0.92%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	14.71%	15.62%	-0.91%	-0.91%	0.00%	0.00%	-0.91%

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, 2017



	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction *	Total Effects
US Equity	21.23%	21.13%	0.10%	0.03%	0.00%	0.00%	0.03%
International Equity	26.94%	28.31%	-1.37%	-0.24%	0.00%	0.00%	-0.24%
Fixed Income	5.73%	4.94%	0.79%	0.16%	0.00%	0.00%	0.16%
Risk Parity	14.84%	14.30%	0.54%	0.04%	0.00%	0.00%	0.04%
Private Equity	13.58%	24.13%	-10.55%	-0.62%	0.00%	0.00%	-0.62%
Hedge Fund/Absolute Return	5.03%	5.27%	-0.24%	-0.01%	0.00%	0.00%	-0.01%
Real Estate	8.24%	7.62%	0.63%	0.04%	0.00%	0.00%	0.04%
Private Real Asset	-2.79%	12.55%	-15.34%	-0.21%	0.00%	0.00%	-0.21%
Liquid Pool	14.03%	12.55%	1.48%	0.07%	0.00%	0.00%	0.07%
TIPS	2.42%	3.01%	-0.58%	-0.01%	0.00%	0.00%	-0.01%
Cash	0.92%	0.92%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	14.76%	15.52%	-0.76%	-0.76%	0.00%	0.00%	-0.76%

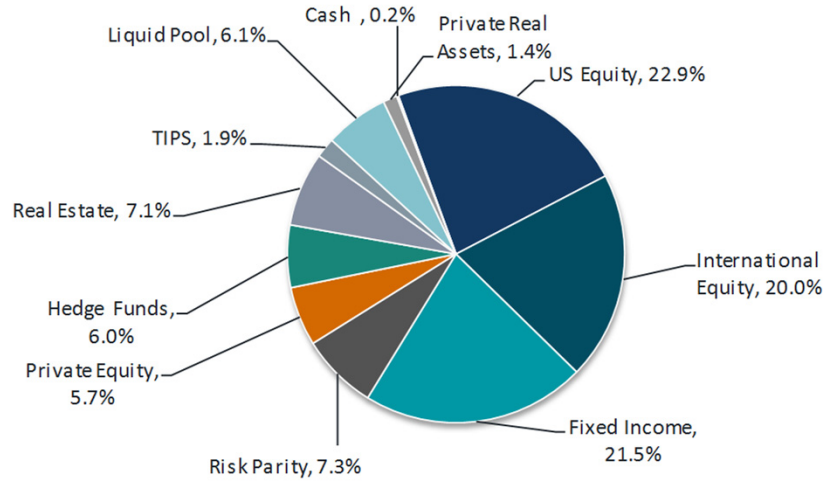
Attribution does not include the impact of the Parametric Minneapolis strategy.
* Interaction Effects include Residual Effects.

Total Fund

Asset Allocation Analysis

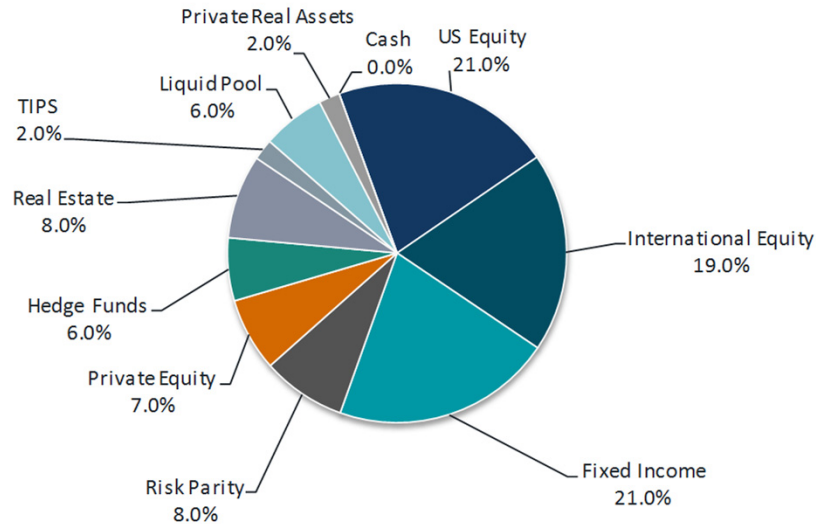
Period Ending: December 31, 2017

Current w/Overlay



ASSET ALLOCATION	MARKET VALUE	
	W/OVERLAY	W/O OVERLAY
US Equity	985,081,724	22.9%
International Equity	859,466,592	20.0%
Fixed Income	923,573,452	21.5%
Risk Parity	316,216,352	7.3%
Private Equity	244,037,279	5.7%
Hedge Funds	257,521,085	6.0%
Real Estate	305,685,958	7.1%
TIPS	82,401,749	1.9%
Liquid Pool	263,683,074	6.1%
Private Real Assets	58,217,389	1.4%
Cash	7,040,046	0.2%
TOTAL	4,302,924,700	100.0%

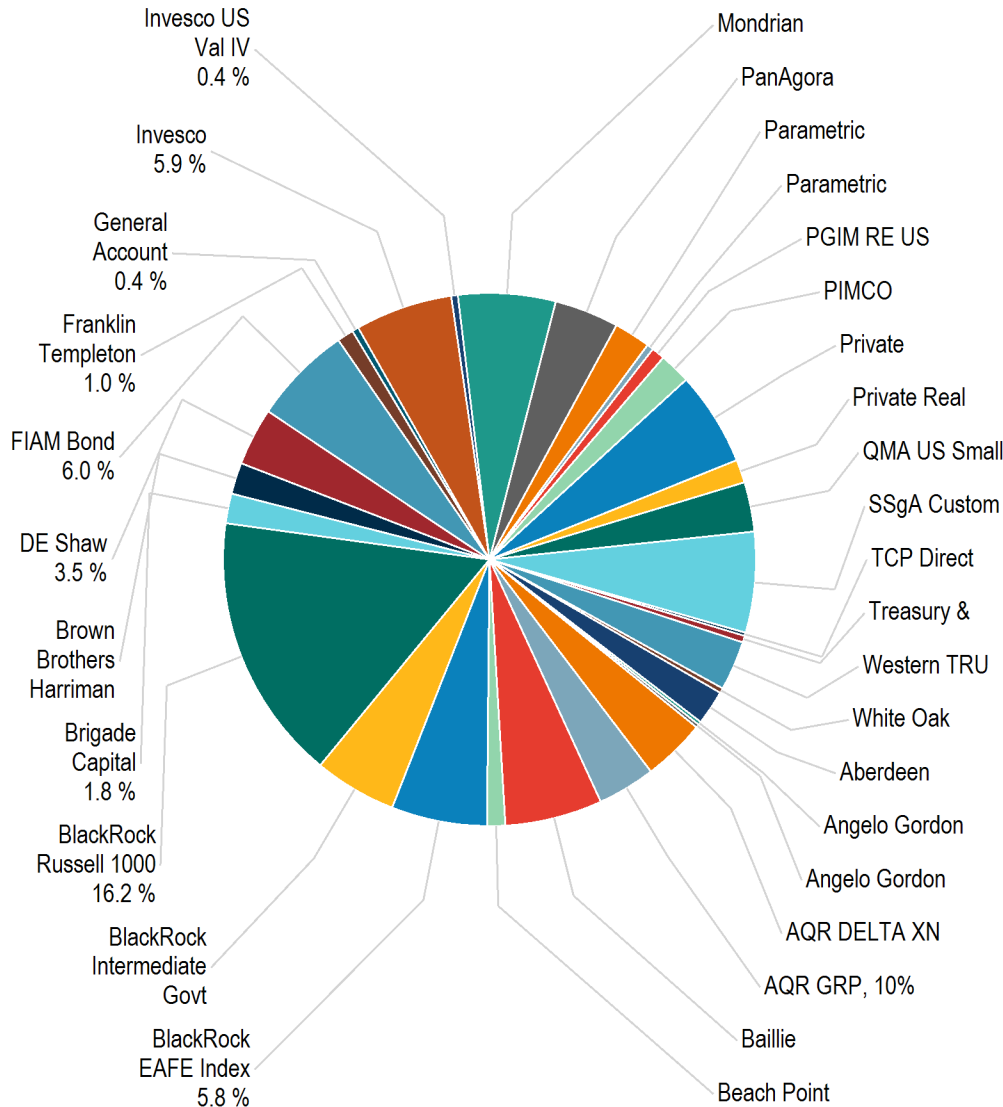
Target



ASSET ALLOCATION	W/OVERLAY	TARGET	DIFF
US Equity	22.9%	21.0%	1.9%
International Equity	20.0%	19.0%	1.0%
Fixed Income	21.5%	21.0%	0.5%
Risk Parity	7.3%	8.0%	-0.7%
Private Equity	5.7%	7.0%	-1.3%
Hedge Funds	6.0%	6.0%	0.0%
Real Estate	7.1%	8.0%	-0.9%
TIPS	1.9%	2.0%	-0.1%
Liquid Pool	6.1%	6.0%	0.1%
Private Real Assets	1.4%	2.0%	-0.6%
Cash	0.2%	0.0%	0.2%
TOTAL	100.0%	100.0%	0.0%

Total Fund Manager Allocation Analysis

Period Ending: December 31, 2017



	Actual	Actual
Aberdeen Standard GARS	\$92,124,752	2%
Angelo Gordon Opportunistic	\$9,527,000	0%
Angelo Gordon STAR	\$10,398,000	0%
AQR DELTA XN	\$165,396,333	4%
AQR GRP, 10% Volatility	\$149,012,863	3%
Baillie Gifford	\$255,490,197	6%
Beach Point Select	\$48,418,723	1%
BlackRock EAFE Index	\$247,914,877	6%
BlackRock Intermediate Govt	\$216,019,223	5%
BlackRock Russell 1000	\$698,742,099	16%
Brigade Capital	\$75,355,031	2%
Brown Brothers Harriman	\$82,401,749	2%
DE Shaw	\$151,343,823	4%
FIAM Bond	\$258,488,671	6%
Franklin Templeton	\$41,038,670	1%
General Account	\$19,168,829	0%
Invesco	\$253,388,704	6%
Invesco US Val IV	\$17,874,138	0%
Mondrian	\$254,617,849	6%
PanAgora	\$167,203,489	4%
Parametric Core	\$95,899,675	2%
Parametric Minneapolis Overlay	\$16,600,552	0%
PGIM RE US Debt Fund	\$34,423,116	1%
PIMCO Diversified	\$80,884,948	2%
Private Equity	\$244,037,279	6%
Private Real Asset	\$58,217,389	1%
QMA US Small Cap	\$129,919,172	3%
SSgA Custom Real Asset	\$263,683,074	6%
TCP Direct Lending VIII	\$9,523,775	0%
Transition 3	\$16,647	0%
Treasury & LAIF	\$15,557,335	0%
Western TRU	\$128,289,306	3%
White Oak Yield	\$11,947,413	0%
Total	\$4,302,924,700	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	7.8%	32	5.9%	60	1.2	45	-0.1	60	1.2%	56
Policy Index	7.9%	25	6.5%	80	1.2	60	--	--	0.0%	1
InvestorForce Public DB > \$1B Net Median	7.5%	--	5.7%	--	1.2	--	0.0	--	1.1%	--

Statistics Summary

5 Years

	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank	Tracking Error	Tracking Error Rank
Total Fund	9.2%	29	6.0%	68	1.5	42	-0.2	74	1.0%	31
Policy Index	9.4%	20	6.4%	78	1.4	48	--	--	0.0%	1
InvestorForce Public DB > \$1B Net Median	8.7%	--	5.6%	--	1.4	--	0.1	--	1.1%	--

Statistics Summary

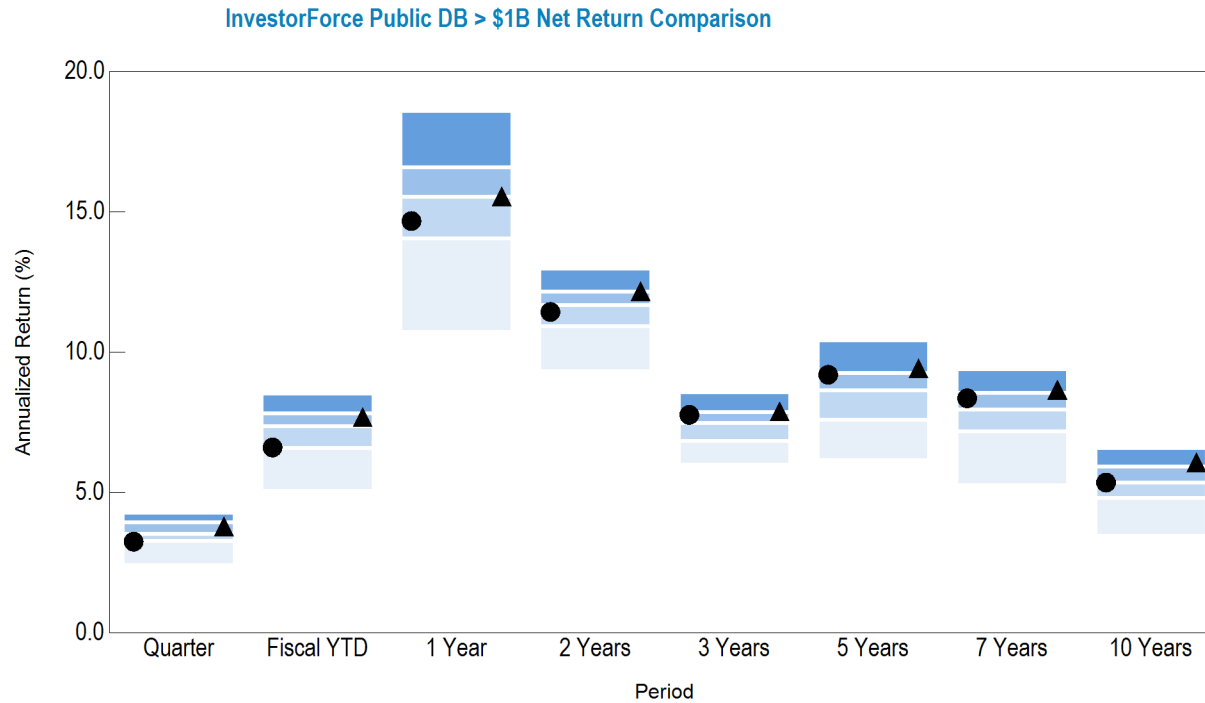
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Cash	1.0%	0.4%	1.5	1.5	0.4%
91 Day T-Bills	0.4%	0.1%	0.0	--	0.0%
General Account	1.6%	0.6%	1.9	2.0	0.6%
91 Day T-Bills	0.4%	0.1%	0.0	--	0.0%
Treasury & LAIF	0.9%	0.5%	1.0	1.0	0.5%
91 Day T-Bills	0.4%	0.1%	0.0	--	0.0%

Statistics Summary

5 Years

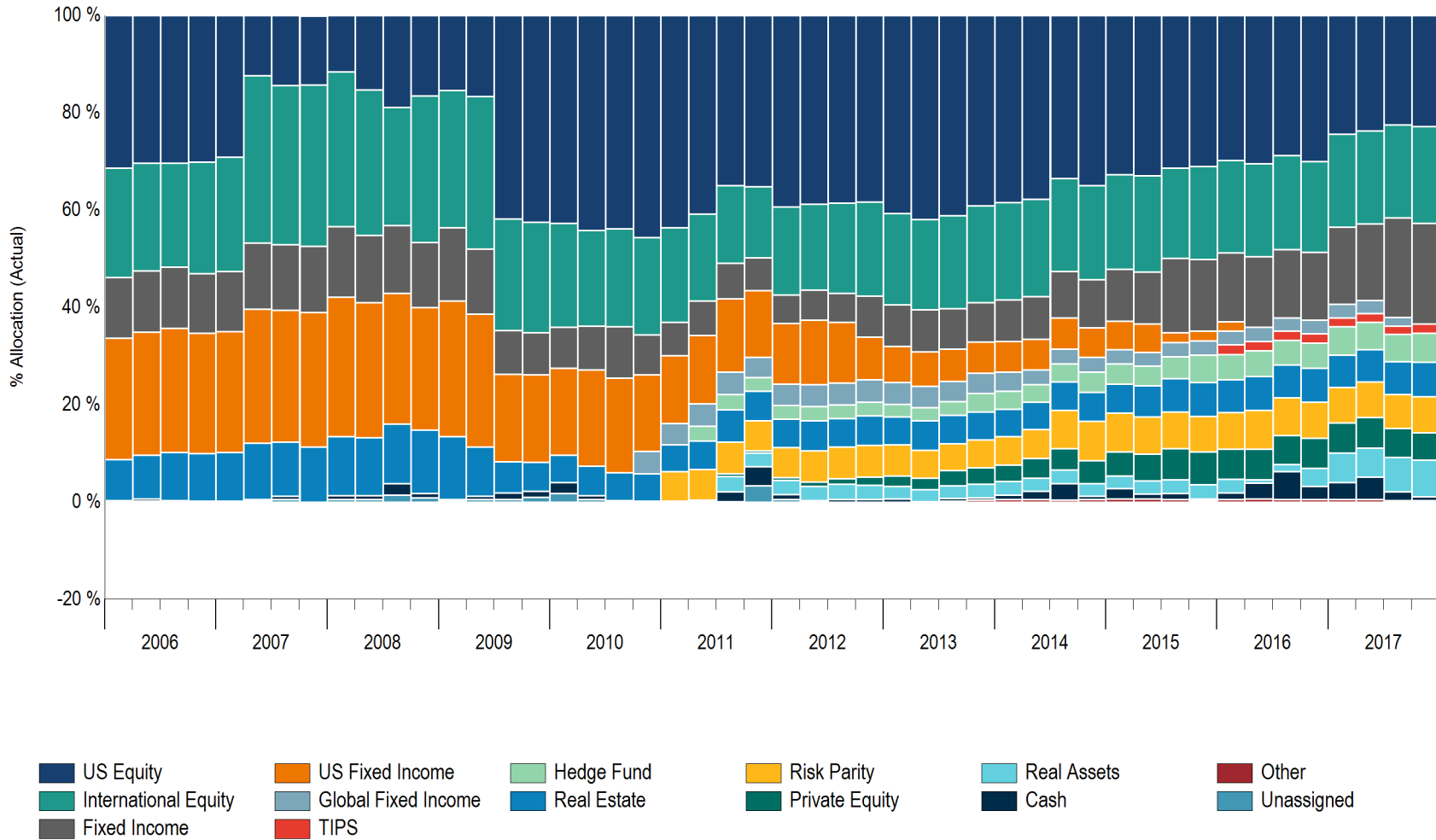
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Cash	0.8%	0.3%	1.7	1.7	0.3%
91 Day T-Bills	0.3%	0.1%	0.0	--	0.0%
General Account	1.1%	0.5%	1.6	1.7	0.5%
91 Day T-Bills	0.3%	0.1%	0.0	--	0.0%
Treasury & LAIF	0.8%	0.4%	1.3	1.3	0.4%
91 Day T-Bills	0.3%	0.1%	0.0	--	0.0%

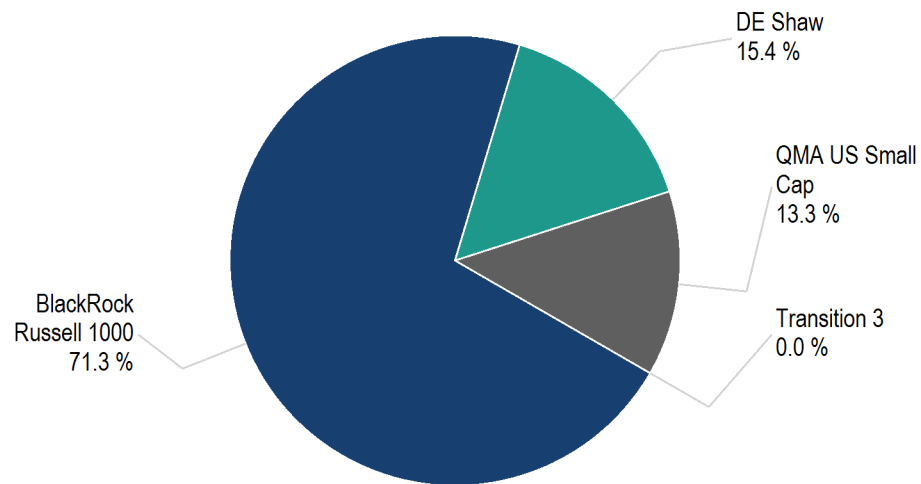


	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	4.3	8.5	18.6	13.0	8.6	10.4	9.4	6.6
25th Percentile	3.9	7.8	16.6	12.2	7.9	9.3	8.6	5.9
Median	3.5	7.4	15.6	11.7	7.5	8.7	8.0	5.4
75th Percentile	3.3	6.6	14.1	10.9	6.8	7.6	7.2	4.8
95th Percentile	2.4	5.1	10.7	9.3	6.0	6.2	5.3	3.5
# of Portfolios	61	61	61	61	61	60	59	55
● Total Fund	3.2 (79)	6.6 (76)	14.7 (64)	11.4 (61)	7.8 (32)	9.2 (29)	8.4 (33)	5.4 (52)
▲ Policy Index	3.8 (33)	7.7 (32)	15.6 (50)	12.2 (25)	7.9 (25)	9.4 (20)	8.7 (21)	6.1 (22)

Total Fund
Asset Allocation History

Period Ending: December 31, 2017





	Actual \$	Actual %	Manager Contribution to Excess Return %
BlackRock Russell 1000	\$698,742,099	71.3%	0.0%
DE Shaw	\$151,343,823	15.4%	0.0%
QMA US Small Cap	\$129,919,172	13.3%	-0.1%
Transition Account	\$16,647	0.0%	0.0%
Actual vs. Policy Weight Difference			-0.2%
Total	\$980,021,740	100.0%	-0.4%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	10.8%	10.2%	1.0	-0.2	0.7%
Blended US Equity Index	11.0%	10.3%	1.0	--	0.0%
Russell 3000	11.1%	10.2%	1.0	0.3	0.6%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	12.1%	10.2%	1.1	0.7	1.2%
Russell 1000	11.2%	10.1%	1.1	--	0.0%
DE Shaw	14.0%	10.4%	1.3	1.2	2.3%
Russell 1000	11.2%	10.1%	1.1	--	0.0%
Small Cap Equity	7.4%	13.7%	0.5	-0.9	2.8%
Russell 2000	10.0%	14.1%	0.7	--	0.0%

Statistics Summary

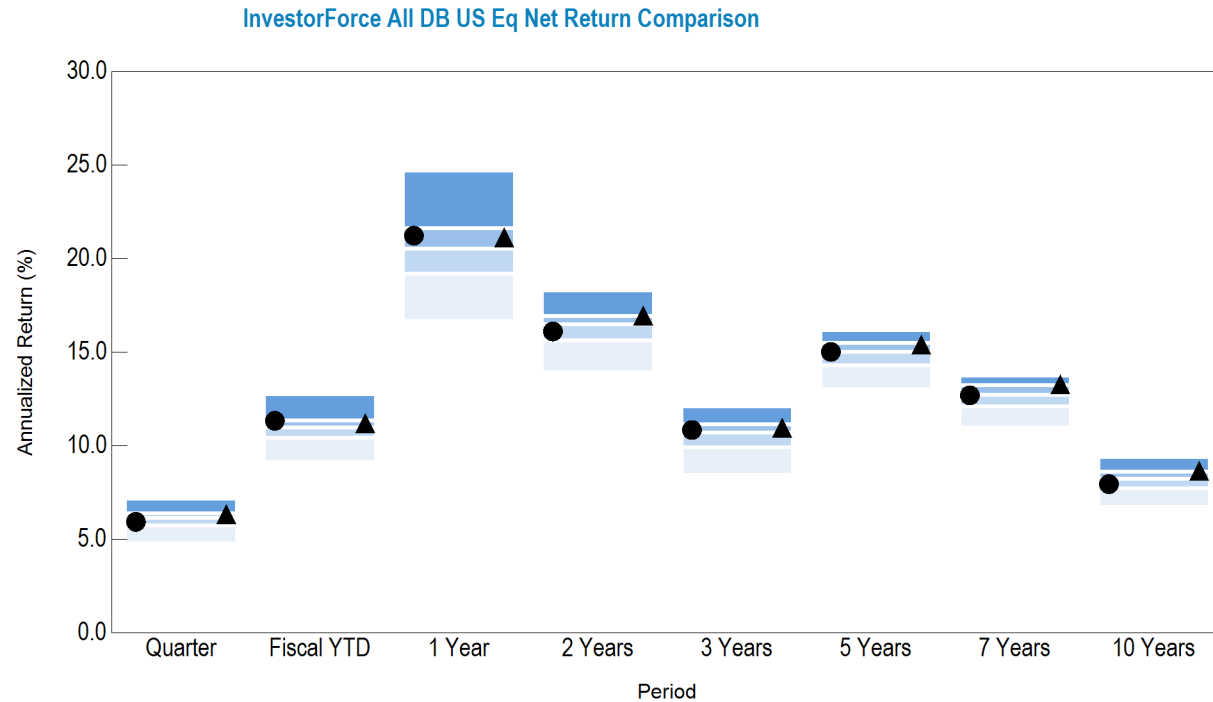
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
US Equity	15.0%	9.8%	1.5	-0.5	0.8%
Blended US Equity Index	15.4%	9.9%	1.5	--	0.0%
Russell 3000	15.6%	9.7%	1.6	0.2	0.8%

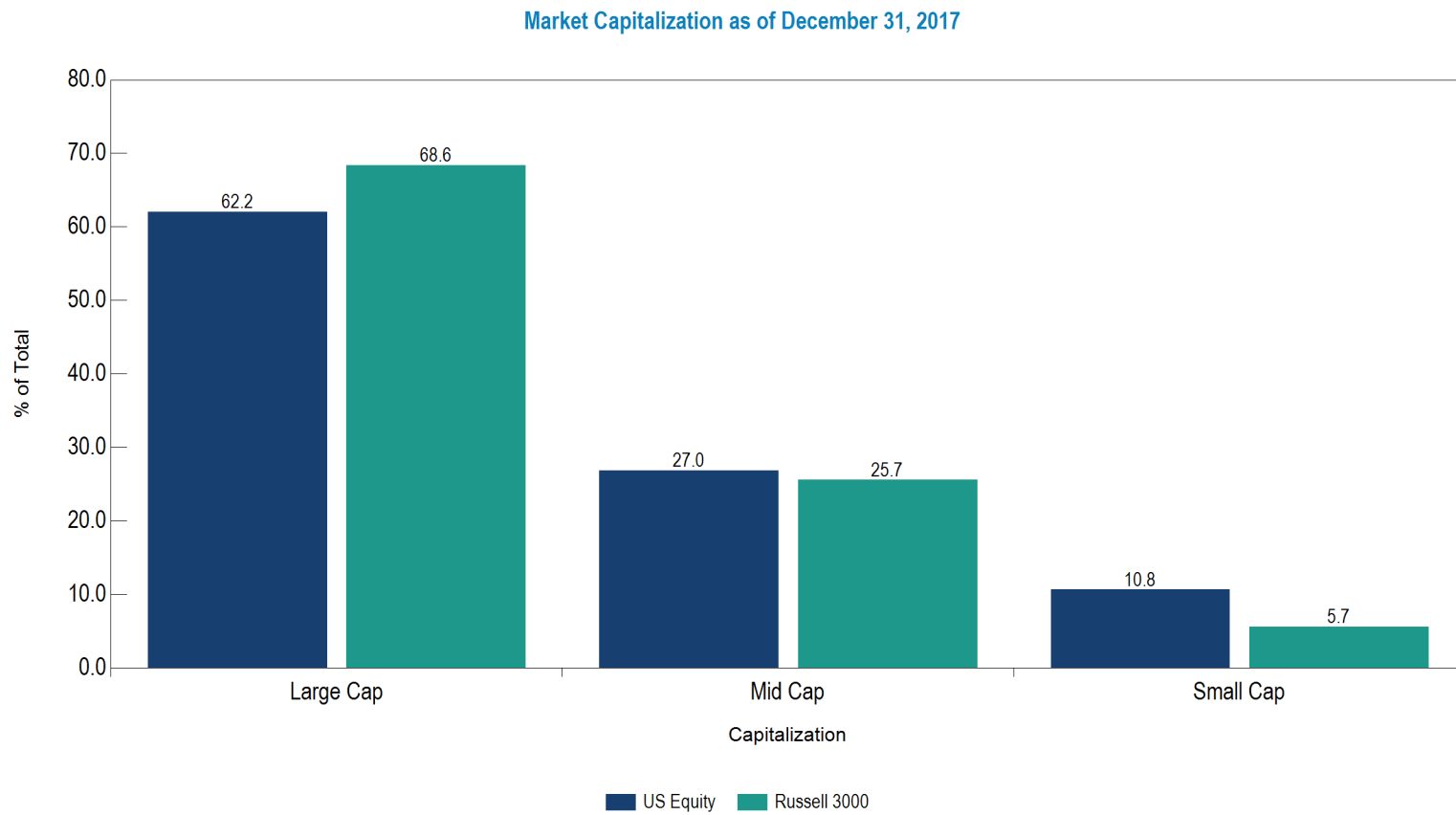
Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Large Cap Equity	16.0%	9.5%	1.6	0.3	1.1%
Russell 1000	15.7%	9.6%	1.6	--	0.0%
DE Shaw	17.3%	9.9%	1.7	0.7	2.2%
Russell 1000	15.7%	9.6%	1.6	--	0.0%
Small Cap Equity	12.2%	13.5%	0.9	-0.7	2.6%
Russell 2000	14.1%	13.9%	1.0	--	0.0%



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	7.2	12.7	24.7	18.3	12.1	16.2	13.7	9.4
25th Percentile	6.4	11.4	21.7	17.0	11.2	15.5	13.3	8.6
Median	6.2	11.0	20.5	16.5	10.7	15.0	12.8	8.3
75th Percentile	5.7	10.4	19.2	15.7	9.9	14.3	12.1	7.8
95th Percentile	4.8	9.1	16.7	13.9	8.5	13.1	11.0	6.7
# of Portfolios	594	592	588	579	567	503	428	338
● US Equity	5.9 (67)	11.3 (28)	21.2 (34)	16.1 (61)	10.8 (44)	15.0 (51)	12.7 (53)	7.9 (66)
▲ Blended US Equity Index	6.3 (33)	11.2 (35)	21.1 (39)	17.0 (25)	11.0 (38)	15.4 (33)	13.3 (24)	8.7 (24)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	Russell 3000
Number of Holdings	2,600	2,961
Weighted Avg. Market Cap. (\$B)	134.9	150.1
Median Market Cap. (\$B)	3.0	1.7
Price To Earnings	26.9	25.0
Price To Book	5.4	4.6
Price To Sales	3.5	3.6
Return on Equity (%)	22.5	17.5
Yield (%)	1.7	1.7
Beta (holdings; domestic)	1.1	1.1

Top Holdings

APPLE	3.4%
MICROSOFT	1.8%
JOHNSON & JOHNSON	1.4%
AMAZON.COM	1.2%
ALPHABET 'C'	1.2%
FACEBOOK CLASS A	1.2%
ALPHABET A	1.1%
BERKSHIRE HATHAWAY 'B'	1.1%
JP MORGAN CHASE & CO.	1.0%
EXXON MOBIL	1.0%

Best Performers

	Return %
VERSO 'A' (VRS)	245.2%
ENDOCYTE (ECYT)	203.5%
ANAPTYSBIO (ANAB)	188.2%
SAGE THERAPEUTICS (SAGE)	164.4%
NEKTAR THERAPEUTICS (NKTR)	148.8%
FORTERRA (FRTA)	146.7%
SIERRA ONCOLOGY (SRRA)	140.6%
WARRIOR MET COAL (HCC)	129.4%
SORRENTO THERAPEUTICS (SRNE)	123.5%
RESOLUTE FOREST PRODUCTS (RFP)	118.8%

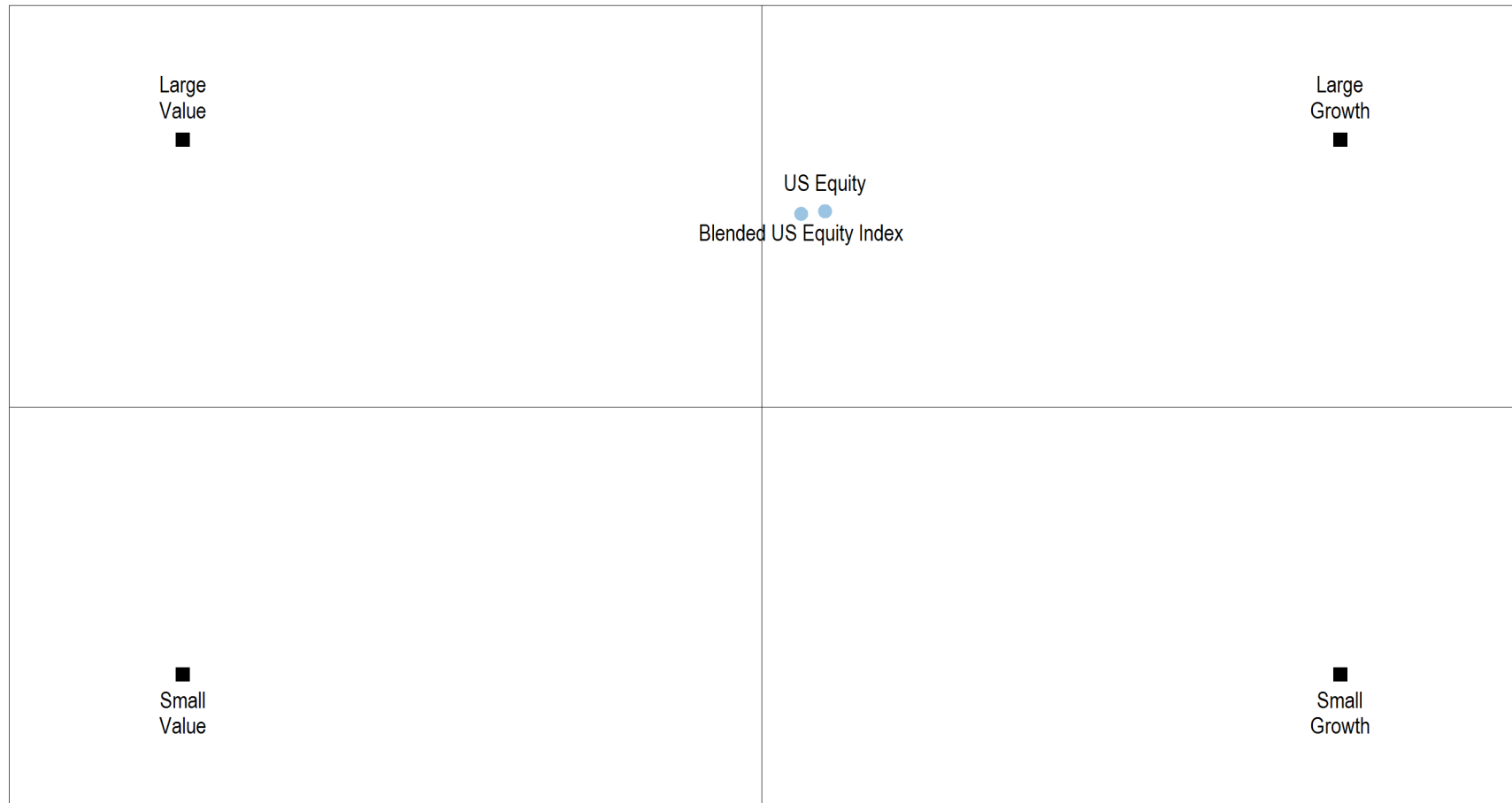
Worst Performers

	Return %
REAL INDUSTRY (RELYQ)	-83.9%
ICONIX BRAND GROUP (ICON)	-77.3%
TANDEM DIABETES CARE (TNDM)	-67.7%
IMMUNE DESIGN (IMDZ)	-62.3%
EASTMAN KODAK (KODK)	-57.8%
GENMARK DIAGNOSTICS (GNMK)	-56.7%
WILLBROS GROUP (WG)	-55.9%
NOVELION THERP. (NAS) (NVLN)	-55.6%
NANOSTRING TECHNOLOGIES (NSTG)	-53.8%
CURIS (CRIS)	-53.0%

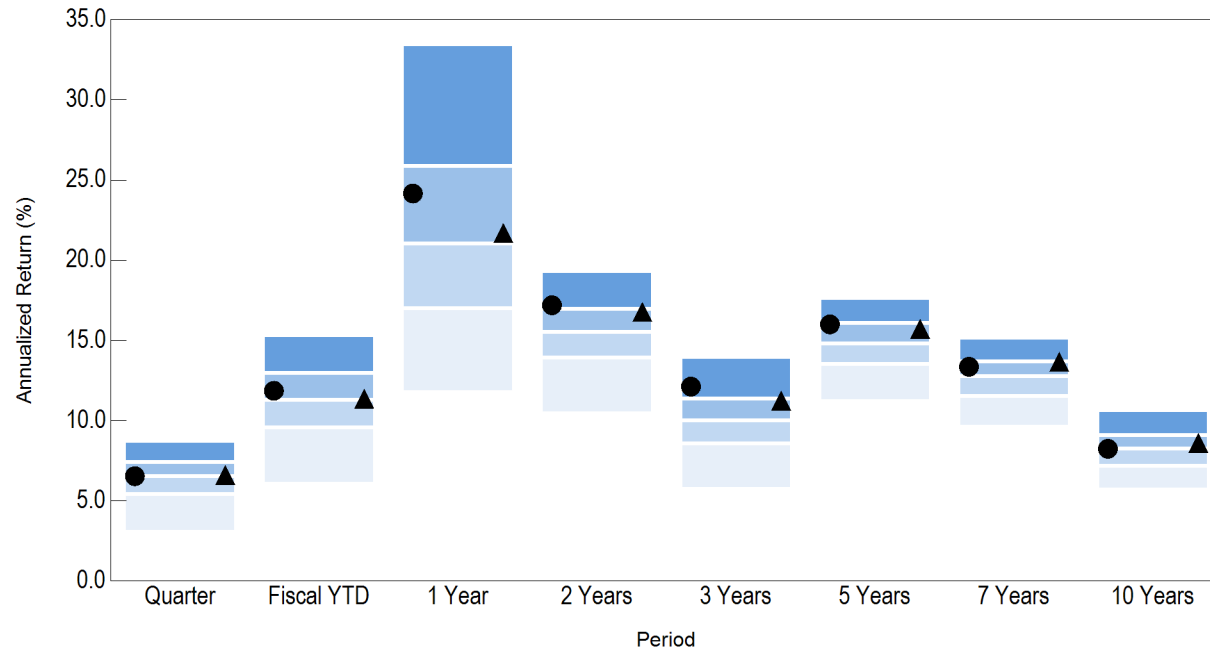
US Equity Performance Attribution vs. Russell 3000

	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.0%	0.0%	0.0%	0.0%	6.4%	6.4%	5.3%	5.7%			
Materials	0.0%	0.0%	0.0%	0.0%	6.7%	6.7%	3.7%	3.4%			
Industrials	0.0%	0.0%	0.0%	0.0%	6.6%	6.5%	11.4%	10.9%			
Consumer Discretionary	-0.1%	-0.1%	0.0%	0.0%	8.5%	9.1%	12.1%	12.2%			
Consumer Staples	0.1%	0.1%	0.0%	0.0%	7.2%	6.4%	6.8%	7.4%			
Health Care	-0.1%	-0.1%	0.0%	0.0%	0.6%	1.6%	14.0%	13.9%			
Financials	-0.1%	-0.1%	0.0%	0.0%	7.3%	7.7%	14.5%	15.1%			
Information Technology	-0.2%	-0.2%	0.0%	0.0%	7.4%	8.5%	23.7%	22.4%			
Telecommunication Services	0.0%	0.0%	0.0%	0.0%	3.4%	3.2%	1.6%	1.9%			
Utilities	0.0%	0.0%	0.0%	0.0%	0.6%	0.6%	2.8%	3.1%			
Real Estate	0.0%	0.0%	0.0%	0.0%	2.1%	2.6%	4.0%	4.0%			
Cash	0.0%	0.0%	0.0%	0.0%	0.3%	--	0.0%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	6.8%	--	0.1%	0.0%			
Portfolio	-0.4%	=	-0.5%	+	0.0%	+	0.0%	5.9%	6.4%	100.0%	100.0%

U.S. Effective Style Map



eV US Large Cap Equity Net Return Comparison



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	8.7	15.3	33.5	19.3	13.9	17.6	15.2	10.6
25th Percentile	7.4	13.0	25.9	17.0	11.4	16.1	13.7	9.1
Median	6.5	11.3	21.1	15.5	10.0	14.8	12.8	8.3
75th Percentile	5.4	9.6	17.0	13.9	8.6	13.6	11.6	7.2
95th Percentile	3.1	6.1	11.8	10.5	5.7	11.2	9.6	5.7
# of Portfolios	604	601	601	590	576	541	482	424
● Large Cap Equity	6.5 (51)	11.9 (42)	24.2 (32)	17.2 (21)	12.1 (17)	16.0 (28)	13.3 (35)	8.2 (52)
▲ Russell 1000	6.6 (48)	11.4 (50)	21.7 (46)	16.8 (29)	11.2 (27)	15.7 (33)	13.7 (27)	8.6 (39)

Characteristics

	Portfolio	Russell 1000
Number of Holdings	2,531	978
Weighted Avg. Market Cap. (\$B)	155.1	162.3
Median Market Cap. (\$B)	3.5	10.1
Price To Earnings	27.3	24.9
Price To Book	5.6	4.9
Price To Sales	3.7	3.7
Return on Equity (%)	23.9	18.8
Yield (%)	1.8	1.8
Beta (holdings; domestic)	1.1	1.1

Top Holdings

APPLE	4.0%
MICROSOFT	2.1%
JOHNSON & JOHNSON	1.6%
AMAZON.COM	1.4%
ALPHABET 'C'	1.4%
FACEBOOK CLASS A	1.3%
ALPHABET A	1.2%
BERKSHIRE HATHAWAY 'B'	1.2%
JP MORGAN CHASE & CO.	1.2%
EXXON MOBIL	1.1%

Best Performers

	Return %
VERSO 'A' (VRS)	245.2%
ENDOCYTE (ECYT)	203.5%
ANAPTYSBIO (ANAB)	188.2%
SAGE THERAPEUTICS (SAGE)	164.4%
NEKTAR THERAPEUTICS (NKTR)	148.8%
FORTERRA (FRTA)	146.7%
SIERRA ONCOLOGY (SRRA)	140.6%
WARRIOR MET COAL (HCC)	129.4%
SORRENTO THERAPEUTICS (SRNE)	123.5%
RESOLUTE FOREST PRODUCTS (RFP)	118.8%

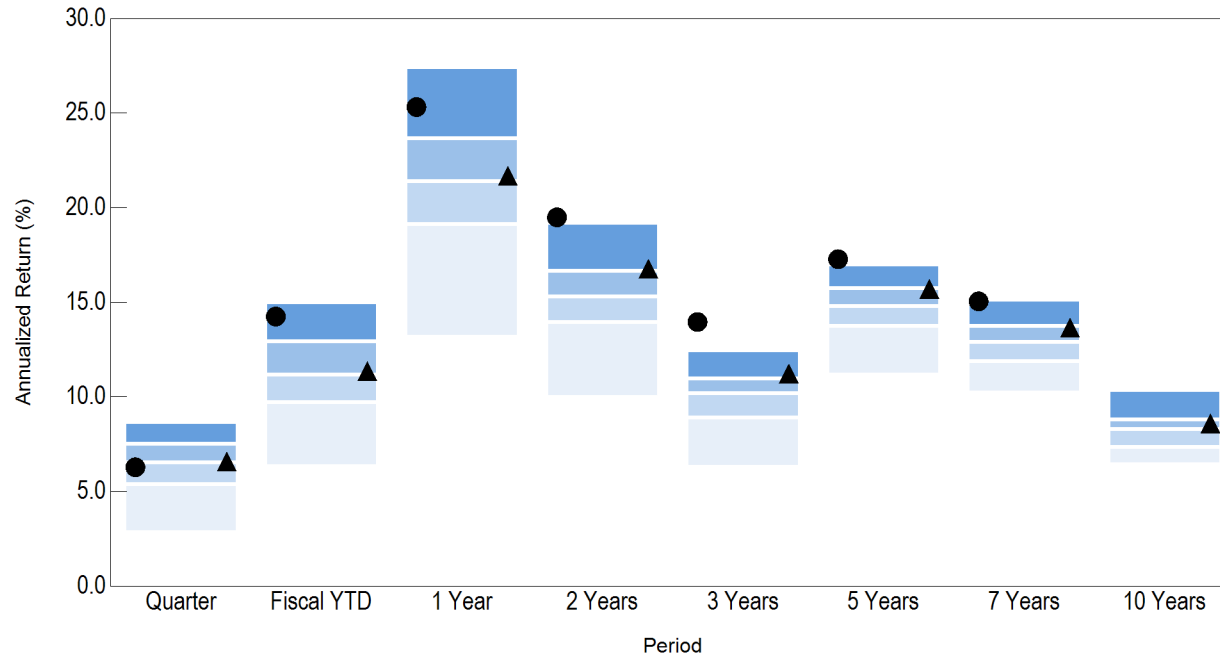
Worst Performers

	Return %
REAL INDUSTRY (RELYQ)	-83.9%
ICONIX BRAND GROUP (ICON)	-77.3%
TANDEM DIABETES CARE (TNDM)	-67.7%
IMMUNE DESIGN (IMDZ)	-62.3%
GENMARK DIAGNOSTICS (GNMK)	-56.7%
WILLBROS GROUP (WG)	-55.9%
NOVELION THERP. (NAS) (NVLN)	-55.6%
NANOSTRING TECHNOLOGIES (NSTG)	-53.8%
CURIS (CRIS)	-53.0%
WESTMORELAND COAL (WLB)	-52.5%

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%	6.1%	6.4%	5.7%	5.9%			
Materials	0.0%	0.0%	0.0%	0.0%	7.2%	7.0%	3.5%	3.3%			
Industrials	0.1%	0.1%	0.0%	0.0%	7.0%	6.5%	10.7%	10.5%			
Consumer Discretionary	0.0%	0.0%	0.0%	0.0%	9.0%	9.2%	12.1%	12.2%			
Consumer Staples	0.1%	0.1%	0.0%	0.0%	7.6%	6.4%	7.5%	7.7%			
Health Care	-0.1%	-0.1%	0.0%	0.0%	0.9%	1.5%	13.8%	13.7%			
Financials	0.0%	0.0%	0.0%	0.0%	8.4%	8.3%	14.0%	14.8%			
Information Technology	-0.1%	-0.1%	0.0%	0.0%	8.5%	8.9%	24.6%	22.8%			
Telecommunication Services	0.0%	0.0%	0.0%	0.0%	3.7%	3.5%	1.7%	2.0%			
Utilities	0.0%	0.0%	0.0%	0.0%	-0.1%	0.6%	2.7%	3.1%			
Real Estate	0.0%	-0.1%	0.0%	0.0%	1.7%	3.1%	3.5%	3.7%			
Cash	0.0%	--	--	--	--	--	0.0%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	6.8%	--	0.1%	0.0%			
Portfolio	-0.1%	=	-0.1%	+	0.1%	+	0.0%	6.5%	6.6%	100.0%	100.0%

eV US Large Cap Core Equity Net Return Comparison



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	8.7	15.0	27.4	19.2	12.4	17.0	15.1	10.4
25th Percentile	7.5	13.0	23.7	16.7	11.0	15.8	13.8	8.8
Median	6.6	11.2	21.4	15.3	10.2	14.8	12.9	8.3
75th Percentile	5.4	9.7	19.2	14.0	8.9	13.8	11.9	7.4
95th Percentile	2.9	6.3	13.2	10.0	6.3	11.2	10.2	6.5
# of Portfolios	191	188	188	184	179	164	147	128
● DE Shaw	6.3 (58)	14.2 (9)	25.3 (14)	19.5 (4)	14.0 (1)	17.3 (4)	15.1 (6)	-- (--)
▲ Russell 1000	6.6 (49)	11.4 (48)	21.7 (47)	16.8 (25)	11.2 (22)	15.7 (28)	13.7 (29)	8.6 (33)

Characteristics

	Portfolio	Russell 1000
Number of Holdings	977	978
Weighted Avg. Market Cap. (\$B)	162.3	162.3
Median Market Cap. (\$B)	10.1	10.1
Price To Earnings	27.1	24.9
Price To Book	6.0	4.9
Price To Sales	3.8	3.7
Return on Equity (%)	23.5	18.8
Yield (%)	1.8	1.8
Beta (holdings; domestic)	1.1	1.1

Top Holdings

APPLE	3.4%
MICROSOFT	2.5%
AMAZON.COM	1.8%
FACEBOOK CLASS A	1.6%
BERKSHIRE HATHAWAY 'B'	1.5%
JOHNSON & JOHNSON	1.5%
JP MORGAN CHASE & CO.	1.5%
EXXON MOBIL	1.4%
ALPHABET 'C'	1.2%
ALPHABET A	1.2%

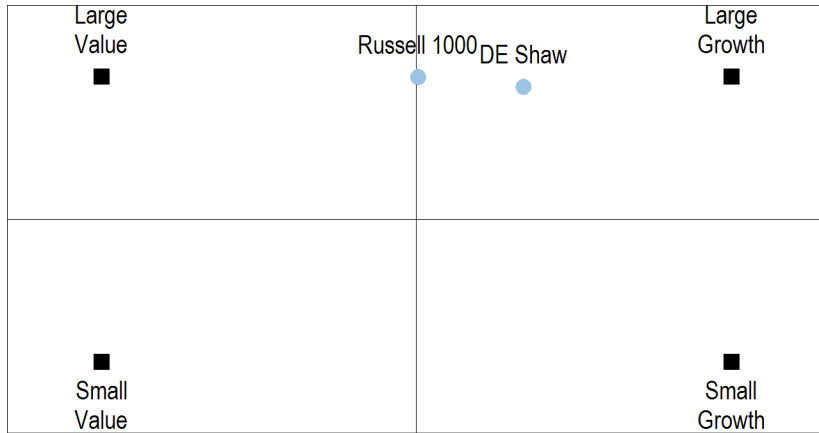
Best Performers

	Return %
CALATLANTIC GROUP (CAA)	54.1%
SKECHERS USA 'A' (SKX)	50.8%
FIRST SOLAR (FSLR)	47.2%
URBAN OUTFITTERS (URBN)	46.7%
L BRANDS (LB)	46.5%
REGAL ENTM.GP. 'A' (RGC)	45.4%
HOLLYFRONTIER (HFC)	43.5%
TWITTER (TWTR)	42.3%
KROGER (KR)	37.6%
UNITED STATES STEEL (X)	37.4%

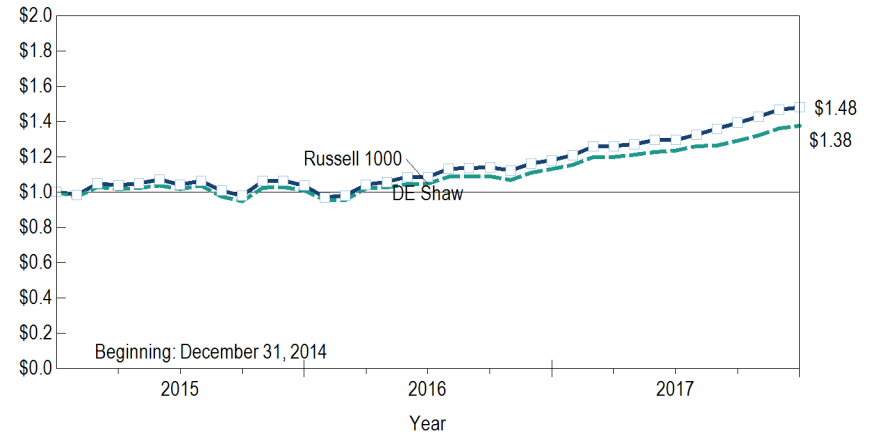
Worst Performers

	Return %
MALLINCKRODT (MNK)	-39.6%
INTREXON (XON)	-39.4%
PANDORA MEDIA (P)	-37.4%
TESARO (TSRO)	-35.8%
PG&E (PCG)	-34.2%
ACADIA HEALTHCARE CO. (ACHC)	-31.7%
OPKO HEALTH (OPK)	-28.6%
CELGENE (CELG)	-28.4%
GENERAL ELECTRIC (GE)	-27.3%
NEWELL BRANDS (NWL)	-27.0%

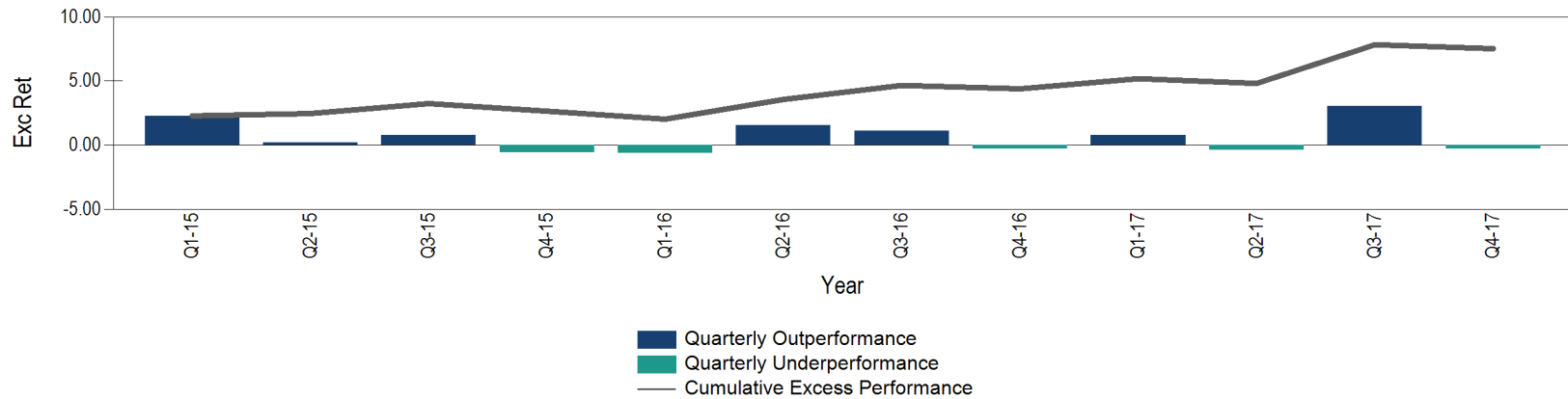
U.S. Effective Style Map



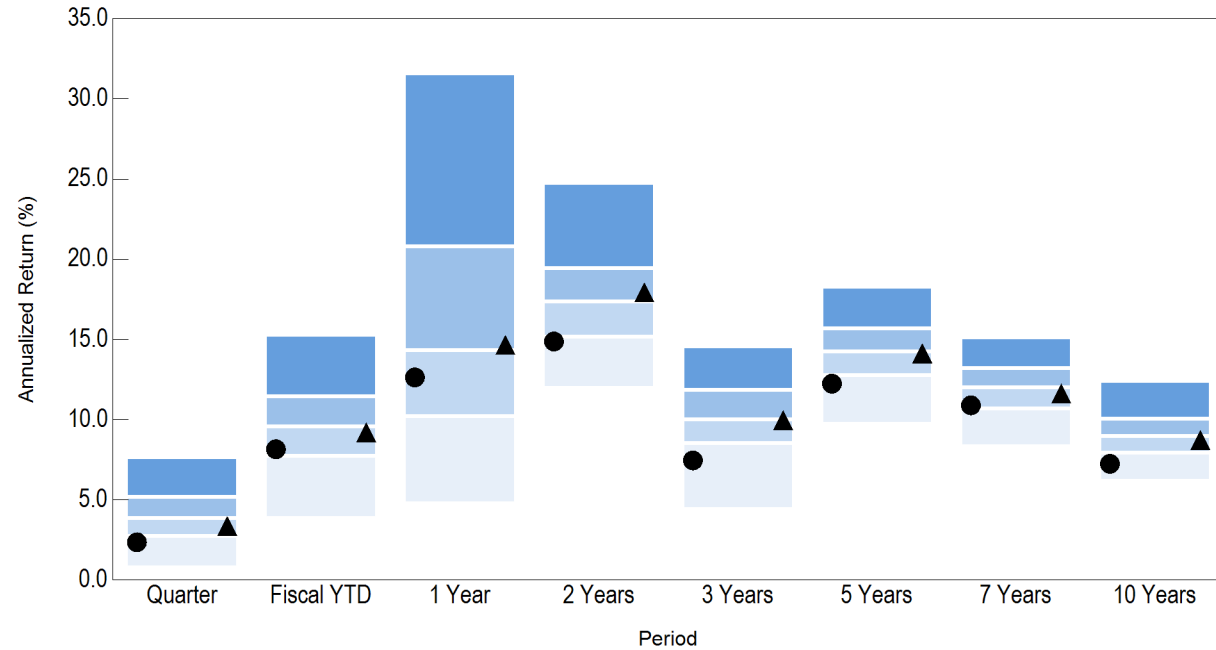
Growth of a Dollar



Quarterly and Cumulative Excess Performance



eV US Small Cap Equity Net Return Comparison



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	7.6	15.3	31.6	24.7	14.5	18.3	15.1	12.4
25th Percentile	5.2	11.5	20.8	19.5	11.8	15.7	13.2	10.1
Median	3.9	9.6	14.4	17.4	10.0	14.3	12.0	9.0
75th Percentile	2.8	7.7	10.2	15.2	8.6	12.8	10.7	8.0
95th Percentile	0.8	3.9	4.8	12.0	4.4	9.8	8.3	6.2
# of Portfolios	412	411	410	403	386	366	344	294
● Small Cap Equity	2.3 (80)	8.1 (71)	12.6 (60)	14.9 (78)	7.4 (87)	12.2 (82)	10.9 (72)	7.2 (86)
▲ Russell 2000	3.3 (64)	9.2 (55)	14.6 (49)	17.9 (42)	10.0 (52)	14.1 (53)	11.6 (59)	8.7 (56)

Characteristics

	Portfolio	Russell 2000
Number of Holdings	336	1,983
Weighted Avg. Market Cap. (\$B)	2.3	2.4
Median Market Cap. (\$B)	1.2	0.8
Price To Earnings	24.2	18.4
Price To Book	4.4	3.3
Price To Sales	2.4	3.1
Return on Equity (%)	13.9	7.8
Yield (%)	1.2	1.0
Beta (holdings; domestic)	1.3	1.3

Top Holdings

GRAND CANYON EDUCATION	0.9%
ENTEGRIS	0.9%
MGIC INVESTMENT	0.9%
PEABODY ENERGY	0.8%
RADIAN GP.	0.8%
INSPERITY	0.8%
CORCEPT THERAPEUTICS	0.8%
CVR ENERGY	0.8%
WINTRUST FINANCIAL	0.8%
FIVE BELOW	0.8%

Best Performers

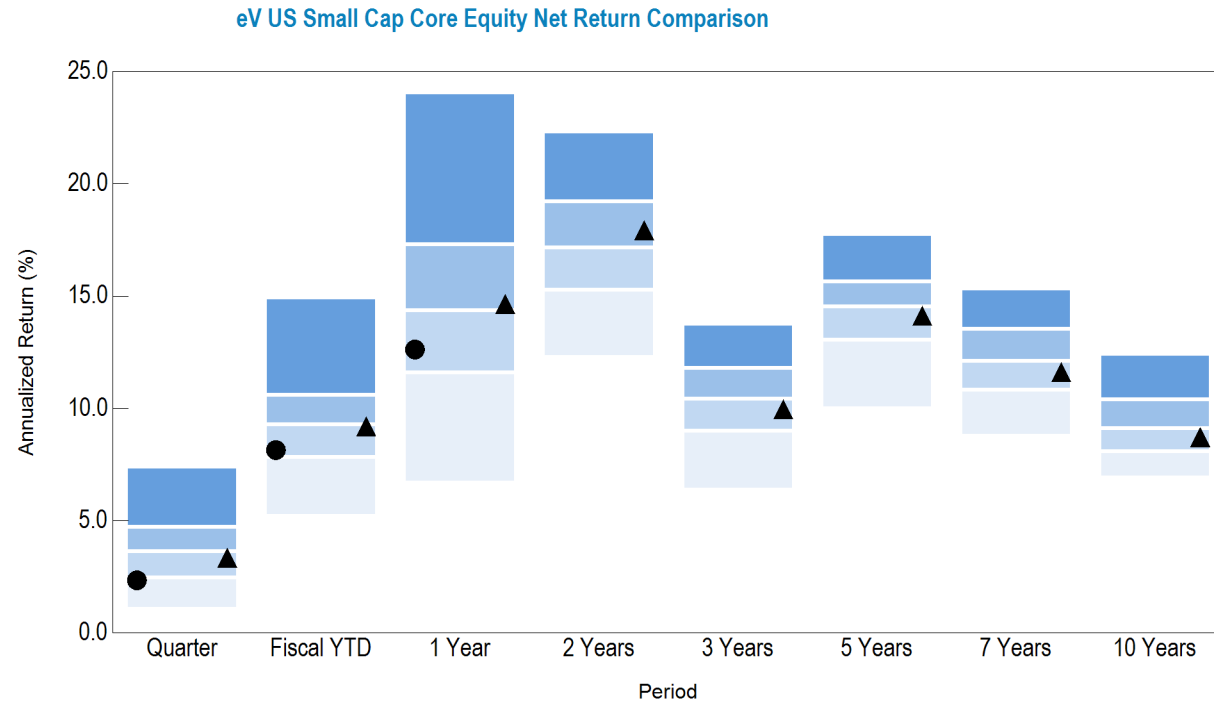
	Return %
WARRIOR MET COAL (HCC)	129.4%
CONCERT PHARMACEUTICALS (CNCE)	75.4%
SUCAMPO PHARMACEUTICALS CLASS A (SCMP)	52.1%
SKECHERS USA 'A' (SKX)	50.8%
EXACTECH (EXAC)	50.1%
CVR ENERGY (CVI)	46.1%
SPARTAN MOTORS (SPAR)	43.0%
PETMED EXPRESS (PETS)	38.0%
INGLES MARKETS 'A' (IMKTA)	35.5%
AMER.WOODMARK (AMWD)	35.3%

Worst Performers

	Return %
EASTMAN KODAK (KODK)	-57.8%
RAIT FINANCIAL TRUST (RAS)	-48.6%
FTD COMPANIES (FTD)	-44.9%
MALLINCKRODT (MNK)	-39.6%
ARGAN (AGX)	-32.1%
J JILL (JILL)	-28.4%
AMAG PHARMACEUTICALS (AMAG)	-28.2%
ULTRA CLEAN HOLDINGS (UCTT)	-24.6%
AXOVANT SCIENCES (AXON)	-23.4%
PAPA JOHNS INTL. (PZZA)	-22.9%

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	0.1%	0.1%	0.0%	0.0%	9.9%	6.8%	3.0%	3.6%			
Materials	0.0%	0.0%	0.0%	0.0%	4.7%	4.2%	5.0%	4.5%			
Industrials	-0.2%	-0.2%	0.0%	0.0%	4.8%	6.4%	16.0%	14.9%			
Consumer Discretionary	-0.2%	-0.2%	0.0%	0.0%	6.1%	7.9%	12.6%	12.1%			
Consumer Staples	-0.2%	-0.2%	0.0%	0.0%	-0.1%	7.1%	2.2%	2.7%			
Health Care	-0.5%	-0.5%	0.0%	0.0%	-1.0%	2.4%	15.5%	15.4%			
Financials	0.0%	-0.1%	0.0%	0.0%	1.3%	1.7%	17.0%	18.1%			
Information Technology	-0.6%	-0.6%	0.0%	0.0%	-2.4%	1.0%	17.9%	17.1%			
Telecommunication Services	0.0%	0.0%	0.0%	0.0%	-4.3%	-4.0%	0.4%	0.8%			
Utilities	0.1%	0.1%	0.0%	0.0%	4.9%	1.0%	2.9%	3.7%			
Real Estate	0.2%	0.2%	0.0%	0.0%	3.1%	-0.4%	7.3%	7.1%			
Cash	0.0%	0.0%	0.0%	0.0%	0.3%	--	0.2%	0.0%			
Portfolio	-1.3%	=	-1.3%	+	0.1%	+	-0.1%	2.0%	3.3%	100.0%	100.0%



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	7.4	14.9	24.1	22.3	13.8	17.8	15.3	12.4
25th Percentile	4.7	10.6	17.3	19.2	11.8	15.7	13.6	10.4
Median	3.7	9.3	14.4	17.2	10.5	14.6	12.1	9.1
75th Percentile	2.5	7.8	11.6	15.3	9.0	13.1	10.9	8.1
95th Percentile	1.1	5.2	6.7	12.3	6.4	10.0	8.8	6.9
# of Portfolios	108	107	106	105	103	99	89	72
● QMA US Small Cap	2.3 (80)	8.1 (70)	12.6 (66)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
▲ Russell 2000	3.3 (59)	9.2 (54)	14.6 (46)	17.9 (40)	10.0 (58)	14.1 (58)	11.6 (62)	8.7 (58)

Characteristics

	Portfolio	Russell 2000
Number of Holdings	336	1,983
Weighted Avg. Market Cap. (\$B)	2.3	2.4
Median Market Cap. (\$B)	1.2	0.8
Price To Earnings	24.2	18.4
Price To Book	4.4	3.3
Price To Sales	2.4	3.1
Return on Equity (%)	13.9	7.8
Yield (%)	1.2	1.0
Beta (holdings; domestic)	1.3	1.3

Top Holdings

GRAND CANYON EDUCATION	0.9%
ENTEGRIS	0.9%
MGIC INVESTMENT	0.9%
PEABODY ENERGY	0.8%
RADIAN GP.	0.8%
INSPERITY	0.8%
CORCEPT THERAPEUTICS	0.8%
CVR ENERGY	0.8%
WINTRUST FINANCIAL	0.8%
FIVE BELOW	0.8%

Best Performers

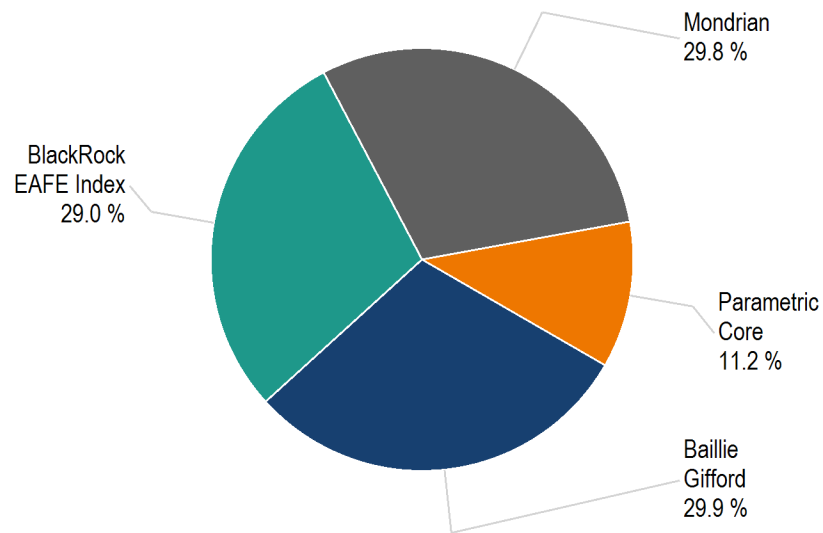
	Return %
WARRIOR MET COAL (HCC)	129.4%
CONCERT PHARMACEUTICALS (CNCE)	75.4%
SUCAMPO PHARMACEUTICALS CLASS A (SCMP)	52.1%
SKECHERS USA 'A' (SKX)	50.8%
EXACTECH (EXAC)	50.1%
CVR ENERGY (CVI)	46.1%
SPARTAN MOTORS (SPAR)	43.0%
PETMED EXPRESS (PETS)	38.0%
INGLES MARKETS 'A' (IMKTA)	35.5%
AMER.WOODMARK (AMWD)	35.3%

Worst Performers

	Return %
EASTMAN KODAK (KODK)	-57.8%
RAIT FINANCIAL TRUST (RAS)	-48.6%
FTD COMPANIES (FTD)	-44.9%
MALLINCKRODT (MNK)	-39.6%
ARGAN (AGX)	-32.1%
J JILL (JILL)	-28.4%
AMAG PHARMACEUTICALS (AMAG)	-28.2%
ULTRA CLEAN HOLDINGS (UCTT)	-24.6%
AXOVANT SCIENCES (AXON)	-23.4%
PAPA JOHNS INTL. (PZZA)	-22.9%

QMA US Small Cap Performance Attribution vs. Russell 2000

	Total Effects	Attribution Effects				Returns		Sector Weights			
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.1%	0.1%	0.0%	0.0%	9.9%	6.8%	3.0%	3.6%			
Materials	0.0%	0.0%	0.0%	0.0%	4.7%	4.2%	5.0%	4.5%			
Industrials	-0.2%	-0.2%	0.0%	0.0%	4.8%	6.4%	16.0%	14.9%			
Consumer Discretionary	-0.2%	-0.2%	0.0%	0.0%	6.1%	7.9%	12.6%	12.1%			
Consumer Staples	-0.2%	-0.2%	0.0%	0.0%	-0.1%	7.1%	2.2%	2.7%			
Health Care	-0.5%	-0.5%	0.0%	0.0%	-1.0%	2.4%	15.5%	15.4%			
Financials	0.0%	-0.1%	0.0%	0.0%	1.3%	1.7%	17.0%	18.1%			
Information Technology	-0.6%	-0.6%	0.0%	0.0%	-2.4%	1.0%	17.9%	17.1%			
Telecommunication Services	0.0%	0.0%	0.0%	0.0%	-4.3%	-4.0%	0.4%	0.8%			
Utilities	0.1%	0.1%	0.0%	0.0%	4.9%	1.0%	2.9%	3.7%			
Real Estate	0.2%	0.2%	0.0%	0.0%	3.1%	-0.4%	7.3%	7.1%			
Cash	0.0%	0.0%	0.0%	0.0%	0.3%	--	0.2%	0.0%			
Portfolio	-1.3%	=	-1.3%	+	0.1%	+	-0.1%	2.0%	3.3%	100.0%	100.0%



	Actual \$	Actual %	Manager Contribution to Excess Return %
Baillie Gifford	\$255,490,197	29.9%	-0.1%
BlackRock EAFE Index	\$247,914,877	29.0%	0.0%
Mondrian	\$254,617,849	29.8%	-0.1%
Parametric Core	\$95,899,675	11.2%	-0.3%
Actual vs. Policy Weight Difference			-0.4%
Total	\$853,922,598	100.0%	-0.8%

Statistics Summary

3 Years

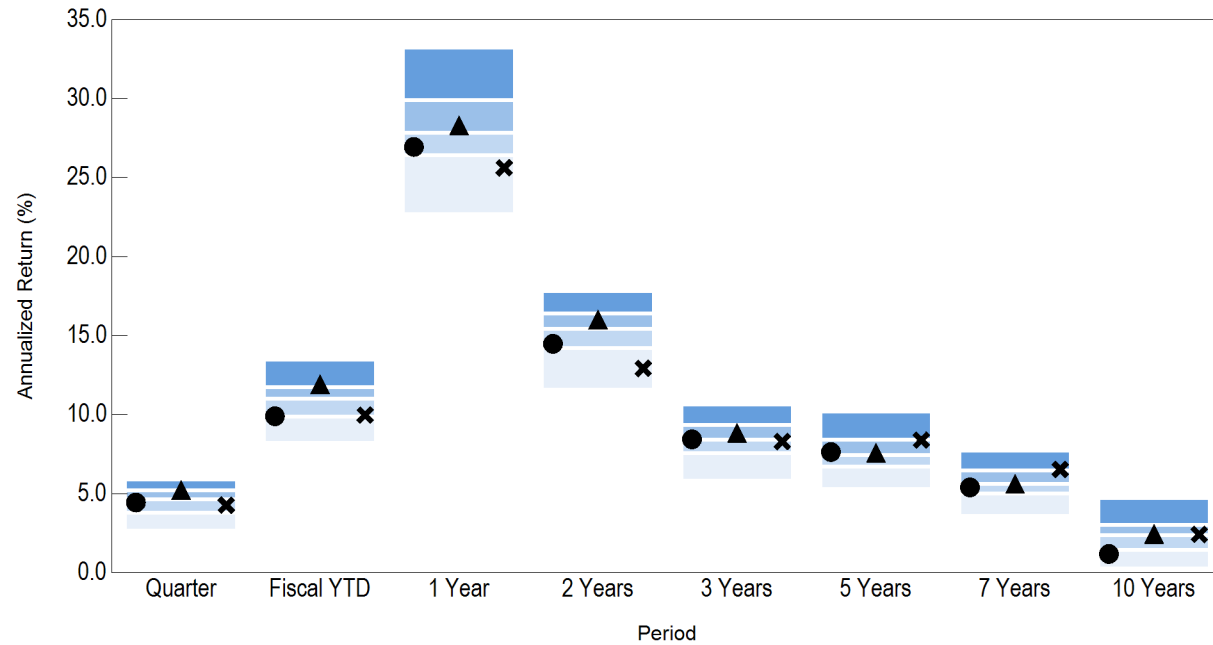
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	8.4%	11.7%	0.7	-0.2	1.9%
MSCI ACWI ex US IMI	8.8%	11.9%	0.7	--	0.0%
Developed Markets	8.6%	11.7%	0.7	0.1	2.3%
MSCI ACWI ex USA Gross	8.3%	12.0%	0.7	--	0.0%
Baillie Gifford	10.4%	13.1%	0.8	0.5	4.2%
MSCI ACWI ex US	8.3%	12.0%	0.7	--	0.0%
BlackRock EAFE Index	8.2%	12.0%	0.6	2.9	0.1%
MSCI EAFE	7.8%	12.0%	0.6	--	0.0%
Mondrian	6.8%	11.2%	0.6	0.0	5.3%
MSCI ACWI ex USA Value Gross	6.9%	12.9%	0.5	--	0.0%

Statistics Summary

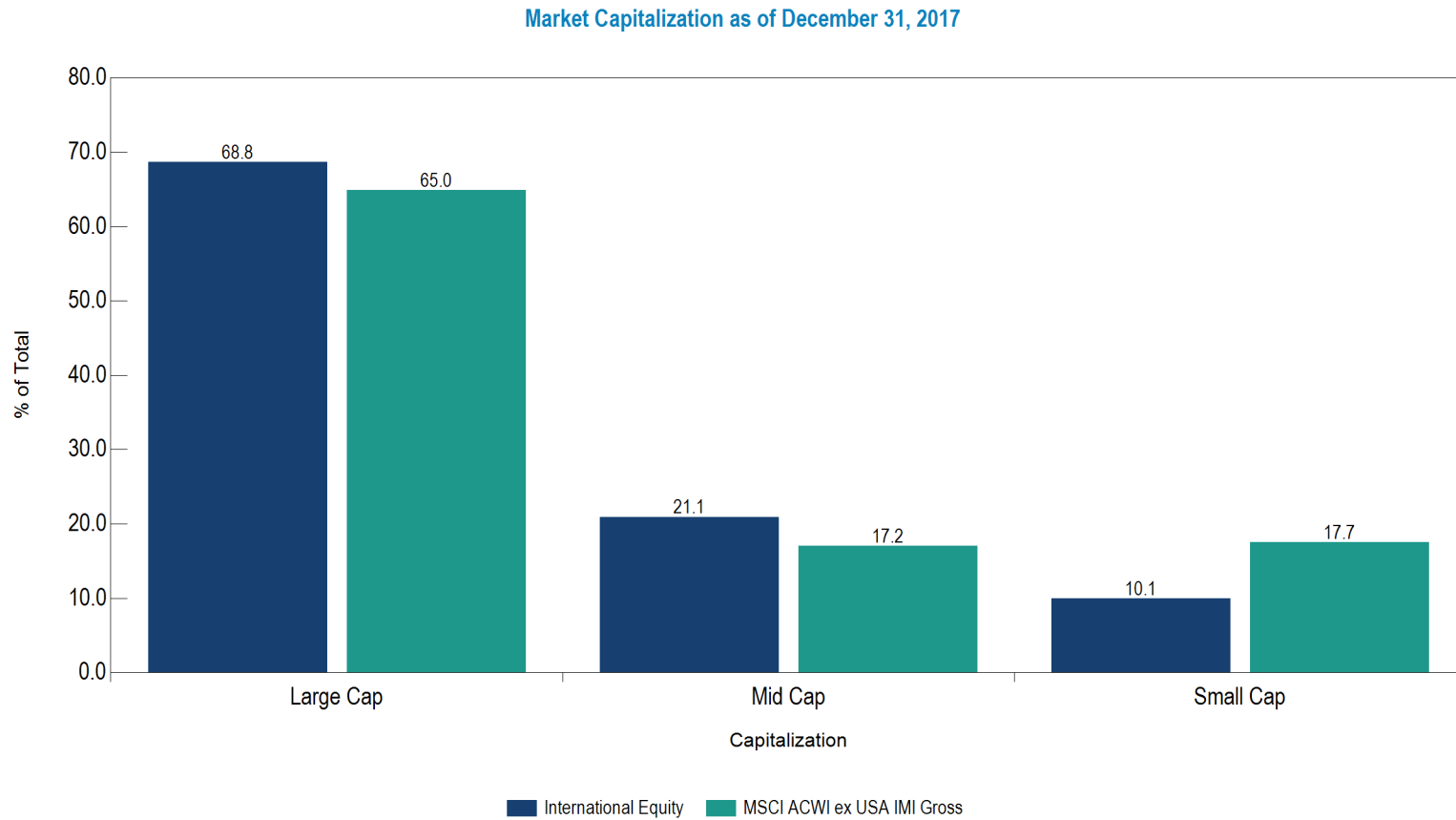
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
International Equity	7.6%	11.2%	0.7	0.0	1.7%
MSCI ACWI ex US IMI	7.6%	11.4%	0.6	--	0.0%
Developed Markets	8.2%	11.3%	0.7	0.4	2.1%
MSCI ACWI ex USA Gross	7.3%	11.5%	0.6	--	0.0%
Baillie Gifford	9.9%	12.4%	0.8	0.3	4.0%
MSCI ACWI ex US	8.6%	11.7%	0.7	--	0.0%
Mondrian	6.9%	11.1%	0.6	0.2	4.6%
MSCI ACWI ex USA Value Gross	6.2%	12.4%	0.5	--	0.0%

InvestorForce All DB ex-US Eq Net Return Comparison



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	5.9	13.5	33.2	17.8	10.6	10.2	7.7	4.7
25th Percentile	5.2	11.8	29.9	16.4	9.3	8.4	6.5	3.1
Median	4.7	11.0	27.9	15.5	8.4	7.4	5.6	2.4
75th Percentile	3.8	9.9	26.4	14.2	7.6	6.7	5.0	1.5
95th Percentile	2.7	8.2	22.7	11.6	5.8	5.3	3.6	0.3
# of Portfolios	418	416	411	408	396	350	295	228
● International Equity	4.4 (60)	9.9 (75)	26.9 (71)	14.5 (72)	8.4 (51)	7.6 (46)	5.4 (61)	1.2 (81)
▲ MSCI ACWI ex US IMI	5.2 (26)	11.9 (22)	28.3 (45)	16.0 (32)	8.8 (34)	7.6 (46)	5.6 (51)	2.5 (47)
✕ MSCI EAFE Gross	4.3 (66)	10.0 (73)	25.6 (81)	12.9 (88)	8.3 (56)	8.4 (28)	6.5 (25)	2.4 (48)



See appendix for the market capitalization breakpoints.

Characteristics

	Portfolio	MSCI ACWI ex USA IMI Gross
Number of Holdings	2,137	6,221
Weighted Avg. Market Cap. (\$B)	50.3	57.1
Median Market Cap. (\$B)	7.2	1.6
Price To Earnings	22.1	20.7
Price To Book	3.7	2.8
Price To Sales	2.8	2.3
Return on Equity (%)	18.0	14.6
Yield (%)	2.7	2.6
Beta (holdings; global)	1.0	1.1

Top Holdings

UNITED OVERSEAS BANK	1.4%
NASPERS	1.0%
HONDA MOTOR	1.0%
NESTLE 'R'	0.9%
BP	0.9%
NOVARTIS 'R'	0.9%
SANOFI	0.9%
NOVO NORDISK 'B'	0.8%
LLOYDS BANKING GROUP	0.8%
IBERDROLA	0.8%

Best Performers

	Return %
CHABIOTECH (KO:DTH)	105.7%
RELIANCE COMMUNICATIONS (IN:RCN)	92.7%
KINGSTON FINANCIAL GROUP (K:STIM)	88.3%
KUMBA IRON ORE (R:KIOJ)	87.6%
CELLTRION (KO:ORC)	69.9%
ASTRAL FOODS (R:ARLJ)	69.8%
TURK HAVA YOLLARI (TK:THY)	68.2%
SINO BIOPHM. (K:SBIO)	68.0%
SUMCO (J:UMCO)	63.9%
ACER (TW:ASK)	62.4%

Worst Performers

	Return %
STEINHOFF INTL.HOLDING (R:SNHJ)	-91.6%
DAEWOO SHIPBLDG.& MAR. ENGR. (KO:OSM)	-66.8%
ALTICE B (OTC) (ALVVF)	-56.8%
SAPURA ENERGY (L:SAKE)	-51.3%
ALTICE A (H:ATC)	-47.6%
GENEREA (MX:CSV)	-47.3%
PAK ELEKTRON (PK:PET)	-40.3%
GRANA Y MONTERO (PE:GYM)	-38.8%
MAGNIT (RS:MGN)	-36.9%
LEONARDO (I:LDO)	-36.4%

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	0.0%	0.0%	0.0%	0.0%	8.0%	7.2%	5.3%	6.2%			
Materials	-0.1%	-0.1%	-0.1%	0.0%	7.4%	8.3%	5.5%	8.2%			
Industrials	-0.2%	-0.2%	0.0%	0.0%	3.1%	4.7%	12.9%	13.0%			
Consumer Discretionary	0.0%	-0.1%	0.0%	0.0%	5.9%	6.2%	14.8%	11.9%			
Consumer Staples	0.3%	0.2%	0.0%	0.1%	8.2%	5.7%	11.9%	9.1%			
Health Care	-0.1%	-0.1%	0.0%	0.0%	1.2%	2.3%	8.8%	7.7%			
Financials	0.0%	0.0%	0.0%	0.0%	4.7%	4.5%	18.4%	21.6%			
Information Technology	-0.2%	-0.2%	0.0%	-0.1%	4.7%	6.7%	10.4%	11.4%			
Telecommunication Services	-0.1%	-0.1%	0.0%	0.0%	-0.3%	1.7%	4.8%	3.8%			
Utilities	0.0%	0.0%	0.0%	0.0%	0.4%	0.2%	3.9%	3.0%			
Real Estate	-0.1%	-0.1%	0.0%	0.0%	3.7%	6.0%	2.5%	4.1%			
Cash	0.0%	0.0%	0.0%	0.0%	0.3%	--	0.8%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	1.5%	5.2%	0.0%	0.0%			
Portfolio	-0.6%	=	-0.5%	+	-0.2%	+	0.1%	4.7%	5.2%	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	5.8%	6.4%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Belgium	-1.5%	-1.0%	0.3%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	8.1%	7.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Denmark	7.7%	1.9%	2.3%	1.3%	0.1%	0.0%	0.0%	0.1%	0.1%
Finland	-0.3%	-1.7%	0.7%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
France	-2.1%	1.6%	5.2%	6.8%	-0.3%	0.1%	0.0%	0.1%	-0.2%
Germany	2.2%	3.0%	7.4%	6.5%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Greece*	10.3%	11.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Hungary*	4.7%	6.6%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Ireland	12.8%	3.7%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Italy	0.0%	-2.0%	2.1%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Luxembourg	-5.4%	5.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	8.7%	1.6%	2.3%	2.4%	0.2%	0.0%	0.0%	0.0%	0.2%
Norway	2.3%	1.1%	0.2%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	2.5%	4.7%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Portugal	-1.5%	-0.1%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Russia*	-4.4%	4.2%	1.1%	0.7%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Spain	-3.9%	-1.1%	3.0%	2.3%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Sweden	-2.2%	-2.8%	3.5%	2.3%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Switzerland	1.9%	2.3%	5.7%	5.4%	0.0%	0.0%	0.0%	0.0%	0.0%
United Kingdom	4.5%	5.8%	14.1%	12.5%	-0.2%	0.0%	0.0%	0.0%	-0.2%

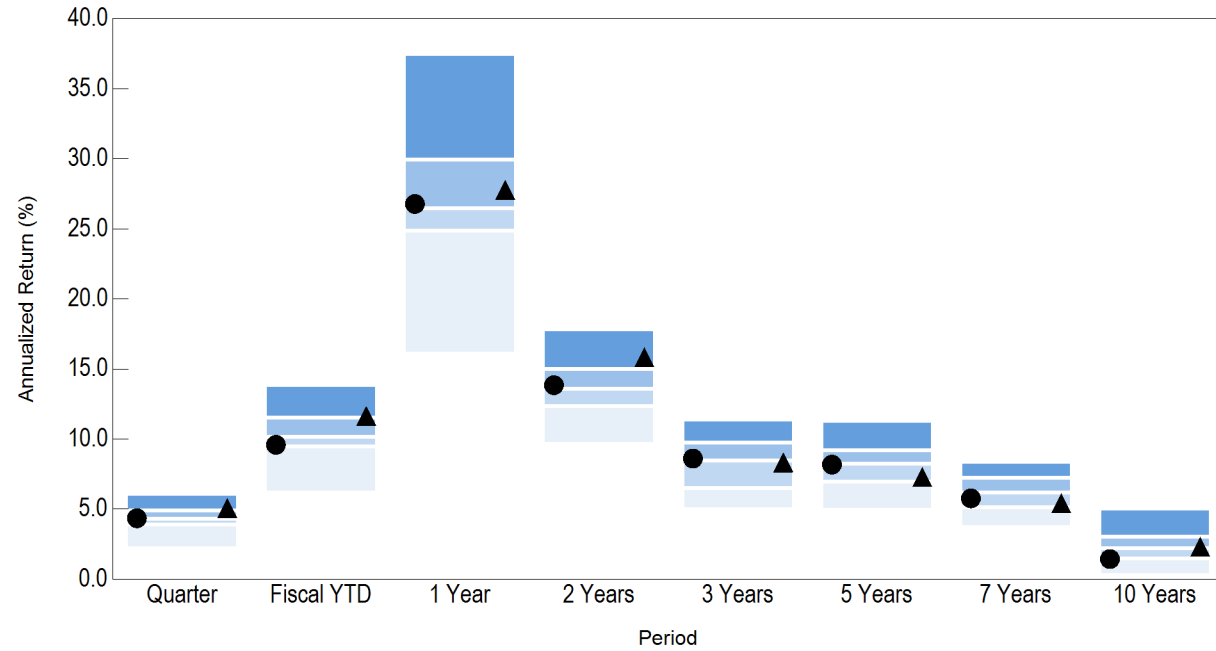
Int'l Equity Performance Attribution vs. MSCI ACWI ex USA IMI Gross

	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	8.5%	7.4%	3.9%	4.7%	0.1%	0.0%	0.0%	0.0%	0.0%
China*	3.5%	7.1%	3.4%	6.8%	-0.3%	-0.1%	0.0%	0.1%	-0.2%
Hong Kong	5.0%	7.2%	3.8%	2.3%	-0.1%	0.0%	0.0%	0.0%	0.0%
India*	11.1%	13.5%	2.2%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Indonesia*	8.0%	7.2%	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Japan	9.0%	8.6%	16.1%	16.8%	0.1%	0.0%	0.0%	0.0%	0.1%
Korea*	9.7%	11.7%	2.9%	3.6%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Malaysia*	8.0%	6.9%	0.9%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	0.1%	4.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Pakistan*	-9.5%	-9.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Philippines*	1.2%	5.5%	0.6%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	6.9%	9.4%	3.0%	0.9%	0.0%	0.1%	0.0%	0.0%	0.0%
Taiwan*	3.7%	5.1%	2.6%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Thailand*	7.7%	9.0%	0.5%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Americas									
Brazil*	1.6%	-2.0%	1.7%	1.7%	0.0%	0.0%	0.0%	0.0%	0.1%
Canada	-1.6%	4.2%	0.9%	6.6%	-0.4%	0.0%	0.0%	0.3%	0.0%
Chile*	8.9%	7.8%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Colombia*	5.0%	0.8%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Mexico*	-7.2%	-8.2%	1.2%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru*	5.8%	6.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
United States	0.9%	6.4%	1.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%

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	
Other									
Egypt*	15.0%	1.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Israel	7.3%	4.2%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Kazakhstan**	31.3%	25.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Kuwait**	-4.8%	-7.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	2.6%	3.2%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	7.3%	-0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	25.5%	21.0%	2.3%	1.5%	0.1%	0.1%	0.1%	0.0%	0.2%
Turkey*	3.5%	4.6%	0.6%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	-3.3%	-3.8%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	-0.1%	2.1%	5.6%	9.6%	-0.2%	0.0%	0.0%	0.1%	0.0%
Europe	2.0%	2.6%	49.3%	45.6%	-0.3%	-0.1%	0.0%	0.0%	-0.4%
Asia/Pacific	7.5%	8.3%	40.6%	42.3%	-0.3%	0.0%	-0.1%	0.0%	-0.4%
Other	17.0%	13.4%	3.7%	2.5%	0.1%	0.0%	0.1%	0.0%	0.2%
Cash	0.3%	--	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	4.7%	5.2%	100.0%	100.0%	-0.6%	-0.1%	0.0%	0.1%	-0.6%
Totals									
Developed	4.1%	4.5%	76.2%	76.3%	-0.3%	0.0%	0.1%	0.0%	-0.3%
Emerging*	6.5%	7.5%	22.9%	23.7%	-0.2%	0.0%	0.0%	0.0%	-0.3%
Frontier**	9.6%	--	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.3%	--	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

InvestorForce All DB Dev Mkt ex-US Eq Net Return Comparison



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	6.1	13.8	37.5	17.8	11.4	11.3	8.4	5.0
25th Percentile	4.9	11.5	30.0	15.0	9.8	9.2	7.2	3.1
Median	4.3	10.2	26.5	13.6	8.5	8.3	6.2	2.2
75th Percentile	3.9	9.5	24.9	12.4	6.5	7.0	5.2	1.5
95th Percentile	2.2	6.2	16.1	9.7	5.0	5.0	3.8	0.3
# of Portfolios	152	152	150	144	141	118	95	68
● Developed Markets	4.3 (48)	9.6 (71)	26.8 (43)	13.8 (45)	8.6 (47)	8.2 (53)	5.8 (66)	1.4 (80)
▲ MSCI ACWI ex USA Gross	5.1 (19)	11.6 (24)	27.8 (32)	15.8 (20)	8.3 (52)	7.3 (69)	5.4 (71)	2.3 (48)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	1,059	1,866
Weighted Avg. Market Cap. (\$B)	53.6	66.3
Median Market Cap. (\$B)	12.2	8.6
Price To Earnings	22.2	20.8
Price To Book	3.7	2.8
Price To Sales	2.8	2.2
Return on Equity (%)	18.1	15.0
Yield (%)	2.8	2.7
Beta (holdings; global)	1.1	1.1

Top Holdings

UNITED OVERSEAS BANK	1.5%
HONDA MOTOR	1.1%
NASPERS	1.1%
NESTLE 'R'	1.1%
BP	1.0%
NOVARTIS 'R'	1.0%
SANOFI	1.0%
NOVO NORDISK 'B'	0.9%
LLOYDS BANKING GROUP	0.9%
IBERDROLA	0.9%

Best Performers

	Return %
KINGSTON FINANCIAL GROUP (K:STIM)	88.3%
SUMCO (J:UMCO)	63.9%
WHARF HOLDINGS (K:HKWH)	52.9%
NESTE (M:NEST)	46.7%
SUMITOMO METAL MINING (J:EM@N)	43.2%
BARCLAYS AFRICA GROUP (R:BGAJ)	42.8%
IDEMITSU KOSAN (J:IDKO)	42.4%
TOTO (J:TOTO)	40.2%
DON QUIJOTE HOLDINGS (J:DONQ)	40.1%
YASKAWA ELECTRIC (J:YE@N)	39.2%

Worst Performers

	Return %
ALTICE B (OTC) (ALVVF)	-56.8%
ALTICE A (H:ATC)	-47.6%
LEONARDO (I:LDO)	-36.4%
PJSC MAGNIT GDR (REG S) (UKIR:MGNT)	-33.2%
SES FDR (LX:SES)	-28.6%
CAPITA (UKIR:CPI)	-27.0%
BNC.STDR.AMER.DEPY. SHS. 1:5 (BSMX)	-25.8%
GENMAB (DK:GEN)	-24.8%
CENTRICA (UKIR:CNA)	-24.5%
CONVATEC GROUP (UKIR:CTEC)	-24.4%

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	0.0%	0.0%	-0.1%	0.0%	8.4%	7.6%	4.8%	6.7%			
Materials	-0.2%	-0.1%	-0.1%	0.0%	7.1%	8.3%	4.6%	7.7%			
Industrials	-0.2%	-0.2%	0.0%	-0.1%	2.9%	4.8%	13.4%	11.9%			
Consumer Discretionary	0.1%	0.0%	0.0%	0.1%	6.1%	6.1%	15.5%	11.3%			
Consumer Staples	0.4%	0.3%	0.0%	0.1%	8.5%	5.4%	12.2%	9.6%			
Health Care	-0.1%	-0.1%	0.0%	0.0%	0.1%	1.3%	9.2%	7.9%			
Financials	0.0%	-0.1%	0.0%	0.0%	4.6%	4.6%	18.8%	23.3%			
Information Technology	-0.2%	-0.1%	0.0%	-0.1%	4.7%	6.2%	10.7%	11.2%			
Telecommunication Services	-0.1%	-0.2%	0.0%	0.0%	-1.8%	1.5%	4.3%	4.2%			
Utilities	0.0%	0.0%	0.0%	0.0%	0.5%	-0.5%	3.5%	3.1%			
Real Estate	-0.1%	0.0%	0.0%	0.0%	5.1%	6.4%	2.1%	3.2%			
Cash	0.0%	0.0%	0.0%	0.0%	0.3%	--	0.9%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	1.5%	--	0.0%	0.0%			
Portfolio	-0.5%	=	-0.4%	+	-0.2%	+	0.1%	4.5%	5.0%	100.0%	100.0%

Developed Markets Performance Attribution vs. MSCI ACWI ex USA Gross

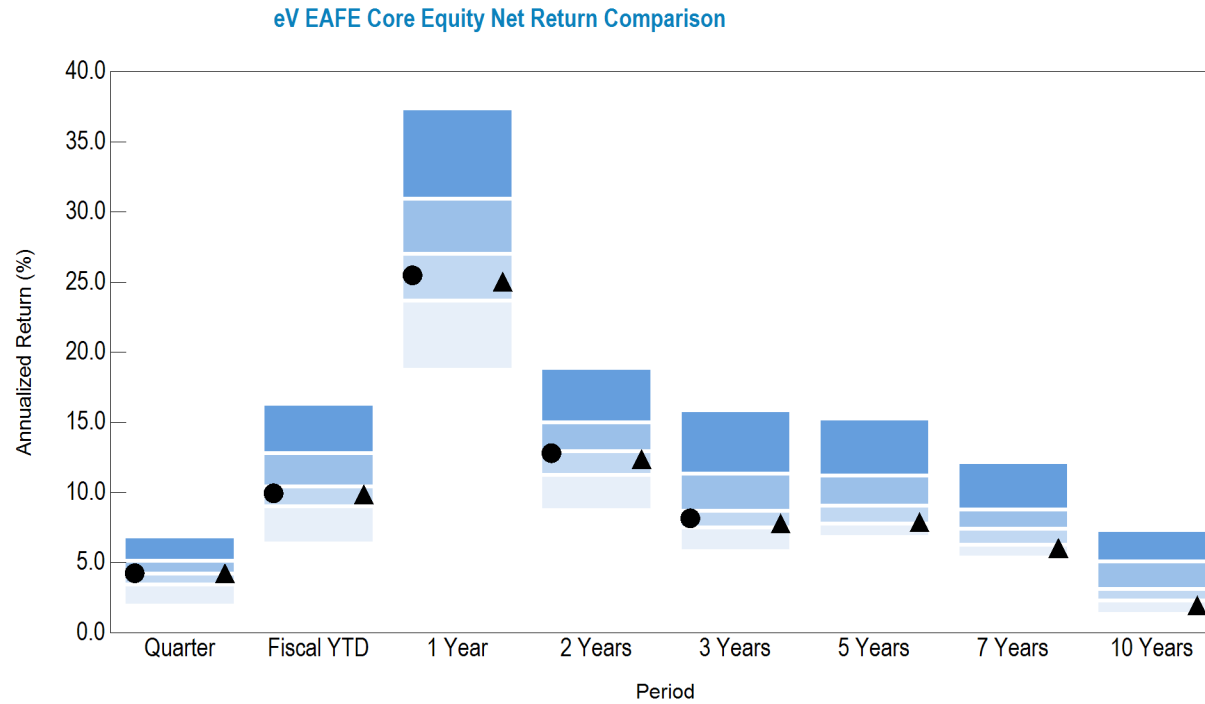
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Europe									
Austria	5.8%	5.8%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Belgium	-1.5%	-1.6%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Czech Republic*	--	7.8%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	7.7%	2.3%	2.6%	1.3%	0.1%	0.0%	0.0%	0.1%	0.1%
Finland	-0.3%	-2.5%	0.7%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
France	-2.1%	1.6%	5.9%	7.4%	-0.3%	0.1%	0.0%	0.1%	-0.2%
Germany	2.2%	2.5%	8.3%	6.7%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Greece*	--	13.5%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	7.1%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	12.8%	3.7%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Italy	0.0%	-2.2%	2.3%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Luxembourg	-5.5%	5.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	8.8%	1.2%	2.5%	2.6%	0.2%	0.0%	0.0%	0.0%	0.2%
Norway	2.3%	2.3%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	--	6.0%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	-1.5%	-2.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Russia*	-9.1%	4.6%	0.5%	0.8%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Spain	-3.9%	-1.5%	3.3%	2.4%	-0.1%	-0.1%	0.0%	0.0%	-0.1%
Sweden	-2.2%	-3.7%	4.0%	2.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Switzerland	1.9%	1.8%	6.4%	5.7%	0.0%	0.0%	0.0%	0.0%	0.0%
United Kingdom	4.5%	5.8%	15.8%	12.4%	-0.2%	0.0%	0.0%	0.0%	-0.2%

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	8.5%	6.7%	4.3%	4.7%	0.1%	0.0%	0.0%	0.0%	0.1%
China*	3.2%	7.7%	3.1%	7.1%	-0.3%	-0.1%	0.0%	0.2%	-0.3%
Hong Kong	4.1%	7.7%	3.5%	2.4%	-0.1%	0.0%	0.0%	0.0%	-0.1%
India*	9.7%	11.8%	1.7%	2.0%	0.0%	0.0%	0.0%	0.0%	-0.1%
Indonesia*	18.3%	8.0%	0.1%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%
Japan	9.0%	8.5%	18.1%	16.1%	0.1%	0.1%	0.0%	0.0%	0.2%
Korea*	7.6%	10.2%	2.3%	3.6%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Malaysia*	8.0%	6.4%	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Pakistan*	--	-5.2%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Philippines*	-3.3%	6.5%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	6.9%	10.1%	3.3%	0.9%	0.0%	0.1%	0.0%	-0.1%	0.0%
Taiwan*	2.9%	4.2%	2.1%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Thailand*	8.7%	9.4%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Americas									
Brazil*	4.8%	-2.1%	1.0%	1.8%	0.1%	0.0%	0.0%	0.0%	0.1%
Canada	-1.6%	4.4%	1.0%	6.6%	-0.4%	0.0%	0.0%	0.3%	-0.1%
Chile*	--	7.3%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Colombia*	--	0.8%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	-2.2%	-7.9%	0.5%	0.8%	0.0%	0.0%	0.0%	0.0%	0.1%
Peru*	3.6%	7.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
United States	0.0%	6.4%	1.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%

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	
Other									
Egypt*	--	-2.4%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	7.3%	3.8%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Kazakhstan**	31.3%	25.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	2.7%	4.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	7.3%	-0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	27.3%	21.4%	1.7%	1.5%	0.1%	0.0%	0.0%	0.0%	0.1%
Turkey*	1.0%	4.4%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	0.0%	-4.9%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	0.7%	2.2%	3.5%	9.7%	-0.1%	0.0%	0.1%	0.1%	0.1%
Europe	1.9%	2.4%	53.7%	46.2%	-0.2%	-0.2%	0.0%	0.0%	-0.4%
Asia/Pacific	7.5%	8.1%	39.5%	41.6%	-0.1%	-0.1%	-0.2%	0.0%	-0.3%
Other	20.9%	14.1%	2.4%	2.5%	0.1%	0.0%	0.0%	0.0%	0.2%
Cash	0.3%	--	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	4.5%	5.0%	100.0%	100.0%	-0.2%	-0.3%	0.0%	0.0%	-0.5%
Totals									
Developed	4.1%	4.3%	84.5%	75.9%	-0.2%	0.0%	0.1%	0.0%	-0.2%
Emerging*	7.2%	7.3%	14.6%	24.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.3%
Frontier**	19.4%	--	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.3%	--	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	6.8	16.3	37.4	18.8	15.9	15.2	12.1	7.3
25th Percentile	5.1	12.8	31.0	15.0	11.4	11.2	8.8	5.1
Median	4.2	10.4	27.1	13.0	8.7	9.1	7.4	3.1
75th Percentile	3.5	9.0	23.7	11.3	7.5	7.8	6.3	2.3
95th Percentile	2.0	6.4	18.8	8.8	5.9	6.9	5.4	1.4
# of Portfolios	132	131	131	129	119	101	87	73
● BlackRock EAFE Index	4.2 (50)	9.9 (62)	25.5 (63)	12.8 (55)	8.2 (63)	-- (--)	-- (--)	-- (--)
▲ MSCI EAFE	4.2 (50)	9.9 (63)	25.0 (67)	12.4 (62)	7.8 (69)	7.9 (74)	6.0 (80)	1.9 (87)

Characteristics

	Portfolio	MSCI EAFE
Number of Holdings	931	928
Weighted Avg. Market Cap. (\$B)	59.7	59.8
Median Market Cap. (\$B)	11.5	11.5
Price To Earnings	20.6	20.4
Price To Book	3.2	2.7
Price To Sales	2.4	2.1
Return on Equity (%)	15.7	13.8
Yield (%)	2.9	2.9
Beta (holdings; global)	1.1	1.1

Top Holdings

NESTLE 'R'	1.8%
HSBC HOLDINGS	1.4%
NOVARTIS 'R'	1.2%
ROCHE HOLDING	1.2%
TOYOTA MOTOR	1.1%
BRITISH AMERICAN TOBACCO	1.0%
ROYAL DUTCH SHELL A	1.0%
BP	0.9%
TOTAL	0.9%
ROYAL DUTCH SHELL B	0.8%

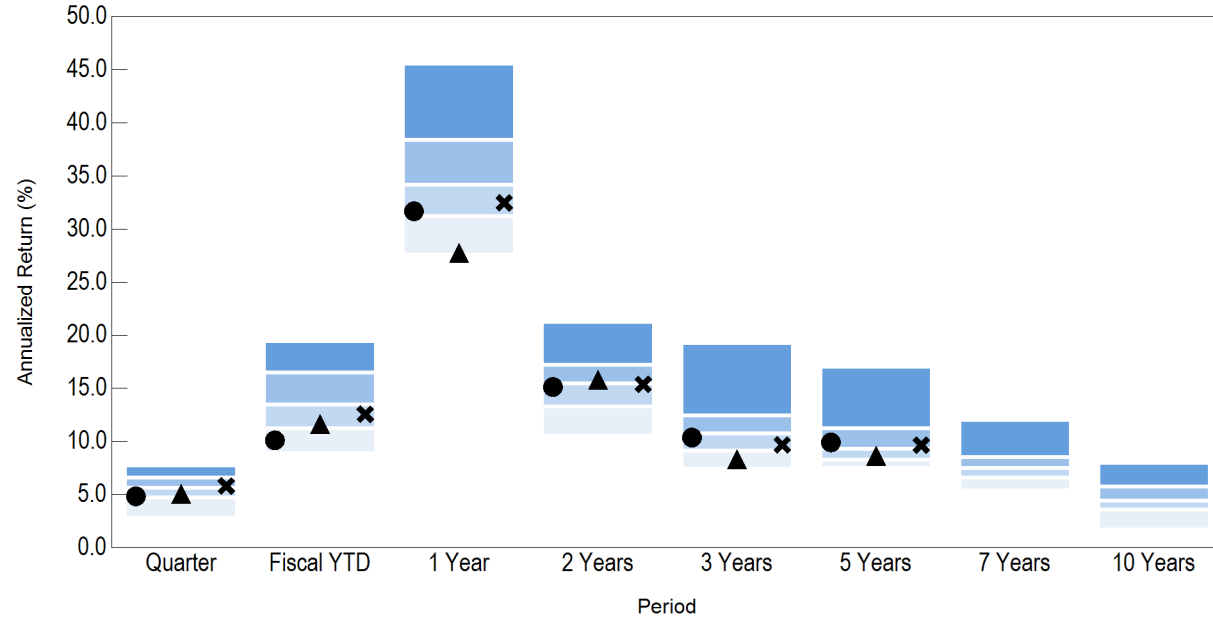
Best Performers

	Return %
KINGSTON FINANCIAL GROUP (K:STIM)	88.3%
SUMCO (J:UMCO)	63.9%
WHARF HOLDINGS (K:HKWH)	52.9%
NESTE (M:NEST)	46.7%
SUMITOMO METAL MINING (J:EM@N)	43.2%
IDEMITSU KOSAN (J:IDKO)	42.4%
TOTO (J:TOTO)	40.2%
DON QUIJOTE HOLDINGS (J:DONQ)	40.1%
YASKAWA ELECTRIC (J:YE@N)	39.2%
SBI HDG. (J:SFBI)	39.0%

Worst Performers

	Return %
ALTICE B (OTC) (ALVVF)	-56.8%
ALTICE A (H:ATC)	-47.6%
LEONARDO (I:LDO)	-36.4%
SES FDR (LX:SES)	-28.6%
CAPITA (UKIR:CPI)	-27.0%
GENMAB (DK:GEN)	-24.8%
CENTRICA (UKIR:CNA)	-24.5%
CONVATEC GROUP (UKIR:CTEC)	-24.4%
INMARSAT (UKIR:ISAT)	-23.1%
VESTAS WINDSYSTEMS (DK:VEW)	-23.0%

eV ACWI ex-US Growth Equity Net Return Comparison



	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Return (Rank)								
5th Percentile	7.7	19.4	45.5	21.2	19.2	17.0	12.0	8.0
25th Percentile	6.6	16.5	38.4	17.2	12.5	11.3	8.6	5.8
Median	5.7	13.5	34.2	15.5	10.8	9.3	7.5	4.5
75th Percentile	4.8	11.3	31.3	13.3	9.2	8.3	6.6	3.6
95th Percentile	2.8	8.9	27.6	10.6	7.5	7.5	5.5	1.7
# of Portfolios	71	71	71	71	65	56	50	40
● Baillie Gifford	4.8 (70)	10.1 (89)	31.7 (73)	15.1 (54)	10.4 (57)	9.9 (44)	-- (--)	-- (--)
▲ MSCI ACWI ex US	5.1 (64)	11.6 (74)	27.8 (94)	15.8 (44)	8.3 (90)	8.6 (68)	-- (--)	-- (--)
✕ MSCI ACWI ex US Growth	5.8 (49)	12.6 (64)	32.5 (68)	15.4 (52)	9.7 (66)	9.6 (48)	-- (--)	-- (--)

Characteristics

	Portfolio	MSCI ACWI ex USA Gross
Number of Holdings	90	1,866
Weighted Avg. Market Cap. (\$B)	47.0	66.3
Median Market Cap. (\$B)	14.3	8.6
Price To Earnings	30.0	20.8
Price To Book	6.9	2.8
Price To Sales	4.3	2.2
Return on Equity (%)	24.7	15.0
Yield (%)	1.6	2.7
Beta (holdings; global)	1.1	1.1

Top Holdings

NASPERS	3.2%
TAIWAN SEMICON.SPN.ADR 1:5	2.7%
HARGREAVES LANSDOWN	2.5%
ATLAS COPCO 'B'	2.2%
NOVO NORDISK 'B'	2.2%
KAO	2.1%
INDITEX	2.1%
COCHLEAR	2.1%
MS&AD INSURANCE GP.HDG.	2.0%
ZALANDO	2.0%

Best Performers

	Return %
TSINGTAO BREWERY 'H' (K:TSIN)	34.7%
KAKAKU.COM (J:KAKA)	32.7%
NASPERS (R:NPNJ)	28.9%
CLICKS GROUP (R:CLSJ)	25.0%
NAVER (KO:NHN)	24.9%
HARGREAVES LANSDOWN (UKIR:HL.)	22.8%
SHISEIDO (J:SHDO)	21.1%
MAHINDRA & MAHINDRA GDR REG 'S' (UKIR:MHID)	20.7%
DENSO (J:DE@N)	18.7%
RAIA DROGASIL ON (BR:DR3)	16.9%

Worst Performers

	Return %
PJSC MAGNIT GDR (REG S) (UKIR:MGNT)	-33.2%
CAPITA (UKIR:CPI)	-27.0%
CTRP.COM INTL.ADR 8:1 (CTRP)	-16.4%
PAX GLOBAL TECHNOLOGY (K:PGTL)	-15.9%
RAKUTEN (J:RAKT)	-15.9%
SHOPIFY 'A' (NYS) (SHOP)	-13.3%
DISTRIBUIDORA INTNAC.DE ALIMENTACION (E:DIA)	-11.4%
ADIDAS (D:ADS)	-11.2%
CAFE DE CORAL HDG. (K:CAFE)	-11.0%
HON HAI PREC.GDR (UKIR:HHPD)	-9.6%

Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

	Total Effects	Attribution Effects			Returns		Sector Weights				
		Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.3%	-0.7%	-0.2%	0.6%	-3.7%	7.5%	0.6%	6.7%			
Materials	-0.4%	-0.5%	-0.1%	0.2%	2.7%	8.2%	3.9%	7.8%			
Industrials	-0.2%	-0.2%	0.0%	-0.1%	3.1%	4.8%	14.7%	11.8%			
Consumer Discretionary	-0.3%	-0.3%	0.0%	0.0%	4.0%	6.1%	19.6%	11.3%			
Consumer Staples	0.8%	0.4%	0.1%	0.4%	9.4%	5.4%	18.1%	9.6%			
Health Care	0.5%	0.5%	0.0%	0.0%	6.9%	1.3%	7.7%	7.9%			
Financials	0.2%	0.3%	0.0%	0.0%	6.1%	4.6%	17.0%	23.3%			
Information Technology	-0.4%	-0.2%	0.0%	-0.2%	3.1%	6.3%	17.1%	11.2%			
Telecommunication Services	0.1%	-0.2%	0.1%	0.2%	-6.6%	1.5%	0.0%	4.2%			
Utilities	0.1%	--	0.2%	--	--	-0.5%	0.0%	3.1%			
Real Estate	-0.1%	--	0.0%	--	--	6.2%	0.0%	3.2%			
Cash	-0.1%	0.0%	-0.1%	0.0%	0.3%	--	1.4%	0.0%			
Portfolio	0.1%	=	-1.0%	+	0.1%	+	1.0%	5.1%	5.0%	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	--	5.8%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Belgium	--	-1.5%	0.0%	0.8%	--	0.1%	0.0%	--	0.0%
Czech Republic*	--	7.8%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	11.5%	2.3%	5.2%	1.3%	0.1%	-0.1%	0.1%	0.4%	0.4%
Finland	1.5%	-2.5%	1.2%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%
France	6.7%	1.6%	1.5%	7.4%	0.4%	0.2%	-0.1%	-0.3%	0.2%
Germany	0.3%	2.5%	5.4%	6.7%	-0.2%	0.0%	0.0%	0.0%	-0.1%
Greece*	--	13.6%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	7.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	--	3.7%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Italy	--	-2.2%	0.0%	1.7%	--	0.1%	0.0%	--	0.1%
Netherlands	-1.0%	1.3%	0.0%	2.6%	-0.1%	0.1%	0.0%	0.0%	0.1%
Norway	--	2.3%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
Poland*	--	5.9%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	-1.4%	-1.9%	1.2%	0.1%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Russia*	-33.2%	4.6%	0.6%	0.8%	-0.3%	0.0%	0.0%	0.1%	-0.2%
Spain	-9.0%	-1.5%	2.2%	2.4%	-0.2%	0.0%	0.0%	0.0%	-0.2%
Sweden	-4.7%	-3.7%	5.6%	2.0%	0.0%	-0.3%	0.0%	0.0%	-0.3%
Switzerland	-0.1%	1.8%	5.2%	5.7%	-0.1%	0.0%	0.0%	0.0%	-0.1%
United Kingdom	4.7%	5.8%	15.0%	12.3%	-0.1%	0.0%	0.0%	0.0%	-0.1%

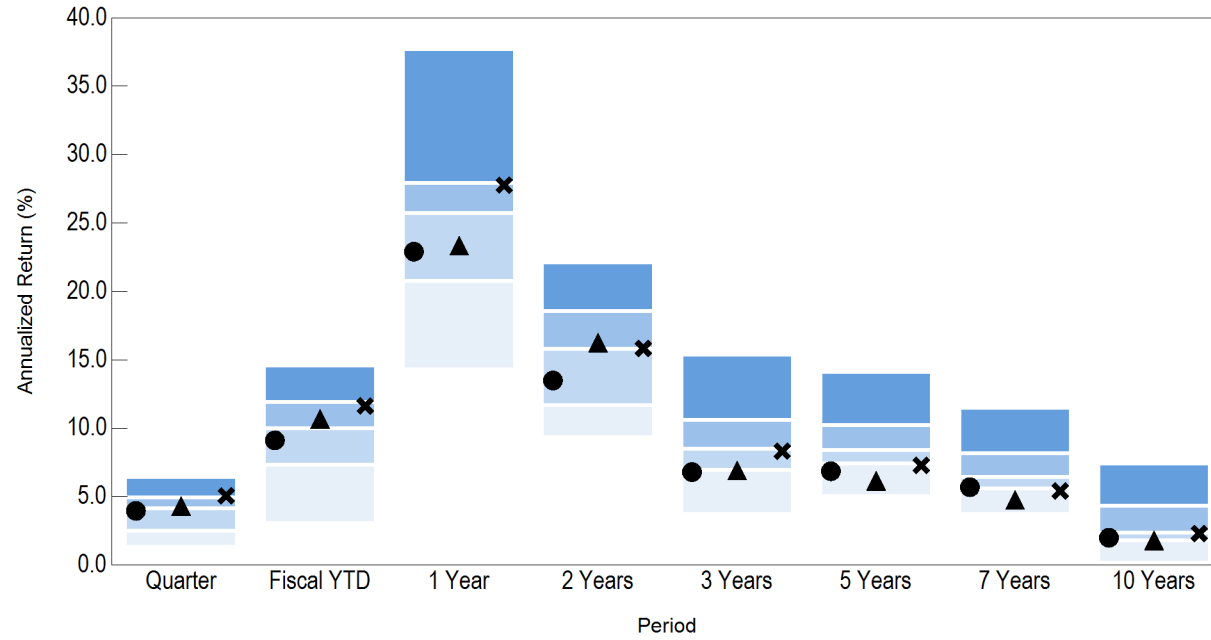
Baillie Gifford Performance Attribution vs. MSCI ACWI ex USA Gross

	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	11.2%	6.7%	5.3%	4.7%	0.2%	0.0%	0.0%	0.0%	0.3%
China*	1.7%	7.7%	7.4%	7.1%	-0.4%	0.0%	0.0%	0.0%	-0.4%
Hong Kong	2.7%	7.6%	1.8%	2.4%	-0.1%	0.0%	0.0%	0.0%	-0.1%
India*	12.6%	11.8%	1.9%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Indonesia*	--	8.1%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
Japan	9.4%	8.5%	17.1%	16.0%	0.2%	0.0%	0.0%	0.0%	0.2%
Korea*	8.2%	10.3%	3.8%	3.6%	0.1%	0.0%	-0.1%	0.0%	-0.1%
Malaysia*	6.1%	6.3%	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	--	0.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Pakistan*	--	-5.2%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Philippines*	-1.7%	6.5%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	3.8%	10.1%	3.9%	0.9%	-0.1%	0.1%	0.0%	-0.2%	-0.1%
Taiwan*	1.1%	4.2%	3.8%	2.8%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Thailand*	--	9.4%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
Americas									
Brazil*	16.9%	-1.9%	1.1%	1.8%	0.3%	0.0%	0.0%	-0.1%	0.2%
Canada	-3.1%	4.3%	1.7%	6.7%	-0.5%	0.0%	0.0%	0.4%	-0.1%
Chile*	--	7.3%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Colombia*	--	0.8%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	8.6%	-8.0%	0.6%	0.8%	0.1%	0.0%	0.0%	0.0%	0.1%
Peru*	--	7.3%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
United States	-0.2%	6.4%	2.4%	0.0%	0.0%	0.1%	0.0%	-0.2%	-0.1%

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*	--	-2.4%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	--	4.0%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Qatar*	--	4.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
South Africa*	27.6%	21.2%	3.8%	1.5%	0.1%	0.2%	0.3%	0.1%	0.6%
Turkey*	--	4.4%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
United Arab Emirates*	--	-4.9%	0.0%	0.2%	--	0.0%	0.0%	--	0.0%
Totals									
Americas	3.0%	2.2%	5.8%	9.9%	0.1%	0.0%	0.1%	0.0%	0.1%
Europe	1.6%	2.4%	43.1%	46.1%	-0.3%	0.1%	-0.1%	0.0%	-0.3%
Asia/Pacific	6.9%	8.1%	46.0%	41.6%	-0.3%	0.1%	-0.2%	0.0%	-0.4%
Other	27.6%	14.1%	3.8%	2.5%	0.2%	0.1%	0.3%	0.1%	0.6%
Cash	0.3%	--	1.4%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Total	5.1%	5.0%	100.0%	100.0%	-0.2%	0.2%	0.0%	0.0%	0.1%
Totals									
Developed	4.4%	4.3%	74.7%	76.0%	0.1%	0.0%	-0.1%	0.0%	0.1%
Emerging*	7.6%	7.3%	23.9%	24.0%	0.0%	0.0%	0.1%	0.0%	0.1%
Cash	0.3%	--	1.4%	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	6.4	14.6	37.7	22.1	15.4	14.1	11.5	7.4
25th Percentile	5.0	12.0	28.0	18.6	10.7	10.3	8.2	4.4
Median	4.2	10.0	25.8	15.8	8.5	8.4	6.5	2.4
75th Percentile	2.6	7.4	20.8	11.7	7.0	7.4	5.6	1.8
95th Percentile	1.4	3.1	14.3	9.4	3.8	5.1	3.7	0.2
# of Portfolios	40	39	39	36	35	31	25	20
● Mondrian	4.0 (55)	9.1 (61)	22.9 (69)	13.5 (61)	6.8 (78)	6.9 (82)	5.7 (70)	2.0 (69)
▲ MSCI ACWI ex USA Value Gross	4.3 (48)	10.7 (42)	23.3 (66)	16.3 (46)	6.9 (77)	6.2 (85)	4.8 (88)	1.8 (77)
✕ MSCI ACWI ex USA Gross	5.1 (21)	11.6 (34)	27.8 (26)	15.8 (50)	8.3 (54)	7.3 (79)	5.4 (79)	2.3 (54)

Characteristics

	Portfolio	MSCI ACWI ex USA Value Gross
Number of Holdings	142	1,074
Weighted Avg. Market Cap. (\$B)	54.1	59.3
Median Market Cap. (\$B)	19.6	7.8
Price To Earnings	16.4	15.4
Price To Book	1.9	1.6
Price To Sales	1.6	1.6
Return on Equity (%)	14.3	11.5
Yield (%)	3.7	3.6
Beta (holdings: global)	1.0	1.1

Top Holdings

HONDA MOTOR	2.8%
UNITED OVERSEAS BANK	2.5%
TESCO	2.4%
IBERDROLA	2.4%
TAKEDA PHARMACEUTICAL	2.3%
SANOFI	2.3%
LLOYDS BANKING GROUP	2.2%
ENEL	2.2%
BP	2.2%
DAIMLER	2.1%

Best Performers

	Return %
BARCLAYS AFRICA GROUP (R:BGAJ)	42.8%
KAZMUNAIGAS EXP.PRDN.GDR REG S (UKIR:KMG)	31.3%
MIDEA GROUP 'A' (CN:MGA)	28.0%
ISUZU MOTORS (J:IM@N)	26.5%
SASOL (R:SOLJ)	25.9%
GROWTHPOINT PROPS. (R:GRTJ)	24.1%
EREGLI DEMIR CELIK (TK:ERE)	21.6%
PEARSON (UKIR:PERSON)	21.3%
RELIANCE INDUSTRIES (IN:REL)	20.7%
CSPC PHARMACEUTICAL GP. (K:CPHA)	20.5%

Worst Performers

	Return %
BNC.STDR.AMER.DEPY. SHS. 1:5 (BSMX)	-25.8%
TURKIYE HALK BANKASI (TK:HLB)	-16.6%
SANOFI (F:SQ@F)	-13.1%
SOCIETE GENERALE (F:SGE)	-11.7%
NEXT (UKIR:NXT)	-11.5%
TURK TELEKOMUNIKASYON (TK:TUT)	-11.0%
CMPH.COCS. RODOVIARIAS ON (BR:CCR)	-11.0%
LUPIN (IN:LUP)	-10.7%
FIBRA UNO ADMINISTRACION REIT (MX:FUN)	-10.5%
QUANTA COMPUTER (TW:QUM)	-9.6%

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	-0.1%	-0.1%	0.0%	0.0%	8.2%	8.8%	8.8%	9.7%			
Materials	-0.3%	-0.1%	-0.2%	0.0%	10.2%	10.3%	2.3%	6.7%			
Industrials	-0.4%	-0.3%	0.0%	-0.1%	0.5%	4.8%	11.2%	8.9%			
Consumer Discretionary	0.6%	0.3%	0.0%	0.3%	8.8%	5.2%	14.6%	8.2%			
Consumer Staples	0.5%	0.1%	0.1%	0.3%	11.3%	4.8%	7.3%	2.7%			
Health Care	-0.5%	-0.2%	-0.2%	-0.1%	-5.1%	-2.1%	9.4%	5.8%			
Financials	0.3%	0.5%	0.1%	-0.3%	5.4%	3.7%	18.0%	38.1%			
Information Technology	0.3%	0.2%	-0.1%	0.2%	7.3%	4.1%	8.9%	5.0%			
Telecommunication Services	-0.4%	-0.3%	-0.1%	-0.1%	-2.9%	1.4%	8.7%	5.9%			
Utilities	0.0%	0.1%	-0.1%	0.1%	1.1%	-0.9%	7.3%	4.9%			
Real Estate	-0.1%	-0.1%	0.0%	0.0%	2.3%	6.1%	2.9%	4.3%			
Cash	0.0%	0.0%	0.0%	0.0%	0.3%	--	0.4%	0.0%			
Unclassified	0.0%	0.0%	0.0%	0.0%	4.3%	--	0.1%	0.0%			
Portfolio	-0.2%	=	0.1%	+	-0.6%	+	0.4%	4.2%	4.3%	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	--	6.9%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Belgium	--	-0.5%	0.0%	0.5%	--	0.0%	0.0%	--	0.0%
Czech Republic*	--	14.8%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Denmark	-3.6%	-2.2%	0.8%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Finland	--	-1.4%	0.0%	1.0%	--	0.1%	0.0%	--	0.1%
France	-11.1%	-1.6%	5.7%	7.7%	-0.7%	0.1%	0.0%	0.2%	-0.4%
Germany	2.7%	3.7%	9.7%	6.5%	-0.1%	0.0%	0.1%	0.0%	-0.1%
Greece*	--	16.7%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Hungary*	--	6.2%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Ireland	--	4.0%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Italy	1.2%	-2.8%	4.5%	2.5%	0.1%	-0.2%	0.0%	0.1%	0.1%
Netherlands	15.3%	2.1%	3.2%	1.3%	0.2%	-0.1%	0.0%	0.2%	0.4%
Norway	--	0.5%	0.0%	0.6%	--	0.0%	0.0%	--	0.0%
Poland*	--	-2.1%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Portugal	--	-8.0%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Russia*	7.0%	6.6%	0.9%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Spain	-3.6%	-2.6%	4.3%	3.6%	0.0%	0.0%	0.0%	0.0%	-0.1%
Sweden	3.1%	-5.5%	3.4%	2.0%	0.2%	-0.1%	0.0%	0.1%	0.2%
Switzerland	2.5%	2.4%	6.1%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%
United Kingdom	4.0%	6.1%	17.1%	14.0%	-0.3%	0.1%	0.0%	-0.1%	-0.3%

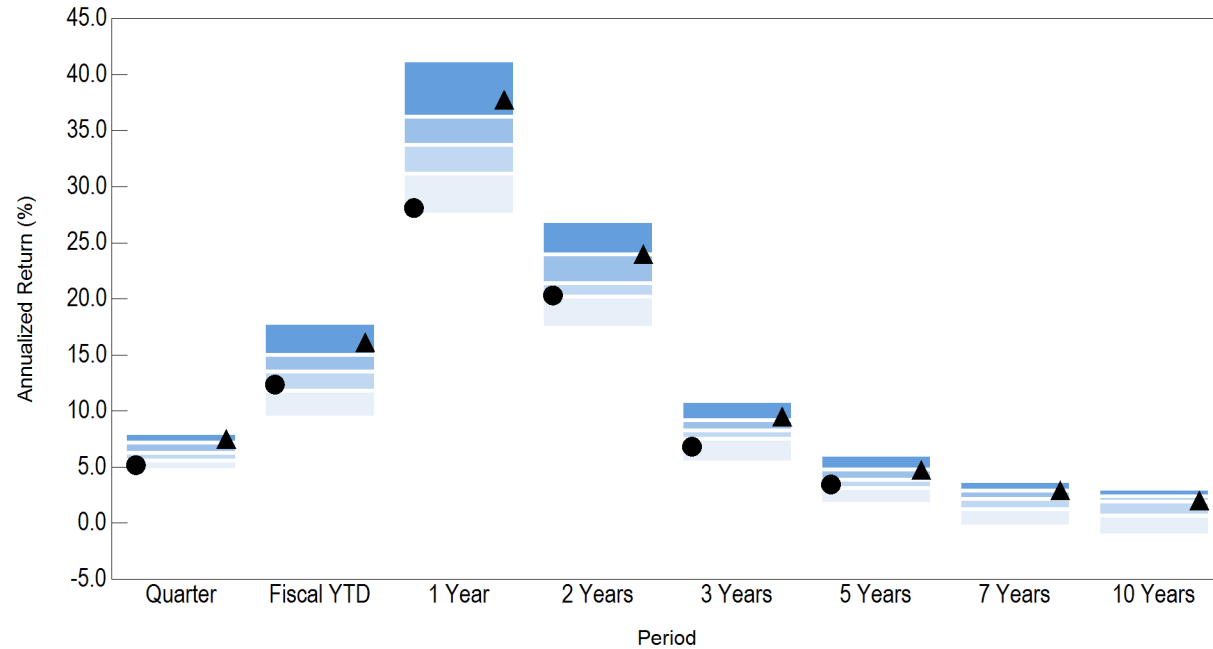
Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

	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	6.4%	3.1%	1.0%	4.7%	0.2%	0.0%	0.0%	-0.1%	0.0%
China*	8.9%	5.1%	1.8%	6.3%	0.2%	-0.1%	0.0%	-0.1%	0.0%
Hong Kong	1.3%	3.9%	4.1%	2.3%	-0.1%	0.0%	0.0%	0.0%	-0.1%
India*	7.5%	14.1%	3.1%	2.0%	-0.1%	0.1%	0.0%	-0.1%	-0.1%
Indonesia*	18.3%	13.4%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Japan	9.6%	7.8%	14.3%	16.0%	0.3%	-0.1%	0.0%	0.0%	0.2%
Korea*	7.7%	9.4%	3.0%	3.5%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Malaysia*	9.1%	5.7%	1.1%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
New Zealand	--	-2.5%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Pakistan*	--	-0.3%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Philippines*	-5.8%	5.4%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Singapore	9.3%	11.0%	4.4%	1.0%	0.0%	0.2%	0.1%	-0.1%	0.2%
Taiwan*	5.7%	3.5%	2.4%	2.7%	0.1%	0.0%	0.0%	0.0%	0.1%
Thailand*	8.7%	8.2%	0.6%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Americas									
Brazil*	-1.8%	0.1%	2.0%	1.8%	-0.1%	0.0%	0.0%	0.0%	0.0%
Canada	0.6%	5.8%	1.2%	6.6%	-0.3%	-0.1%	0.0%	0.3%	-0.2%
Chile*	--	9.7%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Colombia*	--	0.5%	0.0%	0.1%	--	0.0%	0.0%	--	0.0%
Mexico*	-9.2%	-5.9%	0.9%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Peru*	3.6%	5.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%

Mondrian Performance Attribution vs. MSCI ACWI ex USA Value Gross

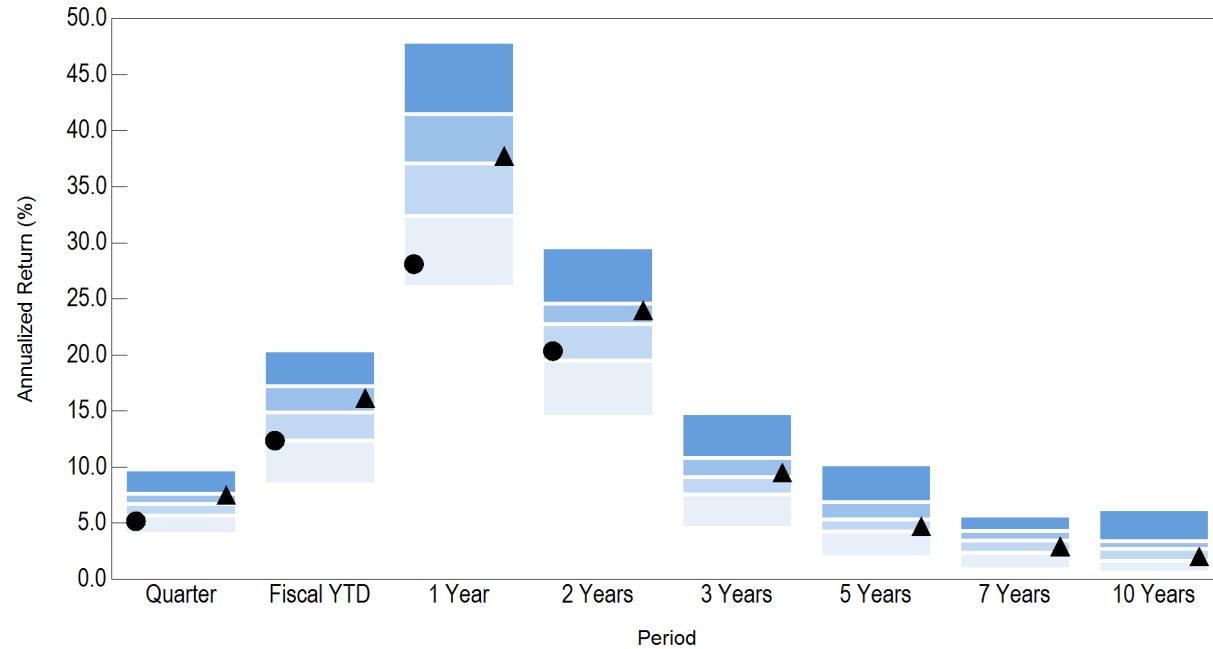
	Returns and Weights				Attribution Effects				Total Effects
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	
Other									
Egypt*	--	-6.0%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%
Israel	--	6.9%	0.0%	0.3%	--	0.0%	0.0%	--	0.0%
Kazakhstan**	31.3%	4.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	2.7%	3.4%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania**	7.3%	4.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	26.3%	16.6%	1.4%	1.5%	0.1%	0.0%	0.0%	0.0%	0.1%
Turkey*	1.0%	4.0%	0.8%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
United Arab Emirates*	0.0%	-7.2%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Totals									
Americas	-2.4%	3.7%	4.3%	9.7%	-0.5%	-0.1%	0.0%	0.3%	-0.3%
Europe	1.8%	1.9%	55.9%	47.3%	-0.1%	-0.2%	0.1%	0.0%	-0.2%
Asia/Pacific	7.9%	6.9%	36.5%	40.6%	0.3%	-0.1%	0.1%	0.0%	0.2%
Other	14.0%	11.1%	3.0%	2.4%	0.1%	0.0%	0.0%	0.0%	0.1%
Cash	0.3%	--	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	4.2%	4.3%	100.0%	100.0%	-0.2%	-0.4%	0.2%	0.3%	-0.2%
Totals									
Developed	3.5%	3.7%	79.9%	76.9%	-0.3%	0.0%	0.2%	0.0%	-0.1%
Emerging*	6.7%	6.5%	19.6%	23.1%	0.0%	0.0%	0.0%	0.0%	-0.1%
Frontier**	19.4%	--	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.3%	--	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

InvestorForce 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	8.0	17.8	41.2	26.9	10.9	6.1	3.8	3.0		
25th Percentile	7.2	15.0	36.3	24.0	9.2	4.8	2.9	2.4		
Median	6.3	13.5	33.8	21.4	8.3	3.9	2.2	1.9		
75th Percentile	5.6	11.8	31.2	20.2	7.5	3.2	1.3	0.7		
95th Percentile	4.8	9.5	27.5	17.5	5.4	1.7	-0.3	-1.1		
# of Portfolios	96	95	93	90	86	69	42	14		
● Emerging Markets	5.2 (84)	12.4 (69)	28.1 (90)	20.3 (72)	6.8 (86)	3.4 (68)	-- (--)	-- (--)	-- (--)	-- (--)
▲ MSCI Emerging Markets Gross	7.5 (15)	16.1 (16)	37.8 (17)	24.0 (26)	9.5 (18)	4.7 (27)	2.9 (27)	2.0 (47)		

eV Emg Mkts Equity Net Return Comparison



	Return (Rank)															
	Quarter		Fiscal YTD		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
5th Percentile	9.8	20.4	47.9	29.6	14.8	10.2	5.7	6.2								
25th Percentile	7.7	17.3	41.5	24.6	10.9	6.9	4.4	3.4								
Median	6.7	14.9	37.1	22.8	9.1	5.4	3.5	2.7								
75th Percentile	5.7	12.4	32.4	19.5	7.6	4.3	2.4	1.7								
95th Percentile	4.0	8.5	26.1	14.5	4.6	2.0	0.9	0.6								
# of Portfolios	187	187	184	180	170	139	93	63								
● Parametric Core	5.2 (84)	12.4 (77)	28.1 (90)	20.3 (70)	-- (--)	-- (--)	-- (--)	-- (--)								
▲ MSCI Emerging Markets Gross	7.5 (29)	16.1 (35)	37.8 (44)	24.0 (33)	9.5 (42)	4.7 (63)	2.9 (65)	2.0 (63)								

Characteristics

	Portfolio	MSCI Emerging Markets Gross
Number of Holdings	1,156	846
Weighted Avg. Market Cap. (\$B)	23.6	89.8
Median Market Cap. (\$B)	3.5	6.0
Price To Earnings	20.6	22.1
Price To Book	3.2	3.3
Price To Sales	2.7	2.7
Return on Equity (%)	16.6	18.1
Yield (%)	2.7	2.1
Beta (holdings; global)	0.9	1.0

Top Holdings

SBERBANK OF RUSSIA	1.0%
NASPERS	0.9%
AMERICA MOVIL SAB DE CV SPN.ADR 'L' 1:20	0.9%
SASOL	0.8%
CHINA MOBILE	0.7%
CREDICORP	0.6%
MTN GROUP	0.6%
SAMSUNG ELECTRONICS	0.6%
OAO GAZPROM SPN.ADR 1:2	0.5%
BHARTI AIRTEL	0.5%

Best Performers

	Return %
CHABIOTECH (KO:DTH)	105.7%
RELIANCE COMMUNICATIONS (IN:RCN)	92.7%
KUMBA IRON ORE (R:KIOJ)	87.6%
CELLTRION (KO:ORC)	69.9%
ASTRAL FOODS (R:ARLJ)	69.8%
TURK HAVA YOLLARI (TK:THY)	68.2%
SINO BIOPHM. (K:SBIO)	68.0%
ACER (TW:ASK)	62.4%
DLF (IN:DL)	61.5%
HARTELEGA HOLDINGS (L:HARA)	60.7%

Worst Performers

	Return %
STEINHOFF INTL.HOLDING (R:SNHJ)	-91.6%
DAEWOO SHIPBLDG.& MAR. ENGR. (KO:OSM)	-66.8%
SAPURA ENERGY (L:SAKE)	-51.3%
GENTERA (MX:CSV)	-47.3%
PAK ELEKTRON (PK:PET)	-40.3%
GRANA Y MONTERO (PE:GYM)	-38.8%
MAGNIT (RS:MGN)	-36.9%
LIPPO KARAWACI (ID:POK)	-33.2%
CONTROLADORA VUELA COMPANIA DE AVIACION (MX:VOA)	-32.3%
CPFL ENERGIA ON (BR:CPL)	-32.2%

Parametric Core Performance Attribution vs. MSCI Emerging Markets Gross

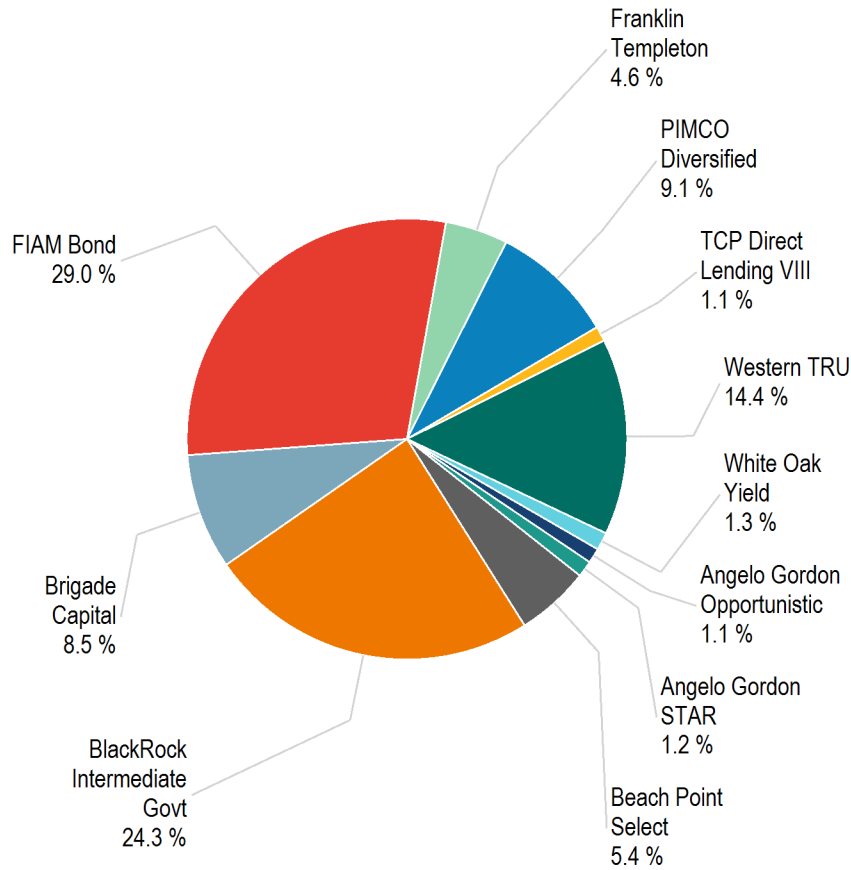
	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.0%	-0.1%	0.0%	0.0%	6.7%	7.8%	9.5%	6.8%			
Materials	0.2%	0.0%	0.1%	0.1%	8.5%	8.5%	12.4%	7.1%			
Industrials	0.0%	0.1%	-0.1%	0.1%	5.5%	4.6%	9.2%	5.4%			
Consumer Discretionary	-0.5%	-0.4%	0.0%	-0.2%	3.3%	8.8%	9.4%	10.3%			
Consumer Staples	-0.1%	-0.2%	0.1%	0.0%	5.4%	7.4%	10.0%	6.5%			
Health Care	0.3%	0.0%	0.3%	0.0%	15.6%	17.4%	5.6%	2.3%			
Financials	-0.5%	-0.3%	-0.1%	0.0%	6.4%	8.1%	14.9%	23.5%			
Information Technology	-0.5%	-0.7%	0.2%	0.0%	4.1%	7.1%	7.9%	27.6%			
Telecommunication Services	0.1%	0.1%	-0.1%	0.2%	5.8%	3.0%	8.8%	5.1%			
Utilities	-0.2%	0.0%	-0.2%	0.0%	0.3%	1.1%	6.7%	2.6%			
Real Estate	-0.3%	0.0%	-0.1%	-0.1%	-0.7%	2.8%	5.4%	2.9%			
Cash	0.0%	0.0%	0.0%	0.0%	0.3%	--	0.2%	0.0%			
Unclassified	0.0%	--	--	--	--	--	0.0%	0.0%			
Portfolio	-1.6%	=	-1.6%	+	0.0%	+	0.0%	5.7%	7.3%	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									
Czech Republic*	8.1%	7.8%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Greece*	10.3%	13.5%	1.6%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%
Hungary*	4.7%	7.1%	1.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Luxembourg	-4.7%	7.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Netherlands	-8.1%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland*	2.5%	6.0%	3.5%	1.3%	0.0%	-0.1%	0.1%	-0.1%	-0.1%
Russia*	-1.2%	4.6%	6.2%	3.4%	-0.2%	0.0%	0.0%	-0.2%	-0.4%
United Kingdom	5.5%	5.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AsiaPacific									
China*	4.9%	7.7%	5.9%	29.6%	-0.8%	-0.5%	0.0%	0.7%	-0.7%
Hong Kong	8.9%	6.6%	6.4%	0.0%	0.0%	0.1%	0.0%	0.1%	0.2%
India*	13.8%	11.8%	7.0%	8.4%	0.2%	-0.1%	-0.1%	0.0%	0.0%
Indonesia*	5.1%	8.0%	3.4%	2.3%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Korea*	14.9%	10.2%	7.7%	15.0%	0.7%	0.2%	-0.5%	-0.3%	0.0%
Malaysia*	7.9%	6.4%	3.5%	2.3%	0.0%	0.0%	0.1%	0.0%	0.1%
Pakistan*	-9.5%	-5.2%	1.7%	0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%
Philippines*	3.6%	6.5%	3.7%	1.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Singapore	3.9%	10.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Taiwan*	5.5%	4.2%	7.1%	11.5%	0.1%	0.1%	-0.1%	-0.1%	0.2%
Thailand*	7.2%	9.4%	3.4%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Americas									
Brazil*	-2.3%	-2.1%	6.9%	7.4%	-0.1%	0.0%	0.1%	0.0%	0.0%
Chile*	8.9%	7.3%	3.5%	1.3%	0.0%	-0.1%	0.1%	0.0%	0.1%
Colombia*	5.0%	0.8%	1.8%	0.4%	0.0%	0.0%	0.0%	0.1%	0.0%
Mexico*	-10.1%	-7.9%	7.0%	3.5%	-0.2%	-0.2%	-0.1%	-0.2%	-0.6%
Peru*	6.7%	7.3%	1.5%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
United States	6.3%	6.4%	1.3%	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*	15.0%	-2.4%	0.9%	0.1%	0.0%	-0.1%	0.0%	0.1%	0.1%
Kuwait**	-4.8%	-7.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Qatar*	2.5%	4.1%	1.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
South Africa*	21.5%	21.4%	6.6%	6.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Turkey*	5.0%	4.4%	3.5%	1.1%	0.0%	0.1%	-0.2%	0.0%	0.0%
United Arab Emirates*	-5.4%	-4.9%	1.4%	0.7%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Totals									
Americas	-1.2%	-2.4%	22.2%	13.0%	-0.1%	-0.3%	0.1%	-0.1%	-0.5%
Europe	2.2%	5.7%	13.5%	5.6%	-0.2%	-0.1%	0.2%	-0.3%	-0.5%
Asia/Pacific	8.1%	8.1%	50.0%	72.5%	0.1%	-0.1%	-0.6%	0.0%	-0.6%
Other	11.7%	15.6%	14.2%	8.9%	0.0%	0.2%	-0.2%	0.0%	0.0%
Cash	0.3%	--	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	5.7%	7.3%	100.0%	100.0%	-0.3%	-0.3%	-0.5%	-0.5%	-1.6%
Totals									
Developed	8.0%	--	8.4%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%
Emerging*	5.6%	7.3%	91.1%	100.0%	-1.3%	0.0%	-0.5%	0.1%	-1.7%
Frontier**	-4.8%	--	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.3%	--	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



	Actual \$	Actual %	Manager Contribution to Excess Return %
Angelo Gordon Opportunistic	\$9,527,000	1.1%	0.1%
Angelo Gordon STAR	\$10,398,000	1.2%	0.0%
Beach Point Select	\$48,418,723	5.4%	0.1%
BlackRock Intermediate Govt	\$216,019,223	24.3%	0.0%
Brigade Capital	\$75,355,031	8.5%	0.0%
FIAM Bond	\$258,488,671	29.0%	0.0%
Franklin Templeton	\$41,038,670	4.6%	-0.2%
PIMCO Diversified	\$80,884,948	9.1%	0.0%
TCP Direct Lending VIII	\$9,523,775	1.1%	0.0%
Western Asset TRU	\$128,289,306	14.4%	0.1%
White Oak Yield	\$11,947,413	1.3%	0.0%
Actual vs. Policy Weight Difference			-0.1%
Total	\$889,890,759	100.0%	0.2%

Statistics Summary

3 Years

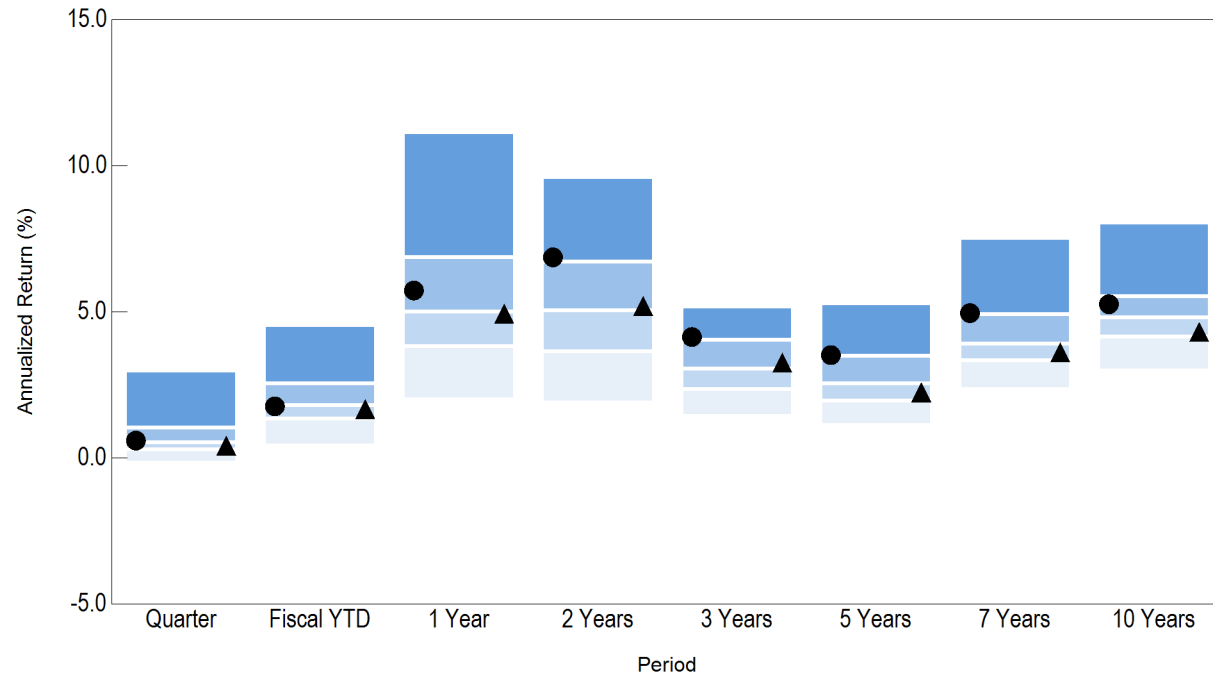
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	4.1%	2.8%	1.3	0.4	2.1%
Blended Fixed Income Index	3.3%	2.8%	1.0	--	0.0%
FIAM Bond	2.9%	3.0%	0.8	0.7	0.9%
BBgBarc US Aggregate TR	2.2%	2.8%	0.6	--	0.0%
Angelo Gordon Opportunistic	9.1%	7.7%	1.1	0.8	8.3%
BBgBarc US Aggregate TR	2.2%	2.8%	0.6	--	0.0%
Angelo Gordon STAR	9.9%	5.9%	1.6	1.1	6.8%
BBgBarc US Aggregate TR	2.2%	2.8%	0.6	--	0.0%
Brigade Capital	5.8%	7.2%	0.7	0.0	4.3%
BBgBarc BA Intermediate HY	5.7%	4.3%	1.2	--	0.0%
Franklin Templeton	2.5%	6.4%	0.3	0.0	8.3%
BBgBarc Multiverse TR	2.3%	4.8%	0.4	--	0.0%

Statistics Summary

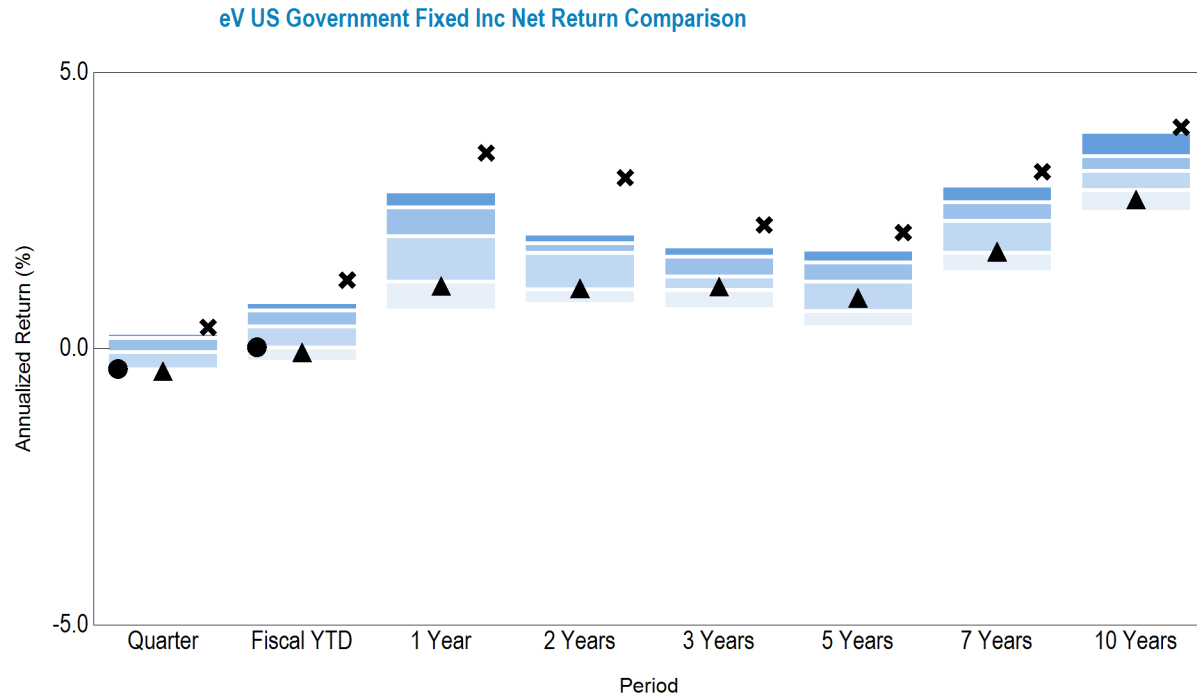
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Fixed Income	3.5%	3.1%	1.1	0.7	1.9%
Blended Fixed Income Index	2.2%	3.2%	0.6	--	0.0%
FIAM Bond	2.7%	3.0%	0.8	0.8	0.7%
BBgBarc US Aggregate TR	2.1%	2.8%	0.6	--	0.0%
Angelo Gordon STAR	12.5%	6.5%	1.9	1.4	7.7%
BBgBarc US Aggregate TR	2.1%	2.8%	0.6	--	0.0%
Brigade Capital	4.8%	6.2%	0.7	0.2	4.2%
BBgBarc BA Intermediate HY	3.8%	4.7%	0.8	--	0.0%
Franklin Templeton	2.3%	6.2%	0.3	0.2	7.1%
BBgBarc Multiverse TR	1.0%	4.6%	0.2	--	0.0%

InvestorForce All DB Total Fix Inc Net Return Comparison



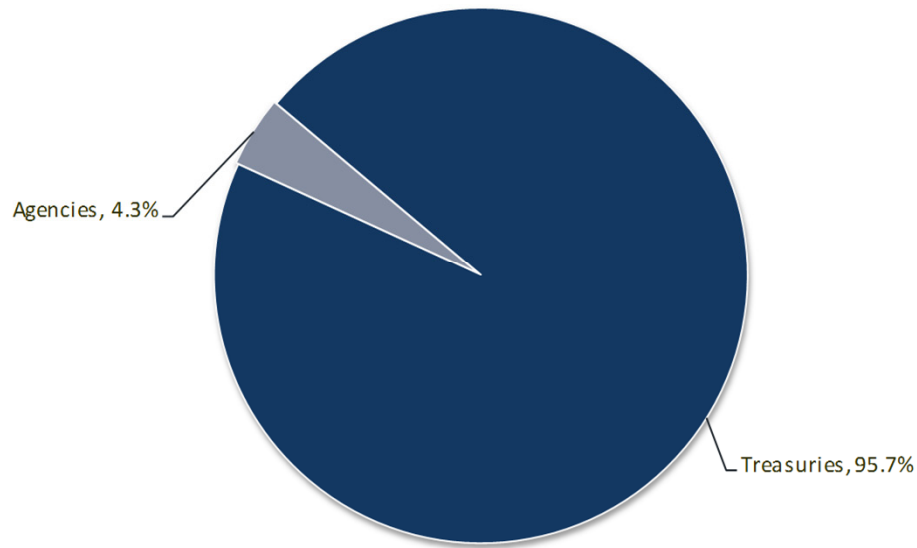
	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	3.0	4.5	11.1	9.6	5.2	5.3	7.5	8.0
25th Percentile	1.0	2.6	6.9	6.7	4.0	3.5	4.9	5.5
Median	0.5	1.8	5.0	5.1	3.1	2.6	3.9	4.8
75th Percentile	0.3	1.3	3.8	3.7	2.4	2.0	3.3	4.2
95th Percentile	-0.2	0.4	2.0	1.9	1.4	1.1	2.4	3.0
# of Portfolios	310	308	305	297	288	263	230	187
● Fixed Income	0.6 (46)	1.8 (52)	5.7 (41)	6.9 (23)	4.1 (23)	3.5 (25)	5.0 (25)	5.3 (36)
▲ Blended Fixed Income Index	0.4 (67)	1.7 (55)	4.9 (53)	5.2 (46)	3.3 (45)	2.2 (64)	3.6 (62)	4.3 (69)



	Return (Rank)															
5th Percentile	0.3	0.8	2.8	2.1	1.8	1.8	2.9	3.9								
25th Percentile	0.2	0.7	2.6	1.9	1.7	1.6	2.7	3.5								
Median	-0.1	0.4	2.0	1.7	1.3	1.2	2.3	3.2								
75th Percentile	-0.4	0.0	1.2	1.1	1.1	0.7	1.7	2.9								
95th Percentile	-0.4	-0.2	0.7	0.8	0.7	0.4	1.4	2.5								
# of Portfolios	11	11	11	11	11	11	11	10								
● BlackRock Intermediate Govt	-0.4 (75)	0.0 (75)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)								
▲ BBgBarc US Govt Int TR	-0.4 (93)	-0.1 (83)	1.1 (78)	1.1 (75)	1.1 (73)	0.9 (67)	1.8 (70)	2.7 (88)								
✕ BBgBarc US Aggregate TR	0.4 (1)	1.2 (1)	3.5 (1)	3.1 (1)	2.2 (1)	2.1 (1)	3.2 (1)	4.0 (3)								

BlackRock Intermediate Govt Market Duration Pool
 Bond Sector Allocation

Period Ending: December 31, 2017



Sector	Account Weight	BBgBarc Intermediate	
		Govt Weight	Difference
Treasuries	95.7%	95.4%	0.3%
Agencies	4.3%	4.6%	-0.3%
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	0.0%	0.0%	0.0%
TOTAL	100.0%	100.0%	0.0%

BlackRock Intermediate Govt Market Duration Pool
 Bond Summary Statistics

Period Ending: December 31, 2017

Portfolio Characteristics		Portfolio
Total Number of Securities		245
Total Market Value	\$	216,019,223
Current Coupon		2.13
Yield to Maturity		2.09
Average Life		4.07
Duration		3.80
Quality		AA+

BBgBarc Intermediate Govt	
Current Coupon	1.90
Yield to Maturity	2.09
Average Life	4.09
Duration	3.82
Quality	AA+

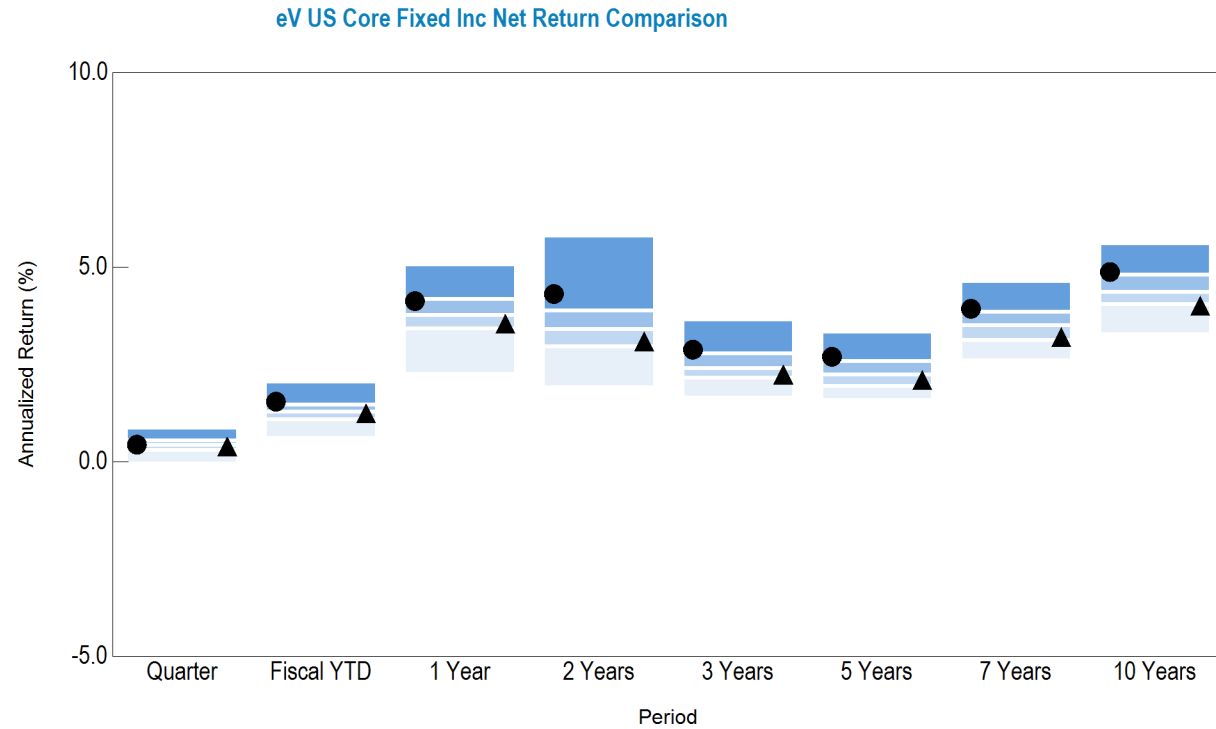
Yield to Maturity	
Range	% Held
0.0 - 5.0	100.0
5.0 - 7.0	0.0
7.0 - 9.0	0.0
9.0 - 11.0	0.0
11.0 - 13.0	0.0
13.0+	0.0
Unclassified	0.0

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	0.3
2.0 - 4.0	1.2
4.0 - 6.0	0.9
6.0 - 8.0	1.0
8.0+	0.3
Unclassified	96.2

Quality	
Range	% Held
Govt (10)	0.0
Aaa (10)	99.0
Aa (9)	1.0
A (8)	0.0
Baa (7)	0.0
Below Baa (6-1)	0.0
Other	0.0

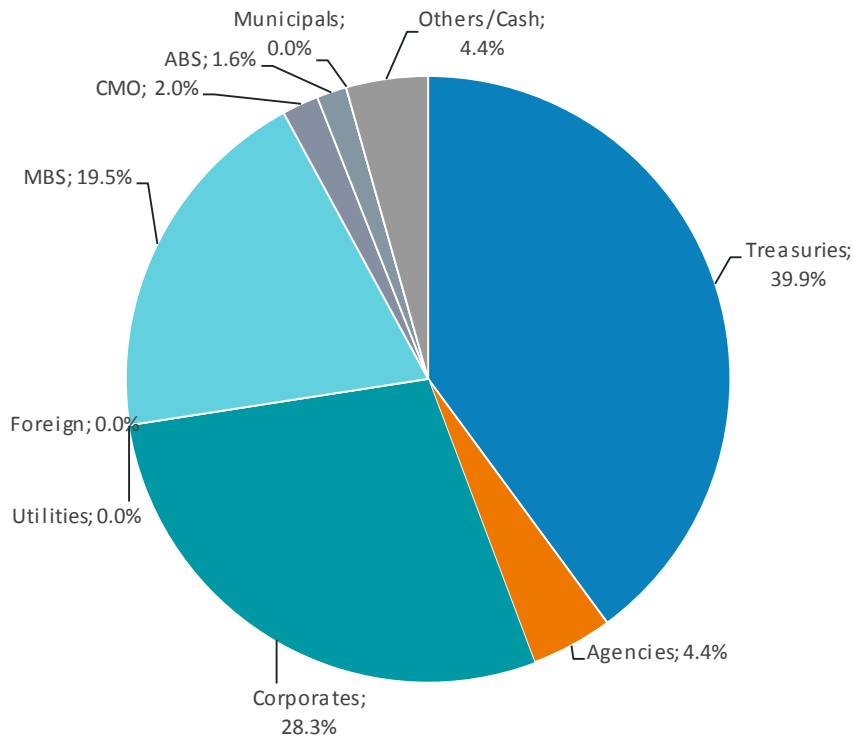
Coupon	
Range	% Held
0.0 - 5.0	100.0
5.0 - 7.0	0.0
7.0 - 9.0	0.0
9.0 - 10.0	0.0
10.0+	0.0
Unclassified	0.0



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	0.9	2.0	5.1	5.8	3.6	3.3	4.6	5.6
25th Percentile	0.6	1.5	4.2	3.9	2.8	2.6	3.9	4.8
Median	0.4	1.3	3.8	3.4	2.4	2.3	3.5	4.4
75th Percentile	0.3	1.1	3.4	3.0	2.2	2.0	3.1	4.1
95th Percentile	0.0	0.6	2.3	1.9	1.7	1.6	2.6	3.3
# of Portfolios	143	143	141	138	138	136	128	111
● FIAM Bond	0.4 (51)	1.5 (20)	4.1 (30)	4.3 (11)	2.9 (18)	2.7 (20)	3.9 (21)	4.9 (20)
▲ BBgBarc US Aggregate TR	0.4 (66)	1.2 (60)	3.5 (66)	3.1 (68)	2.2 (69)	2.1 (62)	3.2 (72)	4.0 (77)

FIAM Bond Market Duration Pool
Bond Sector Allocation

Period Ending: December 31, 2017



Sector	BBgBarc Aggregate		
	Account Weight	Weight	Difference
Treasuries	39.9%	36.9%	3.0%
Agencies	4.4%	6.9%	-2.6%
Corporates	28.3%	25.7%	2.6%
Utilities	0.0%	0.0%	0.0%
Foreign	0.0%	0.0%	0.0%
MBS	19.5%	28.1%	-8.6%
CMO	2.0%	0.0%	2.0%
ABS	1.6%	2.3%	-0.7%
Municipals	0.0%	0.0%	0.0%
Others/Cash	4.4%	0.0%	4.4%
TOTAL	100.0%	100.0%	0.0%

FIAM Bond Market Duration Pool
Bond Summary Statistics

Period Ending: December 31, 2017

Portfolio Characteristics		Portfolio
Total Number of Securities		851
Total Market Value	\$	258,488,671
Current Coupon		3.03
Yield to Maturity		2.72
Average Life		8.12
Duration		5.79
Quality		AA

BBgBarc Aggregate
3.15
2.70
8.09
5.88
AA

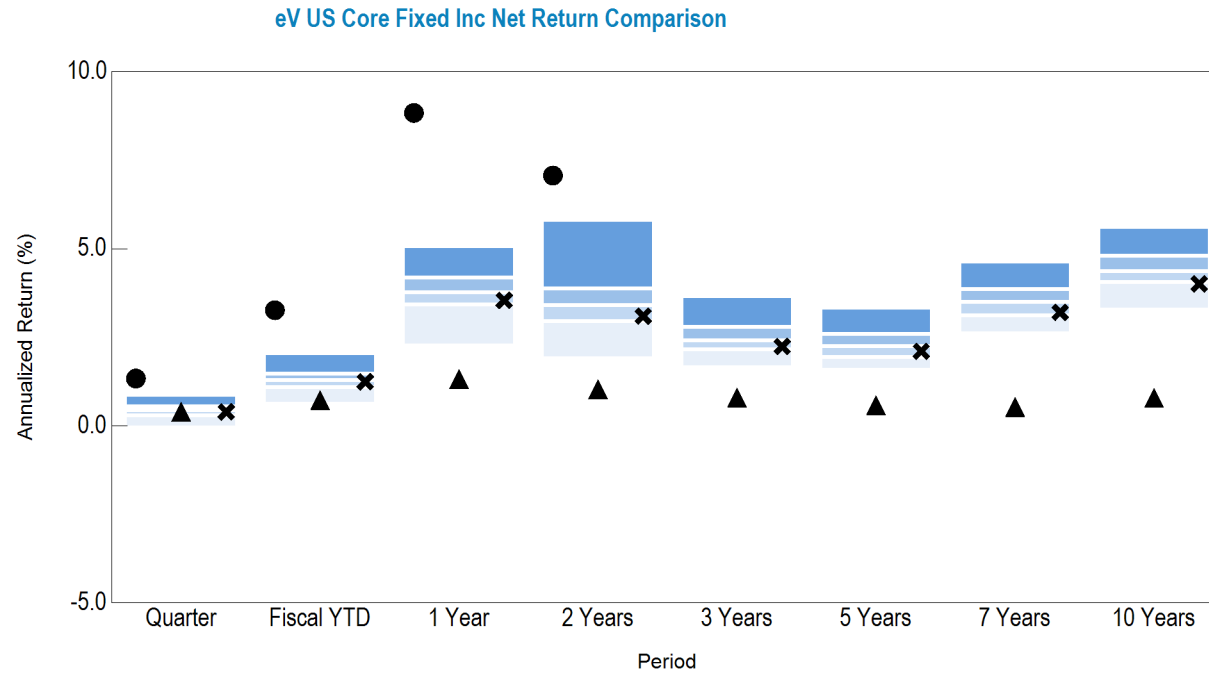
Yield to Maturity	
Range	% Held
0.0 - 5.0	94.5
5.0 - 7.0	3.0
7.0 - 9.0	0.1
9.0 - 11.0	0.0
11.0 - 13.0	0.1
13.0+	2.4
Unclassified	0.0

Average Life	
Range	% Held
0.0 - 1.0	0.8
1.0 - 3.0	7.5
3.0 - 5.0	30.7
5.0 - 10.0	41.2
10.0 - 20.0	3.6
20.0+	16.2
Unclassified	0.0

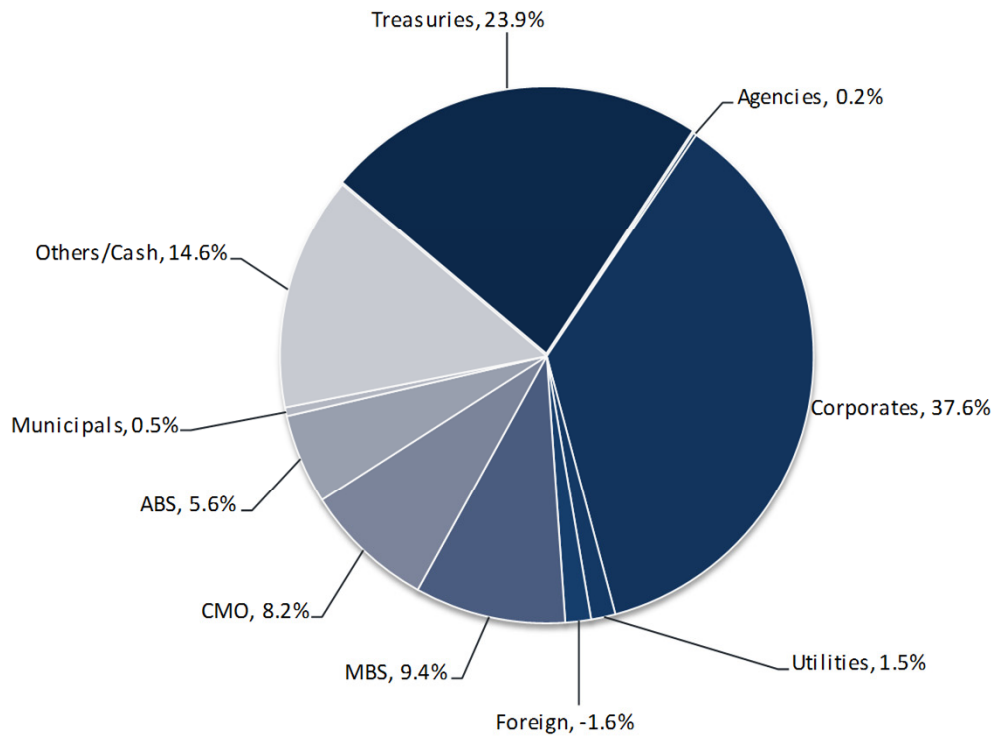
Duration	
Range	% Held
0.0 - 1.0	1.6
1.0 - 3.0	9.0
3.0 - 5.0	45.2
5.0 - 7.0	20.9
7.0 - 10.0	5.0
10.0+	18.3
Unclassified	0.0

Quality	
Range	% Held
Govt (10)	62.7
Aaa (10)	0.4
Aa (9)	1.0
A (8)	12.7
Baa (7)	18.2
Below Baa (6-1)	1.6
Other	3.5

Coupon	
Range	% Held
0.0 - 5.0	83.3
5.0 - 7.0	9.4
7.0 - 9.0	1.8
9.0 - 11.0	0.0
11.0 - 13.0	0.0
13.0+	5.5
Unclassified	0.0



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	0.9	2.0	5.1	5.8	3.6	3.3	4.6	5.6
25th Percentile	0.6	1.5	4.2	3.9	2.8	2.6	3.9	4.8
Median	0.4	1.3	3.8	3.4	2.4	2.3	3.5	4.4
75th Percentile	0.3	1.1	3.4	3.0	2.2	2.0	3.1	4.1
95th Percentile	0.0	0.6	2.3	1.9	1.7	1.6	2.6	3.3
# of Portfolios	143	143	141	138	138	136	128	111
● Western TRU	1.3 (1)	3.3 (1)	8.8 (1)	7.1 (1)	-- (--)	-- (--)	-- (--)	-- (--)
▲ 3-Month Libor Total Return USD	0.4 (66)	0.7 (92)	1.3 (99)	1.0 (99)	0.8 (99)	0.6 (99)	0.5 (99)	0.8 (99)
✕ BBgBarc US Aggregate TR	0.4 (66)	1.2 (60)	3.5 (66)	3.1 (68)	2.2 (69)	2.1 (62)	3.2 (72)	4.0 (77)



Sector	Account Weight	BBgBarc Aggregate	
		Weight	Difference
Treasuries	23.9%	36.9%	-13.0%
Agencies	0.2%	6.9%	-6.7%
Corporates	37.6%	25.7%	11.9%
Utilities	1.5%	0.0%	1.5%
Foreign	-1.6%	0.0%	-1.6%
MBS	9.4%	28.1%	-18.6%
CMO	8.2%	0.0%	8.2%
ABS	5.6%	2.3%	3.3%
Municipals	0.5%	0.0%	0.5%
Others/Cash	14.6%	0.0%	14.6%
TOTAL	100.0%	100.0%	0.1%

Portfolio Characteristics		Portfolio	BBgBarc Aggregate
Total Number of Securities		5,194	
Total Market Value	\$	128,289,306	
Current Coupon		4.86	3.15
Yield to Maturity		5.24	2.70
Average Life		10.37	8.09
Duration		2.95	5.88
Quality		A-	AA

Yield to Maturity	
Range	% Held
0.0 - 5.0	62.3
5.0 - 7.0	26.0
7.0 - 9.0	12.5
9.0 - 11.0	1.7
11.0 - 13.0	0.3
13.0+	1.8
Unclassified	-4.6

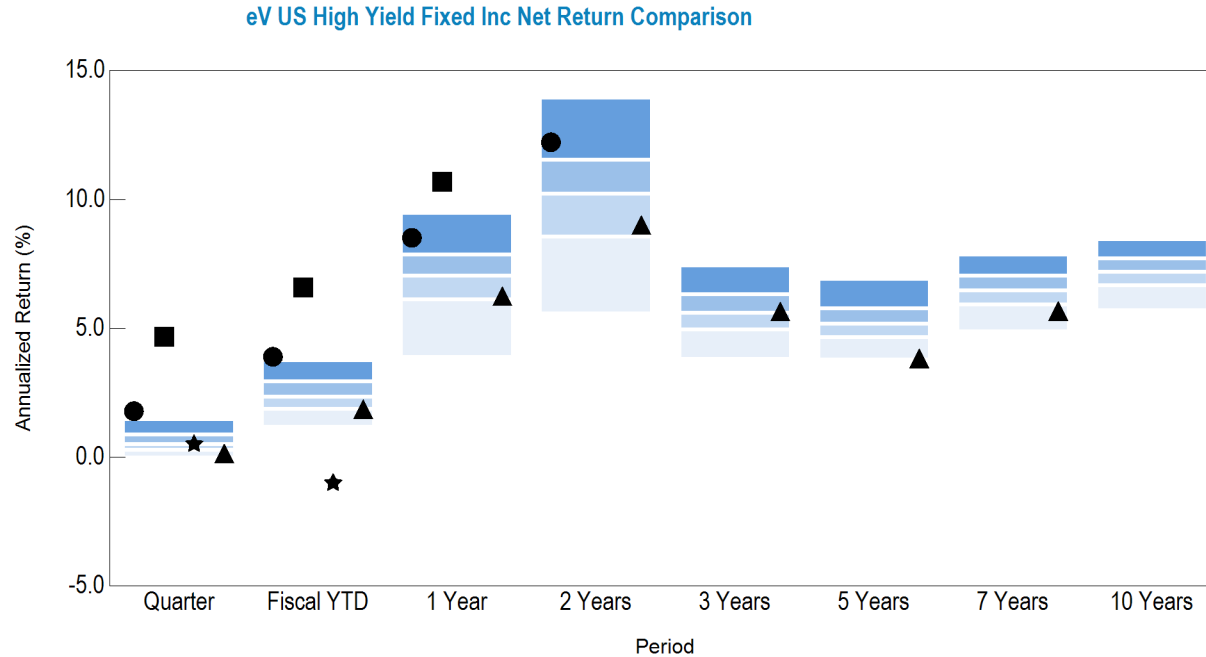
Average Life	
Range	% Held
0.0 - 1.0	10.8
1.0 - 3.0	15.0
3.0 - 5.0	17.7
5.0 - 10.0	16.7
10.0 - 20.0	22.9
20.0+	16.8
Unclassified	0.2

Duration	
Range	% Held
< 1.0	29.6
1.0 - 3.0	10.4
3.0 - 5.0	14.5
5.0 - 7.0	22.0
7.0 - 10.0	10.8
10.0+	12.5
Unclassified	0.2

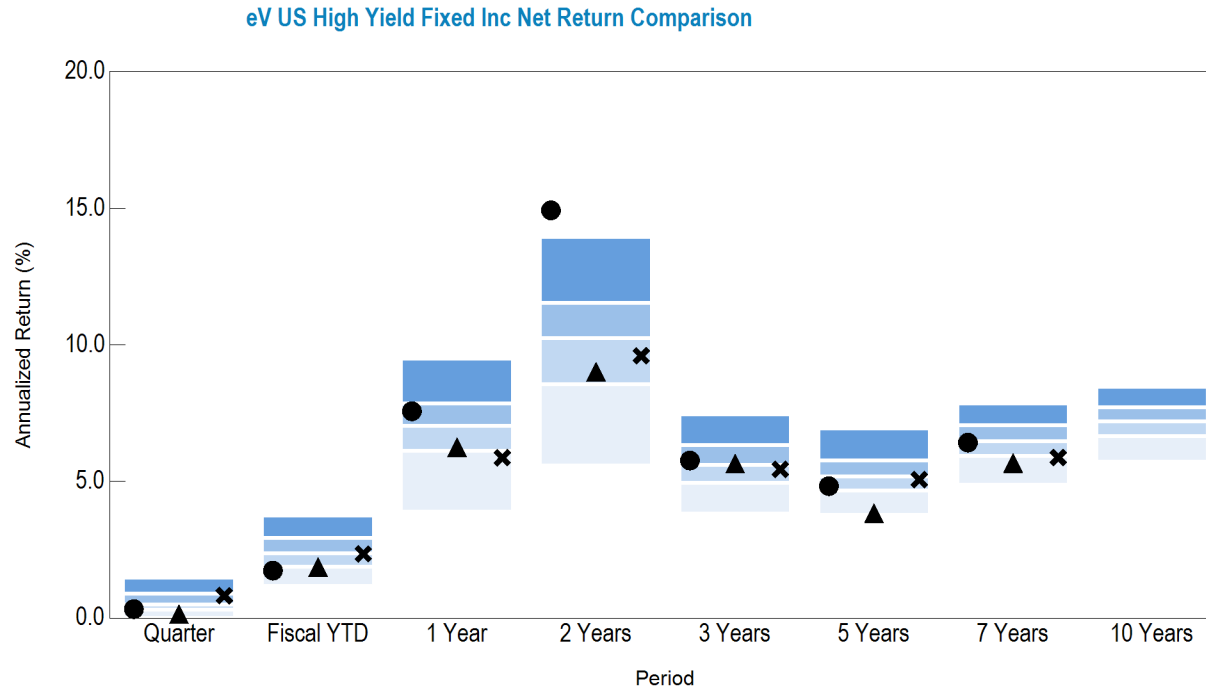
Quality	
Range	% Held
Govt* (10)	2.9
Aaa (10)	14.7
Aa (9)	4.4
A (8)	19.9
Baa (7)	30.2
Below Baa (6-1)	27.8
Other	0.0

Coupon	
Range	% Held
0.0 - 5.0	58.5
5.0 - 7.0	23.8
7.0 - 9.0	11.5
9.0 - 10.0	1.5
10.0+	4.3
Unclassified	0.4

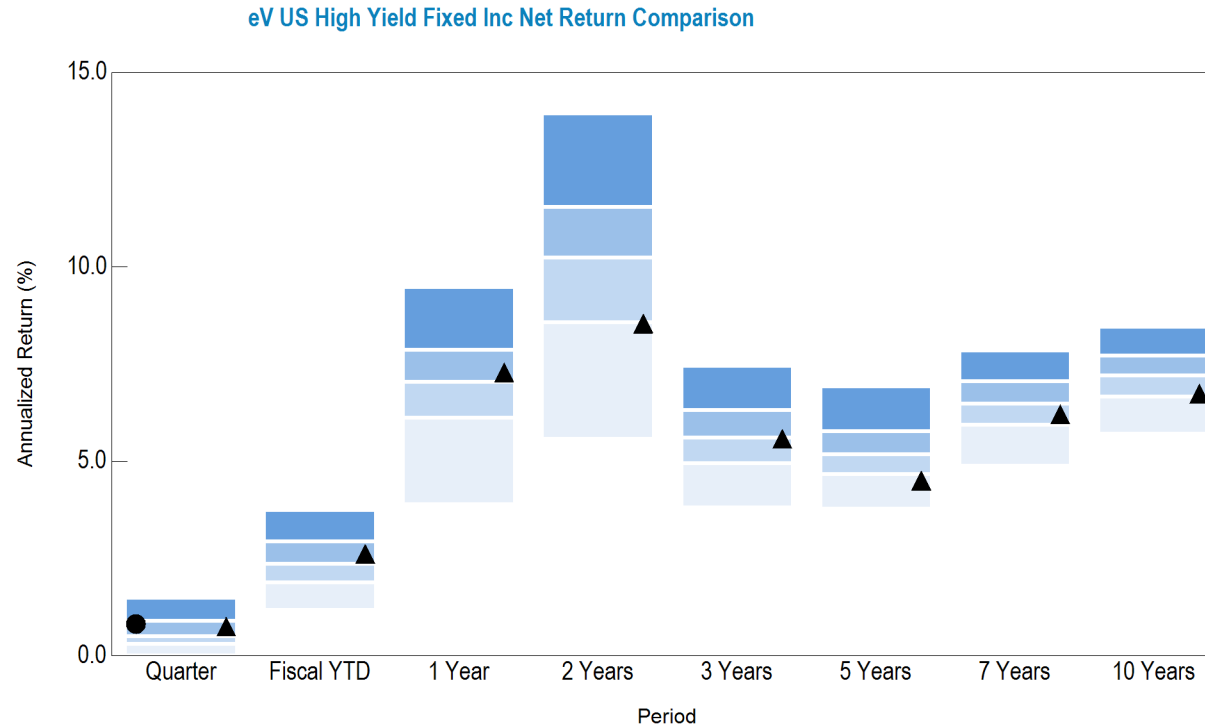
*Govt is specifically U.S Govt securities



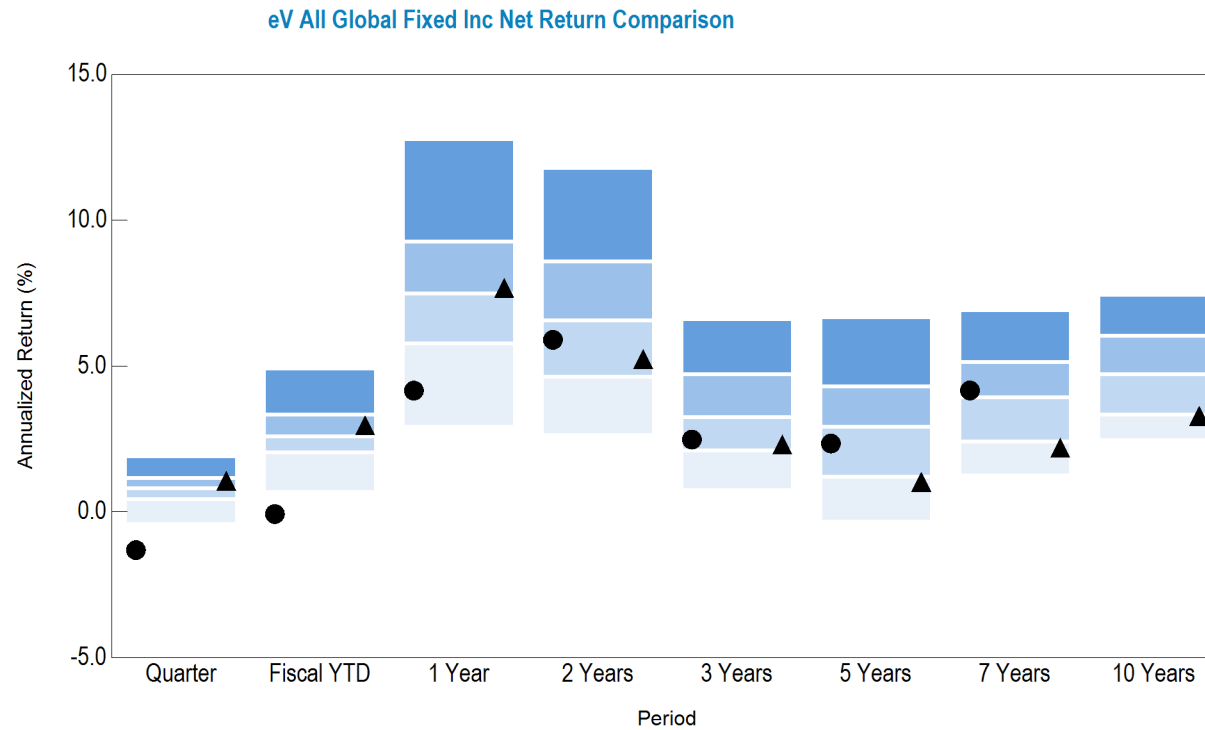
	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	1.5	3.7	9.5	13.9	7.4	6.9	7.8	8.4
25th Percentile	0.9	3.0	7.9	11.5	6.3	5.8	7.1	7.7
Median	0.5	2.4	7.1	10.2	5.6	5.2	6.5	7.2
75th Percentile	0.3	1.9	6.1	8.6	5.0	4.7	5.9	6.7
95th Percentile	0.0	1.2	3.9	5.6	3.8	3.8	4.9	5.7
# of Portfolios	130	129	129	124	116	100	85	64
● Beach Point Select	1.8 (2)	3.9 (4)	8.5 (12)	12.2 (14)	-- (--)	-- (--)	-- (--)	-- (--)
■ TCP Direct Lending VIII	4.7 (1)	6.6 (1)	10.7 (2)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
★ White Oak Yield	0.5 (51)	-1.0 (99)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
▲ BBgBarc BA Intermediate HY	0.1 (85)	1.9 (78)	6.3 (72)	9.0 (73)	5.7 (49)	3.8 (95)	5.7 (84)	-- (--)



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	1.5	3.7	9.5	13.9	7.4	6.9	7.8	8.4
25th Percentile	0.9	3.0	7.9	11.5	6.3	5.8	7.1	7.7
Median	0.5	2.4	7.1	10.2	5.6	5.2	6.5	7.2
75th Percentile	0.3	1.9	6.1	8.6	5.0	4.7	5.9	6.7
95th Percentile	0.0	1.2	3.9	5.6	3.8	3.8	4.9	5.7
# of Portfolios	130	129	129	124	116	100	85	64
● Brigade Capital	0.3 (71)	1.7 (82)	7.6 (36)	14.9 (1)	5.8 (47)	4.8 (70)	6.4 (55)	-- (--)
▲ BBgBarc BA Intermediate HY	0.1 (85)	1.9 (78)	6.3 (72)	9.0 (73)	5.7 (49)	3.8 (95)	5.7 (84)	-- (--)
✕ 50% Barclays HY/ 50% Bank Loan	0.8 (31)	2.3 (53)	5.9 (78)	9.6 (64)	5.4 (58)	5.1 (63)	5.9 (77)	-- (--)



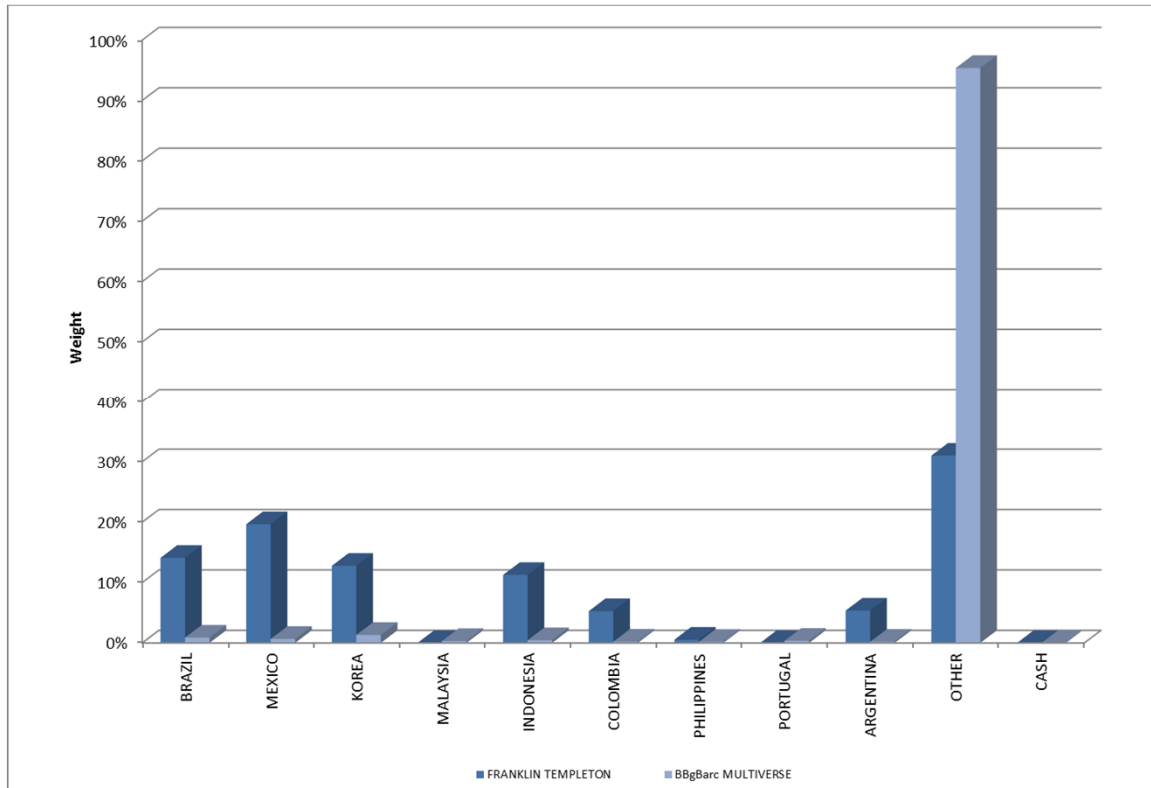
	Return (Rank)															
	Quarter		Fiscal YTD		1 Year		2 Years		3 Years		5 Years		7 Years		10 Years	
5th Percentile	1.5	3.7	9.5	13.9	7.4	6.9	7.8	8.4								
25th Percentile	0.9	3.0	7.9	11.5	6.3	5.8	7.1	7.7								
Median	0.5	2.4	7.1	10.2	5.6	5.2	6.5	7.2								
75th Percentile	0.3	1.9	6.1	8.6	5.0	4.7	5.9	6.7								
95th Percentile	0.0	1.2	3.9	5.6	3.8	3.8	4.9	5.7								
# of Portfolios	130	129	129	124	116	100	85	64								
● PIMCO Diversified	0.8	(31)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)	--	(--)
▲ Blended PIMCO Diversified Index	0.8	(33)	2.6	(38)	7.3	(45)	8.5	(76)	5.6	(52)	4.5	(80)	6.2	(63)	6.7	(72)



	Return (Rank)							
5th Percentile	1.9	4.9	12.8	11.8	6.6	6.7	6.9	7.4
25th Percentile	1.2	3.3	9.3	8.6	4.7	4.3	5.2	6.1
Median	0.8	2.6	7.5	6.6	3.3	2.9	3.9	4.7
75th Percentile	0.4	2.0	5.8	4.6	2.1	1.2	2.4	3.3
95th Percentile	-0.4	0.7	2.9	2.7	0.8	-0.3	1.3	2.5
# of Portfolios	217	216	214	210	198	172	139	94
● Franklin Templeton	-1.3 (99)	-0.1 (99)	4.2 (89)	5.9 (61)	2.5 (69)	2.3 (58)	4.2 (45)	-- (--)
▲ BBGBarc Multiverse TR	1.1 (31)	3.0 (36)	7.7 (46)	5.2 (69)	2.3 (73)	1.0 (79)	2.2 (77)	3.3 (77)

Franklin Templeton
Portfolio Country Weights

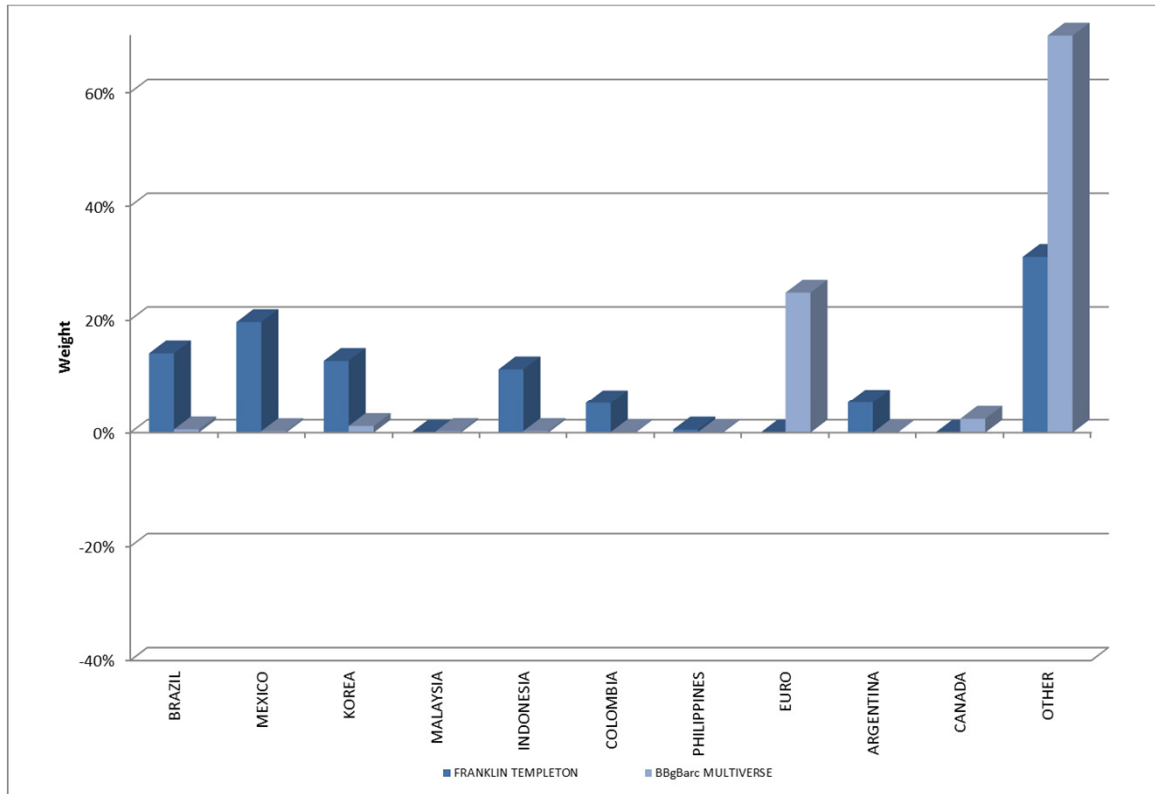
Period Ending: December 31, 2017



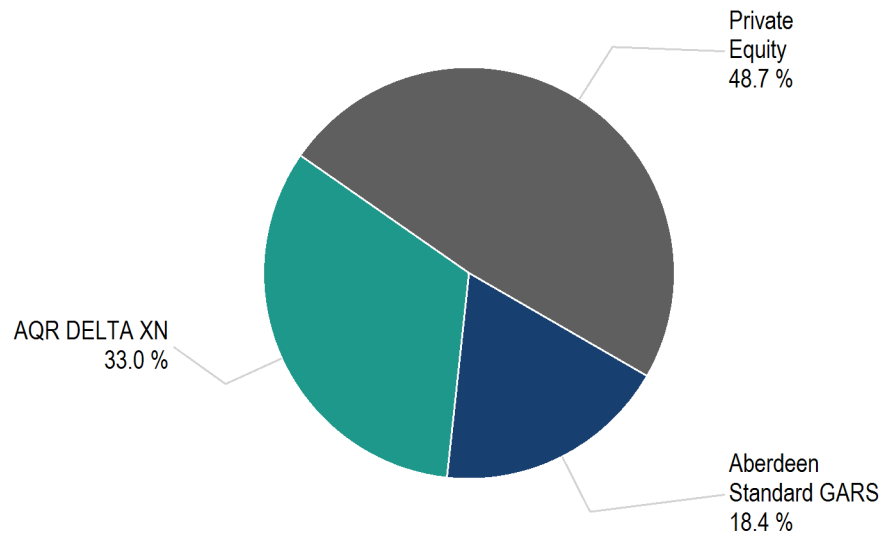
COUNTRY	MARKET VALUE	FRANKLIN TEMPLETON	BBgBarc MULTIVERSE	DIFF
BRAZIL	\$ 5,785	14.1%	0.9%	+13.2%
MEXICO	\$ 8,067	19.7%	0.7%	+19.0%
KOREA	\$ 5,241	12.8%	1.3%	+11.4%
MALAYSIA	\$ -	0.0%	0.3%	-0.3%
INDONESIA	\$ 4,623	11.3%	0.5%	+10.8%
COLOMBIA	\$ 2,164	5.3%	0.2%	+5.1%
PHILIPPINES	\$ 223	0.5%	0.2%	+0.4%
PORTUGAL	\$ -	0.0%	0.4%	-0.4%
ARGENTINA	\$ 2,203	5.4%	0.2%	+5.2%
OTHER	\$ 12,732	31.0%	95.4%	-64.4%
CASH	\$ -	0.0%	0.0%	0.0%
	\$ 41,039	100.0%	100.0%	0.0%

Franklin Templeton
Portfolio Currency Exposures

Period Ending: December 31, 2017



CURRENCY	MARKET VALUE	FRANKLIN TEMPLETON	BBgBarc MULTIVERSE	DIFF
BRAZIL	\$ 5,785	14.1%	0.6%	+13.5%
MEXICO	\$ 8,046	19.6%	0.3%	+19.3%
KOREA	\$ 5,241	12.8%	1.2%	+11.6%
MALAYSIA	\$ -	0.0%	0.3%	-0.3%
INDONESIA	\$ 4,623	11.3%	0.3%	+11.0%
COLOMBIA	\$ 2,164	5.3%	0.1%	+5.2%
PHILIPPINES	\$ 223	0.5%	0.1%	+0.4%
EURO	\$ 4	0.0%	24.8%	-24.8%
ARGENTINA	\$ 2,203	5.4%	0.0%	+5.4%
CANADA	\$ -	0.0%	2.4%	-2.4%
OTHER	\$ 12,749	31.1%	70.0%	-39.0%
	\$ 41,039	100.0%	100.0%	0.0%



	Actual \$	Actual %	Manager Contribution to Excess Return %
Aberdeen Standard GARS	\$92,124,752	18.4%	0.1%
AQR DELTA XN	\$165,396,333	33.0%	0.0%
Private Equity	\$244,037,279	48.7%	-2.9%
Actual vs. Policy Weight Difference			0.1%
Total	\$501,558,364	100.0%	-2.8%

Statistics Summary

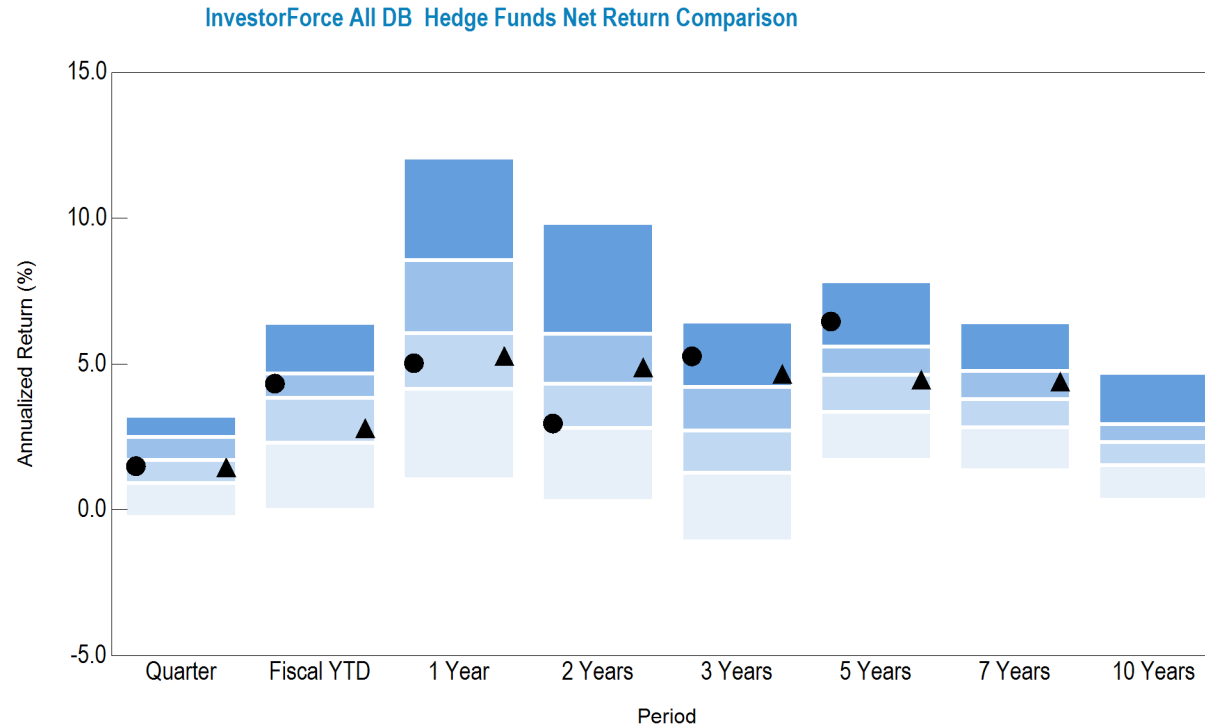
3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	8.3%	5.2%	1.5	0.1	6.9%
Alternatives Allocation Index	7.4%	5.6%	1.3	--	0.0%
Private Equity	16.3%	9.6%	1.6	0.2	13.8%
Russell 3000 +3%	14.1%	10.0%	1.4	--	0.0%
Hedge Fund/Absolute Return	5.3%	4.5%	1.1	0.1	4.5%
Libor 1 month +4%	4.7%	0.2%	23.0	--	0.0%
AQR DELTA XN	5.8%	5.0%	1.1	0.2	5.0%
Libor 1 month +4%	4.7%	0.2%	23.0	--	0.0%

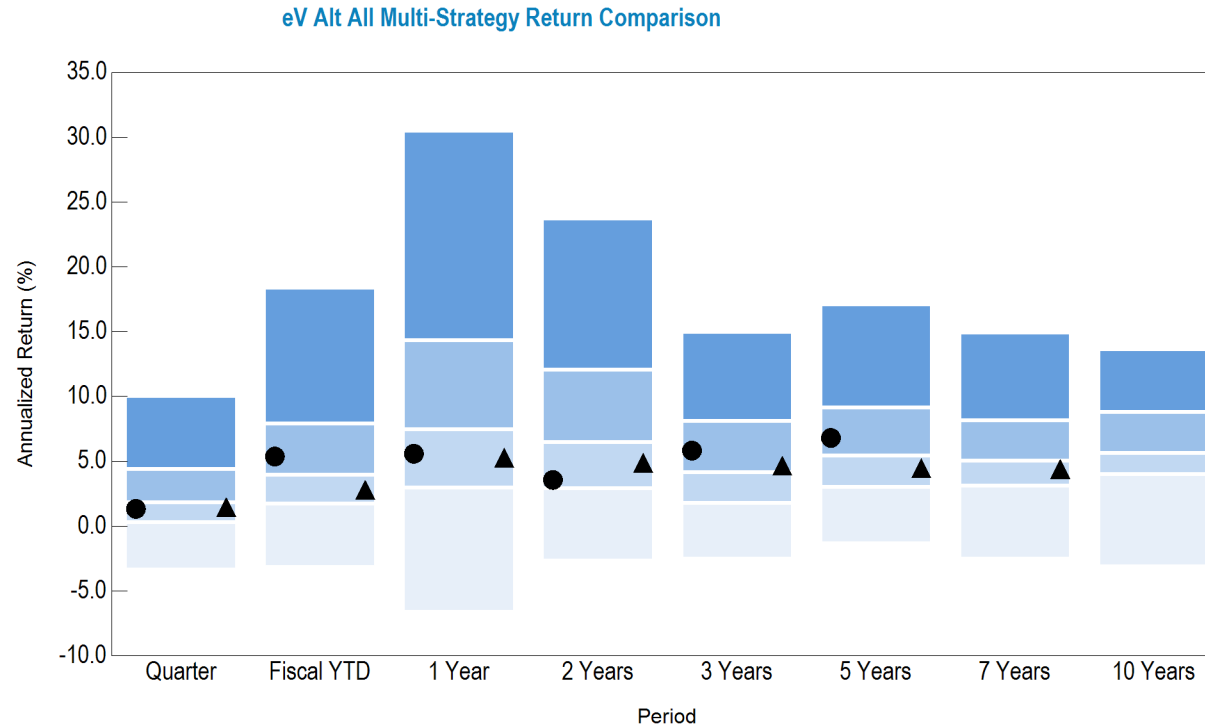
Statistics Summary

5 Years

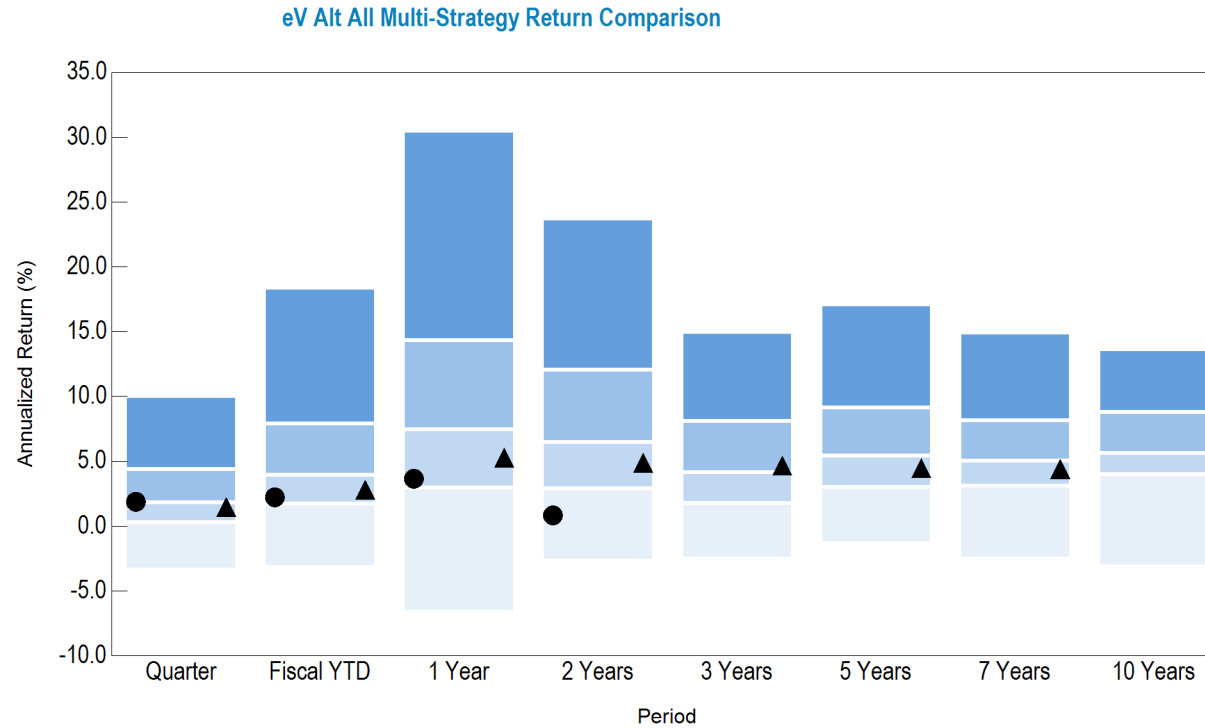
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Alternatives	6.5%	5.2%	1.2	-0.2	6.2%
Alternatives Allocation Index	7.5%	5.4%	1.3	--	0.0%
Private Equity	15.9%	9.2%	1.7	-0.2	13.0%
Russell 3000 +3%	18.6%	9.6%	1.9	--	0.0%
Hedge Fund/Absolute Return	6.5%	4.6%	1.3	0.4	4.7%
Libor 1 month +4%	4.5%	0.2%	25.3	--	0.0%
AQR DELTA XN	6.8%	4.9%	1.3	0.5	4.9%
Libor 1 month +4%	4.5%	0.2%	25.3	--	0.0%



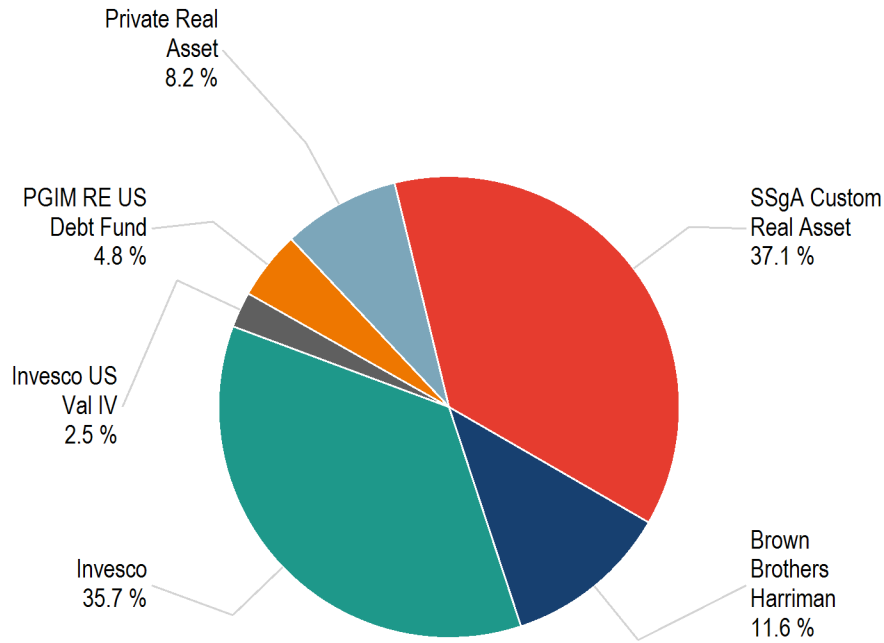
	Return (Rank)							
5th Percentile	3.2	6.4	12.1	9.8	6.4	7.8	6.4	4.7
25th Percentile	2.5	4.7	8.6	6.0	4.2	5.6	4.8	3.0
Median	1.7	3.8	6.1	4.3	2.7	4.7	3.8	2.3
75th Percentile	0.9	2.3	4.2	2.8	1.3	3.4	2.8	1.5
95th Percentile	-0.2	0.0	1.1	0.3	-1.1	1.7	1.4	0.4
# of Portfolios	227	227	224	218	212	194	168	91
● Hedge Fund/Absolute Return	1.5 (56)	4.3 (35)	5.0 (65)	3.0 (72)	5.3 (12)	6.5 (18)	-- (--)	-- (--)
▲ Libor 1 month +4%	1.5 (60)	2.8 (71)	5.3 (61)	4.9 (42)	4.7 (19)	4.5 (52)	4.4 (32)	-- (--)



	Return (Rank)							
5th Percentile	10.0	18.4	30.5	23.7	15.0	17.1	14.9	13.6
25th Percentile	4.4	7.9	14.4	12.1	8.1	9.2	8.2	8.9
Median	1.9	4.0	7.5	6.5	4.2	5.5	5.1	5.7
75th Percentile	0.3	1.7	3.0	3.0	1.8	3.1	3.1	4.1
95th Percentile	-3.3	-3.1	-6.6	-2.6	-2.5	-1.3	-2.5	-3.1
# of Portfolios	300	299	291	273	254	198	162	104
● AQR DELTA XN	1.3 (61)	5.4 (41)	5.6 (61)	3.6 (71)	5.8 (41)	6.8 (42)	-- (--)	-- (--)
▲ Libor 1 month +4%	1.5 (56)	2.8 (62)	5.3 (64)	4.9 (61)	4.7 (47)	4.5 (62)	4.4 (61)	-- (--)



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	10.0	18.4	30.5	23.7	15.0	17.1	14.9	13.6
25th Percentile	4.4	7.9	14.4	12.1	8.1	9.2	8.2	8.9
Median	1.9	4.0	7.5	6.5	4.2	5.5	5.1	5.7
75th Percentile	0.3	1.7	3.0	3.0	1.8	3.1	3.1	4.1
95th Percentile	-3.3	-3.1	-6.6	-2.6	-2.5	-1.3	-2.5	-3.1
# of Portfolios	300	299	291	273	254	198	162	104
● Aberdeen Standard GARS	1.9 (50)	2.2 (69)	3.7 (73)	0.8 (86)	-- (--)	-- (--)	-- (--)	-- (--)
▲ Libor 1 month +4%	1.5 (56)	2.8 (62)	5.3 (64)	4.9 (61)	4.7 (47)	4.5 (62)	4.4 (61)	-- (--)



	Actual \$	Actual %	Manager Contribution to Excess Return %
Brown Brother Harriman	\$82,401,749	11.6%	0.0%
Invesco	\$253,388,704	35.7%	0.1%
Invesco US Val IV	\$17,874,138	2.5%	0.0%
PGIM RE US Debt Fund	\$34,423,116	4.8%	0.0%
Private Real Asset	\$58,217,389	8.2%	-0.5%
SSGA Custom Real Asset	\$263,683,074	37.1%	0.1%
Actual vs. Policy Weight Difference			0.0%
Total	\$709,988,170	100.0%	-0.4%

Statistics Summary

3 Years

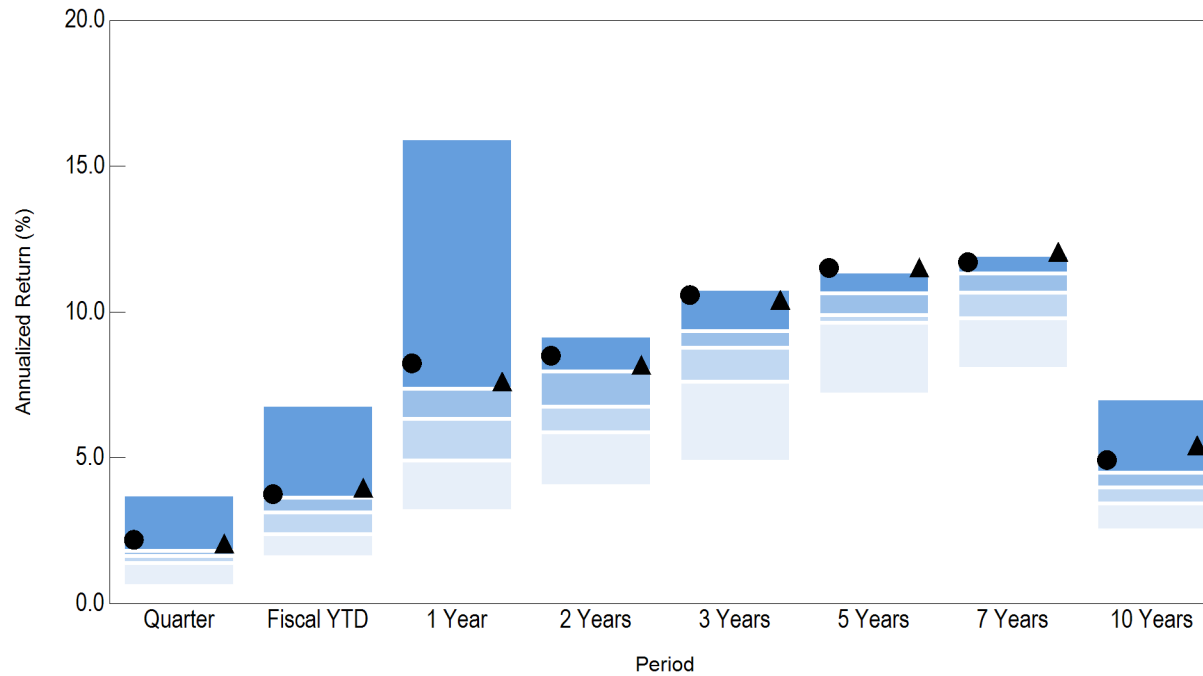
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Real Estate	10.58%	4.73%	2.15	0.11	1.45%
NCREIF ODCE	10.42%	4.44%	2.25	--	0.00%
Invesco	10.41%	4.68%	2.14	0.00	1.54%
NCREIF ODCE	10.42%	4.44%	2.25	--	0.00%
Private Real Asset	10.54%	26.83%	0.38	0.10	26.91%
Blended Real Asset Index	7.84%	3.44%	2.16	--	0.00%
TIPS	1.99%	2.51%	0.62	-0.04	1.46%
BBgBarc US TIPS TR	2.05%	3.51%	0.46	--	0.00%
Brown Brothers Harriman	1.99%	2.52%	0.62	-0.04	1.46%
BBgBarc US TIPS TR	2.05%	3.51%	0.46	--	0.00%

Statistics Summary

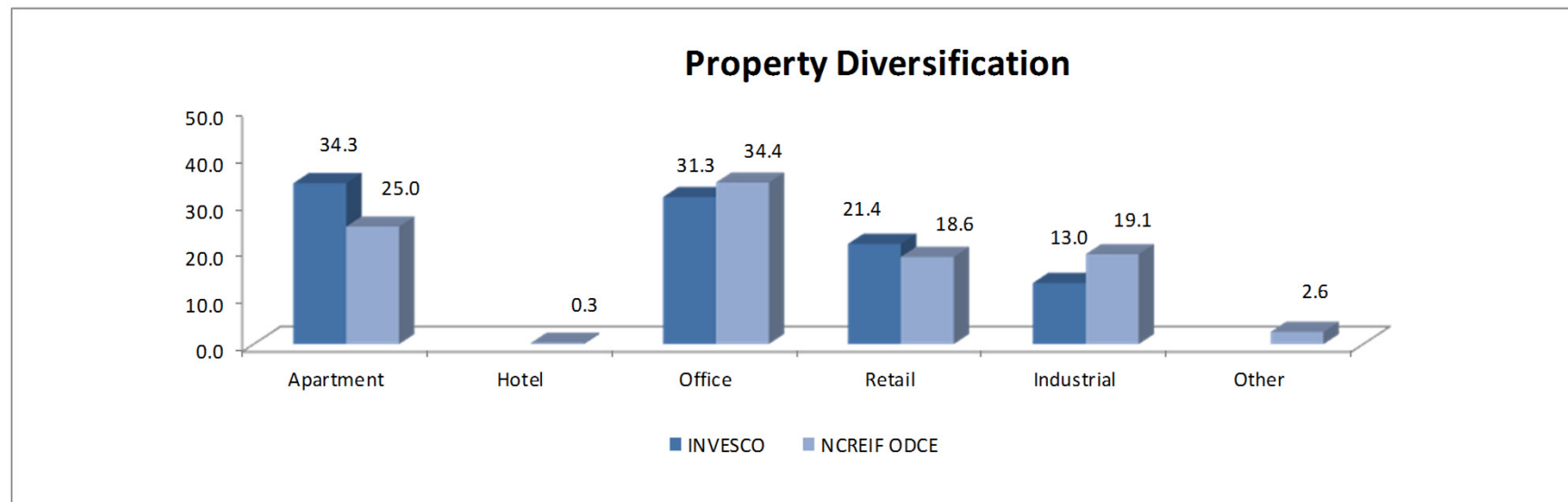
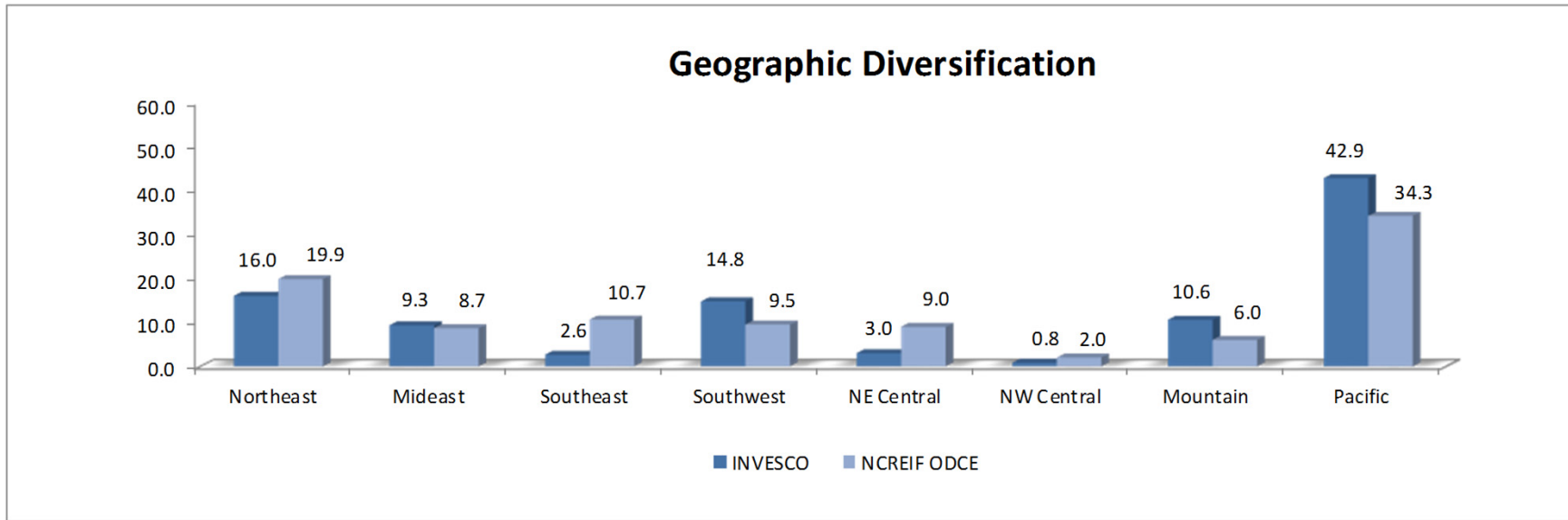
5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error Rank
Real Estate	11.51%	4.99%	2.26	-0.01	27
NCREIF ODCE	11.53%	4.78%	2.35	--	1
Invesco	11.41%	4.96%	2.25	-0.08	--
NCREIF ODCE	11.53%	4.78%	2.35	--	--
TIPS	-0.35%	3.85%	-0.16	-0.37	--
BBgBarc US TIPS TR	0.13%	4.46%	-0.03	--	--
Brown Brothers Harriman	-0.35%	3.85%	-0.16	-0.37	60
BBgBarc US TIPS TR	0.13%	4.46%	-0.03	--	1

InvestorForce All DB Real Estate Pub Net Return Comparison



	Return (Rank)							
5th Percentile	3.7	6.8	16.0	9.2	10.8	11.4	12.0	7.0
25th Percentile	1.8	3.7	7.4	8.0	9.4	10.6	11.3	4.5
Median	1.6	3.2	6.3	6.8	8.8	9.9	10.7	4.0
75th Percentile	1.4	2.4	4.9	5.9	7.6	9.7	9.8	3.5
95th Percentile	0.6	1.6	3.2	4.0	4.9	7.2	8.1	2.5
# of Portfolios	73	73	72	72	70	62	55	42
● Real Estate	2.2 (14)	3.8 (21)	8.2 (12)	8.5 (12)	10.6 (7)	11.5 (5)	11.7 (12)	4.9 (18)
▲ NCREIF ODCE	2.1 (17)	4.0 (13)	7.6 (22)	8.2 (22)	10.4 (7)	11.5 (5)	12.1 (2)	5.4 (8)



INVESCO Core Real Estate
 Real Estate Valuation Analysis

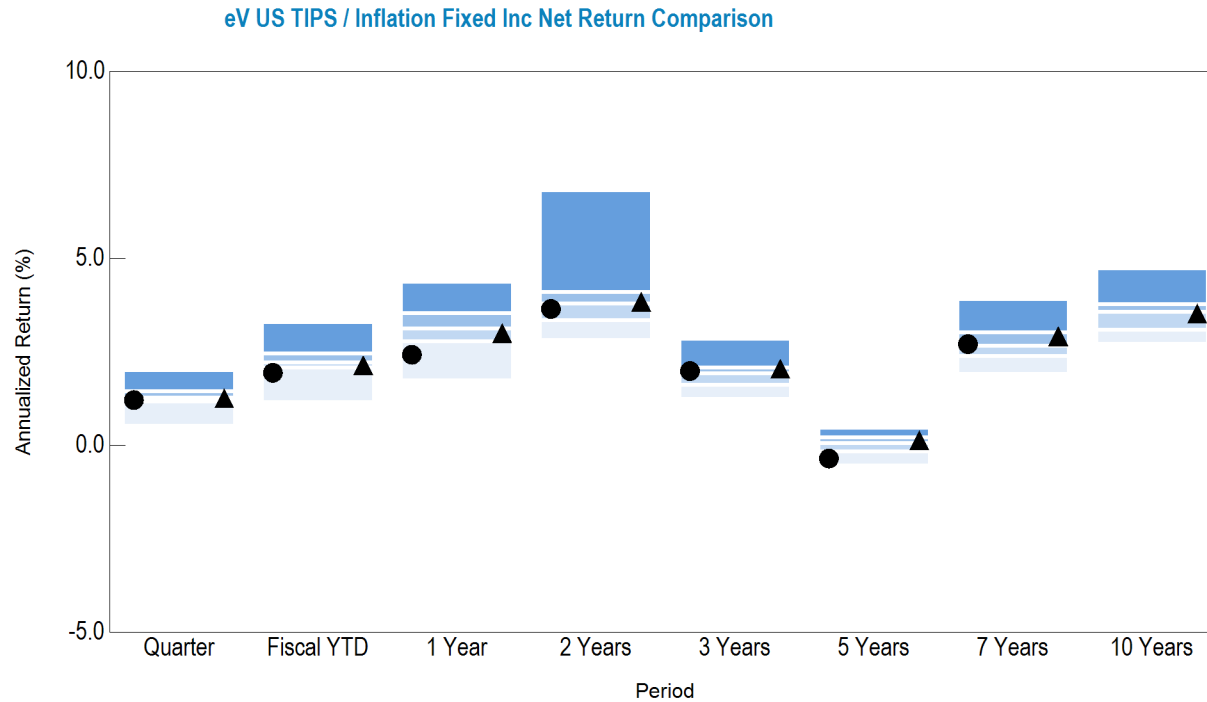
Period Ending: December 31, 2017

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 12/31/2017 2.82%
APARTMENTS							
Stoneridge Apartments	Pleasanton, CA	\$236,000,000	\$237,000,000	\$237,000,000	4Q06	December-17	\$6,685,723
Instrata Pentagon City	Arlington, VA	\$152,000,000	\$152,000,000	\$152,000,000	3Q10	December-17	\$4,287,890
Ladd Tower	Portland, OR	\$137,000,000	\$136,000,000	\$78,731,383	4Q10	December-17	\$2,220,997
Legacy Fountain Plaza	San Jose, CA	\$156,964,172	\$157,966,912	\$157,966,912	1Q11	December-17	\$4,456,215
Instrata Gramercy (fka The Elektra)	New York, NY	\$172,500,000	\$172,300,000	\$99,283,450	1Q11	December-17	\$2,800,766
Instrata Brooklyn Heights (fka 75 Clinton Street)	Brooklyn, NY	\$67,300,000	\$69,200,000	\$69,200,000	1Q12	December-17	\$1,952,118
The Artisan Laguna Beach	Orange County, CA	\$165,000,000	\$165,000,000	\$103,023,519	3Q12	December-17	\$2,906,273
The GoodWynn	Atlanta, GA	\$97,500,000	\$98,400,000	\$98,400,000	4Q12	December-17	\$2,775,844
Instrata Hell's Kitchen	New York, NY	\$189,000,000	\$194,000,000	\$194,000,000	1Q13	December-17	\$5,472,702
Sunset Vine Tower	Los Angeles, CA	\$97,100,000	\$98,000,000	\$98,000,000	2Q13	December-17	\$2,764,561
The Ashton	Dallas, TX	\$123,000,000	\$122,000,000	\$64,428,138	4Q13	December-17	\$1,817,505
The Pointe at Westchester	West Chester, PA	\$59,400,000	\$0	\$0	4Q13	Sold in Q417	\$0
206 Bell	Seattle, WA	\$48,500,000	\$48,700,000	\$48,700,000	4Q13	December-17	\$1,373,817
Cadence Union Station	Denver, CO	\$90,000,000	\$90,100,000	\$52,721,688	1Q14	December-17	\$1,487,268
Joseph Arnold Lofts	Seattle, WA	\$71,600,000	\$71,600,000	\$37,122,167	2Q14	December-17	\$1,047,209
Verve	Denver, CO	\$113,000,000	\$108,000,000	\$108,000,000	3Q14	December-17	\$3,046,659
Broadstone Little Italy	San Diego CA	\$121,000,000	\$121,000,000	\$67,434,811	3Q14	December-17	\$1,902,323
33 Tehama	San Francisco, CA	\$260,917,747	\$272,513,101	\$168,675,863	3Q14	December-17	\$4,758,313
The Parker	Portland, OR	\$67,000,000	\$66,000,000	\$33,746,610	1Q15	December-17	\$951,985
Legacy West Apartments	Plano, TX	\$111,520,438	\$113,950,008	\$82,525,248	1Q15	December-17	\$2,328,021
Village at Park Place	Irvine, CA	\$146,729,082	\$161,950,335	\$94,875,271	2Q15	December-17	\$2,676,413
Wheaton 121	Wheaton, IL	\$81,400,000	\$77,000,000	\$77,000,000	2Q15	December-17	\$2,172,155
Jefferson Marketplace	Washington, DC	\$153,000,000	\$154,000,000	\$83,292,894	4Q15	December-17	\$2,349,676
Retreat at Park Meadows	Littleton, CO	\$137,000,000	\$137,000,000	\$137,000,000	4Q15	December-17	\$3,864,743
North Water	Chicago, IL	\$264,000,000	\$265,000,000	\$265,000,000	1Q16	December-17	\$7,475,597
2270 Broadway	Oakland, CA	\$25,551,852	\$26,873,390	\$26,873,390	1Q16	December-17	\$758,093
Runway at Playa Vista -Apartments	Playa Vista, CA	\$163,770,000	\$163,770,012	\$100,302,508	1Q16	December-17	\$2,829,514
Clayton Lane Apartments	Denver, CO	\$35,564,159	\$36,716,851	\$36,716,851	1Q16	December-17	\$1,035,775
Biscayne 27	Miami, FL	\$42,307,897	\$50,493,109	\$49,669,615	2Q16	December-17	\$1,401,170
Flats 8300	Washington DC	\$231,000,000	\$236,000,000	\$132,500,000	2Q16	December-17	\$3,737,799
407 1st Ave	New York, NY	\$194,000,000	\$195,600,000	\$195,600,000	4Q16	December-17	\$5,517,837
5250 Park	Miami, FL	\$10,409,778	\$13,940,141	\$13,568,859	2Q17	December-17	\$382,775
The Mason	Pleasanton, CA	\$99,625,000	\$100,000,000	\$100,000,000	3Q17	December-17	\$2,820,980
		\$4,120,660,125	\$4,112,073,859	\$3,263,359,177			\$92,058,715
INDUSTRIAL							
Arjons Industrial Park	San Diego CA	\$41,300,000	\$42,700,000	\$42,700,000	2Q04	December-17	\$1,204,559
Gateway Business Park	Dallas TX	\$13,000,000	\$13,000,000	\$13,000,000	2Q04	December-17	\$366,727
Hayward Industrial	Oakland CA	\$185,100,000	\$187,600,000	\$187,600,000	3Q04-3Q07	December-17	\$5,292,159
Oakesdale Commerce Center	Seattle - Belle - Eve WA	\$54,700,000	\$55,700,000	\$55,700,000	1Q06	December-17	\$1,571,286
South Bay Industrial	Los Angeles, CA	\$56,200,000	\$56,300,000	\$56,300,000	4Q06	December-17	\$1,588,212
Steeplechase 95 International Business Park	Capitol Heights, MD	\$97,200,000	\$97,200,000	\$97,200,000	1Q11	December-17	\$2,741,993
Airport Trade Center Portfolio	Dallas, TX	\$130,500,000	\$130,900,000	\$130,900,000	1Q11	December-17	\$3,692,663
IE Logistics	San Bernardino, CA	\$133,100,000	\$147,500,000	\$147,500,000	3Q11	December-17	\$4,160,946
Railhead Drive Industrial	Dallas, TX	\$62,500,000	\$62,500,000	\$62,500,000	4Q11	December-17	\$1,763,113
Empire Gateway aka Chino South Logistics Center	Chino, CA	\$264,000,000	\$275,000,000	\$275,000,000	4Q12	December-17	\$7,757,695
SFO Logistics Center	San Francisco, CA	\$141,000,000	\$146,000,000	\$146,000,000	4Q13	December-17	\$4,118,631
Miami Industrial Portfolio	Various, FL	\$116,050,274	\$119,269,981	\$79,283,443	1Q16	December-17	\$2,236,570
OMP Burbank	Los Angeles, CA	\$73,788,384	\$74,234,521	\$74,234,521	2Q16	December-17	\$2,094,141
US Storage	Compton, CA	\$0	\$7,630,467	\$7,630,467	4Q17	Acquired in 4Q17	\$215,254
Pacific Commons	Freemont, CA	\$124,566,938	\$160,128,073	\$160,128,073	1Q17	December-17	\$4,517,181
		\$1,493,005,596	\$1,575,663,042	\$1,535,676,504			\$43,321,130

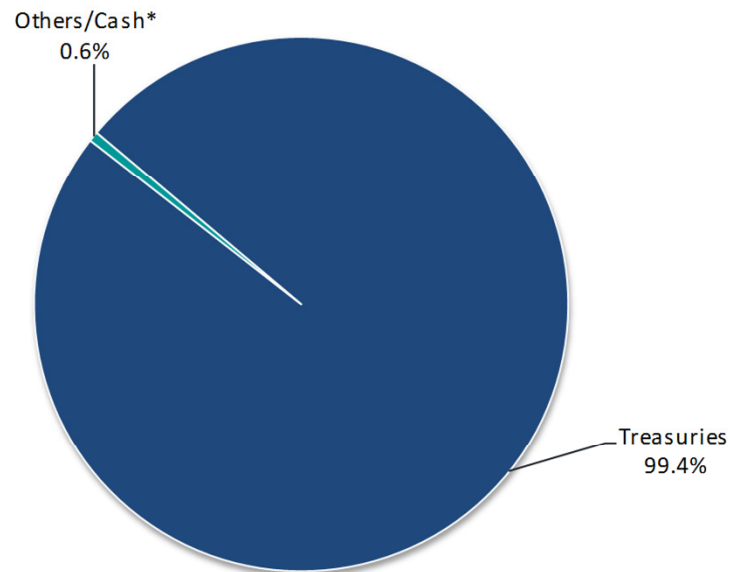
INVESCO Core Real Estate
Real Estate Valuation Analysis

Period Ending: December 31, 2017

OFFICE							
55 Cambridge Parkway	Boston MA - NH	\$286,000,000	\$291,000,000	\$291,000,000	4Q06	December-17	\$8,209,052
1111 Pennsylvania Avenue	Washington, D.C.	\$322,000,000	\$327,000,000	\$327,000,000	4Q10	December-17	\$9,224,605
1800 Larimer	Denver, CO	\$327,000,000	\$327,000,000	\$327,000,000	1Q11	December-17	\$9,224,605
Hillview Office	San Jose, CA	\$79,500,000	\$80,100,000	\$80,100,000	3Q12	December-17	\$2,259,605
Williams Tower	Houston, TX	\$590,000,000	\$594,000,000	\$409,864,136	1Q13	December-17	\$11,562,186
Westlake Park Place	Westlake Village, CA	\$112,000,000	\$112,000,000	\$112,000,000	4Q13	December-17	\$3,159,498
101 Second	San Francisco, CA	\$408,000,000	\$415,000,000	\$415,000,000	1Q14	December-17	\$11,707,068
Energy Crossing II	Houston, TX	\$101,300,000	\$103,700,000	\$103,700,000	2Q14	December-17	\$2,925,356
1776 Wilson Blvd.	Arlington, VA	\$90,200,000	\$90,400,000	\$90,400,000	3Q14	December-17	\$2,550,166
631 Howard	San Francisco, CA	\$90,600,000	\$92,000,000	\$92,000,000	3Q14	December-17	\$2,595,302
Barton Oaks	Austin, TX	\$88,600,000	\$91,500,000	\$91,500,000	3Q14	December-17	\$2,581,197
Hercules East and South Campus	Los Angeles, CA	\$168,308,406	\$176,532,387	\$176,532,387	3Q14	December-17	\$4,979,944
The Reserve	Playa Vista, CA	\$367,778,942	\$371,739,709	\$371,739,709	1Q15	December-17	\$10,486,703
Fort Point Portfolio	Boston, MA	\$232,288,247	\$239,421,743	\$239,421,743	2Q15	December-17	\$6,754,040
Legacy West Office	Plano, TX	\$76,634,009	\$87,182,740	\$40,182,403	1Q15	December-17	\$1,133,538
Summit IV	Aliso Viejo, CA	\$123,000,000	\$123,000,000	\$84,722,025	2Q15	December-17	\$2,389,992
1101 Westlake	Seattle, WA	\$121,000,000	\$127,000,000	\$127,000,000	3Q15	December-17	\$3,582,645
PearlWest	Boulder, CO	\$121,000,000	\$120,000,000	\$120,000,000	4Q16	December-17	\$3,385,176
		\$3,705,209,604	\$3,768,576,579	\$3,499,162,403			\$98,710,678
RETAIL							
Chandler Pavilion	Phoenix - Mesa AZ	\$24,000,000	\$23,900,000	\$23,900,000	2Q04	December-17	\$674,214
Cityline at Tenley	Washington, D.C.	\$63,700,000	\$65,000,000	\$65,000,000	4Q05	December-17	\$1,833,637
Ridgehaven Shopping Center	Minnetonka, MN	\$42,300,000	\$42,300,000	\$42,300,000	4Q05	December-17	\$1,193,275
The Beacon Retail	San Francisco, CA	\$68,430,894	\$68,430,894	\$68,430,894	1Q06	December-17	\$1,930,422
The Beacon Garage (units)	San Francisco, CA	\$36,069,106	\$36,069,106	\$36,069,106	1Q06	December-17	\$1,017,502
The Beacon Office (210 King)	San Francisco, CA	\$25,300,000	\$25,500,000	\$25,500,000	1Q15	December-17	\$719,350
Hawthorne Plaza	Overland Park, KS	\$51,525,000	\$51,525,000	\$51,525,000	4Q07	December-17	\$1,453,510
The Loop	Boston MA - NH	\$89,000,000	\$89,000,000	\$89,000,000	1Q08	December-17	\$2,510,672
Westbank Market	Austin, TX	\$62,000,000	\$61,700,000	\$61,700,000	3Q10	December-17	\$1,740,545
Lake Pointe Village	Houston, TX	\$79,350,000	\$83,650,000	\$83,650,000	4Q11	December-17	\$967,596
Safeway Kapahulu	Hawaii	\$91,400,000	\$94,900,000	\$58,568,989	4Q11	December-17	\$1,652,220
Safeway Burlingame	San Francisco, CA	\$58,600,000	\$58,700,000	\$35,902,686	4Q11	December-17	\$1,012,808
Shamrock Plaza	Oakland, CA	\$39,600,000	\$40,600,000	\$24,315,050	4Q11	December-17	\$685,923
Pavilions Marketplace	West Hollywood, CA	\$67,600,000	\$69,900,000	\$45,123,935	1Q12	December-17	\$1,272,937
130 Prince	New York, NY	\$217,000,000	\$217,000,000	\$217,000,000	2Q12	December-17	\$6,121,527
Safeway Pleasanton	Pleasanton, CA	\$82,800,000	\$83,200,000	\$83,200,000	4Q12	December-17	\$2,347,056
Liberty Wharf	Boston, MA	\$94,500,000	\$97,100,000	\$67,199,142	4Q12	December-17	\$1,895,674
Shops at Legacy	Plano, TX	\$110,690,478	\$117,547,410	\$117,547,410	3Q13	December-17	\$3,315,989
Pasadena Commons	Pasadena, CA	\$60,300,000	\$61,200,000	\$61,200,000	4Q14	December-17	\$1,726,440
Rush Street Retail	Chicago, IL	\$16,400,000	\$16,700,000	\$16,700,000	4Q14	December-17	\$471,104
Legacy West Retail	Plano, TX	\$184,575,429	\$191,902,109	\$144,901,772	1Q15	December-17	\$4,087,650
Legacy West Land	Plano, TX	\$917,929	\$917,929	\$917,929	2Q17	December-17	\$25,895
131-137 Spring Street	New York, NY	\$237,294,192	\$235,667,973	\$123,026,671	3Q15	December-17	\$3,470,558
Runway at Playa Vista - Retail	Playa Vista, CA	\$122,430,000	\$122,960,009	\$60,552,505	1Q16	December-17	\$1,708,174
139 Spring	New York, NY	\$126,924,800	\$126,924,800	\$126,924,800	1Q16	December-17	\$3,580,523
Clayton Lane	Denver, CO	\$142,088,956	\$141,644,611	\$95,009,240	1Q16	December-17	\$2,680,192
4th & Colorado	Santa Monica, CA	\$13,280,000	\$13,280,000	\$13,280,000	1Q16	December-17	\$374,626
Legacy West - Block H	Plano, TX	\$4,236,570	\$4,832,913	\$4,832,913	4Q17	December-17	\$136,336
Shops at Crystals	Las Vegas, NV	\$290,000,000	\$290,250,000	\$152,599,597	2Q16	December-17	\$4,304,804
		\$2,563,547,726	\$2,566,602,754	\$2,030,177,639			\$56,651,704
Portfolio Total		\$11,882,423,051	\$12,022,916,234	\$10,328,375,723			\$290,742,226



	Return (Rank)							
	Quarter	Fiscal YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
5th Percentile	2.0	3.3	4.4	6.8	2.8	0.5	3.9	4.7
25th Percentile	1.5	2.5	3.5	4.1	2.1	0.2	3.0	3.8
Median	1.3	2.2	3.1	3.8	1.9	0.1	2.7	3.6
75th Percentile	1.2	2.1	2.8	3.4	1.6	-0.2	2.4	3.1
95th Percentile	0.5	1.2	1.7	2.8	1.2	-0.5	1.9	2.7
# of Portfolios	20	20	20	20	18	17	15	11
● Brown Brothers Harriman	1.2 (72)	1.9 (85)	2.4 (81)	3.6 (65)	2.0 (48)	-0.4 (81)	2.7 (48)	-- (--)
▲ BBgBarc US TIPS TR	1.3 (64)	2.1 (68)	3.0 (57)	3.8 (49)	2.0 (36)	0.1 (38)	2.9 (31)	3.5 (57)



Sector	Account Weight	BBgBarc TIPS	
		Index	Difference
Treasuries	99.4%	100.0%	-0.6%
Agencies	0.0%	0.0%	0.0%
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*	0.6%	0.0%	0.6%
TOTAL	100.0%	100.0%	0.0%

* May include Derivatives, Futures, Swaps, Credit Default Swaps, Total Return Swaps or Currency Contracts.

Brown Brothers Harriman
Bond Summary Statistics

Period Ending: December 31, 2017

Portfolio Characteristics		Portfolio
Total Number of Securities		11
Total Market Value	\$	82,401,749
Current Coupon		1.04
Yield to Maturity		0.34
Average Life		
Duration		7.10
Quality		GOV

BBgBarc TIPS	
Total Number of Securities	38
Total Market Value	N/A
Current Coupon	0.78
Yield to Maturity	0.34
Average Life	
Duration	5.84
Quality	AAA

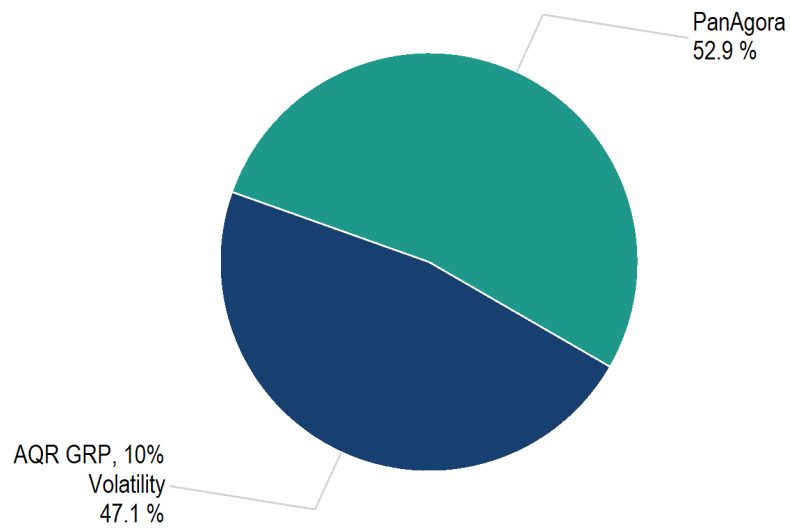
Yield to Maturity	
Range	% Held
0.0 - 5.0	100.0
5.0 - 7.0	0.0
7.0 - 9.0	0.0
9.0 - 11.0	0.0
11.0 - 13.0	0.0
13.0+	0.0
Unclassified	0.0

Average Life	
Range	% Held
0.0 - 3.0	27.7
3.0 - 5.0	13.6
5.0 - 10.0	42.5
10.0- 15.0	4.4
15.0+	11.9
Unclassified	0.0

Duration	
Range	% Held
0.0 - 3.0	27.7
3.0 - 5.0	13.6
5.0 - 10.0	42.5
10.0- 15.0	4.4
15.0+	11.9
Unclassified	0.0

Quality	
Range	% Held
Govt (10)	99.4
Aaa (10)	0.0
Aa (9)	0.0
A (8)	0.0
Baa (7)	0.0
Below Baa (6-1)	0.0
Other	0.6

Coupon	
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



	Actual \$	Actual %	Manager Contribution to Excess Return %
AQR GRP, 10% Volatility	\$149,012,863	47.1%	0.5%
PanAgora	\$167,203,489	52.9%	0.4%
Actual vs. Policy Weight Difference			0.0%
Total	\$316,216,352	100.0%	0.9%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Risk Parity	6.3%	7.8%	0.8	-0.2	6.5%
Blended Risk Parity Index	7.8%	6.0%	1.2	--	0.0%
AQR GRP, 10% Volatility	5.2%	7.6%	0.6	-0.4	6.2%
Blended Risk Parity Index	7.8%	6.0%	1.2	--	0.0%
PanAgora	7.4%	8.5%	0.8	-0.1	7.4%
Blended Risk Parity Index	7.8%	6.0%	1.2	--	0.0%

Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Risk Parity	5.5%	8.6%	0.6	-0.7	6.8%
Blended Risk Parity Index	10.2%	5.8%	1.7	--	0.0%
AQR GRP, 10% Volatility	4.1%	8.6%	0.4	-0.9	6.7%
Blended Risk Parity Index	10.2%	5.8%	1.7	--	0.0%

Statistics Summary

3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Risk Parity	6.3%	7.8%	0.8	-0.2	6.5%
Blended Risk Parity Index	7.8%	6.0%	1.2	--	0.0%
AQR GRP, 10% Volatility	5.2%	7.6%	0.6	-0.4	6.2%
Blended Risk Parity Index	7.8%	6.0%	1.2	--	0.0%

Statistics Summary

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio	Tracking Error
Risk Parity	5.5%	8.6%	0.6	-0.7	6.8%
Blended Risk Parity Index	10.2%	5.8%	1.7	--	0.0%
AQR GRP, 10% Volatility	4.1%	8.6%	0.4	-0.9	6.7%
Blended Risk Parity Index	10.2%	5.8%	1.7	--	0.0%

Total Fund
Performance Summary (Gross of Fees)

Period Ending: December 31, 2017

	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Total Fund	3.3	6.7	14.9	11.7	8.0	9.5	5.7
<i>Policy Index</i>	3.8	7.7	15.6	12.2	7.9	9.4	6.1
<i>Allocation Index</i>	3.8	7.6	15.4	12.0	7.8	9.3	--
Total Fund ex Overlay	3.3	6.7	14.8	11.6	7.9	9.4	5.6
<i>Policy Index</i>	3.8	7.7	15.6	12.2	7.9	9.4	6.1
<i>Allocation Index</i>	3.8	7.6	15.4	12.0	7.8	9.3	--
Public Equity	5.3	10.8	23.9	15.9	10.3	12.8	6.1
<i>Blended Public Equity Index</i>	5.9	11.6	24.3	16.8	10.3	12.5	6.5
US Equity	5.9	11.4	21.4	16.4	11.2	15.3	8.3
<i>Blended US Equity Index</i>	6.3	11.2	21.1	17.0	11.0	15.4	8.7
<i>Russell 3000</i>	6.3	11.2	21.1	16.9	11.1	15.6	8.6
Large Cap Equity	6.5	11.9	24.3	17.4	12.3	16.2	8.5
<i>Russell 1000</i>	6.6	11.4	21.7	16.8	11.2	15.7	8.6
BlackRock Russell 1000	6.6	11.4	--	--	--	--	--
DE Shaw	6.4	14.5	25.9	20.2	14.7	17.9	--
<i>Russell 1000</i>	6.6	11.4	21.7	16.8	11.2	15.7	8.6
Small Cap Equity	2.3	8.4	13.1	15.6	8.2	13.0	8.0
<i>Russell 2000</i>	3.3	9.2	14.6	17.9	10.0	14.1	8.7
QMA US Small Cap	2.3	8.4	13.1	--	--	--	--
<i>Russell 2000</i>	3.3	9.2	14.6	17.9	10.0	14.1	8.7
International Equity	4.5	10.1	27.4	14.9	8.9	8.0	1.5
<i>MSCI ACWI ex US IMI</i>	5.2	11.9	28.3	16.0	8.8	7.6	2.5
<i>MSCI EAFE Gross</i>	4.3	10.0	25.6	12.9	8.3	8.4	2.4
Developed Markets	4.4	9.8	27.2	14.3	9.0	8.6	1.8
<i>MSCI ACWI ex USA Gross</i>	5.1	11.6	27.8	15.8	8.3	7.3	2.3
Baillie Gifford	5.0	10.4	32.2	15.6	10.9	10.4	--
<i>MSCI ACWI ex US</i>	5.1	11.6	27.8	15.8	8.3	8.6	--
<i>MSCI ACWI ex US Growth</i>	5.8	12.6	32.5	15.4	9.7	9.6	--

Total Fund
Performance Summary (Gross of Fees)

Period Ending: December 31, 2017

	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
BlackRock EAFE Index	4.3	10.0	25.5	12.9	8.2	--	--
<i>MSCI EAFE</i>	4.2	9.9	25.0	12.4	7.8	7.9	1.9
<i>MSCI EAFE Gross</i>	4.3	10.0	25.6	12.9	8.3	8.4	2.4
Mondrian	4.1	9.3	23.4	13.9	7.2	7.2	2.3
<i>MSCI ACWI ex USA Value Gross</i>	4.3	10.7	23.3	16.3	6.9	6.2	1.8
<i>MSCI ACWI ex USA Gross</i>	5.1	11.6	27.8	15.8	8.3	7.3	2.3
Emerging Markets	5.2	12.5	28.5	20.7	7.3	4.0	--
<i>MSCI Emerging Markets Gross</i>	7.5	16.1	37.8	24.0	9.5	4.7	2.0
Parametric Core	5.2	12.5	28.5	20.7	--	--	--
<i>MSCI Emerging Markets Gross</i>	7.5	16.1	37.8	24.0	9.5	4.7	2.0
Fixed Income	0.6	1.8	5.9	7.2	4.5	3.8	5.5
<i>Blended Fixed Income Index</i>	0.4	1.7	4.9	5.2	3.3	2.2	4.3
Core Fixed	0.4	1.5	4.8	4.9	3.3	3.0	4.8
<i>BBgBarc US Aggregate TR</i>	0.4	1.2	3.5	3.1	2.2	2.1	4.0
BlackRock Intermediate Govt	-0.4	0.0	--	--	--	--	--
<i>BBgBarc US Govt Int TR</i>	-0.4	-0.1	1.1	1.1	1.1	0.9	2.7
FIAM Bond	0.5	1.6	4.3	4.4	3.0	2.8	5.0
Western TRU	1.5	3.6	9.7	7.8	--	--	--
<i>3-Month Libor Total Return USD</i>	0.4	0.7	1.3	1.0	0.8	0.6	0.8
<i>BBgBarc US Aggregate TR</i>	0.4	1.2	3.5	3.1	2.2	2.1	4.0
Opportunistic Credit	1.1	2.8	9.0	12.5	7.8	8.4	--
<i>BBgBarc BA Intermediate HY</i>	0.1	1.9	6.3	9.0	5.7	3.8	--
Angelo Gordon Opportunistic	11.1	10.4	19.9	14.0	9.9	--	--
Angelo Gordon STAR	3.1	8.0	19.1	13.4	11.0	13.8	--
<i>BBgBarc US Aggregate TR</i>	0.4	1.2	3.5	3.1	2.2	2.1	4.0
Beach Point Select	1.8	3.9	8.5	12.8	--	--	--
<i>BBgBarc BA Intermediate HY</i>	0.1	1.9	6.3	9.0	5.7	3.8	--

Total Fund
Performance Summary (Gross of Fees)

Period Ending: December 31, 2017

	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Brigade Capital	0.3	1.7	7.6	15.4	6.3	5.4	--
<i>BBgBarc BA Intermediate HY</i>	0.1	1.9	6.3	9.0	5.7	3.8	--
<i>50% Barclays HY/ 50% Bank Loan</i>	0.8	2.3	5.9	9.6	5.4	5.1	--
PIMCO Diversified	0.8	--	--	--	--	--	--
<i>Blended PIMCO Diversified Index</i>	0.8	2.6	7.3	8.5	5.6	4.5	6.7
<i>BBgBarc BA Intermediate HY</i>	0.1	1.9	6.3	9.0	5.7	3.8	--
Franklin Templeton	-1.3	-0.1	4.2	5.9	2.5	2.4	--
<i>BBgBarc Multiverse TR</i>	1.1	3.0	7.7	5.2	2.3	1.0	3.3
Private Credit	3.2	4.3	8.2	--	--	--	--
<i>Cliffwater Direct Lending Index</i>	2.0	4.0	8.6	9.9	8.4	9.5	--
TCP Direct Lending VIII	4.7	6.6	10.7	--	--	--	--
White Oak Yield	0.5	-1.0	--	--	--	--	--
<i>Cliffwater Direct Lending Index</i>	2.0	4.0	8.6	9.9	8.4	9.5	--
Risk Parity	4.5	8.4	14.8	13.4	6.3	5.6	--
<i>Blended Risk Parity Index</i>	3.6	6.9	14.3	11.5	7.8	10.2	--
AQR GRP, 10% Volatility	4.7	9.4	16.1	13.3	5.2	4.2	--
PanAgora	4.4	7.5	13.8	13.5	7.4	--	--
<i>Blended Risk Parity Index</i>	3.6	6.9	14.3	11.5	7.8	10.2	--
<i>Blended RP Secondary Index</i>	3.9	7.1	13.8	10.0	6.6	8.2	--
Alternatives	1.5	3.2	9.6	9.4	8.3	6.5	--
<i>Alternatives Allocation Index</i>	4.3	8.0	14.7	12.6	7.4	7.5	--
<i>Blended Alternatives Index</i>	4.5	8.2	15.2	13.0	7.8	9.2	--
Private Equity	1.4	2.1	13.6	14.1	16.3	15.9	--
<i>Russell 3000 +3%</i>	7.1	13.1	24.1	19.9	14.1	18.6	11.7
Hedge Fund/Absolute Return	1.5	4.3	5.0	3.0	5.3	6.5	--
<i>Libor 1 month +4%</i>	1.5	2.8	5.3	4.9	4.7	4.5	--
AQR DELTA XN	1.3	5.4	5.6	3.6	5.8	6.8	--

Total Fund
Performance Summary (Gross of Fees)

Period Ending: December 31, 2017

	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Aberdeen Standard GARS	1.9	2.2	3.7	0.8	--	--	--
Libor 1 month +4%	1.5	2.8	5.3	4.9	4.7	4.5	--
Inflation Hedge	2.7	5.1	8.5	--	--	--	--
Blended Inflation Pool Index	3.0	6.3	9.0	--	--	--	--
Real Estate	2.3	4.0	8.7	8.9	11.0	11.9	5.4
NCREIF ODCE	2.1	4.0	7.6	8.2	10.4	11.5	5.4
Invesco	2.3	3.8	8.5	8.9	10.8	11.8	5.3
NCREIF ODCE	2.1	4.0	7.6	8.2	10.4	11.5	5.4
Invesco US Val IV	2.1	7.8	12.9	10.5	--	--	--
NCREIF ODCE	2.1	4.0	7.6	8.2	10.4	11.5	5.4
NCREIF CEVA 1Q Lag - NET	3.0	5.7	10.2	11.6	13.4	--	--
PGIM RE US Debt Fund	2.5	--	--	--	--	--	--
NCREIF ODCE	2.1	4.0	7.6	8.2	10.4	11.5	5.4
Private Real Asset	-2.5	-5.5	-2.8	18.6	12.5	--	--
Blended Real Asset Index	4.4	9.7	12.5	9.4	7.8	--	--
Liquid Pool	4.7	10.5	14.2	--	--	--	--
Blended Real Asset Index	4.4	9.7	12.5	9.4	7.8	--	--
SSgA Custom Real Asset	4.7	10.5	14.2	--	--	--	--
Blended Real Asset Index	4.4	9.7	12.5	9.4	7.8	--	--
TIPS	1.2	2.0	2.6	3.8	2.2	-0.2	--
BBgBarc US TIPS TR	1.3	2.1	3.0	3.8	2.0	0.1	3.5
Brown Brothers Harriman	1.2	2.0	2.6	3.8	2.2	-0.2	--
BBgBarc US TIPS TR	1.3	2.1	3.0	3.8	2.0	0.1	3.5
Cash	0.3	0.5	0.9	0.9	1.0	0.8	0.6
91 Day T-Bills	0.3	0.6	0.9	0.6	0.4	0.3	0.3
General Account	0.7	1.2	1.8	1.4	1.6	1.1	0.9
Treasury & LAIF	0.2	0.5	1.1	1.0	0.9	0.8	0.6
91 Day T-Bills	0.3	0.6	0.9	0.6	0.4	0.3	0.3

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 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 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).

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 begins 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.

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 – 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.

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.

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).

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.

Pyramis Global Advisors – Select International Small Cap

Pyramis Select International Small Cap is a core strategy. The approach is designed to leverage Pyramis/Fidelity’s proprietary resources to add value exclusively via stock selection. To that end the portfolio is constructed to be regionally neutral, with only modest deviations from the benchmark’s country and sector weights. The investment process involves three basic stages. The first stage is the security level research conducted by the analysts. The second stage is stock selection from within the pool of names that are highly ranked by the analysts. The third step is portfolio construction and risk management. The essential differentiating feature of this strategy is the breadth of coverage that is made possible by the large staff of analysts. Analysts actively conduct regular fundamental research on, and give a formal rating of 1-5, 1200-1300 international small cap companies. While there is no single firm-wide approach to security research, analysts are expected to establish an upside target for any given stock and assign a formal rating. The decision making structure is quite efficient, with portfolio manager Rob Feldman making all the buy and sell decisions. His role, as he puts it, is to be an intelligent user of the analysts’ research. He selects the 1- and 2-rated stocks that he thinks are compelling and additive to his portfolio, and he sells names when they are downgraded by the analysts. There are approximately 200 holdings in the portfolio. Country and sector weights are within 3 percentage points of the benchmark and position sizes are within 2 percentage points of the benchmark. Turnover tends to be in the 60%-80% range.

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, 2017

Total Plan Policy Index	As of																
	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 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	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%	0.0%	0.0%	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%
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, 2017

Total Equity Benchmark	As of:										
	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%	34.0%	31.3%	23.1%	0.0%	0.0%	0.0%
MSCI ACWI ex-US IMI	45.2%	40.4%	41.7%	41.7%	40.0%	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%	32.3%	33.3%	33.3%
Russell 1000	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%	8.0%	8.4%	0.0%
Russell 2000	0.0%	0.0%	0.0%	8.3%	12.0%	13.2%	13.5%	15.4%	24.2%	25.0%	25.0%
Russell 3000	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%	8.4%
	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:			
	10/1/17	1/1/14	6/1/00	1/1/96
MSCI ACWI ex US	0.0%	0.0%	100.0%	0.0%
MSCI ACWI ex US IMI	0.0%	100.0%	0.0%	0.0%
MSCI ACWI ex US IMI (Net)	100.0%	0.0%	0.0%	0.0%
MSCI EAFE	0.0%	0.0%	0.0%	100.0%
	100.0%	100.0%	100.0%	100.0%

Fixed Income Benchmark	As of:										
	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	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	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%	7.3%	0.0%	0.0%	0.0%
BBgBarc Credit BAA	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	15.0%	0.0%	0.0%	0.0%	0.0%
BBgBarc Multiverse	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%	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%	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%

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, 2017

Alternatives Benchmark	As of:				
	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%	30.0%
Bloomberg Commodity	0.0%	0.0%	17.7%	18.8%	15.0%
CPI + 5% (RA)	0.0%	0.0%	11.8%	12.5%	0.0%
Libor +4% (HF)	46.2%	41.7%	29.4%	25.0%	15.0%
Russell 3000 +3% (PE)	53.8%	58.3%	41.2%	43.8%	40.0%
	100.0%	100.0%	100.0%	100.0%	100.0%

Private Equity Benchmark	As of:
	10/1/10
Russell 3000 +3%	100.0%
	100.0%

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

Inflation Hedge	As of:		
	2/1/17	10/1/16	4/1/16
BBgBarc TIPS	12.50%	14.3%	14.3%
Bloomberg Commodity	0.00%	0.0%	21.4%
CPI + 5% (RA)	0.00%	0.0%	14.3%
Bloomberg Roll Select Commodity	14.87%	12.1%	0.0%
S&P Global Large-MidCap Commodity and Resource	14.44%	11.8%	0.0%
S&P Global Infrastructure	14.44%	11.8%	0.0%
NCREIF ODCE	43.75%	50.0%	50.0%
	100.0%	100.0%	100.0%

Real Asset Benchmark	As of:	
	10/1/16	1/1/14
Bloomberg Roll Select Commodity	34.00%	0.0%
S&P Global Large-MidCap Commodity and Resource	33.00%	0.0%
S&P Global Infrastructure	33.00%	0.0%
CPI + 5%	0.00%	100.0%
	100.0%	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%

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%	
BofAMLBB-BRatedDvlpdMktsHYHgdUSD	33.3%	
Global Agg Credit Ex EM USD hedged	33.4%	
	100.0%	

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:	0.05% per annum
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BlackRock-Russell 1000 Index Fund

First \$250 million:	0.02% per annum
Thereafter:	0.015% per annum

BlackRock-Intermediate Govt Bond Index Fund

On All Assets:	0.04% per annum
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Brown Brothers Harriman

On All Assets:	0.15% per annum
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Clifton Group

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	

Franklin Templeton Investment

First \$50 million:	0.45% per annum
Next \$50 million:	0.35% per annum
Thereafter:	0.30% 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

Parametric

On All Assets:	0.30% per annum
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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
DE Shaw	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	--	--	--
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

Name	Primary Benchmark	Rule 1	Rule 2	Rule 3
DE Shaw	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	--	--	--
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, 2017

	Oct	Nov	Dec	4th Qtr. 2017	Difference	3rd Qtr. 2017	Difference	2nd Qtr. 2017	Difference	1st Qtr. 2017	Difference	4th Qtr. 2016	Difference
Verus	2.29%	3.05%	1.11%	6.58%		4.49%		3.07%					
BlackRock Russell 1000	2.29%	3.05%	1.12%	6.59%	-0.01%	4.49%	0.00%	3.07%					
Russell 1000 Index	2.29%	0.32%	2.22%	4.90%		4.48%		3.07%					
Verus	2.53%	2.83%	0.90%	6.38%		7.60%		2.79%		7.02%		3.76%	
D.E. Shaw	2.54%	2.83%	0.90%	6.39%	-0.01%	7.60%	0.00%	2.79%	0.00%	7.02%	0.00%	3.76%	0.00%
Russell 1000 Index	2.29%	0.32%	2.22%	4.90%		4.48%		3.07%		6.02%		3.83%	
Verus	0.75%	1.89%	-0.31%	2.34%		5.94%		1.82%		2.46%		10.64%	
QMA US Small Cap (Net)	0.75%	1.89%	-0.31%	2.34%	0.00%	5.95%	-0.01%	1.82%	0.00%	2.46%	0.00%	10.64%	-0.01%
Russell 2000 Index	0.85%	2.88%	-0.40%	3.34%		5.67%		2.46%		2.47%		8.83%	
Verus	2.45%	0.56%	1.87%	4.95%		5.14%		8.83%		10.12%		-7.01%	
Baillie Gifford	2.45%	0.55%	1.85%	4.92%	0.03%	5.12%	0.02%	8.80%	0.03%	10.07%	0.01%	-7.01%	0.00%
MSCI ACWI ex US	1.89%	0.83%	2.27%	5.06%		6.25%		5.99%		7.98%		-1.20%	
MSCI ACWI ex US Growth	2.41%	1.12%	2.18%	5.81%		6.39%		7.74%		9.22%		-5.68%	
Verus	1.53%	1.05%	1.62%	4.26%		5.47%		6.32%		7.38%		-0.66%	
BlackRock EAFE Equity	1.53%	1.05%	1.62%	4.26%	0.00%	5.47%	0.00%	6.32%	0.00%	7.38%	0.00%	-0.65%	-0.01%
MSCI EAFE (Net)	1.52%	1.05%	1.61%	4.23%		5.40%		6.12%		7.25%		-0.71%	
MSCI EAFE (Gross)	1.53%	1.06%	1.62%	4.27%		5.47%		6.37%		7.39%		-0.68%	
Verus	1.47%	0.32%	2.22%	4.06%		5.05%		4.26%		8.23%		-1.01%	
Mondrian(Net)	1.46%	0.32%	2.20%	4.02%	0.04%	5.08%	-0.03%	4.29%	-0.03%	8.23%	0.00%	-0.97%	-0.04%
MSCI ACWI -ex US Value Index	1.37%	0.53%	2.36%	4.31%		6.11%		4.33%		6.82%		3.36%	
MSCI ACWI -ex US	1.89%	0.83%	2.27%	5.06%		6.25%		5.99%		7.98%		-1.20%	
Verus	1.24%	-0.55%	4.53%	5.24%		6.91%		3.44%		10.39%		-2.58%	
Parametric Core	1.26%	-0.54%	4.55%	5.30%	-0.06%	6.96%	-0.05%	3.47%	-0.03%	10.44%	0.00%	-2.54%	-0.04%
MSCI EM Market Index	3.51%	0.21%	3.64%	7.50%		8.04%		6.38%		11.49%		-4.08%	

Manager Performance Comparison (Gross of Fees)

Period Ending: December 31, 2017

	Oct	Nov	Dec	4th Qtr. 2017	Difference	3rd Qtr. 2017	Difference	2nd Qtr. 2017	Difference	1st Qtr. 2017	Difference	4th Qtr. 2016	Difference
Verus	-0.10%	-0.29%	0.03%	-0.36%		0.40%		0.73%					
BlackRock Intermediate Govt	-0.10%	-0.29%	0.04%	-0.35%	-0.01%	0.41%	-0.01%	0.73%					
BBgBarc US Govt Int Index	-0.13%	-0.31%	0.03%	-0.41%		0.85%		1.45%					
Verus	0.09%	-0.09%	0.47%	0.47%		1.13%		1.36%		1.24%		-2.66%	
FIAM Bond	0.09%	-0.09%	0.48%	0.48%	-0.01%	1.13%	0.00%	1.36%	0.00%	1.24%	0.00%	-2.66%	0.00%
BBgBarc US Aggregate Index	0.06%	-0.13%	0.46%	0.39%		0.85%		1.45%		0.82%		-2.98%	
Verus	0.02%	0.67%	0.81%	1.51%		2.09%		3.54%		2.25%		1.09%	
Western TRU	0.02%	0.67%	0.81%	1.51%	0.00%	2.09%	0.00%	3.54%	0.00%	2.25%	0.00%	1.09%	0.00%
3-Month Libor Total Return USD Index	0.12%	0.12%	0.15%	0.39%		0.34%		0.31%		0.27%		0.24%	
BBgBarc US Aggregate Index	0.06%	-0.13%	0.46%	0.39%		0.85%		1.45%		0.82%		-2.98%	
Verus (Net)				11.05%		-0.59%		4.18%		4.34%		2.54%	
Angelo Gordon Opportunistic				11.05%	0.00%	-0.59%	0.00%	4.18%	0.00%	4.34%	0.00%	2.54%	0.00%
BBgBarc US Aggregate Index				0.39%		0.85%		1.45%		0.82%		-2.98%	
Verus (Net)				3.13%		4.96%		6.13%		4.58%		1.99%	
Angelo Gordon STAR Fund (Net)				3.13%	0.00%	4.96%	0.00%	6.13%	0.00%	4.58%	0.00%	1.99%	0.00%
BBgBarc US Aggregate Index				0.39%		0.85%		1.45%		0.82%		-2.98%	
Verus	0.28%	0.51%	0.98%	1.79%		2.07%		1.95%		2.45%		3.56%	
Beach Point Select (Net)	0.28%	0.51%	0.98%	1.79%	0.00%	2.07%	0.00%	1.95%	0.00%	2.45%	0.00%	3.56%	0.00%
BBgBarc BA Intermediate HY	0.25%	-0.11%	0.01%	0.15%		1.72%		2.50%		1.76%		0.63%	
Verus	0.41%	-0.44%	0.36%	0.33%		1.40%		1.83%		3.84%		2.50%	
Brigade Capital (Net)	0.41%	-0.45%	0.32%	0.28%	0.05%	1.44%	-0.04%	1.77%	0.06%	3.77%	0.01%	2.50%	0.00%
BBgBarc BA Intermediate HY	0.25%	-0.11%	0.01%	0.15%		1.72%		2.50%		1.76%		0.63%	
50% BBgBarc HY/ 50% Bank Loan	0.54%	-0.07%	0.34%	0.82%		1.52%		1.46%		1.95%		2.00%	
Verus	0.45%	-0.16%	0.53%	0.82%									
PIMCO Diversified	0.45%	-0.16%	0.53%	0.82%	0.00%								
Blended PIMCO Diversified Index	0.48%	-0.19%	0.46%	0.75%									
BBgBarc BA Intermediate HY	0.25%	-0.11%	0.01%	0.15%									
Verus	-0.71%	0.53%	-1.13%	-1.31%		1.25%		-0.98%		5.27%		6.49%	
Franklin Templeton Investments	-0.71%	0.52%	-1.13%	-1.32%	0.01%	1.25%	0.00%	-0.98%	0.00%	5.27%	0.00%	6.49%	0.00%
BBgBarc Multiverse Index	-0.36%	1.07%	0.36%	1.06%		1.88%		2.64%		1.90%		-6.68%	
Verus				4.67%		2.69%		2.65%		2.06%		0.17%	
TCP Direct Lending VIII				4.67%	0.00%	2.69%	0.00%	2.65%	0.00%	2.06%	0.00%	0.17%	0.00%
Cliffwater Direct Lending Index				1.97%		1.72%		2.50%		1.76%		0.63%	

Manager Performance Comparison (Gross of Fees)

Period Ending: December 31, 2017

	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>4th Qtr.</u> <u>2017</u>	<u>Difference</u>	<u>3rd Qtr.</u> <u>2017</u>	<u>Difference</u>	<u>2nd Qtr.</u> <u>2017</u>	<u>Difference</u>	<u>1st Qtr.</u> <u>2017</u>	<u>Difference</u>	<u>4th Qtr.</u> <u>2016</u>	<u>Difference</u>
Verus				0.51%		-4.64%							
White Oak Yield				0.51%	0.00%	-4.64%	0.00%						
Cliffwater Direct Lending Index				1.97%		1.72%							
Verus	2.22%	0.55%	1.89%	4.72%		4.47%		1.46%		4.57%		-2.38%	
AQR GRP, 10% Volatility (Net)	2.22%	0.55%	1.89%	4.72%	0.00%	4.47%	0.00%	1.46%	0.00%	4.57%	0.00%	-2.39%	0.00%
60% R3000/ 40% BBgBarc Agg	1.30%	1.36%	0.90%	3.61%		3.21%		2.39%		3.76%		1.34%	
60% MSCI World/ 40% BBgBarc Glb	1.33%	1.77%	0.78%	3.93%		3.08%		2.80%		3.98%		0.17%	
Verus	3.11%	0.05%	1.18%	4.38%		2.98%		1.60%		4.16%		-5.19%	
PanAgora (Net)	3.11%	0.05%	1.18%	4.38%	0.00%	2.98%	0.00%	1.60%	0.00%	4.16%	0.00%	-5.19%	0.00%
60% R3000/ 40% BBgBarc Agg	1.30%	1.36%	0.90%	3.61%		3.21%		2.39%		3.76%		1.34%	
60% MSCI World/ 40% BBgBarc Glb	1.33%	1.77%	0.78%	3.93%		3.08%		2.80%		3.98%		0.17%	
Verus	0.93%	-0.89%	1.31%	1.33%		3.99%		-1.19%		1.42%		2.38%	
AQR DELTA XN (Net)	0.93%	-0.89%	1.31%	1.33%	0.00%	3.99%	0.00%	-1.19%	0.00%	1.43%	0.00%	2.38%	0.00%
Libor + 4%	0.44%	0.55%	0.46%	1.46%		1.22%		1.29%		1.11%		1.17%	
Verus	0.75%	0.27%	0.85%	1.87%		0.34%		0.81%		0.59%		1.80%	
Aberdeen Standard GARS (Net)	0.75%	0.27%	0.85%	1.87%	0.00%	0.34%	0.00%	0.81%	0.00%	0.59%	0.00%	1.80%	0.00%
Libor + 4%	0.44%	0.55%	0.46%	1.46%		1.22%		1.29%		1.11%		1.17%	
Verus				2.29%		1.48%		1.88%		2.55%		2.19%	
INVESCO Real Estate				2.26%	0.03%	1.46%	0.02%	1.88%	0.00%	2.54%	0.00%	2.17%	0.02%
NCREIF NFI ODCE Index				2.07%		1.87%		1.70%		1.77%		2.11%	
Verus				2.09%		5.56%		1.85%		2.90%		1.31%	
Invesco US Val IV				2.09%	0.00%	5.56%	0.00%	1.85%	0.00%	2.90%	0.00%	1.31%	0.00%
NCREIF NFI ODCE Index				2.07%		1.87%		1.70%		1.77%		2.11%	
NCREIF CEVA 1Q Lag - NET				3.00%		2.61%		1.36%		2.75%		2.54%	
Verus				2.52%									
PGIM RE US Debt Fund				2.52%	0.00%								
NCREIF NFI ODCE Index				2.07%									
Verus	0.27%	0.19%	0.79%	1.25%		0.76%		-0.58%		1.13%		-0.55%	
Brown Brothers Harriman	0.27%	0.19%	0.80%	1.26%	-0.01%	0.76%	0.00%	-0.60%	0.02%	1.13%	0.00%	-0.53%	-0.02%
BBgBarc U.S Tips	0.21%	0.13%	0.92%	1.26%		0.86%		-0.40%		1.26%		-2.41%	

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
12/31/2017	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 - adjusted market 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
12/31/2017	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.

As Of	Large Cap	Medium Large Cap	Medium Cap	Medium Small Cap	Small Cap
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

Market Capitalization Breakpoints

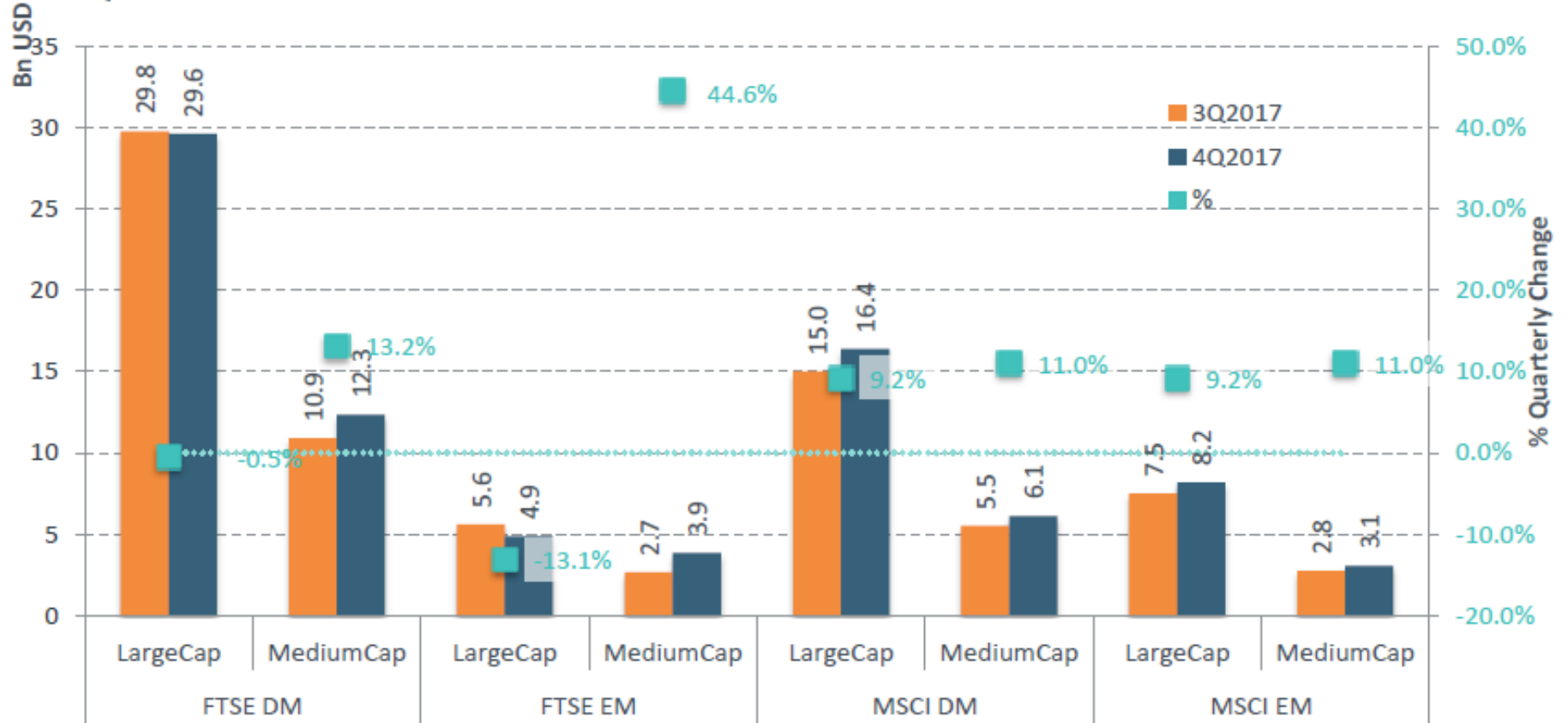
Period Ending: December 31, 2017

As Of	Large Cap	Medium Large Cap	Medium Cap	Medium Small Cap	Small Cap
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
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
3/31/2010	42.43	12.61	4.3	1.68	0

Numbers are billions USD

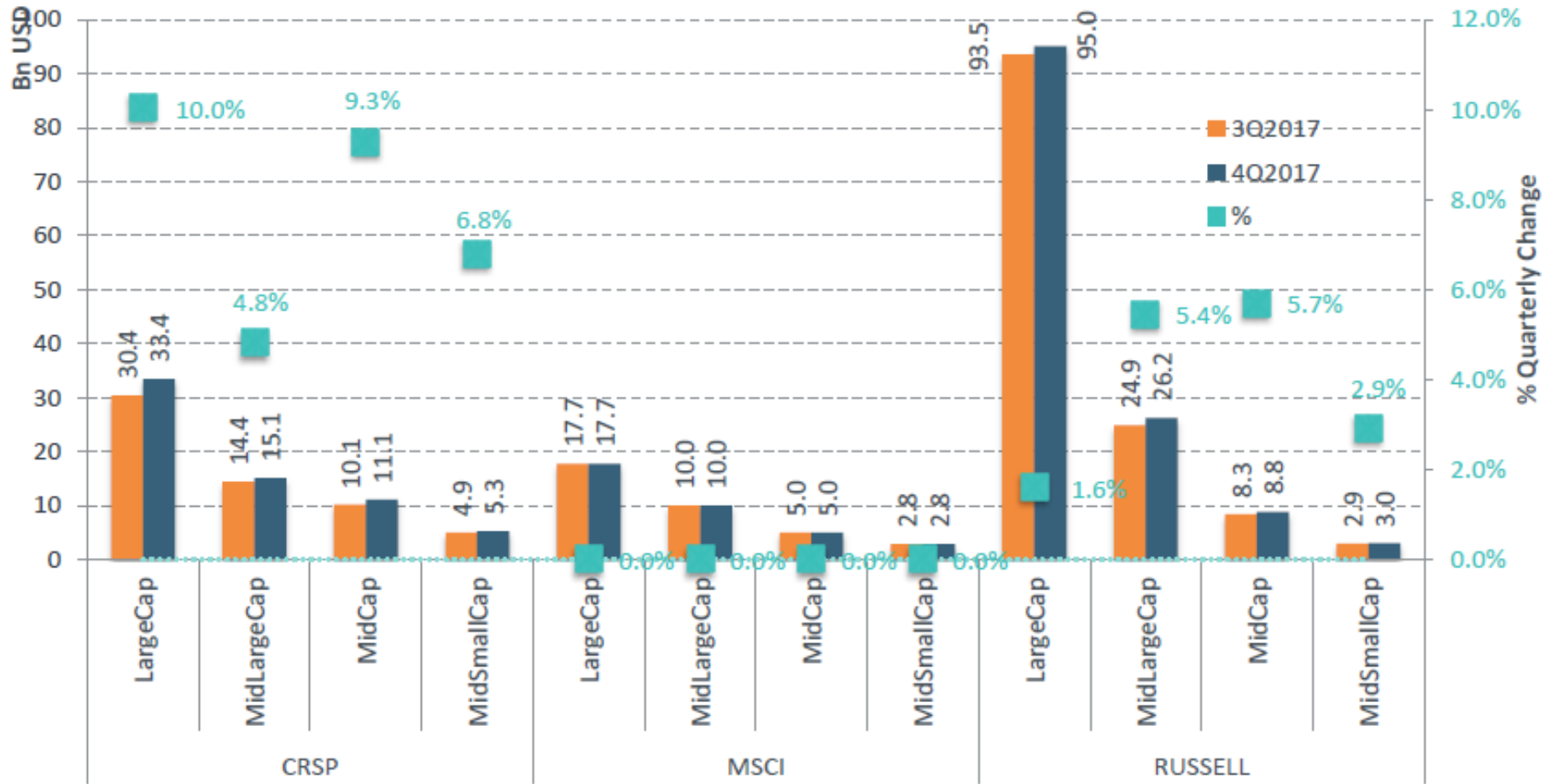
BREAKPOINT TRENDS

4Q2017 DEVELOPED AND EMERGING MARKET BREAKPOINT CHANGES



MSCI is releasing market capitalization breakpoints less frequently than FTSE, hence the market capitalization breakpoints are longer in effect, showing as no change.

4Q2017 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.



**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

1ST QUARTER 2018
Investment Landscape

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SAN FRANCISCO 415-362-3484

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4th quarter summary

THE ECONOMIC CLIMATE

- Global growth forecasts for 2018 have been revised higher, most notably in the Eurozone. U.S. expected 2018 GDP growth is 2.6%, above the expansion average. [p. 15](#)
- The Eurozone has experienced an impressive economic recovery. In the third quarter, real GDP accelerated to 2.6%, the fastest pace of growth since 2011. [p. 16](#)
- The House and Senate agreed to a final tax bill that was signed into law by President Trump on December 22nd. The bill, formally known as the Tax Cuts & Jobs Act, represents a major overhaul of the U.S. tax system. [p. 27](#)

PORTFOLIO IMPACTS

- A synchronized pickup in global economic growth, low inflation, strong employment, and accommodative central banks should support global equities moving forward. We recommend maintaining an overweight equity position. [p. 14](#)
- Markets remain expensive by most measures. However, it is important to note the merits and flaws of various valuation metrics. [p. 32](#)

THE INVESTMENT CLIMATE

- Global equities produced strong returns over the quarter and finished the year on a positive note. Emerging market equities led the way, driven by high earnings growth and expansion of valuation multiples off of low levels. [p. 25](#)
- The outlook for U.S. equity earnings has improved further, following the signing of the Tax Cuts and Jobs Act. S&P 500 earnings expectations for 2018 were revised upwards from 11.1% to 13.1%. [p. 27](#)
- U.S. high yield spreads became increasingly tight. Credit premiums are near all time lows, which may warrant an underweight to U.S. credit. [p. 22](#)

ASSET ALLOCATION ISSUES

- Risk assets continue to deliver strong performance, fueled by improving fundamentals and accelerating growth. The current environment appears accommodative for further gains. [p. 4](#)
- Equity volatility is very low, helped by stable economic conditions and inflation. Historically, low volatility has indicated less risk of an equity downside event. [p. 33](#)

We believe a moderate overweight to risk is warranted

What drove the market in Q4?

“Tax plan optimism propels Wall Street to record highs”

S&P 500 HIGH TAX RATE BASKET MONTHLY RETURN

Jul	Aug	Sep	Oct	Nov	Dec
0.9%	-1.9%	4.1%	0.5%	6.1%	5.8%

Article Source: Reuters, December 18th, 2017

“GDP swings up to 3.2% for best gain in three years”

U.S. REAL GDP (QUARTERLY ANNUALIZED RATE)

Q2 16	Q3 16	Q4 16	Q1 17	Q2 17	Q3 17
2.2%	2.8%	1.8%	1.2%	3.1%	3.2%

Article Source: U.S. News & World Report, November 29th, 2017

“U.S. yield curve hits its flattest point since November 2007”

10-YEAR MINUS 2-YEAR TREASURY YIELD SPREAD (BPS)

Jul	Aug	Sep	Oct	Nov	Dec
94	78	84	78	62	52

Article Source: Financial Times, November 21st, 2017

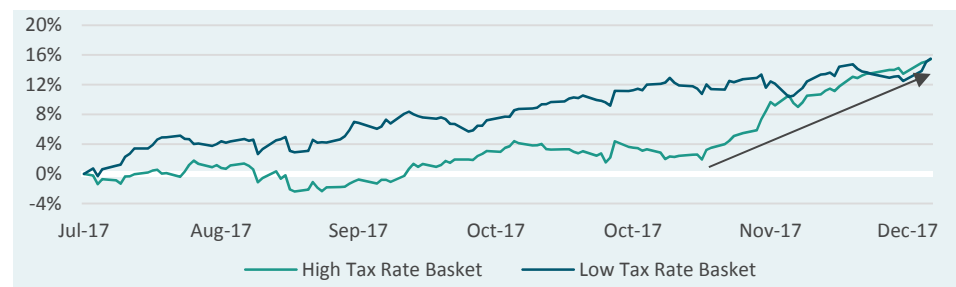
“Global manufacturers strain to keep up with faster economy”

GLOBAL PURCHASING MANAGERS INDEX (PMI)

Jul	Aug	Sep	Oct	Nov	Dec
53	53	53	54	54	55

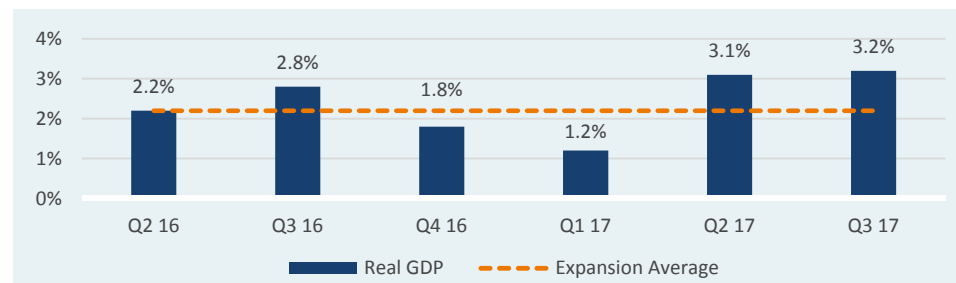
Article Source: Bloomberg, January 2nd, 2018

S&P 500 HIGH TAX RATE VS. LOW TAX RATE BASKET



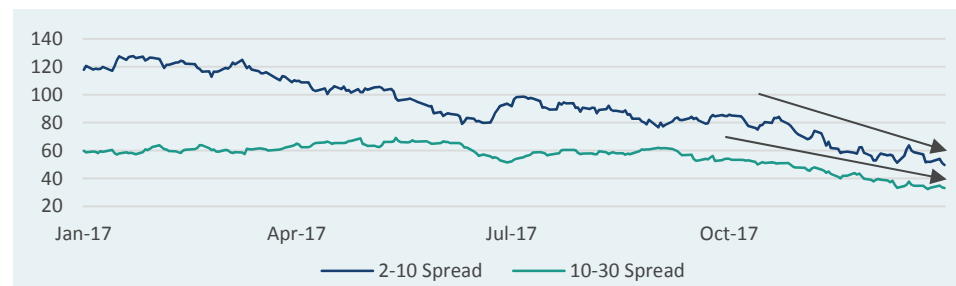
Source: Verus, Bloomberg, as of 1/4/18

REAL GDP VS. EXPANSION AVERAGE



Source: FRED, as of 9/30/17, quarterly annualized rate

U.S. YIELD CURVE SPREADS (BPS)



Source: Bloomberg, as of 1/4/18

Economic environment

U.S. economics summary

- U.S. real GDP grew 2.3% from the previous year in Q3, the fastest pace in more than two years. Growth was driven by consumer spending, private inventory accumulation, and business investment.
- Growth in business investment has provided a material support to the economy over recent periods for the first time in the recovery. Rising domestic and external demand has influenced companies to ramp up production. Survey based measures indicate firms are planning to increase capex over the next six months.
- Core inflation rose slightly from 1.7% to 1.8% over the quarter, driven by higher shelter prices. Strong demand, higher raw material prices, and a weaker dollar may provide modest pressures on inflation, but overall levels remain low. Any material rise in inflation would likely be met by more aggressive monetary tightening than what is priced into markets.
- The U3 unemployment rate fell further from 4.2% to 4.1%, its lowest level in 17 years.
- Net job creation averaged 204,000 per month in Q3 - above the expansion average of 196,000. Despite robust job gains and low unemployment, wage growth remained modest at 2.5% YoY.
- The Fed raised interest rates for the third time this year to a target rate of 1.25-1.50%. Fed dot plots indicate three more interest rate hikes in 2018, while the market is only forecasting two. Officials noted that strong economic growth is expected to continue, and raised the 2018 GDP forecast from 2.1% to 2.5%.

	Most Recent	12 Months Prior
GDP (YoY)	2.3% 9/30/17	1.5% 9/30/16
Inflation (CPI YoY, Core)	1.8% 12/31/17	2.2% 12/31/16
Expected Inflation (5yr-5yr forward)	2.1% 12/31/17	2.1% 12/31/16
Fed Funds Target Range	1.25 – 1.50% 12/31/17	0.50 – 0.75% 12/31/16
10 Year Rate	2.4% 12/31/17	2.4% 12/31/16
U-3 Unemployment	4.1% 12/31/17	4.7% 12/31/16
U-6 Unemployment	8.1% 12/31/17	9.1% 12/31/16

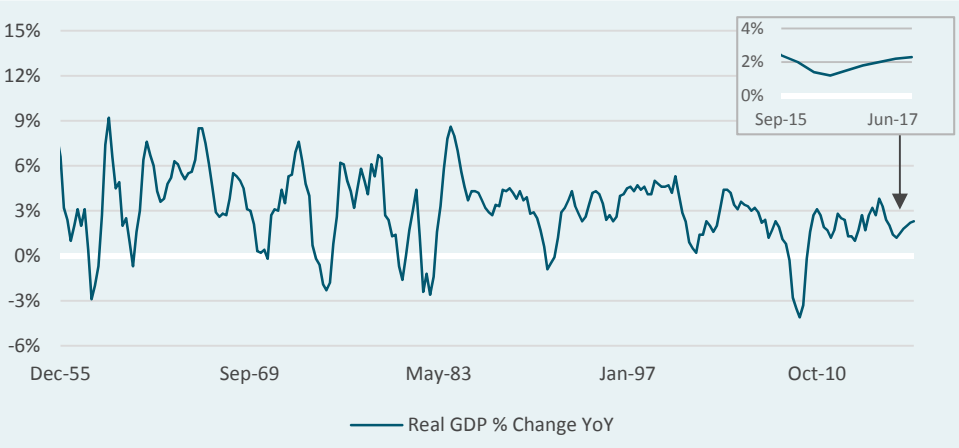
GDP growth

Real GDP rose by 2.3% from the previous year (3.2% quarterly annualized rate) in Q3, the fastest pace of growth in two years. Economic growth picked up meaningfully in 2017 and consumer and business surveys indicate further strength. Support to the economy includes strong consumer demand both domestically and abroad, low unemployment, and stable core inflation. Despite Fed moves toward normalizing monetary policy, financial conditions have yet to slow down the expansion, likely due to a slower pace of interest rate hikes than expected by the market.

All major components of the economy were positive contributors to growth in Q3, which has only happened in 6% of quarters since 1947. The main source of growth was consumer spending, which rose 2.5% from the previous quarter and contributed 1.4% to the overall growth rate. A faster pace of inventory accumulation was the second largest contributor to GDP, followed by non-residential business investment. According to the Atlanta Fed GDPNow forecast, real GDP growth is expected to be 3.3% in Q4. Looking ahead to 2018, we believe the economic backdrop is positive, and will remain supportive of the recent pickup in growth.

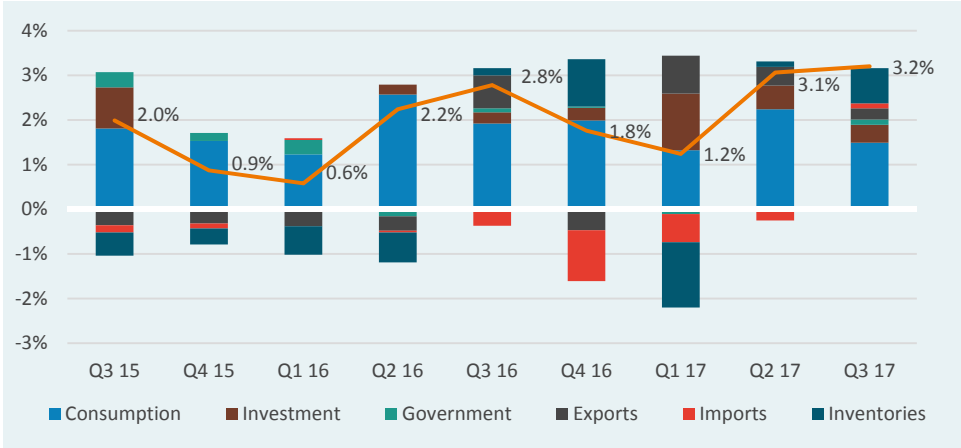
Economic growth has accelerated over the past two quarters

U.S. REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 9/30/17

U.S. GDP COMPONENTS



Source: BEA, annualized quarterly rate, as of 9/30/17

Business investment

During most of the current expansion, corporate investment has been minimal. Many companies have held higher than normal cash balances or used the abundant liquidity created by easy monetary policy to buy back stock. Over the past year, however, there has been a meaningful increase in business capital expenditure (capex) as firms have needed to ramp up production to meet rising global demand. With the labor market close to full employment and jobs more difficult to fill, businesses may rely on investment to meet rising demand. Moving

forward, business capex will likely be an important factor if economic growth is set to continue.

Survey based measures indicate that businesses are making plans to increase investment over the next six months. In addition to rising demand, the changes to the U.S. tax code should provide incentives for businesses to invest. Most notably, the mandatory repatriation of foreign profits at a special tax rate will give firms an ample source of cash that can be used for investment.

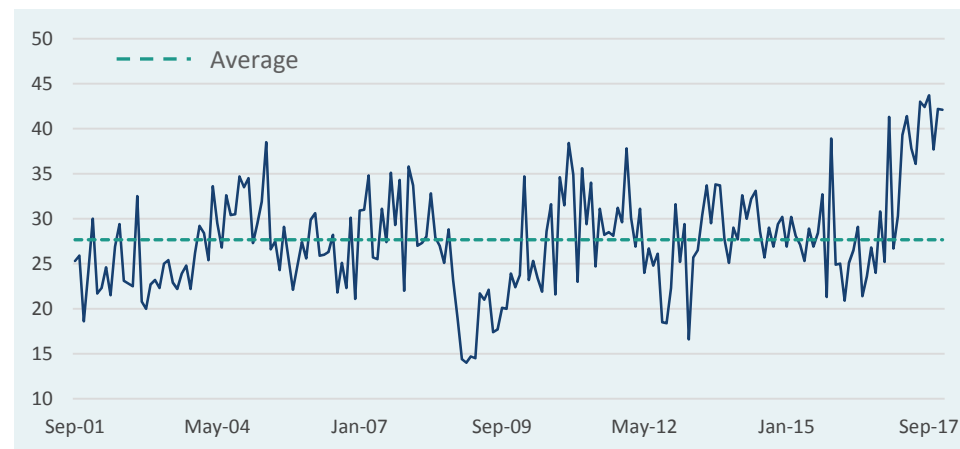
Business investment has been a material contributor to the recent pickup in growth

NON-FINANCIAL CORPORATE CAPEX GROWTH (YOY)



Source: Bloomberg, as of 9/30/17

SIX MONTH FORECAST OF CAPEX INCREASES



Source: Philadelphia FRB Business Outlook Survey, the x-axis represents the % of firms expecting to increase capex minus the % of firms expecting to decrease capex over the next six months

Inflation

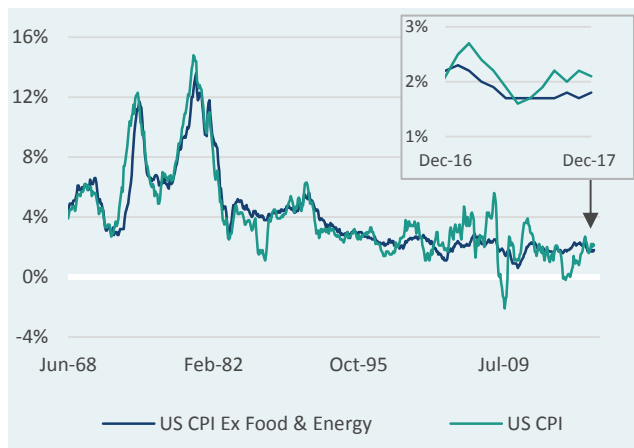
Core U.S. inflation picked up slightly to 1.8% YoY in December, a rise from 1.7% in September. Increases in housing and healthcare costs contributed to the move. Headline inflation fell from 2.2% to 2.1% over the quarter.

Market based inflation expectations increased slightly as the 10-year TIPS breakeven inflation rate moved from 1.8% to 2.0%. Investors expect inflation to stay low for the long-run based on market pricing.

Low inflation remains a roadblock for central banks hoping to normalize interest rates. However, lower inflation may benefit markets overall by dampening the need for central bank market intervention, which contributes to lower borrowing costs and lower market volatility through greater price stability. The current inflation level may provide markets with a happy medium.

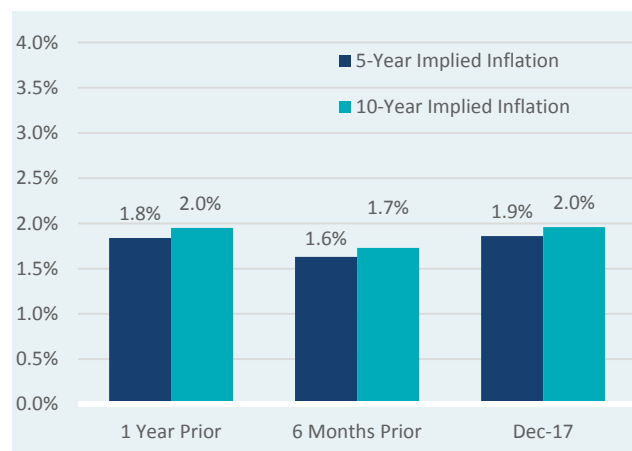
Low inflation may be supportive of further economic expansion

U.S. CPI (YOY)



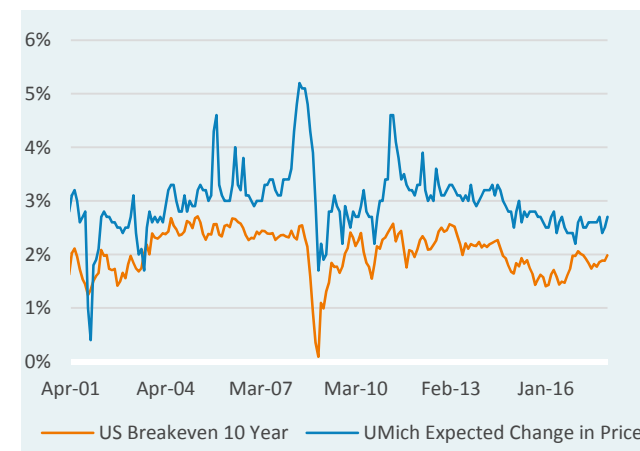
Source: FRED, as of 12/31/17

U.S. TIPS BREAKEVEN RATES



Source: Federal Reserve, as of 12/31/17

INFLATION EXPECTATIONS



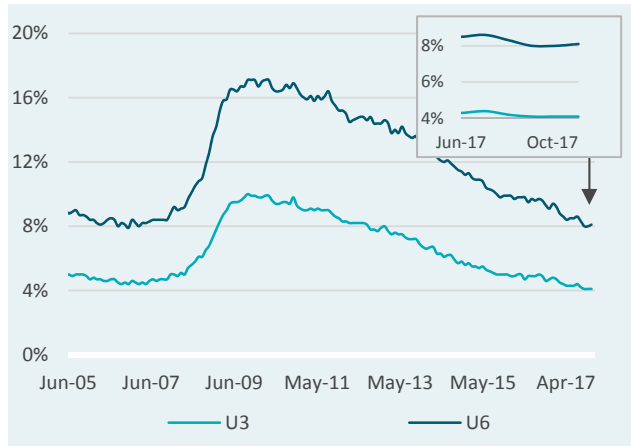
Source: Bloomberg, as of 12/31/17

Labor market

The U.S. labor market tightened further as unemployment fell from 4.2% to 4.1% over the quarter. Net job creation was robust, averaging 204,000 per month in the third quarter, higher than the expansion average of 196,000. A falling unemployment rate and above average job creation points toward some remaining slack in the labor market despite the longer length of the recovery relative to history. Wage growth improved modestly at 2.5% YoY, but remains below average relative to past economic expansions.

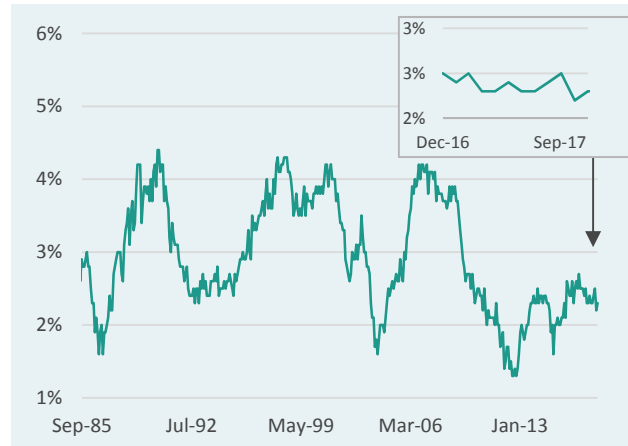
In previous quarters, we noted that the headline unemployment rate may be overstating tight labor market conditions due to discouraged or longer-term unemployed workers not included in traditional measures. It appears these individuals are slowly making their way back into the labor force, especially during the past two years. The core age (25-54) participation rate was 81.9% in December, up from a low of 80.6% in September of 2015. This figure was 83.3% prior to the global financial crisis, suggesting there may still be room for additional workers to reenter the labor force.

UNEMPLOYMENT RATE



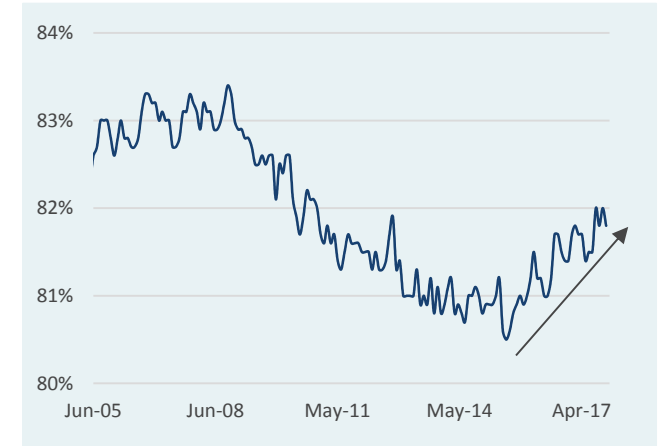
Source: FRED, as of 12/31/17

AVERAGE HOURLY EARNINGS (YOY)



Source: Bloomberg, as of 11/30/17

CORE AGE PARTICIPATION RATE



Source: FRED, as of 12/31/17

The consumer

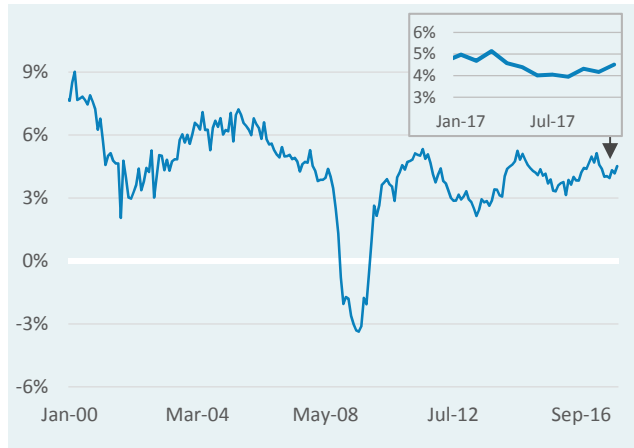
Positive economic conditions are providing continued support to strong consumer demand, although this has not led to signs of late-cycle overheating. Consumer spending was 4.5% YoY in November, up from 4.0% three months prior.

Low unemployment, low inflation, and modest wage gains have helped create consistent growth in consumer spending. Monetary tightening has yet to have a material negative impact on consumers through higher borrowing costs and increasing interest payments on existing debt. Furthermore,

a portion of individual costs are determined by the long end of the curve, which has remained fairly stable.

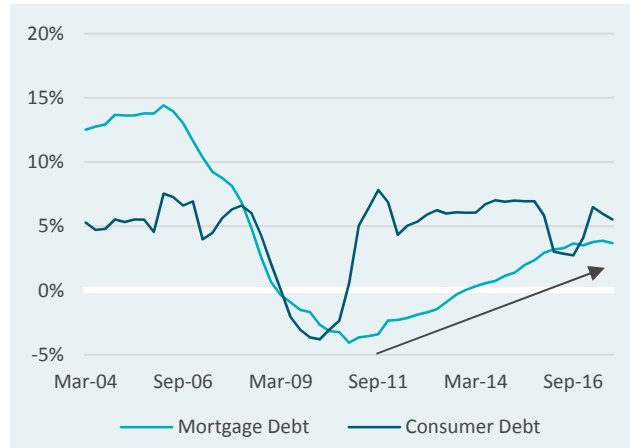
Low interest rates have not led individuals to take on large debt loads as both borrowers and lenders remain cautious. Consumer debt has seen modest growth, while mortgage debt is still recovering from a sharp decline following the 2008-2009 financial crisis. Growth in consumer debt has been mostly fueled by increases in student and auto loans, which would likely be impacted by further interest rate rises.

CONSUMER SPENDING (YOY GROWTH)



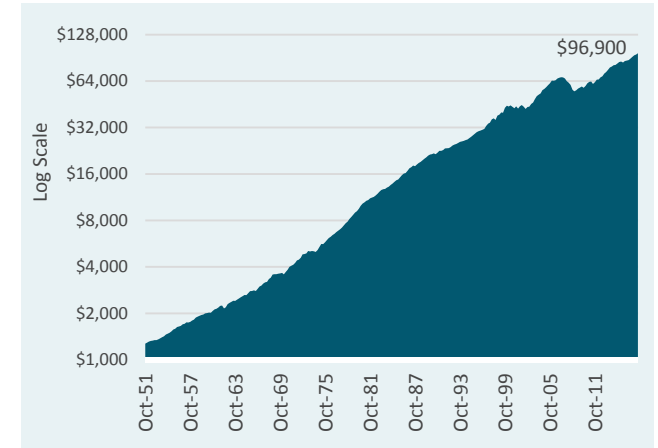
Source: Bloomberg, as of 11/30/17

DEBT GROWTH (YOY)



Source: FRED, as of 9/30/17

HOUSEHOLD NET WORTH



Source: Bloomberg, as of 7/31/17

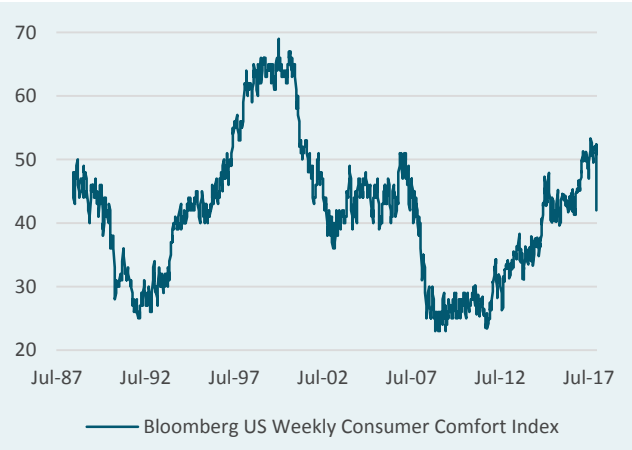
Sentiment

Measures of consumer and business sentiment remained above average in the fourth quarter. The University of Michigan Consumer Sentiment Index was 95.9 in December, which placed it in the 85th percentile relative to its own history, since 1978. The average value of the index in 2017 was the highest since 2000, driven by consumers' positive attitudes toward current economic conditions. U.S. tax reform did not result in an increase in sentiment and was only mentioned by 29% of respondents, who demonstrated mixed reactions.

The NFIB Small Business Optimism Index increased to 107.5 in November – near a record high. This indicator jumped following the election in 2016 and has stayed high, reflecting positive attitudes towards policy changes, deregulation, and economic conditions. A net 37% of small businesses expect the economy to improve and a net 27% are planning on increasing capital outlays. Companies also reported that finding qualified workers to hire is getting increasingly difficult. Higher labor costs would be a headwind to small businesses.

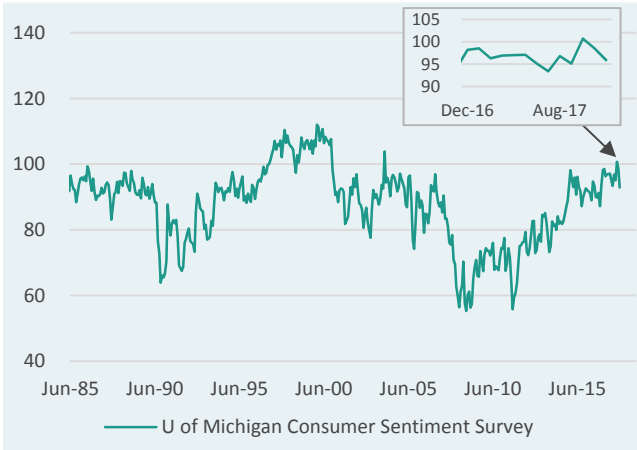
Consumers and small businesses have a positive outlook on the economy

CONSUMER COMFORT INDEX



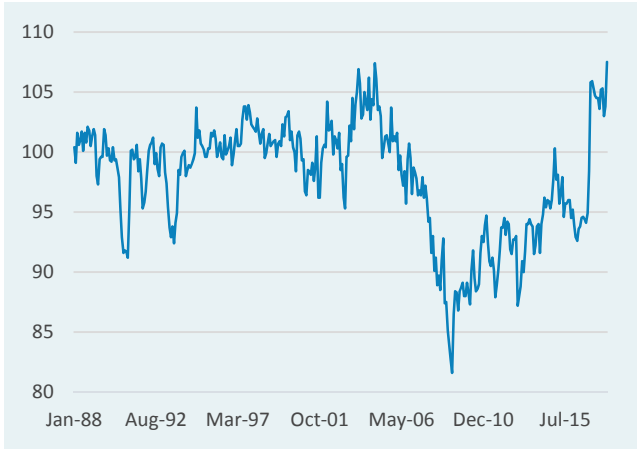
Source: Bloomberg, as of 12/31/17 (see Appendix)

CONSUMER SENTIMENT



Source: University of Michigan, as of 12/31/17 (see Appendix)

NFIB SMALL BUSINESS OPTIMISM INDEX



Source: NFIB, as of 11/30/17 (see Appendix for details)

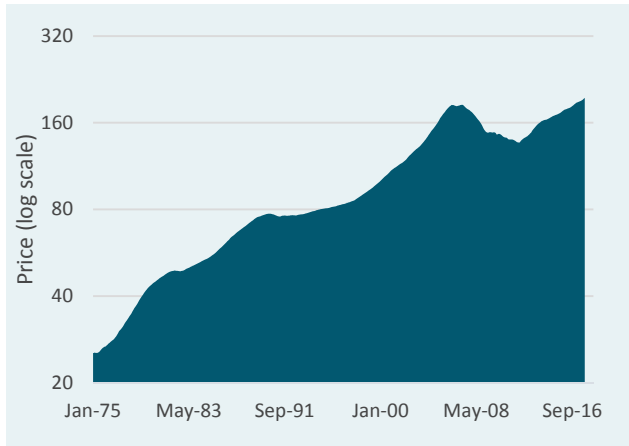
Housing

Growth in U.S. home prices has steadily accelerated over the past three years. National home prices increased 6.2% YoY in October, according to the S&P/Case-Shiller Index, up from a growth rate of 5.2% one year prior. Sales growth continued to be constrained by a lack of supply, which has helped lead to higher prices due to demand outpacing supply. At the current sales rate, it would take only 4.7 months to completely exhaust the supply in the market, below the long-term historical average of 6.1.

Thus far, tightening from the Fed has not led to a material rise in mortgage rates. Home ownership has remained affordable as lower interest costs have somewhat offset rising home prices.

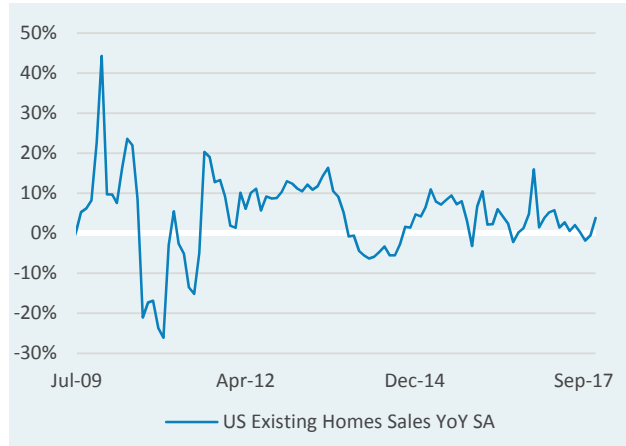
Total mortgage debt outstanding has just recently recovered from the global financial crisis. Mortgage lending standards are still tight, which has led to a higher quality pool of mortgage borrowers relative to past cycles.

CASE-SHILLER HOME PRICE INDEX



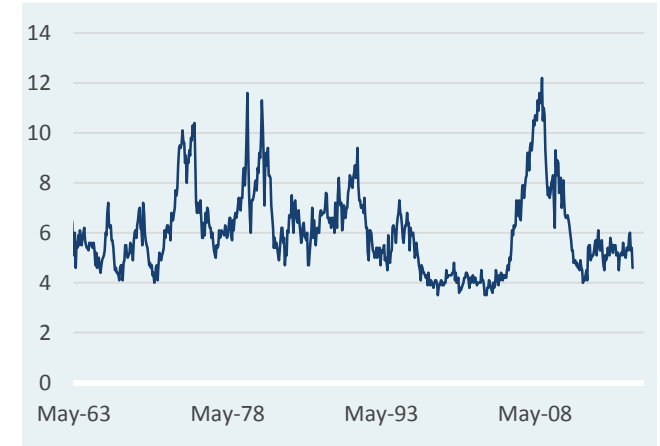
Source: FRED, as of 10/31/17

HOUSING SALES



Source: Bloomberg, as of 11/30/17

MONTHLY SUPPLY OF HOMES



Source: FRED, as of 11/30/17

International economics summary

- Economic growth advanced in the third quarter across developed and emerging markets. The United States grew at 2.3% YoY, the Eurozone improved to 2.6%, and overall growth in the BRICS nations accelerated to 5.6%. Central bank policy is still broadly accommodative, which is supportive of continued progress.
- Expectations for global GDP growth for the next two years has been revised upward in the past six months, according to the consensus estimate from Bloomberg. The upward revision to global growth forecasts were driven by the Eurozone and emerging markets.
- A pickup in lending and investment, strong external demand, and accommodative monetary policy has helped fuel an impressive economic recovery in the Eurozone. GDP grew 2.6% in Q3 from the

previous year and the unemployment rate fell to 8.8%, the lowest level in nine years.

- PMIs across major markets were all above 50, indicating further expansion in the manufacturing sector.
- There are still concerns of a hard landing in China because the central bank has been tightening financial conditions on the short-end of the yield curve to reign in excessive leverage. Thus far, this process has been successful with economic growth slowing only moderately.
- Low inflation in developed economies has persisted, contributing to slower monetary tightening as central banks have been reluctant to raise rates too quickly.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.3% <i>9/30/17</i>	2.1% <i>12/31/17</i>	4.1% <i>12/31/17</i>
Western Europe	2.5% <i>9/30/17</i>	1.6% <i>12/31/17</i>	7.4% <i>12/31/17</i>
Japan	2.1% <i>9/30/17</i>	0.6% <i>11/30/17</i>	2.7% <i>11/30/17</i>
BRICS Nations	5.6% <i>9/30/17</i>	2.0% <i>12/31/17</i>	5.7% <i>9/30/17</i>
Brazil	1.4% <i>9/30/17</i>	3.0% <i>12/31/17</i>	12.1% <i>12/31/17</i>
Russia	1.8% <i>9/30/17</i>	2.5% <i>12/31/17</i>	5.1% <i>11/30/17</i>
India	5.3% <i>9/30/17</i>	4.9% <i>11/30/17</i>	8.0% <i>12/31/16</i>
China	6.8% <i>9/30/17</i>	1.8% <i>12/31/17</i>	4.0% <i>9/30/17</i>

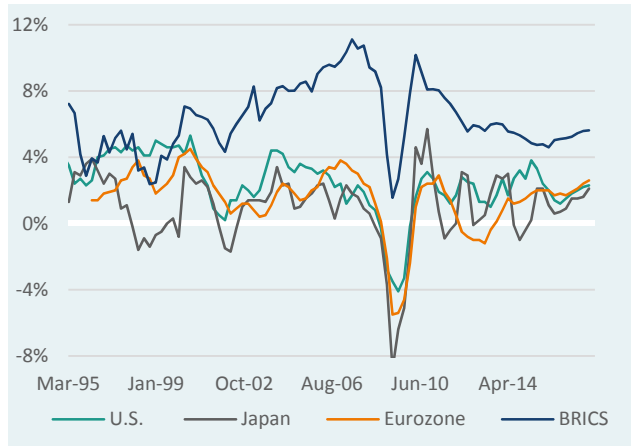
International economics

Economic growth accelerated broadly over the quarter, while inflation remained moderate in the developed world and fell in many emerging markets. Emerging economies appear to be very early in their cycle. Brazil and Russia recently pulled out of recession, with economic slack and room for expansion. Improving economic conditions and rising global demand have led to a material pickup in growth expectations for future years. The consensus forecast for 2018 Eurozone real GDP growth was revised upwards by 50 bps over the past six months.

Central bank policies in developed markets remained accommodative, but the intent to move towards tighter financial conditions has been clearly communicated. Stimulus from central banks, notably the ECB and BOJ, is likely still necessary to support the recent improvement in economic growth. A lack of pressure in inflation, however, should allow central banks to take a careful approach to future policy changes.

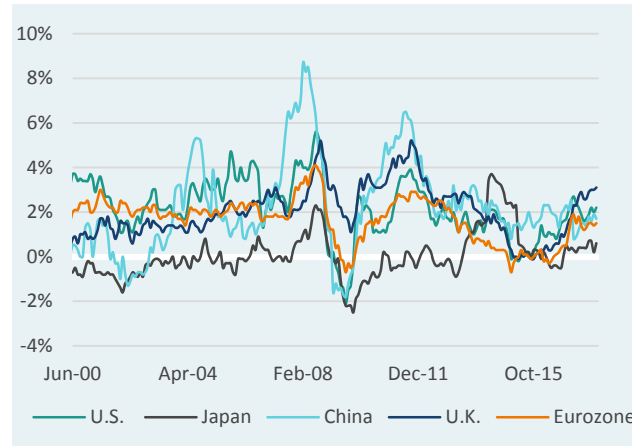
Growth accelerated, while inflation remained moderate

REAL GDP GROWTH (YOY)



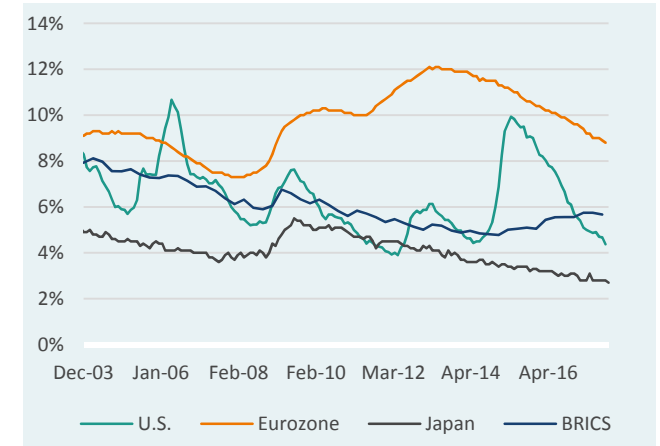
Source: Bloomberg, as of 9/30/17

INFLATION (CPI)



Source: Bloomberg, as of 11/30/17

UNEMPLOYMENT



Source: Bloomberg, as of 11/30/17 or most recent release

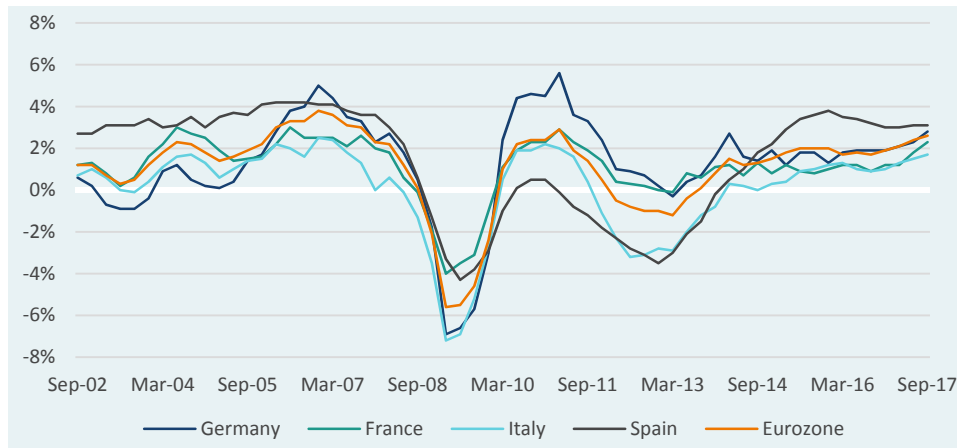
Eurozone economic recovery

A pickup in lending and investment, strong external demand, and accommodative monetary policy has helped fuel an impressive economic recovery in the Eurozone. In Q3, real GDP was 2.6% YoY - its highest rate of growth since 2011. Economic data has come in better than expected for most of the past year and economic forecasts have been revised upwards significantly. Additionally, labor markets have also improved markedly with the overall Eurozone unemployment rate falling from 9.6% to 8.8% over the past year, with further room for improvement.

The continuing recovery is not without risks. Most notably, economies are still heavily reliant on monetary stimulus. The ECB has already started to taper asset purchases, although any additional tightening will likely be considered with caution. The recovery in economic conditions has been led by Germany, while periphery countries such as Italy and Spain have lagged behind and are still experiencing high unemployment rates. Finally, political risk in Europe, such as the Italian election this year, is still lurking in the background.

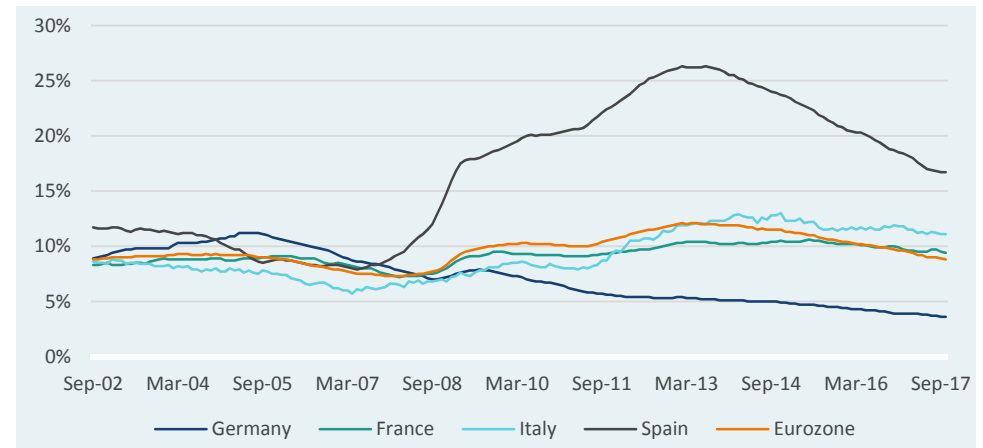
The Eurozone is experiencing an impressive economic recovery

REAL GDP GROWTH



Source: Bloomberg, as of 9/30/17

UNEMPLOYMENT RATE



Source: Bloomberg, as of 10/31/17

Global PMIs

PMI 1 YEAR (CROSS SECTION) – BLUE HIGH / ORANGE LOW

	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17
Manufacturing												
Global	53	53	53	53	53	53	53	53	53	54	54	55
Developed	54	54	54	54	54	54	54	54	55	55	56	56
US	56	58	57	55	55	58	56	59	61	59	58	60
UK	55	55	54	57	56	54	55	57	56	56	58	56
Eurozone	55	55	56	57	57	57	57	57	58	59	60	61
Germany	56	57	58	58	60	60	58	59	61	61	63	63
Japan	53	53	52	53	53	52	52	52	53	53	54	54
EM	51	51	52	51	51	51	51	52	51	51	52	52
Services												
Global	54	53	54	54	54	54	54	54	54	54	54	54
Developed	55	54	54	54	54	55	55	55	55	55	54	54
US	57	58	55	58	57	57	54	55	60	60	57	56
UK	55	53	55	56	54	53	54	53	54	56	54	54
Eurozone	54	56	56	56	56	55	55	55	56	55	56	57
Germany	53	54	56	55	55	54	53	54	56	55	54	56
Japan	52	51	53	52	53	53	52	52	51	53	51	51
EM	54	56	56	56	56	55	55	55	56	55	56	57

Source: Bloomberg, as of 12/31/17 – PMIs are based on survey data compiled from purchasing and supply managers. Survey questions are asked about several different components of each sector, such as new orders, employment, prices, etc. The final PMI reading is based on the percentage of respondents with a positive view on the sector. A reading above 50 indicates expansion in the sector while a reading below 50 indicates contraction. Historically, PMIs have had a relatively strong positive relationship with actual economic activity.

Fixed income rates & credit

Interest rate environment

- On December 13th, the Federal Reserve raised the benchmark interest rate by 25 bps to a target range of 1.25%-1.50%. The Fed has communicated three rate hikes in 2018, while the market is pricing in only two.
- U.S. Treasury yields experienced significant increases on the short end of the curve, while longer term rates were modestly higher. The 2- and 10-year yields rose 40 bps and 8 bps, respectively. The increase in short-term rates was likely caused by the Fed raising overnight borrowing rates.
- The Fed began to reduce its balance sheet slowly. Approximately \$30 billion in Treasuries and mortgage-backed securities were trimmed from the balance sheet over the quarter, which did not have a material impact on the market.
- Minutes from the ECB meeting in December showed that officials discussed additional tapering of asset purchases in early 2018 due to stronger than expected economic growth.
- Markets generally expect minimal yield rises across developed markets – between 0% and 0.3% movement over the next year in U.S., U.K., German, and Japanese sovereign bonds. However, we remain watchful of bond market reactions to balance sheet unwinding, given the unprecedented size of central bank assets.
- We remain underweight to U.S. and developed sovereign bonds (currency hedged) primarily due to low yields. It is important to keep in mind the diversification benefits that fixed income provides to the portfolio, despite near record prices.

Area	Short Term (3M)	10 Year
United States	1.38%	2.41%
Germany	(0.80%)	0.42%
France	(0.78%)	0.78%
Spain	(0.58%)	1.56%
Italy	(0.63%)	2.00%
Greece	1.40%	4.10%
U.K.	0.36%	1.19%
Japan	(0.15%)	0.04%
Australia	1.74%	2.63%
China	3.95%	3.90%
Brazil	6.77%	10.25%
Russia	6.55%	7.42%

Source: Bloomberg, as of 12/31/17

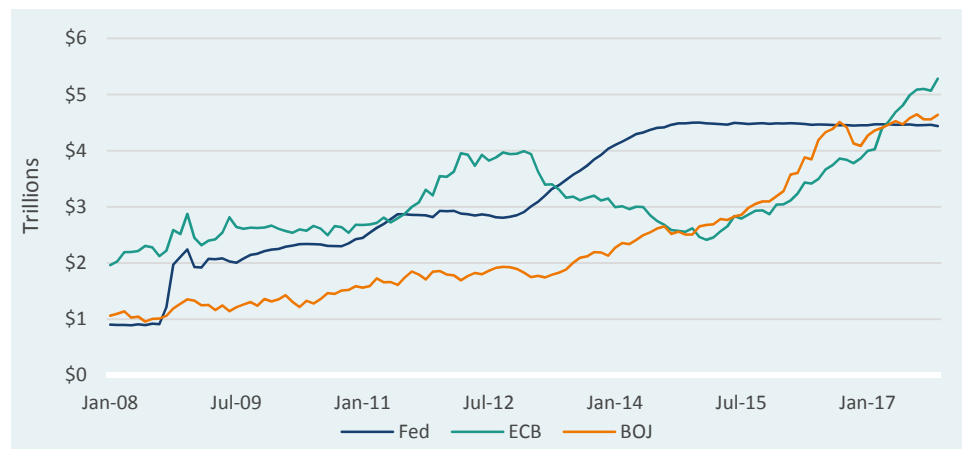
Monetary policy

The global shift towards tighter monetary policy will be an important theme in financial markets moving forward, and the possibility of a policy mistake represents a major risk. Thus far, the Fed is the only major central bank to take steps to tighten policy by raising interest rates and trimming its balance sheet. Moderate inflation has allowed the Fed to take a cautious approach to tightening, which at this point does not appear to have had a material impact on markets. While other central banks remain accommodative, several have begun tightening, including a rate hike from the BOE, and asset purchase tapering from the ECB.

Looking ahead at the next two years, there is not much monetary tightening priced into markets, which creates greater chance of a negative surprise. In the current cycle, central banks have been cautious and worked hard to clearly communicate changes in policy to avoid market surprises. We think this behavior is likely to continue, but with so little priced into markets even a slightly faster pace of tightening than expected might have a significant impact. A policy mistake is especially a concern for the Eurozone and Japan because improving economic conditions are probably still dependent on support from monetary stimulus.

Very little monetary tightening is priced into markets

MAJOR CENTRAL BANK BALANCE SHEET SIZE



Source: Bloomberg, as of 11/30/17

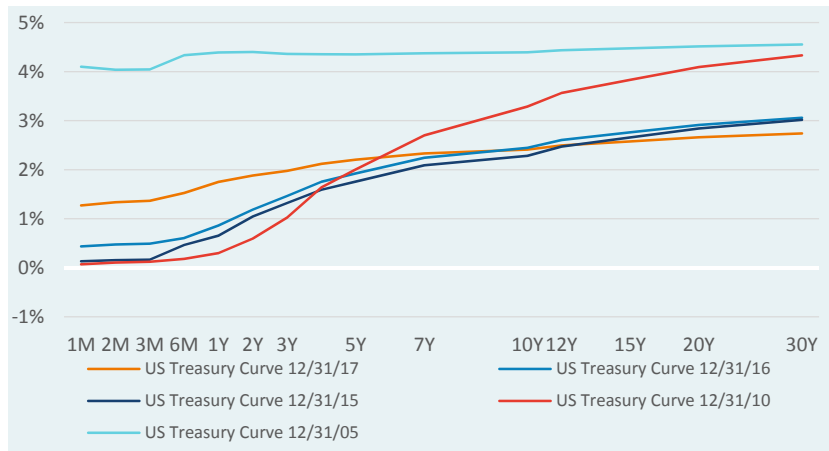
MAJOR CENTRAL BANK POLICY RATES AND EXPECTATIONS

	Policy Rate	Rate Hikes in 2017	Market Pricing YE 2018	Market Pricing YE 2019
Fed	1.4%	3	1.9%	2.1%
ECB	-0.4%	0	-0.3%	-0.1%
BOJ	-0.1%	0	-0.1%	0.0%
BOE	0.5%	1	0.7%	0.9%

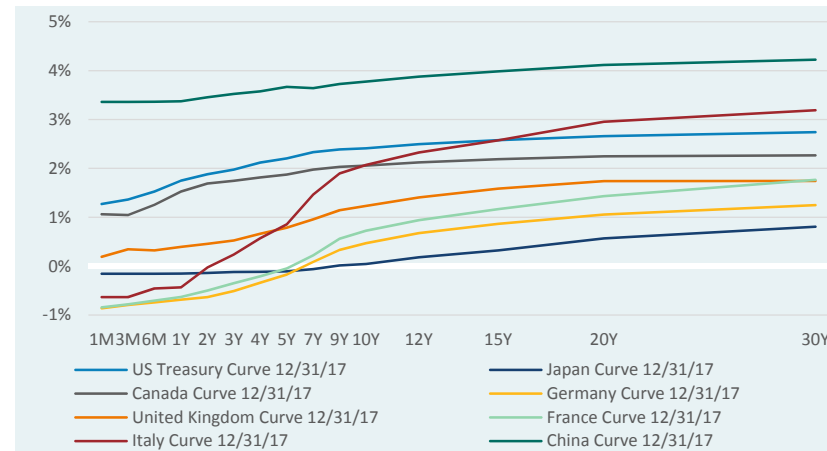
Source: Bloomberg, as of 1/4/18

Yield environment

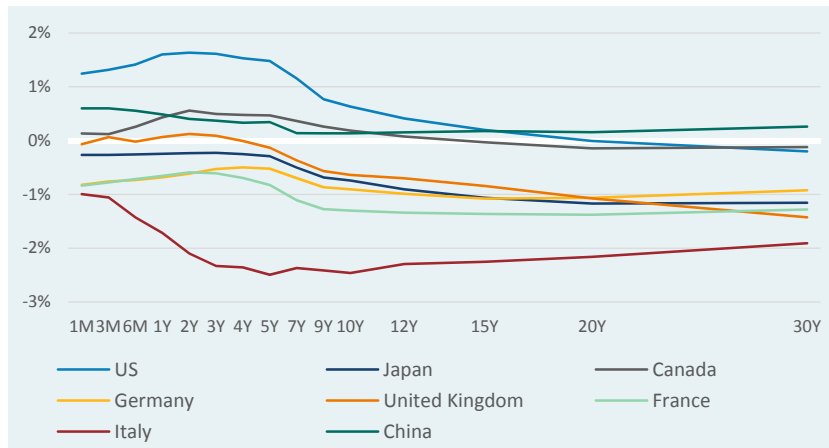
U.S. YIELD CURVE



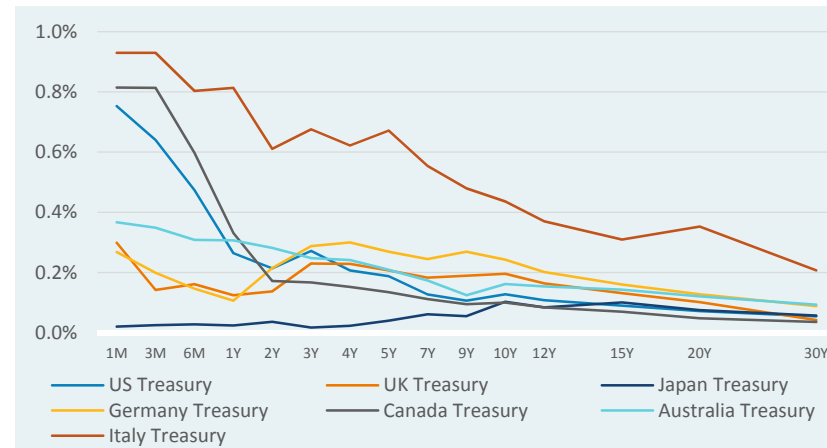
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 12/31/17

Credit environment

Credit spreads fell throughout 2017 to all-time tight levels. U.S. high yield option-adjusted spreads compressed in the fourth quarter to 3.4%, and the asset class generated a 0.5% total return for the quarter and 7.5% for 2017 (BBgBarc U.S. Corp. High Yield Index). High yield spreads are tighter than those of bank loans on a duration-neutral basis.

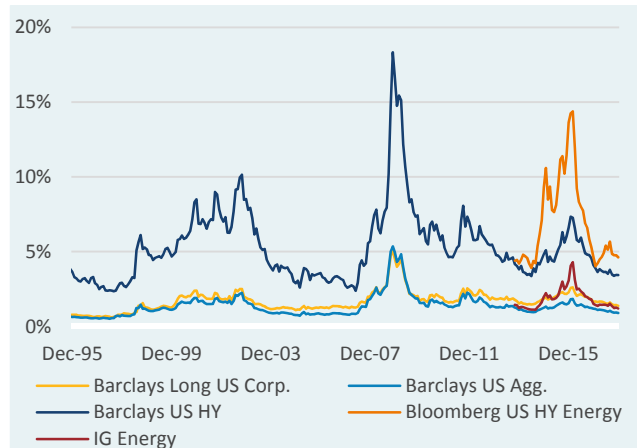
Credit spreads in both high yield and loans have continued to tighten close to multi-year lows, driven by strong corporate fundamentals and general macroeconomic improvement.

The combination of tighter credit spreads and higher yields over Treasuries led credit to broadly outperform U.S. Treasuries in Q4. High yield spreads began the year at 4.1% and tightened by 66 bps in 2017. Credit spreads have historically been a good indicator of future performance relative to Treasuries.

Based on low interest rates and tight spreads, we recommend an underweight to U.S. investment and high yield credit.

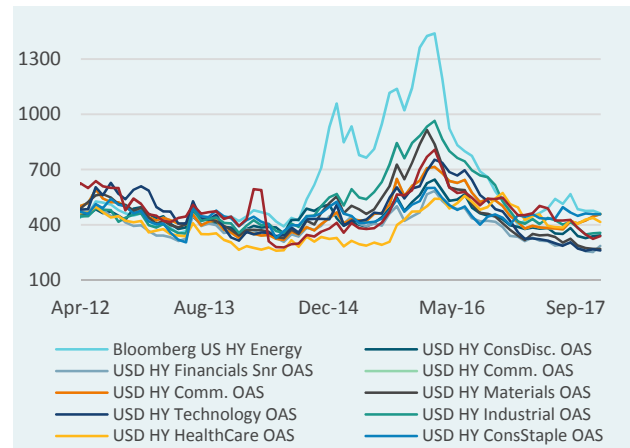
Credit spreads are tight across the capital structure

SPREADS



Source: Barclays, Bloomberg, as of 12/31/17

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 12/31/17

Market	Credit Spread (12/31/17)	Credit Spread (1 Year Ago)
Long US Corporate	1.4%	1.6%
US Aggregate	0.9%	1.2%
US High Yield	3.4%	4.1%
US High Yield Energy	4.6%	4.6%
US Bank Loans	3.6%	3.9%

Source: Barclays, Credit Suisse, Bloomberg, as of 12/31/17

Issuance and default

Default activity remains low and stable in U.S. and international credit markets. The par-weighted U.S. default rate remains below its long-term average of 3.0-3.5%. Four U.S. companies defaulted in December totaling \$1.6 Billion in bonds and \$582 Million in loans. Total default activity during 2017 was at levels not seen since 2013.

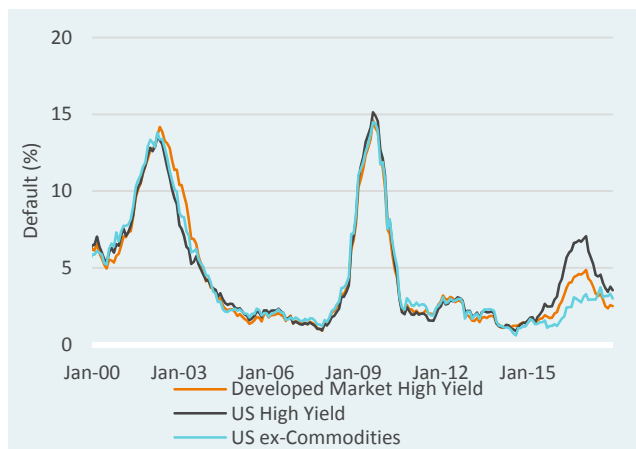
Senior loan and high yield markets normalized in 2017, compared to 2016 when a majority of defaults were generated from energy and metals/mining sectors.

Issuance in bonds and loans both increased in 2017. The majority of proceeds were used for refinancing activity as the market continues to be borrower-friendly, allowing issuers to refinance at lower rates.

Active management may offer value to investors in the high yield space.

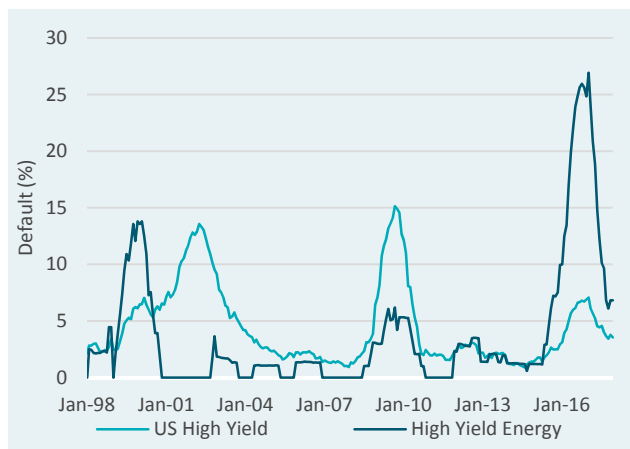
The effects of commodity related defaults are subsiding

HY DEFAULT TRENDS (ROLLING 1 YEAR)



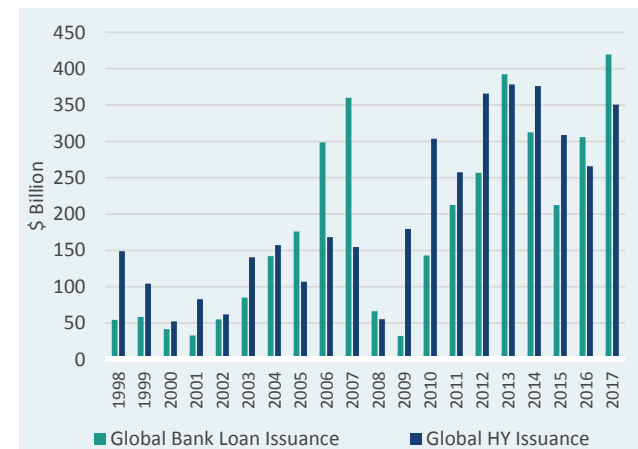
Source: BofA Merrill Lynch, as of 12/31/17

ENERGY DEFAULT TRENDS



Source: BofA Merrill Lynch, as of 12/31/17

GLOBAL ISSUANCE



Source: Bloomberg, BofA Merrill Lynch, as of 12/31/17

Equity

Equity environment

- We maintain an overweight position to equities with a preference for emerging markets. Equity markets delivered strong returns over the quarter and were supported by robust earnings growth. Emerging markets provided outsized gains as is often the case in periods of strong economic growth.
- U.S. corporate earnings are expected to increase by 13.1% YoY in 2018 according to Factset. Expectations improved by a net 2% following the Tax Cuts & Jobs Act, which lowered the corporate tax rate from 35% to 21%, effective January 1st, 2018. Energy and Financial sectors are expected to lead in earnings with growth of 47% and 25%, respectively.
- The way businesses spend tax savings may have significant positive effects on wages, capital investment, and equity returns.

We will be monitoring this activity throughout the year.

- Equity volatility has stayed extraordinarily low. U.S. market volatility over the past year was 3.9% (S&P 500), followed by International at 4.2% (MSCI EAFE) and emerging markets at 6.5% (MSCI Emerging Markets). Low equity volatility has historically indicated less risk of an equity downside event.
- Currency movement contributed to volatility and uncertainty in international assets for investors with unhedged exposure. Recently, the U.S. dollar has weakened, creating a tailwind for unhedged performance.

	QTD TOTAL RETURN		YTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (Russell 1000)	6.6%		21.7%		21.7%	
US Small Cap (Russell 2000)	3.3%		14.6%		14.6%	
US Large Value (Russell 1000 Value)	5.3%		13.7%		13.7%	
US Large Growth (Russell 1000 Growth)	7.9%		30.2%		30.2%	
International Large (MSCI EAFE)	4.3%	4.0%	25.7%	16.8%	25.7%	16.8%
Eurozone (Euro Stoxx 50)	(0.4%)	(1.8%)	25.3%	11.1%	25.3%	11.1%
U.K. (FTSE 100)	6.0%	5.3%	22.6%	12.9%	22.6%	12.9%
Japan (NIKKEI 225)	12.0%	12.3%	25.7%	21.9%	25.7%	21.9%
Emerging Markets (MSCI Emerging Markets)	7.3%	5.3%	37.3%	28.6%	37.3%	28.6%

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 12/31/17

Domestic equity

U.S. equities produced gains over the quarter (S&P 500 +6.6%), adding to record highs. Over the past year, U.S. equity performance (S&P 500 +21.8%) has lagged international developed equities (MSCI EAFE +25.0%) and emerging markets (MSCI Emerging Markets +37.3%). Performance of each equity market is in line with the degree of earnings growth – emerging markets have produced the strongest year-over-year growth and the U.S. has produced the weakest earnings growth. However, earnings growth in the U.S. has still been strong relative to history.

U.S. corporate earnings are expected to increase by 13.1% YoY in 2018, according to Factset. Forecasts were revised upwards by a net 2% following the passing of tax cuts. Energy and Financial sectors are expected to lead in earnings with growth of 47% and 25%, respectively. The way businesses spend additional tax savings may have significant positive effects on wages, capital investment, and equity returns. We will be monitoring the situation throughout the year.

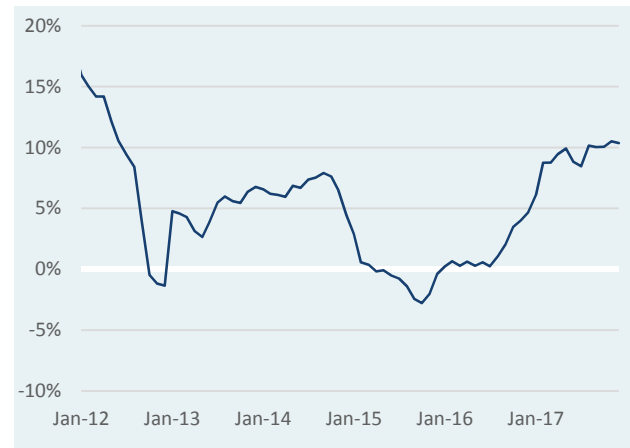
We maintain a neutral weight to U.S. equities

U.S. EQUITIES



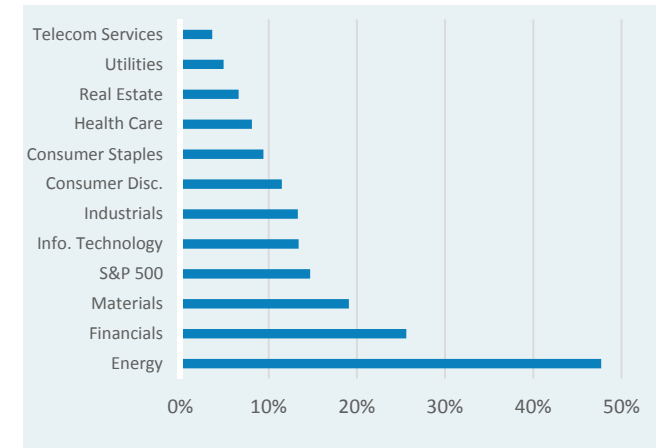
Source: Russell Investments, as of 12/31/17

EARNINGS GROWTH



Source: MSCI, as of 12/31/17, YoY growth in forward earnings

2018 S&P 500 EARNINGS EXPECTATIONS



Source: FactSet, as of 1/12/18

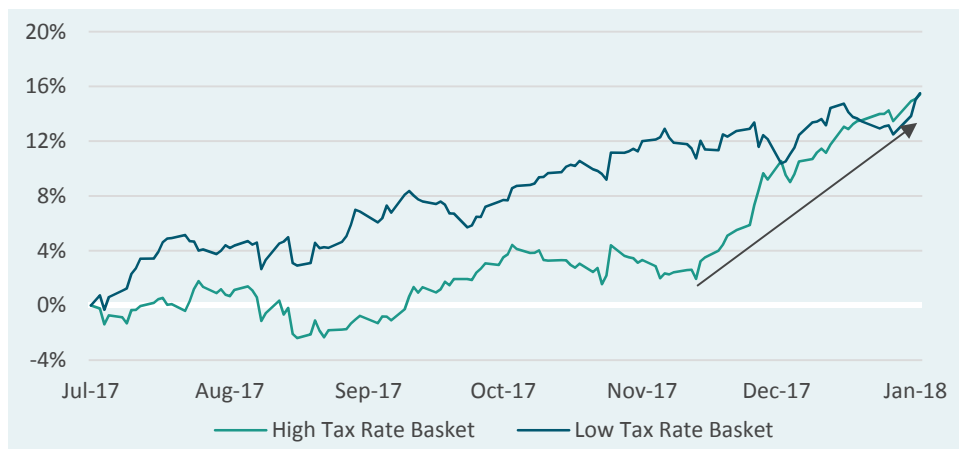
U.S. tax reform

The House and Senate passed a final tax bill, which was then signed into law by President Trump on December 22, 2017. The most widely publicized component of the bill is a corporate tax cut that lowers the statutory tax rate from 35% to 21%. The tax cut should result in a material boost to corporate earnings, which was priced into markets as the proposal was negotiated. Equities with relatively high effective tax rates significantly outperformed those with low effective tax rates since November. We believe that higher earnings growth resulting from the one-time tax cut is likely fully priced into equities.

The second component to the tax cut relates to the way corporations choose to use the savings. Its impact is more difficult to determine. In the past, firms have used tax savings to return capital to shareholders, which will likely play an important role once again. We believe that in the current economic and deregulatory environment, a material gain in business investment and wages is possible. A rise in investment could lead to further earnings growth and would have a more lasting impact on the economy than if firms simply return the savings to shareholders.

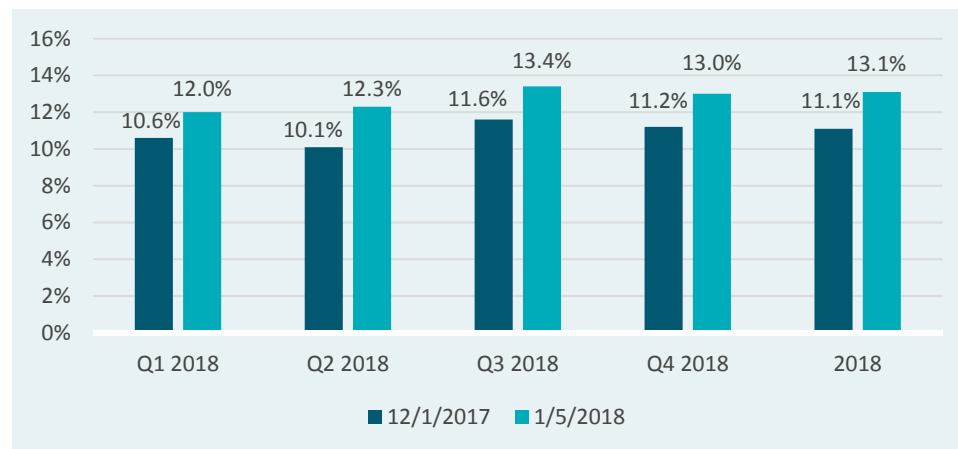
Corporate tax cuts will be a boost to earnings

S&P 500 HIGH TAX RATE VS. LOW TAX RATE BASKET



Source: Bloomberg, Verus, as of 1/4/18

S&P 500 2018 EARNINGS EXPECTATIONS



Source: FactSet, as of 1/5/18

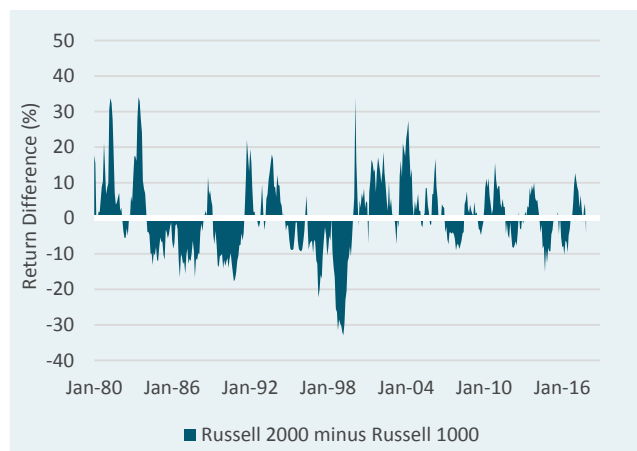
Domestic equity size and style

Large cap equities (Russell 1000 +6.6%) continued to outperform small cap equities (Russell 2000 +3.3%) during the quarter. Small cap stocks are very expensive relative to history based on traditional measures. It appears that a greater number of companies in the small cap universe with low or negative earnings has contributed to rising price-to-earnings multiples of the index.

Value equities underperformed growth equities over the quarter and the past year – caused by extremely positive

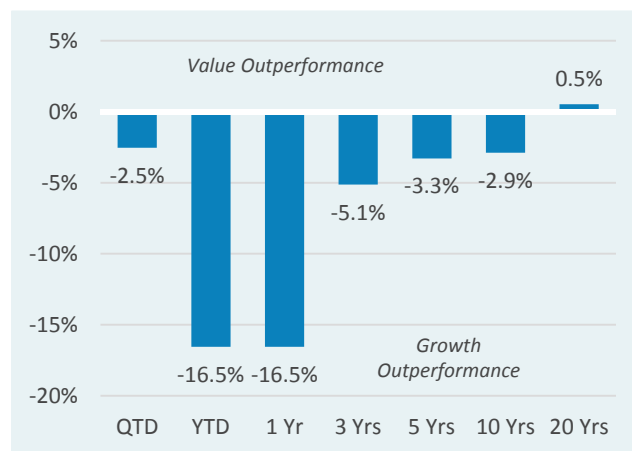
technology sector performance (growth stocks are highly concentrated in the tech sector). Value has now underperformed on a 1-, 3-, 5-, and 10-year basis. Value stocks have underperformed over a 10-year period only twice in the past 100 years – during the great depression (1937) and during the dotcom bubble (1999). Both of these occasions were followed by an impressive bounce back in value performance.

SMALL CAP VS LARGE CAP (YOY)



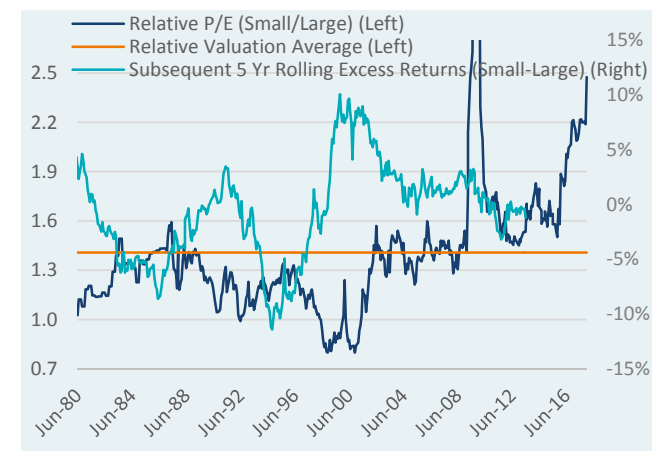
Source: Russell Investments, as of 12/31/17

U.S. VALUE VS GROWTH RELATIVE PERFORMANCE



Source: Morningstar, as of 12/31/17

U.S. LARGE VS. SMALL RELATIVE VALUATIONS



Source: Russell, Bloomberg, as of 12/31/17

International developed equity

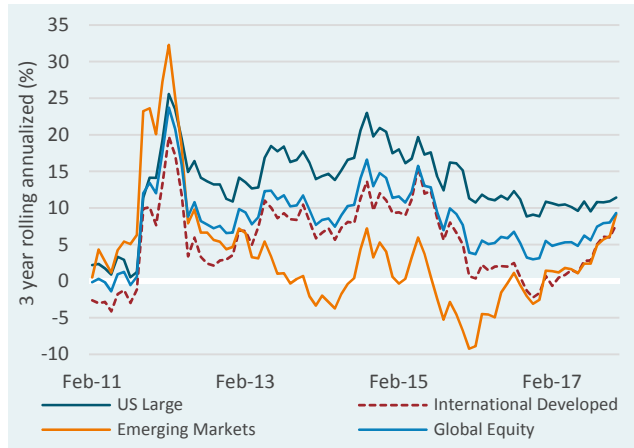
International equities lagged U.S. equities during the fourth quarter as U.S. tax reform contributed to a strong domestic rally. The MSCI EAFE Index returned 4.3% (+4.0% hedged) while the S&P 500 returned 6.6%. Emerging markets continued to outperform (MSCI EM +7.4% unhedged).

Japan outperformed among developed markets, which is particularly notable when considering the pessimism baked into Japan's equity valuations. Japan generated a

12.0% return in the fourth quarter and a 25.7% return in 2017 (Nikkei 225 unhedged). Recent equity gains were fundamentally supported by earnings growth.

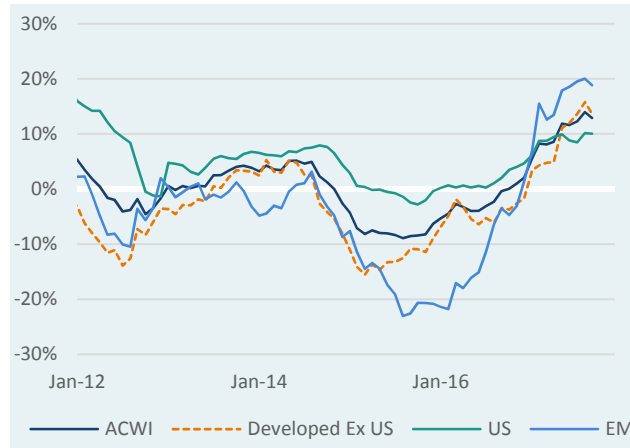
Currency effects added a positive 0.3% to the unhedged MSCI EAFE in Q4 (+8.9% year-to-date), as the U.S. dollar weakened slightly against a trade weighted basket of currencies.

EQUITY PERFORMANCE (3YR ROLLING)



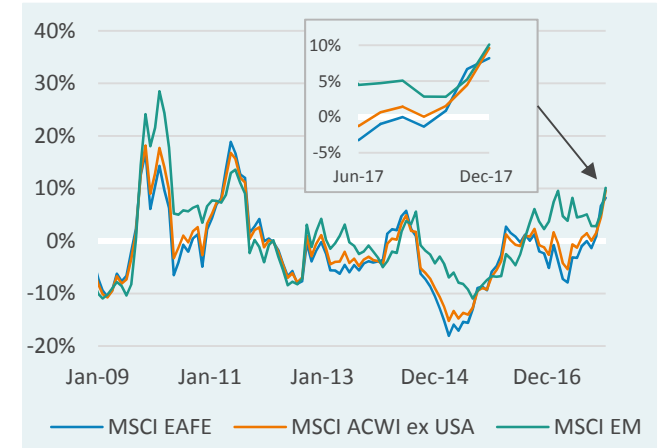
Source: Bloomberg, as of 12/31/17

EARNINGS GROWTH



Source: MSCI, as of 12/31/17 – YoY growth in forward earnings

EFFECT OF CURRENCY (1 YEAR ROLLING)



Source: MSCI, as of 12/31/17

Emerging market equity

We maintain an overweight to emerging market equities. These markets have led the way in economic growth, earnings, and equity performance. Emerging market equities delivered exceptional returns in 2017 (MSCI Emerging Markets +37.3%) relative to developed markets (MSCI ACWI +24.2%) and during the fourth quarter (7.4% vs. 4.2%).

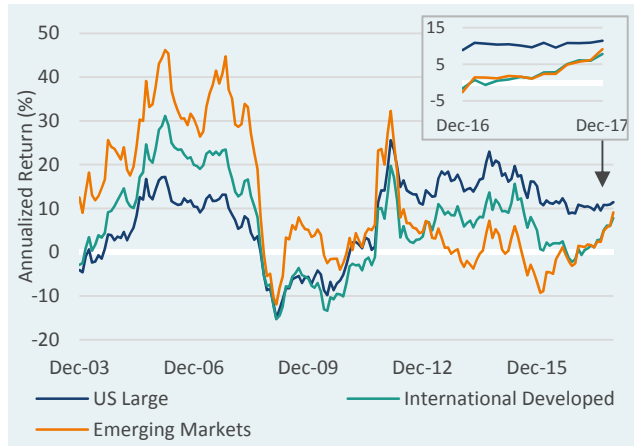
Emerging markets have lagged the U.S. significantly since the global financial crisis, prior to the recent rotation. Emerging market currencies remain depressed relative to

history, and a reversal could provide additional tailwinds to recent outperformance.

Equity multiples have risen modestly, supported by a brighter earnings outlook. As these economies evolve, it has become more difficult to refer to emerging markets as a distinct category. Different levels of economic progress, capital market development, and valuations can be witnessed across emerging market indices. Active management is typically preferred in this asset class.

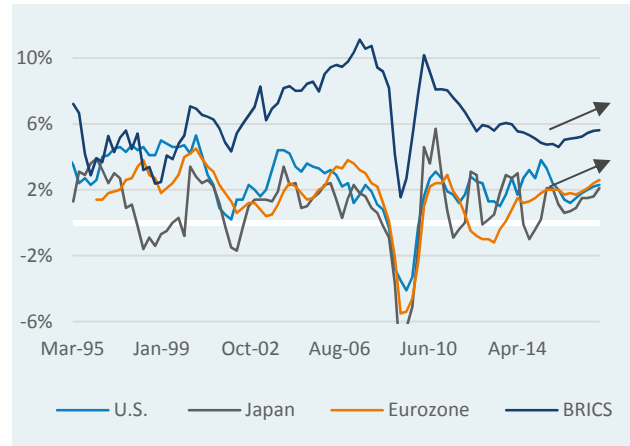
Coordinated global growth has helped propel emerging market equities

EQUITY PERFORMANCE (3YR ROLLING)



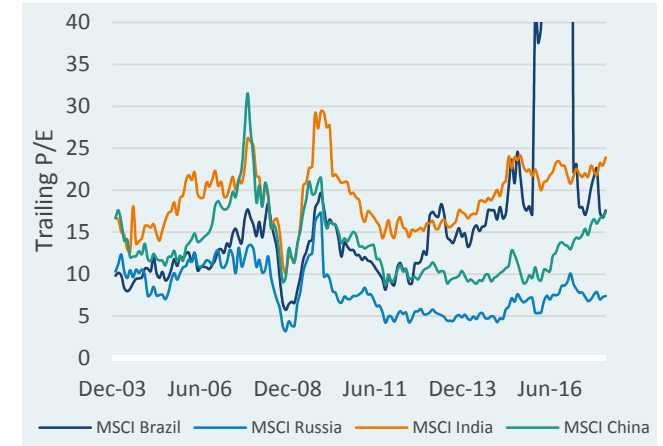
Source: Standard & Poor's, MSCI, as of 12/31/17

ECONOMIC MOMENTUM



Source: Bloomberg, as of 9/30/17

BRIC VALUATIONS



Source: MSCI, as of 12/31/17

Equity valuations

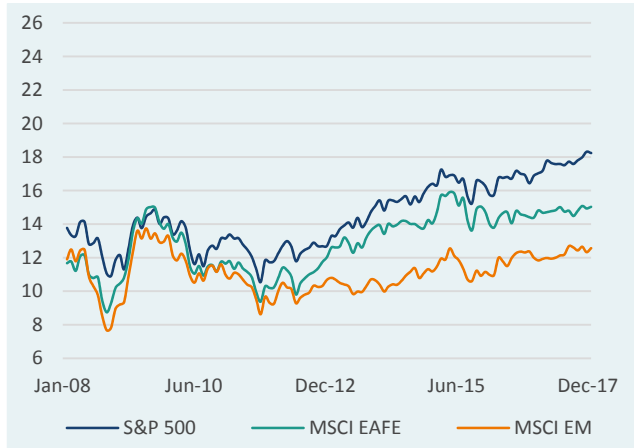
Equity valuations grew slightly richer over the quarter and remain high. However, strong underlying earnings growth has sustained above-average performance. Global economic acceleration, robust earnings growth, and accommodative monetary policies contribute to our view that a risk overweight position is warranted.

Comparing valuation increases to earnings growth demonstrates that the recent pickup in equity performance is fundamentally driven (fueled by earnings rather than higher equity prices). In this environment the forward P/E measure tends to provide a more accurate representation of

valuations. Equity price is a product of expectations for future earnings and cash flows. The forward P/E measure takes into account future earnings while the trailing P/E focuses on past earnings, which leads the trailing P/E measure to incorrectly rise during times when prices and earnings may in fact be rising at the same pace (implying no true valuation movement).

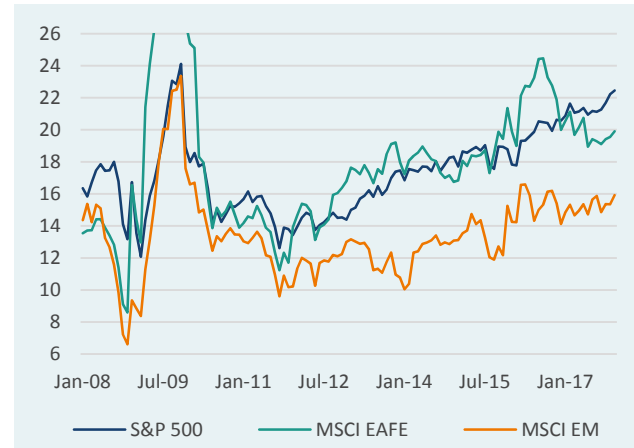
Higher valuations imply lower future equity returns over the longer-term. However, over shorter periods of time equities may produce strong returns despite high valuations, as seen recently.

FORWARD P/E RATIOS



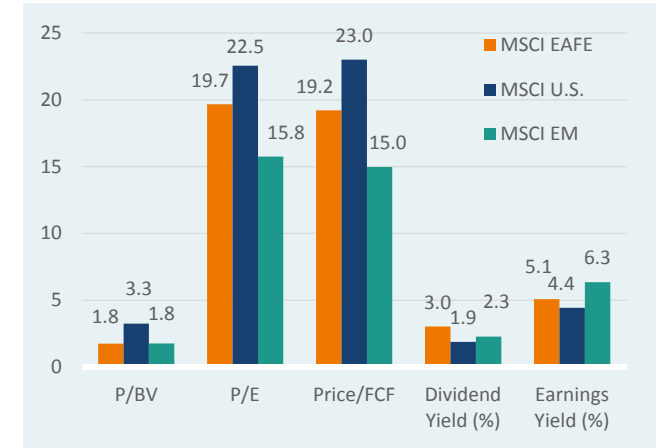
Source: MSCI, as of 12/31/17

TRAILING P/E RATIOS



Source: Bloomberg, as of 12/31/17

VALUATION METRICS



Source: Bloomberg, as of 12/31/17 - trailing P/E

Shiller P/E



Source: Robert Shiller, *Verus* – The light blue line is Robert Shiller’s CAPE ratio over the past 30 years. Each line illustrates how the CAPE ratio will move assuming various after-inflation earnings growth rates, and assuming equity prices increase at the rate of inflation.

- The Shiller P/E, or CAPE ratio (cyclically adjusted price-to-earnings), uses current market price divided by average real (inflation-adjusted) corporate earnings of the past 10 years to arrive at a valuation multiple.
- The CAPE ratio is currently very high relative to history, though this can be partly explained by the fact that the past 10 years of earnings includes the global financial crisis – one of worst earnings depressions in history (which has pushed the CAPE ratio upward).
- The chart on the left illustrates that the CAPE ratio will come down significantly in the near future, all other things being equal, as the global financial crisis falls out of the CAPE’s 10 year earnings window.

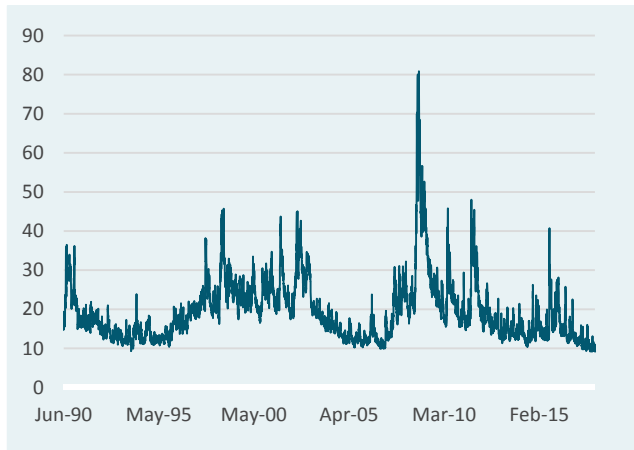
Equity volatility

Equity volatility has stayed extraordinarily low. U.S. market volatility over the past year was 3.9% (S&P 500), compared to its historical average annualized volatility of 14.2%. International equity volatility has also been low with developed markets at 4.2% (MSCI EAFE) and emerging markets at 6.5% (MSCI Emerging Markets). Implied volatility as indicated by the VIX has also remained suppressed. Muted volatility environments have historically resulted in a lower probability of a significant market drawdown.

The current low volatility environment has been influenced by very few significant economic surprises. Steady increases in GDP growth and consistent inflation, which is likely a byproduct of central bank intervention, has helped lead to stable asset price movements. Volatility may begin to return to more normal levels if central banks stay on course with monetary tightening. However, central banks will likely remain very sensitive to contributing to market volatility.

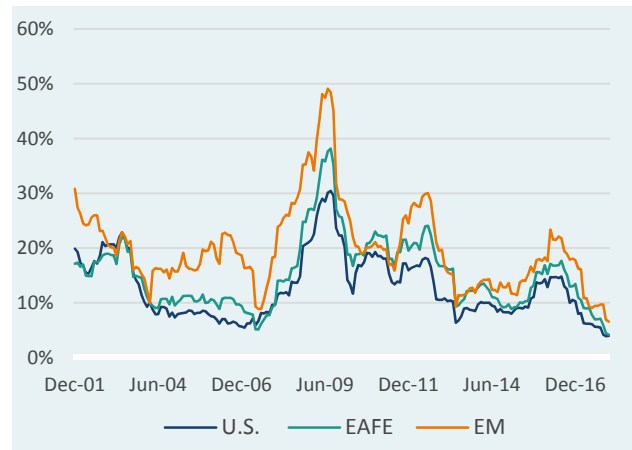
Equity volatility has trended downwards

U.S. IMPLIED VOLATILITY (VIX)



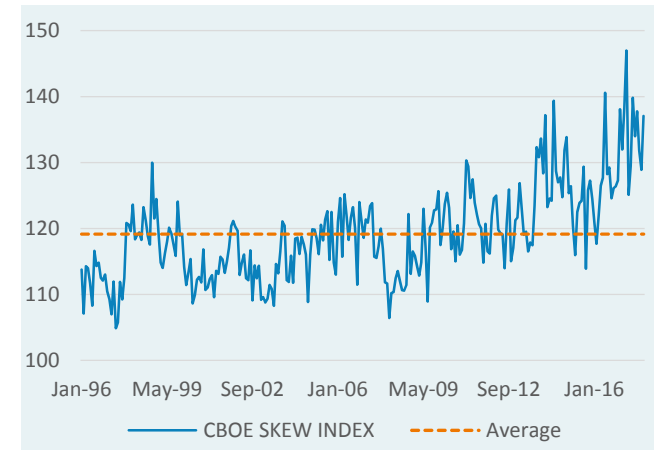
Source: CBOE, as of 12/31/17

REALIZED 1-YEAR ROLLING VOLATILITY



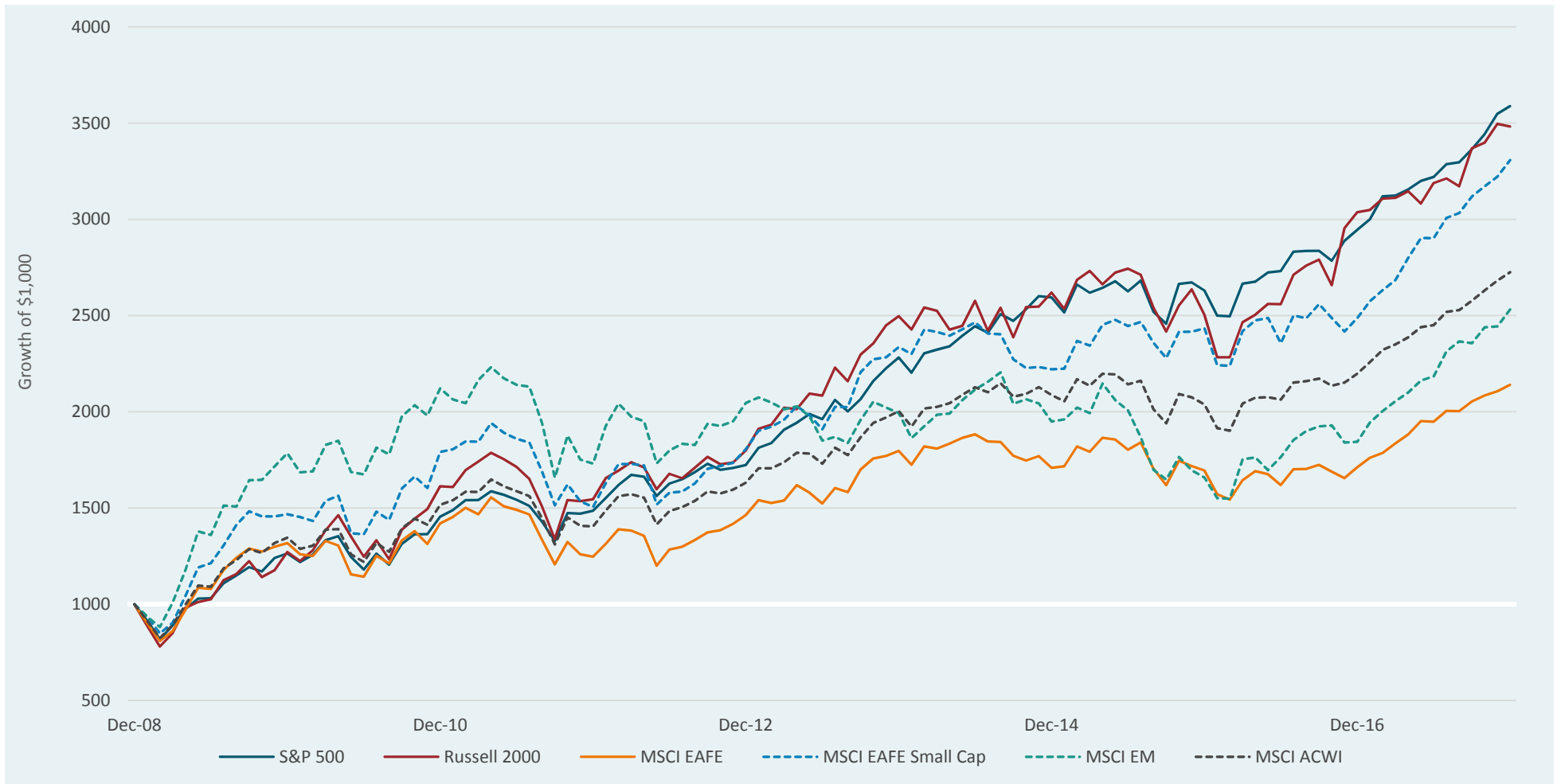
Source: Bloomberg, as of 12/31/17

U.S. VOLATILITY SKEW



Source: CBOE, as of 12/31/17

Long-term equity performance



Source: MPI, as of 12/31/17

Other assets

Real estate

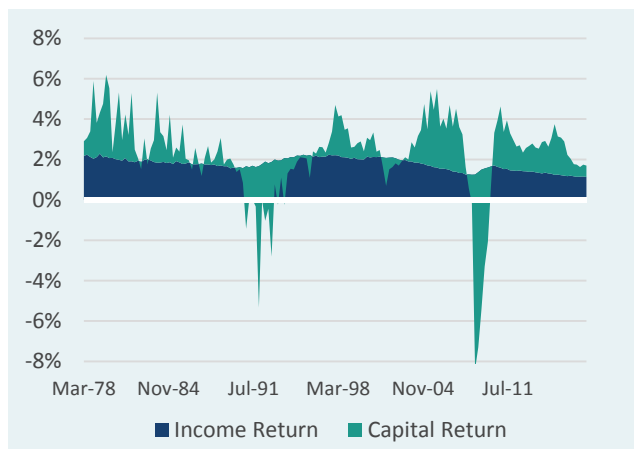
The core real estate market experienced lower returns in recent quarters than earlier in the cycle as price appreciation has slowed. In the third quarter, the NCREIF Property Index returned 1.7%, of which a net 1.1% came from income. With cap rates at 4.4% as of September 30th, further real estate price appreciation may be difficult. Income will likely continue to play a central role in overall returns.

Although valuations are high, fundamentals remain positive. Growth in net operating income (NOI) has leveled out, but is still healthy at 5.2% and transaction volumes are

above average. NOI growth has been driven by industrial properties, which have benefitted from the expansion of e-commerce. On the other side of the e-commerce trend, retail properties have experienced weak NOI growth. The downtrend in vacancy rates has flattened out, but vacancies are still low relative to history at 6.7%.

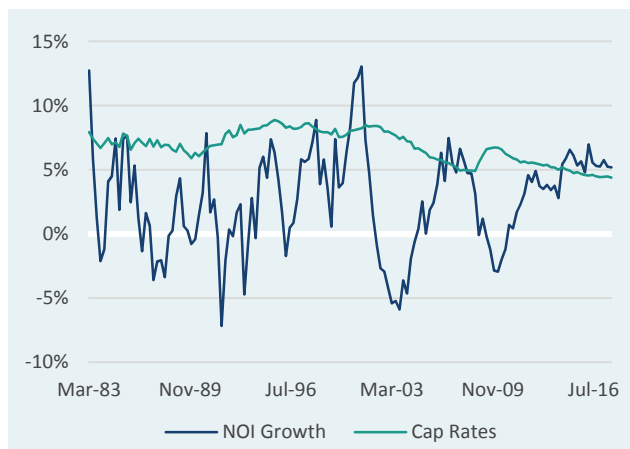
Given where real estate stands in the cycle, we recommend a conservative approach to leverage, liquidity, and quality. We are more constructive on core real estate, as opposed to value add or opportunistic.

NCREIF PROPERTY INDEX RETURNS



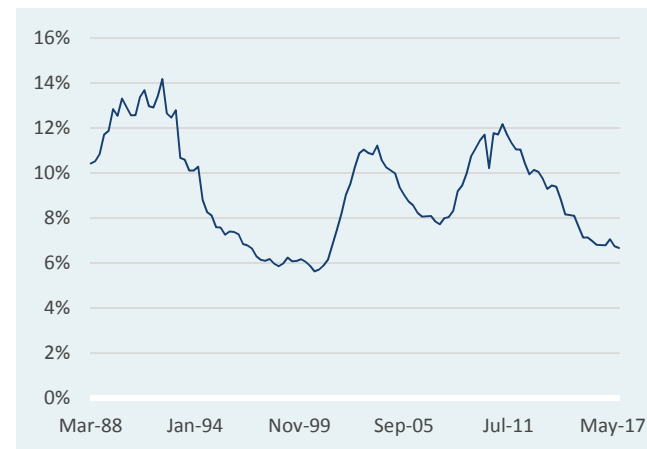
Source: NCREIF, as of 9/30/17

NOI GROWTH & CAP RATES



Source: NCREIF, as of 9/30/17

VACANCY RATES



Source: NCREIF, as of 9/30/17

Currency

The U.S. dollar was little changed in the fourth quarter, but finished the year down 7%. Investors with unhedged international asset exposure have seen large disparities in performance as currency movement continued to contribute to volatility and uncertainty.

Recent strengthening of developed and developing economies relative to the U.S. has likely contributed to U.S. dollar weakness. The U.S. Federal Reserve is engaged in monetary tightening, which implies a stronger dollar on a standalone basis. However, U.S. growth expectations

have shifted relative to international economies which has influenced exchange rates and contributed to recent U.S. dollar movement. Fluctuations in relative growth expectations implies changes in expected inflation and interest rate levels, which directly impacts the foreign exchange market.

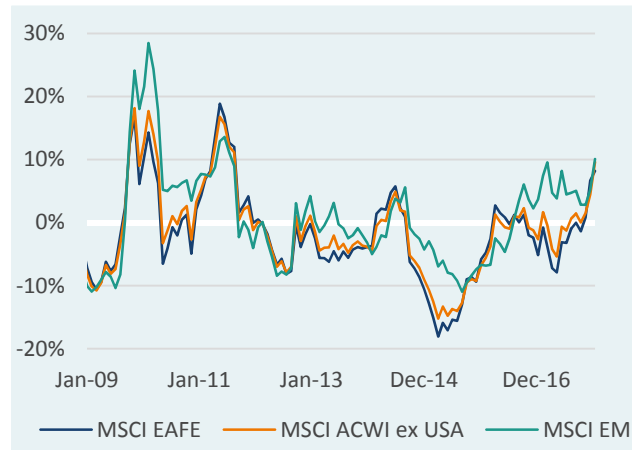
Forecasting currency movement over short periods of time can be extremely difficult. Hedging currency risk is an appropriate method for mitigating currency volatility and uncertainty.

U.S. DOLLAR TRADE WEIGHTED INDEX



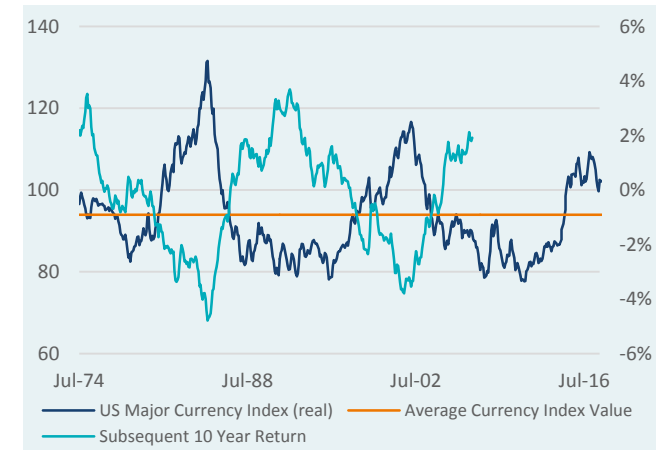
Source: Federal Reserve, as of 12/27/17

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MPI, as of 12/31/17

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Federal Reserve, as of 12/31/17

Appendix

Periodic table of returns

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	YTD	5-Year	10-Year
Emerging Markets Equity	16.6	38.4	23.2	35.2	38.7	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	17.3	10.0
Large Cap Growth	8.1	37.8	23.1	32.9	27.0	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	15.2	9.2
International Equity	6.4	37.2	22.4	31.8	20.3	33.2	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	15.7	8.7
Small Cap Growth	4.4	31.0	21.6	30.5	19.3	27.3	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	14.1	8.6
Large Cap Equity	3.2	28.5	21.4	22.4	16.2	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	14.0	8.2
60/40 Global Portfolio	2.6	25.7	16.5	16.2	15.6	24.3	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	13.0	7.1
Small Cap Equity	0.4	19.6	14.4	13.9	8.7	21.3	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	10.3	6.2
Large Cap Value	-1.5	18.5	11.3	12.9	4.9	20.9	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	7.9	4.3
Small Cap Value	-1.8	15.2	10.3	10.6	1.2	13.2	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	6.8	4.0
Hedge Funds of Funds	-2.0	11.6	9.9	9.7	-2.5	11.4	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	4.3	1.9
Real Estate	-2.4	11.1	6.4	5.2	-5.1	7.3	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	5.1	4.0	1.7
US Bonds	-2.9	7.5	6.0	2.1	-6.5	4.8	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	2.1	1.1
Commodities	-3.5	5.7	5.1	-3.4	-25.3	-0.8	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	0.3	0.3
Cash	-7.3	-5.2	3.6	-11.6	-27.0	-1.5	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-8.5	-6.8

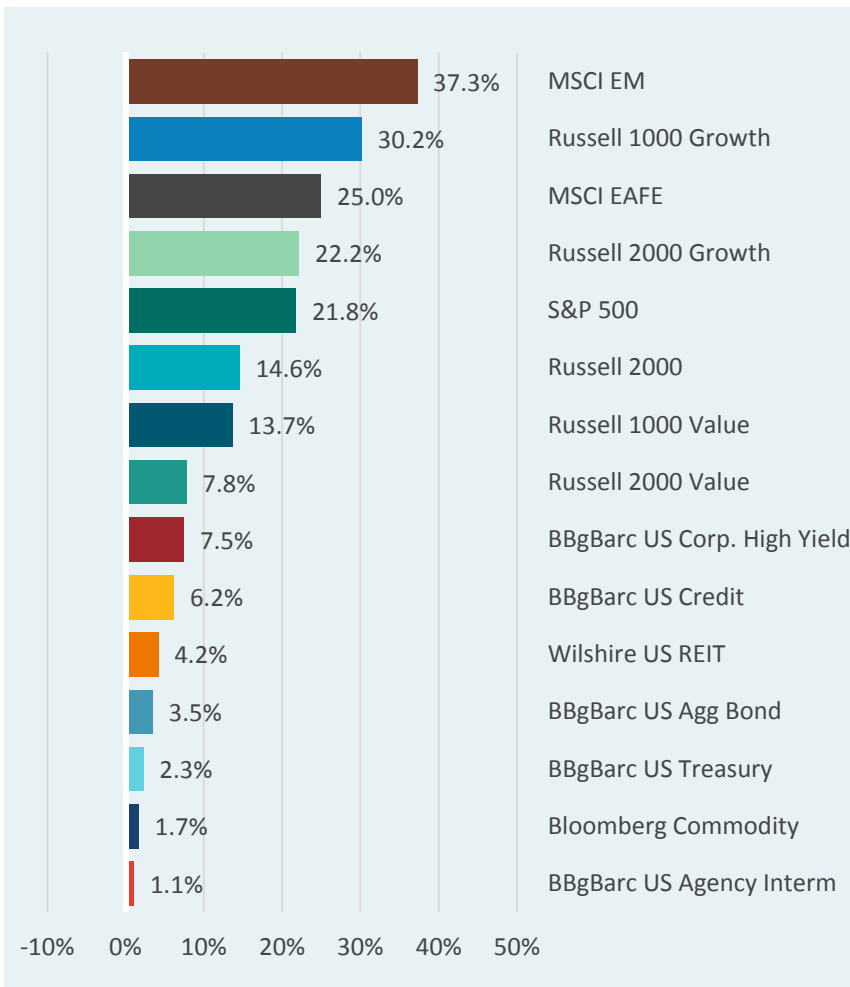
WORST

- Large Cap Equity
- Small Cap Growth
- Commodities
- Large Cap Value
- International Equity
- Real Estate
- Small Cap Value
- Emerging Markets Equity
- Hedge Funds of Funds
- US Bonds
- 60% MSCI ACWI/40% BBgBarc Global Bond
- Cash

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 9/30/17.

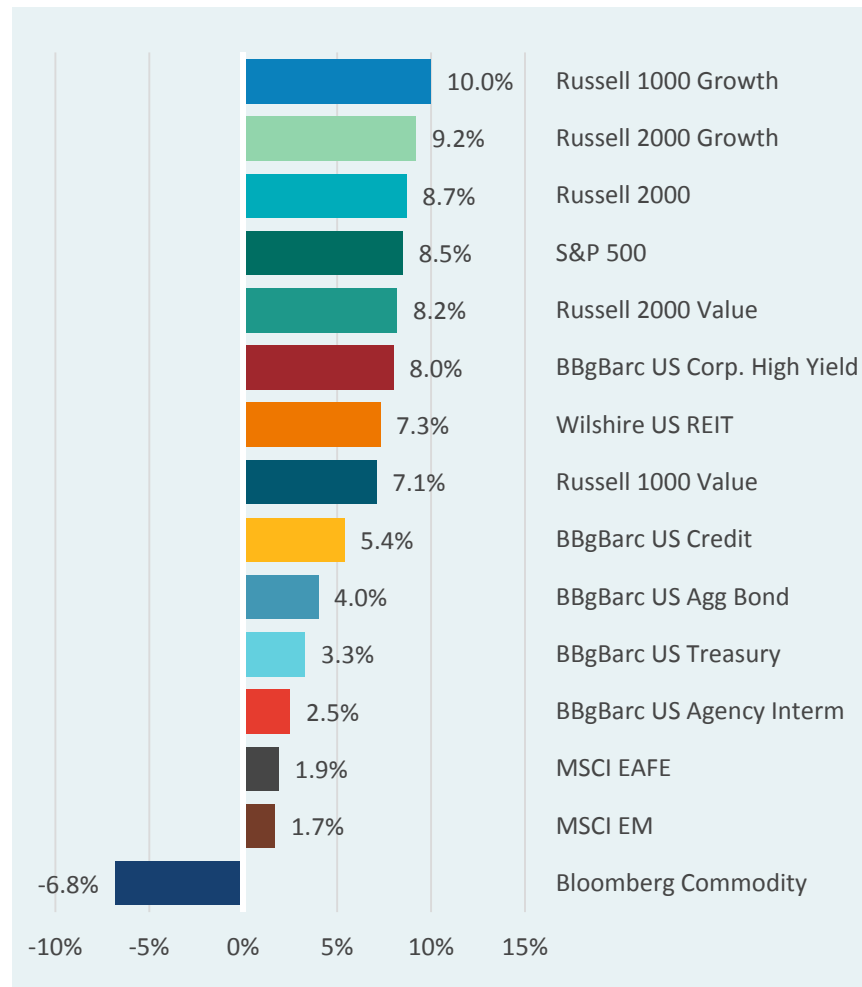
Major asset class returns

ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/17

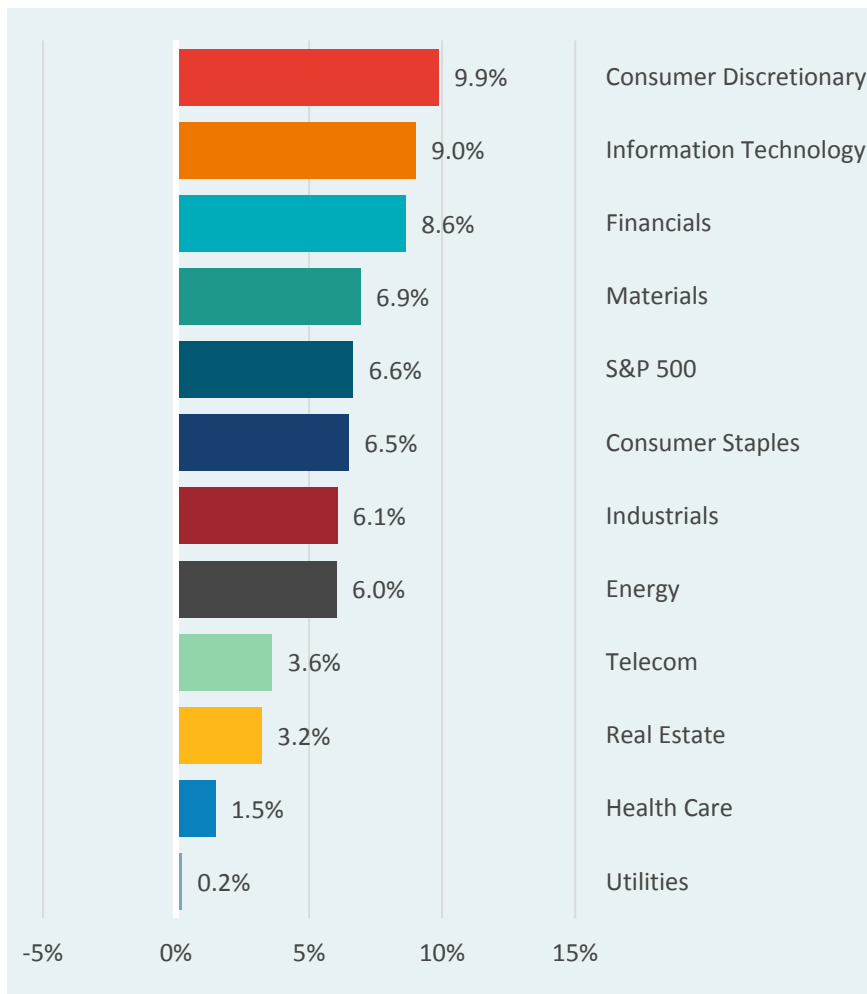
TEN YEARS ENDING DECEMBER



Source: Morningstar, as of 12/31/17

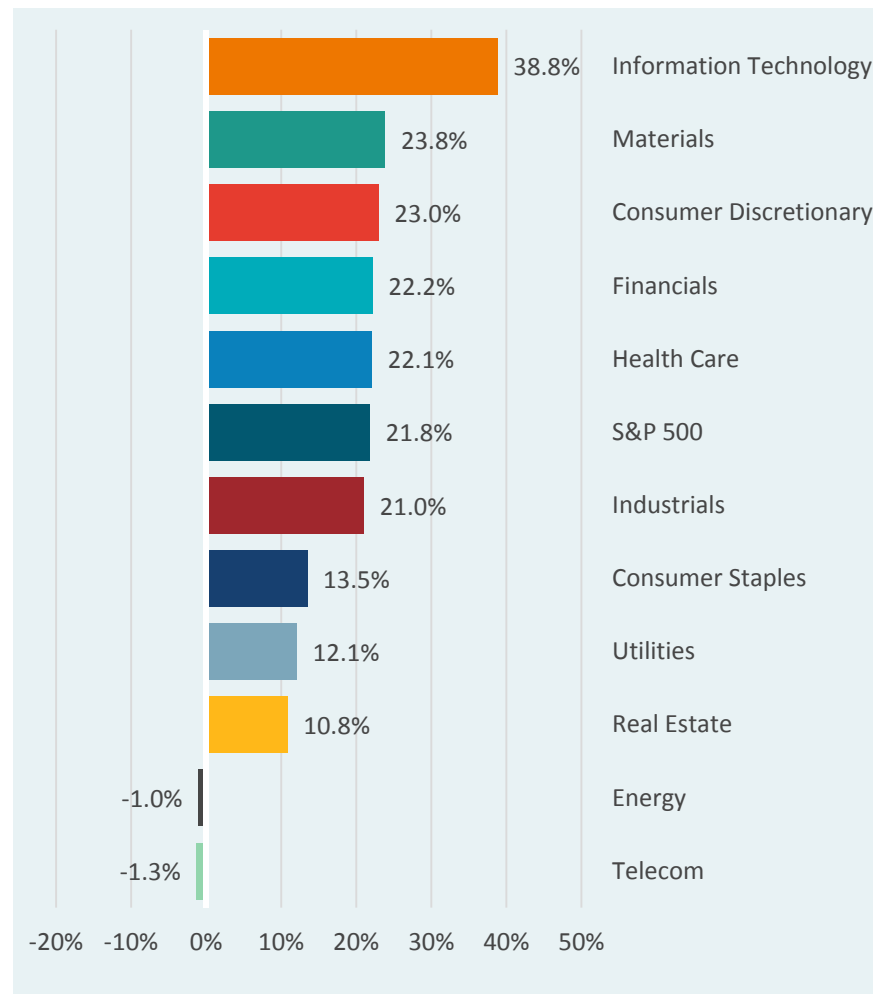
S&P 500 sector returns

4TH QUARTER



Source: Morningstar, as of 12/31/17

ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/17

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	1.1	6.6	21.8	21.8	11.4	15.8	8.5
S&P 500 Equal Weighted	1.2	6.2	18.9	18.9	10.1	15.8	10.2
DJ Industrial Average	1.9	11.0	28.1	28.1	14.4	16.4	9.3
Russell Top 200	1.2	6.8	23.0	23.0	11.9	16.0	8.4
Russell 1000	1.1	6.6	21.7	21.7	11.2	15.7	8.6
Russell 2000	(0.4)	3.3	14.6	14.6	10.0	14.1	8.7
Russell 3000	1.0	6.3	21.1	21.1	11.1	15.6	8.6
Russell Mid Cap	0.9	6.1	18.5	18.5	9.6	15.0	9.1
Style Index							
Russell 1000 Growth	0.8	7.9	30.2	30.2	13.8	17.3	10.0
Russell 1000 Value	1.5	5.3	13.7	13.7	8.7	14.0	7.1
Russell 2000 Growth	0.1	4.6	22.2	22.2	10.3	15.2	9.2
Russell 2000 Value	(1.0)	2.0	7.8	7.8	9.5	13.0	8.2

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	1.6	5.7	24.0	24.0	9.3	10.8	4.7
MSCI ACWI ex US	2.2	5.0	27.2	27.2	7.8	6.8	1.8
MSCI EAFE	1.6	4.2	25.0	25.0	7.8	7.9	1.9
MSCI EM	3.6	7.4	37.3	37.3	9.1	4.3	1.7
MSCI EAFE Small Cap	2.7	6.1	33.0	33.0	14.2	12.9	5.8
Style Index							
MSCI EAFE Growth	1.7	5.2	28.9	28.9	9.2	8.8	2.7
MSCI EAFE Value	1.5	3.2	21.4	21.4	6.4	6.9	1.1
Regional Index							
MSCI UK	5.0	5.7	22.3	22.3	4.1	5.2	1.5
MSCI Japan	0.7	8.5	24.0	24.0	11.6	11.2	3.2
MSCI Euro	(0.5)	0.4	26.5	26.5	7.6	7.9	(0.3)
MSCI EM Asia	2.8	8.4	42.8	42.8	11.0	7.9	3.6
MSCI EM Latin American	4.4	(2.3)	23.7	23.7	3.8	(3.2)	(1.7)

Source: Morningstar, as of 12/31/17

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
BBgBarc US Treasury US TIPS	0.9	1.3	3.0	3.0	2.1	0.1	3.5
BBgBarc US Treasury Bills	0.1	0.2	0.8	0.8	0.4	0.3	0.5
BBgBarc US Agg Bond	0.5	0.4	3.5	3.5	2.2	2.1	4.0
Duration							
BBgBarc US Treasury 1-3 Yr	0.0	(0.3)	0.4	0.4	0.6	0.6	1.5
BBgBarc US Treasury Long	1.7	2.4	8.5	8.5	2.8	3.5	6.6
BBgBarc US Treasury	0.3	0.1	2.3	2.3	1.4	1.3	3.3
Issuer							
BBgBarc US MBS	0.3	0.2	2.5	2.5	1.9	2.0	3.8
BBgBarc US Corp. High Yield	0.3	0.5	7.5	7.5	6.4	5.8	8.0
BBgBarc US Agency Interm	0.0	(0.3)	1.1	1.1	1.1	1.0	2.5
BBgBarc US Credit	0.8	1.0	6.2	6.2	3.6	3.2	5.4

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	3.0	4.7	1.7	1.7	(5.0)	(8.5)	(6.8)
Wilshire US REIT	(0.1)	1.7	4.2	4.2	5.2	9.3	7.3
CS Leveraged Loans	0.4	1.2	4.2	4.2	4.5	4.3	4.6
Regional Index							
JPM EMBI Global Div	0.7	1.2	10.3	10.3	7.1	4.6	7.3
JPM GBI-EM Global Div	2.0	0.8	15.2	15.2	2.5	(1.5)	3.6
Hedge Funds							
HFRI Composite	0.9	2.5	8.5	8.5	4.2	4.9	3.2
HFRI FOF Composite	0.9	2.0	7.7	7.7	2.6	4.0	1.1
Currency (Spot)							
Euro	0.7	1.6	13.8	13.8	(0.3)	(1.9)	(1.9)
Pound	(0.1)	0.8	9.5	9.5	(4.6)	(3.6)	(3.8)
Yen	(0.7)	(0.1)	3.5	3.5	2.1	(5.2)	(0.1)

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.Bloombera.com)

Citi Economic Surprise Index - objective and quantitative measures of economic news. Defined as weighted historical standard deviations of data surprises (actual releases vs Bloomberg survey median). A positive reading of the Economic Surprise Index suggests that economic releases have on balance been beating consensus. The indices are calculated daily in a rolling three-month window. The weights of economic indicators are derived from relative high-frequency spot FX impacts of 1 standard deviation data surprises. The indices also employ a time decay function to replicate the limited memory of markets. (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/>)

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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: $\text{excess return} / \text{tracking error}$.

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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