

# Performance and Risk Report

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy (Sector Neutral) 6-Factor 4-Strategy EW

# **Overview**

### **Index Characteristics**

#### Universe - United States of America

The United States of America universe consists of equities from the United States of America.

#### Weighting - Diversified Multistrategy

In the Diversified Multistrategy weighting scheme, four Scientific Beta strategies are combined in order to diversify away individual strategies' specific risks and to mix strategies with different sensitivities to market conditions.

### Risk Control - Sector Neutral

Sector Neutral is a risk control scheme that attempts to maintain sector neutrality while optimising the portfolio or pursuing a non-cap weighted strategy.

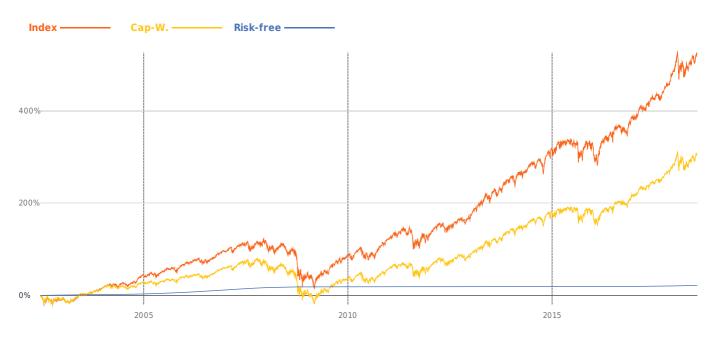
### Index Description as of 30-Jun-2018

The table summarises the index construction principles.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	
Currency	USD	
Number of Constituents	304	
Cap Coverage (Global Universe)	31.4 %	
Regional Universe	United States	
Stock Selection	H-FInt. Multi-Beta Six-Factor EW	
Weighting Scheme	Div. Multi-Strategy	
Risk Control	Sector Neutral	
TO Control	n/a	
Base date	21-Jun-2002	
Live Date	16-Mar-2018	
Broad CW	SciBeta USA CW	

Analytics are calculated at 30-Jun-2018. Analytics are updated quarterly.

## **Total Return Index inUSD**



## **Latest Performances**

Latest Performances refers to basic risk and return information for the most recent part of the strategy's history.

#### Latest Performances as of 23-Jul-2018

The first table shows the index's absolute returns over recent short time periods. The next table reports the index's return, volatility and associated Sharpe ratio since the live date of the index. The last table reports the index's return, volatility and associated Sharpe ratio since the base date of the index. For periods longer than a year, the statistics are annualised, whereas the short-term statistics are calculated based on the period examined without annualisation. The corresponding statistics (calculated over the same dates) of the Broad cap-weighted reference index (Broad CW) are also reported, along with those of the Beta cap-weighted reference index (Beta CW) in case of univaried stock selection.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	Broad CW
1-Day Return	0.10 %	0.15 %
1-Week Return	0.50 %	0.28 %
1-Month Return	1.61 %	1.97 %
1-Quarter Return	4.59 %	5.58 %
Year-to-Date Return	6.51 %	6.18 %

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated at 23-Jul-2018 and updated daily.

Live	Index	Broad CW
Return	3.88 %	2.61 %
Volatility	12.31 %	14.02 %
Sharpe ratio	0.26	0.14

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated at 23-Jul-2018 and updated daily.

Performances are annualised for periods longer than a year. Live date is 16-Mar-2018.

Live date is 16-Mar-2018.

Since base date	Index	Broad CW
Return	12.01 %	9.07 %
Volatility	16.93 %	18.61 %
Sharpe ratio	0.64	0.42

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated at 23-Jul-2018 and updated daily.

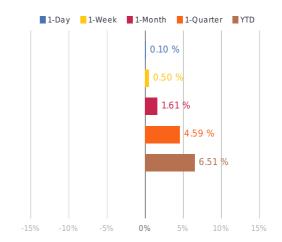
Performances are annualised for periods longer than a year.

Base date is 21-Jun-2002.

The statistics are based on daily total returns (with dividends reinvested). The short-term returns are calculated based on the period examined and are not annualised. On periods longer than a year, the statistics are annualised. The risk-free rates used to calculate the historical Sharpe Ratio are defined according to the regional universe of the index. In case of univaried stock selection, the Beta cap-weighted reference index (Beta CW) is the cap-weighted index whose index constituents are drawn from the same stock selection as that of the Scientific Beta index being analysed. The Broad cap-weighted reference index (Broad CW) is the cap-weighted index whose index constituents cover all stocks in the geographical region of the Scientific Beta index being analysed.

#### Latest Returns as of 23-Jul-2018

The figure displays the index's absolute returns over recent short time periods.



# **Latest Relative Performances**

Latest Performances refers to basic risk and return information for the most recent part of the strategy's history.

#### Latest Relative Performances as of 23-Jul-2018

The first table shows the index's relative returns with regard to its Broad cap-weighted reference index (Broad CW) over recent short time periods, and to its Beta cap-weighted reference index (Beta CW) in case of univaried stock selection. The next table reports the relative return, tracking error, and associated Information Ratio since the live date of the index. The last table reports the relative return, tracking error, and associated Information Ratio since the base date of the index. For periods longer than a year, the statistics are annualised, whereas the short-term statistics are calculated based on the period examined without annualisation.

SciBeta USA HFInt Div MBeta MStrat (Sct- ntr) 6F4S-EW	/ Broad CW
1-Day Relative Return	-0.05 %
1-Week Relative Return	0.23 %
1-Month Relative Return	-0.37 %
1-Quarter Relative Return	-0.99 %
Year-to-Date Relative Return	0.33 %

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated at 23-Jul-2018 and updated daily.

Live	/ Broad CW
Relative Return	1.26 %
Tracking-Error	3.01 %
Information ratio	1.27

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated at 23-Jul-2018 and updated daily.

Performances are annualised for periods longer than a year. Live date is 16-Mar-2018.

Live date is 10-mai-2010.

Since base date	/ Broad CW
Relative Return	2.94 %
Tracking-Error	3.71 %
Information ratio	0.79

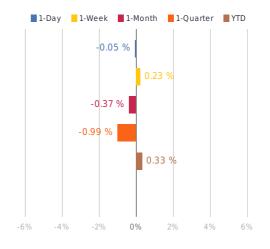
Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated at 23-Jul-2018 and updated daily. Performances are annualised for periods longer than a year.

Base date is 21-Jun-2002.

The statistics are based on daily total returns (with dividends reinvested). The short-term relative returns are calculated based on the period examined and are not annualised. On periods longer than a year, the statistics are annualised. In case of univaried stock selection, the Beta cap-weighted reference index (Beta CW) is the cap-weighted index whose constituents are drawn from the same stock selection as that of the Scientific Beta index being analysed. The Broad cap-weighted reference index (Broad CW) is the cap-weighted index whose index whose index constituents cover all stocks in the geographical region of the Scientific Beta index being analysed.

### Latest Relative Returns as of 23-Jul-2018

The figure displays the index's relative returns with regard to its Broad cap-weighted reference index (Broad CW) over recent short time periods.



## **Annual Performances**

Annual Performances refers to calendar year returns.

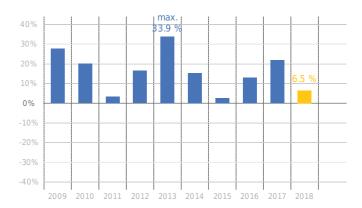
#### Annual Returns as of 23-Jul-2018

The table shows the index's annual returns over the last 10 calendar years. The corresponding statistics of the Broad cap-weighted reference index (Broad CW) are also reported, along with those of the Beta cap-weighted reference index (Beta CW) in case of univaried stock selection.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	Broad CW
Year 2018 (YTD)	6.51 %	6.18 %
Year 2017	21.86 %	21.95 %
Year 2016	13.09 %	11.48 %
Year 2015	2.67 %	1.09 %
Year 2014	15.37 %	13.77 %
Year 2013	33.90 %	32.29 %
Year 2012	16.51 %	15.85 %
Year 2011	3.54 %	1.60 %
Year 2010	20.07 %	15.38 %
Year 2009	27.83 %	26.45 %

### Annual Returns as of 23-Jul-2018

The figure displays the index's annual returns over the last 10 calendar years.



Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated at 23-Jul-2018 and updated daily.

The return of the current calendar year is the year-to-date return without annualisation. In case of univaried stock selection, the Beta cap-weighted reference index (Beta CW) is the cap-weighted index whose index constituents are the same as the Scientific Beta index being analysed. The Broad cap-weighted reference index (Broad CW) is the cap-weighted index whose index constituents cover all stocks in the geographical region of the Scientific Beta index being analysed.

### Annual Relative Returns as of 23-Jul-2018

The table shows the index's annual relative returns with regard to its Broad capweighted reference index (Broad CW) over the last 10 calendar years, and to its Beta cap-weighted reference index (Beta CW) in case of univaried stock selection.

SciBeta USA HFInt Div MBeta MStrat (Sct- ntr) 6F4S-EW	/ Broad CW
Year 2018 (YTD)	0.33 %
Year 2017	-0.09 %
Year 2016	1.61 %
Year 2015	1.58 %
Year 2014	1.60 %
Year 2013	1.61 %
Year 2012	0.65 %
Year 2011	1.94 %
Year 2010	4.69 %
Year 2009	1.39 %

### Annual Relative Returns as of 23-Jul-2018

The figure displays the index's annual relative returns with regard to its Broad capweighted reference index (Broad CW) over the last 10 calendar years.



Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated at 23-Jul-2018 and updated daily.

The relative returns are calculated based on daily total index returns (with dividends reinvested). The return of the current calendar year is the year-to-date return without annualisation.

# **Performance Analysis**

Performance and Risk Characteristics of equity portfolios allow for the analysis of the reward, the amount of risk and the reward per unit of risk obtained by investors. These characteristics can be calculated in absolute terms, or in relative terms (i.e. in terms of the difference in risks and returns against a cap-weighted reference index).

### Performance and Risk Characteristics as of 30-Jun-2018

The table shows summary statistics of the index's absolute performance and risk over the selected analysis period. The corresponding statistics of the Broad cap-weighted reference index (Broad CW) are also reported, along with those of the Beta capweighted reference index (Beta CW) in case of univaried stock selection.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	Broad CW
Return	11.86 %	8.89 %
Volatility	16.96 %	18.64 %
Sharpe ratio	0.63	0.41
Sortino ratio	0.88	0.58
Max Drawdown	48.4 %	54.6 %

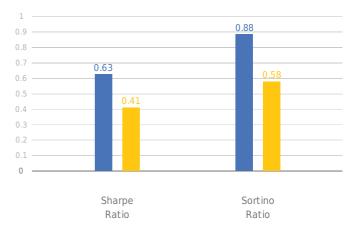
Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values.

Performances are annualised for periods longer than a year.

## Performance and Risk Characteristics as of 30-Jun-2018

The figure shows the index's Sharpe Ratio and Sortino Ratio over the selected analysis period. The corresponding statistics of the Broad cap-weighted reference index (Broad CW) are also reported.





On periods longer than a year, statistics are annualised. The risk-free rates used are defined according to the regional universe of the index. In case of univaried stock selection, the Beta cap-weighted reference index (Beta CW) is the cap-weighted index whose constituents are drawn from the same stock selection as that of the Scientific Beta index being analysed. The Broad cap-weighted reference index (Broad CW) is the cap-weighted index whose constituents cover all stocks in the geographic region of the Scientific Beta index being analysed.

### Relative Performance and Risk as of 30-Jun-2018

The table shows summary statistics of the index's relative performance and relative risk with regard to its Broad cap-weighted reference index (Broad CW) over the selected analysis period, along with those to its Beta cap-weighted reference index (Beta CW) in case of univaried stock selection.

SciBeta USA HFInt Div MBeta MStrat (Sct- ntr) 6F4S-EW	/ Broad CW
Relative Return Over CW	2.98 %
Tracking-Error	3.71 %
Information Ratio	0.80
Treynor Ratio	0.12
Max Relative Drawdown	5.9 %

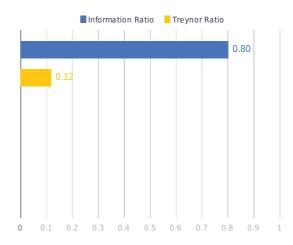
Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018.

Analytics are updated monthly with EOM values.

Performances are annualised for periods longer than a year.

### Relative Performance and Risk as of 30-Jun-2018

The figure shows the index's Information Ratio and Treynor Ratio with regard to its Broad cap-weighted reference index (Broad CW) respectively over the selected analysis period.



The statistics are based on daily total returns (with dividends reinvested). On periods longer than a year, statistics are annualised.

# **Risk Analysis**

Performance and Risk Characteristics of equity portfolios allow for the analysis of the reward, the amount of risk and the reward per unit of risk obtained by investors.

#### Risk Analysis as of 30-Jun-2018

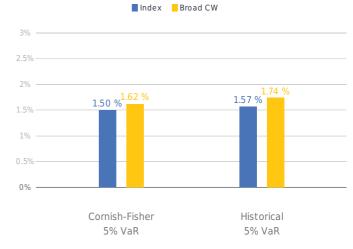
The table shows summary statistics of the index's absolute performance and risk over the selected analysis period. The corresponding statistics of the Broad cap-weighted reference index (Broad CW) are also reported.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	Broad CW
Cornish-Fisher 5% VaR	1.50 %	1.62 %
Historical 5% VaR	1.57 %	1.74 %
Max Drawdown	48.4 %	54.6 %
Time Under Water	800	1 164

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values.

### Risk Analysis as of 30-Jun-2018

The figure shows the index's Cornish-Fisher Value-at-Risk and Historical Value-at-Risk over the selected analysis period. The corresponding statistics of the Broad capweighted reference index (Broad CW) are also reported.



All statistics are annualised and performance ratios that involve the average returns are based on the geometric average, which reliably reflects multiple holding period returns for investors. The risk-free rates used are defined according to the regional universe of the index. The Broad cap-weighted reference index (Broad CW) is the cap-weighted index whose index constituents cover all stocks in the geographic region of the Scientific Beta index being analysed.

### Relative Risk Analysis as of 30-Jun-2018

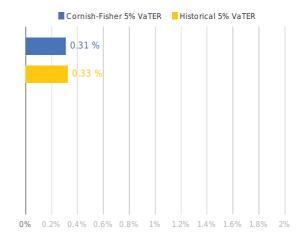
The table shows summary statistics of the index's relative performance and relative risk with regard to its Broad cap-weighted reference index (Broad CW) over the selected analysis period.

SciBeta USA HFInt Div MBeta MStrat (Sct- ntr) 6F4S-EW	/ Broad CW
Cornish-Fisher 5% VaTER	0.31 %
Historical 5% VaTER	0.33 %
Max Relative Drawdown	5.9 %
Rel. Time Under Water	478
Extreme Relative Return (5%)	-1.71 %
Extreme Tracking-Error (95%)	7.14 %
Average Tracking-Error	3.21 %

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values.

### Relative Risk Analysis as of 30-Jun-2018

The figure shows the index's Cornish-Fisher Value-at-Tracking Error and Historical Value-at-Tracking Error with regard to its Broad cap-weighted reference index (Broad CW) over the selected analysis period.



The statistics are based on daily total returns (with dividends reinvested). All statistics are annualised and performance ratios that involve the average returns are based on the geometric average, which reliably reflects multiple holding period returns for investors. The risk-free rates used are defined according to the regional universe of the index. The Broad cap-weighted reference index (Broad CW) is the cap-weighted index whose constituents cover all stocks in the geographic region of the Scientific Beta index being analysed.

# **Robustness Analysis**

Alternative weighting schemes may expose an investor to a risk of underperforming respective cap-weighted reference indices over short investment horizons. Moreover, it seems reasonable to assume that certain market conditions may influence the capacity of a given weighting scheme to provide outperformance over the cap-weighted reference index. The Scientific Beta robustness analysis provides insights on the conditions of outperformance or underperformance of Scientific Beta indices with regard to their cap-weighted reference index.

### Robustness Analysis as of 30-Jun-2018

For long-only indices, the table shows summary statistics of the index's relative performance and relative risk with respect to its cap-weighted reference index, as well as the 1Y, 3Y and 5Y Probabilities of Outperformance over the last 10 years, and for the corresponding US Long-Term over the last 40 years. For long/short indices, the table shows the 1Y, 3Y and 5Y Probabilities of OutPerformance over the risk-free rate over the last 10 years.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	LT-US
Excess Return	1.97 %	3.30 %
Tracking-Error	3.37 %	5.80 %
Information Ratio	0.58	0.57
Prob. of Outperf. (1 year)	71.9 %	68.8 %
Prob. of Outperf. (3 years)	100.0 %	81.0 %
Prob. of Outperf. (5 years)	100.0 %	86.2 %
End of Period	30-Jun-2018	31-Dec-2016
Period	10 years	40 years

### Robustness Analysis as of 30-Jun-2018

The figure, based on a rolling window analysis, shows the 1, 3, and 5 year Probability of Outperformance (over the risk-free rate for long/short indices) with respect to the cap-weighted reference index.



Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated at 30-Jun-2018.

Analytics are updated monthly with EOM values.

Performances are annualised for periods longer than a year.

All statistics are annualised and based on the geometric average, which reliably reflects multiple holding period returns for investors.

# **Top Holdings**

Top Holdings refers to the information on the largest companies in the strategy portfolio ordered by their weights.

### Top Holdings as of 15-Jun-2018

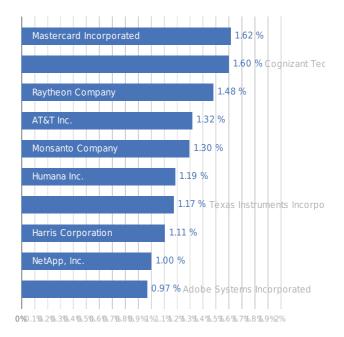
The table lists the weights of the ten largest constituents of the index, in descending order, based on the index's weight profile at the last quarterly rebalancing.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Country	Weight
Mastercard Incorporated	US	1.62 %
Cognizant Technology Solutions Corpo	US	1.60 %
Raytheon Company	US	1.48 %
AT&T Inc.	US	1.32 %
Monsanto Company	US	1.30 %
Humana Inc.	US	1.19 %
Texas Instruments Incorporated	US	1.17 %
Harris Corporation	US	1.11 %
NetApp, Inc.	US	1.00 %
Adobe Systems Incorporated	US	0.97 %

Analytics are calculated at 15-Jun-2018. Analytics are updated quarterly.

### Top Holdings as of 15-Jun-2018

The figure displays the weights of the ten largest constituents of the index, in descending order, based on the index's weight profile at the last quarterly rebalancing.



# **Weight Profile Analysis**

Weight Profile Analysis refers to the allocation of the investment weights to the constituents in the strategy.

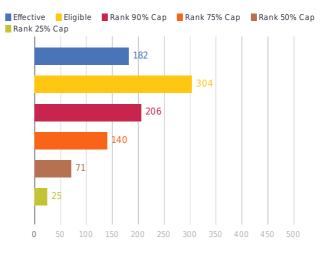
#### Index Weight Concentration as of 30-Jun-2018

The table shows the index concentration level under various portfolio concentration measures based on the index's weight profile at the last rebalancing time. The quarterly calculated active share expresses the overall deviation of the index vis-à-vis its Broad cap-weighted reference, calculated as half of the sum of the absolute deviations. The corresponding statistics of the Broad cap-weighted reference index (Broad CW) are also reported, along with those of the Beta cap-weighted reference index (Beta CW) in case of univaried stock selection.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	Broad CW
Effective Number of Constituents	182	121
Number of Eligible Constituents	304	498
Nb. Stocks Cumul. to 90% Cap	206	305
Nb. Stocks Cumul. to 75% Cap	140	157
Nb. Stocks Cumul. to 50% Cap	71	54
Nb. Stocks Cumul. to 25% Cap	25	15
Deconcentration ratio	59.8 %	24.4 %
Active Share	64.28 %	0.00 %
Active Share (average)	61.41 %	0.00 %

Index Weight Concentration as of 30-Jun-2018

The figure displays the index concentration level under various portfolio concentration measures based on the index's weight profile at the last rebalancing time.



Analytics are calculated at 30-Jun-2018. Analytics are updated quarterly.

In case of univaried stock selection, the Beta cap-weighted reference index (Beta CW) is the cap-weighted index whose constituents are drawn from the same stock selection as that of the Scientific Beta index being analysed. The Broad cap-weighted reference index (Broad CW) is the cap-weighted index whose constituents cover all stocks in the geographic region of the Scientific Beta index being analysed.

# **Multi-Beta Allocation**

Multi-Beta Allocation refers to the information on the weights allocated to the underlying indices that compose the Multi-Beta Index.

### Multi-Beta Allocation as of 15-Jun-2018

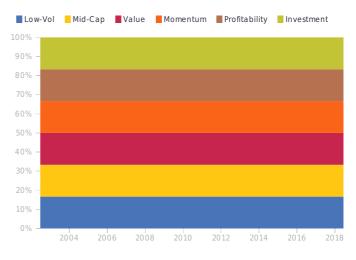
The Multi-Beta Allocation shows the average weight allocated to the underlying indices since the base date and at the latest quarterly review. The performance of the underlying index over the last quarter is also displayed.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Latest	Average
SciBeta USA HFInt LVol Div MStrat (4S) (Sct	16.7 %	16.7 %
SciBeta USA HFInt MCap Div MStrat (4S) (Sc	16.7 %	16.7 %
SciBeta USA HFInt Val Div MStrat (4S) (Sct-n	16.7 %	16.7 %
SciBeta USA HFInt HMom Div MStrat (4S) (Sc	16.7 %	16.7 %
SciBeta USA HFInt HProf Div MStrat (4S) (Sct	16.7 %	16.7 %
SciBeta USA HFInt LInv Div MStrat (4S) (Sct	16.7 %	16.7 %

Allocations are reported at 15-Jun-2018. Analytics are updated quarterly.

### Multi-Beta Allocation as of 15-Jun-2018

The Multi-Beta Allocation graph exhibits the weight allocated to the underlying indices at the latest quarterly review.



# **Carbon Metrics**

The Carbon Metrics analytics report the greenhouse gas emissions associated with an investment in the index.

### Carbon Metrics as of 30-Jun-2018

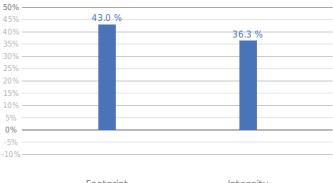
The table shows the carbon metrics of the index at the last quarterly rebalancing. The corresponding statistics of the Broad cap-weighted reference index (Broad CW) are also reported.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	Broad CW	Change
Carbon Footprint	531 190	371 486	43.0 %
Carbon Intensity	275.3	201.9	36.3 %

Analytics are calculated at 30-Jun-2018. Analytics are updated quarterly.

### Carbon Metrics as of 30-Jun-2018

The figure displays the change in carbon metrics of the index with respect to the Broad cap-weighted reference index (Broad CW) at the last quarterly rebalancing.



Footprint (change) Intensity (change)

# **CAPM Analysis**

The Capital Asset Pricing Model (CAPM) theoretically establishes the relationship between the expected excess return of an equity portfolio and its systematic risk as measured by its exposure to market risk. In CAPM analysis, the equity portfolio excess returns are regressed against market excess returns in order to estimate the exposure to market risk, and that exposure is then used to decompose the returns into reward for being exposed to the equity market and portfolio-specific returns.

## CAPM Analysis as of 30-Jun-2018

The table shows the coefficient estimates and R-squared of the regression of the index's excess returns (over the risk-free rate) using the CAPM single factor model over the selected analysis period. Based on the factor exposure, the excess returns attributed to each factor are reported in the last column. The t-statistics associated with the coefficient estimates are also reported.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Coefficient	t-stat	Perf.
Alpha	3.28 %	4.3	3.54 %
Market	0.92	148.2	6.96 %
r <sup>2</sup>	0.96		

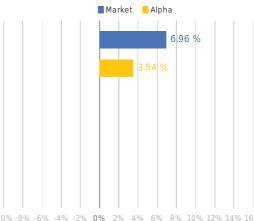
Analytics are based on weekly total return index series (dividends reinvested) in USD.

Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values

Performances are annualised for periods longer than a year.

## CAPM Performance Attribution as of 30-Jun-2018

The figure displays the attribution of the index's excess return (over the risk-free rate) to market factor and unexplained excess returns (Alpha).



-10% -8% -6% -4% -2% **0%** 2% 4% 6% 8% 10% 12% 14% 16%

The Market factor is the weekly return of the cap-weighted index of all stocks that constitute the index portfolio. The risk-free rates used are defined according to the regional universe of the index.

# **Fama-French Factor Analysis**

The Fama-French factor model extends the CAPM model by adding the small size factor and the value factor. In Fama-French factor analysis, we explain the equity portfolio performance via linear regression using all three risk factors to better understand the potential factor or investment style biases as well as to form a clear idea of its risk-adjusted performance.

### Fama-French Factor Analysis as of 30-Jun-2018

The table shows the coefficient estimates and R-squared of the regression of index's excess returns (over the risk-free rate) using the Fama French three-factor model over the selected analysis period. Based on the factor exposure, the excess returns attributed to each factor are reported in the last column. The t-statistics associated with the coefficient estimates are also reported.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Coefficient t-stat		Perf.
Alpha	3.03 %	4.2	3.31 %
Market factor	0.91	135.0	6.85 %
Size (SMB) factor	0.10	9.9	0.37 %
Value (HML) factor	-0.03	-3.2	-0.03 %
r <sup>2</sup>	0.97		

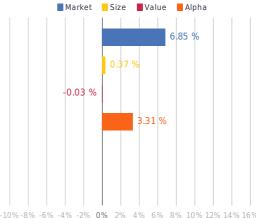
Analytics are based on weekly total return index series (dividends reinvested) in USD.

Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values

Performances are annualised for periods longer than a year.

## Fama-French Factor Performance Attribution as of 30-Jun-2018

The figure displays attribution of the index's excess return (over the risk-free rate) to market factor, HML factor, SMB factor, and unexplained excess returns (Alpha).



The Market factor is the weekly return series of the cap-weighted index of all stocks that constitute the index portfolio. SMB factor is the weekly return series of a portfolio that is long for the bottom 30% stocks ranked by market capitalisation (mid market-cap stocks) and short for the top 30% stocks ranked by market capitalisation (large market-cap stocks). HML factor is the weekly return series of a portfolio that is long for the top 30% stocks (value stocks) and short for the bottom 30% stocks (growth stocks) sorted on book-to-market value in descending order. The risk-free rates used are defined according to the regional universe of the strategy.

# **Carhart Factor Analysis**

Carhart (1997) proposes an extended four-factor model incorporating the momentum factor. In Carhart four factor analysis, we explain the equity portfolio performance via linear regression using four risk factors to better understand the potential factor or investment style biases as well as to form a clear idea of its risk-adjusted performance.

## Carhart Factor Analysis as of 30-Jun-2018

The table shows the coefficient estimates and r-square of the regression of the strategy's excess returns (over the risk-free rate) using the Carhart four-factor model over the selected analysis period. Based on the factor exposure, the excess returns attributed to each factor are reported in the last column. The t-statistics associated with the coefficient estimates are also reported.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Coefficient	t-stat	Perf.
Alpha	2.95 %	4.3	3.34 %
Market factor	0.91 141.8 6.85 9		6.85 %
Size (SMB) factor	0.10	9.7	0.35 %
Value (HML) factor	0.03	2.7	0.03 %
Momentum (MOM) factor	0.08	9.3	-0.07 %
r <sup>2</sup>	0.97		

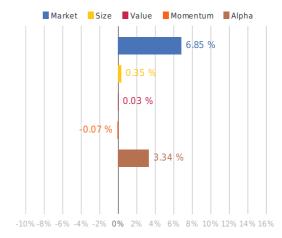
Analytics are based on weekly **total** return index series (dividends reinvested) in **USD**.

Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values.

Performances are annualised for periods longer than a year.

## Carhart Factor Performance Attribution as of 30-Jun-2018

The figure displays the attribution of the index's excess return (over the risk-free rate) to market factor, HML factor, SMB factor, MOM factor, and unexplained excess returns (Alpha).



The Market factor is the weekly return series of the cap-weighted index of all stocks that constitute the index portfolio. SMB factor is the weekly return series of a portfolio that is long for the bottom 30% stocks ranked by market capitalisation (mid market-cap stocks) and short for the top 30% stocks ranked by market capitalisation (large market-cap stocks). HML factor is the weekly return series of a portfolio that is long for the top 30% stocks (value stocks) and short for the bottom 30% stocks (growth stocks) sorted on book-to-market value in descending order. The MOM factor is calculated as the weekly return series of a cap-weighted portfolio that is long the winner stocks and short the loser stocks) are defined as the top 30% (inversely the bottom 30%) of stocks, sorted on the past 52 weeks' compounded returns excluding the most recent month, in descending order. The risk-free rates used are defined according to the regional universe of the index.

# **Sector Performance Attribution**

### Sector Performance Attribution as of 30-Jun-2018

The table shows the results of Menchero Multi-period Attribution, in which the index's outperformance with regard to its cap-weighted reference index is broken down into stock effect, sector effect, and interaction effect. The analysis is based on the selected period.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	Ref	Excess	Stock	Sector	Inter
Energy	9.27 %	9.88 %	-0.62 %	1.46 %	-0.02 %	0.72 %
Basic Materials	3.31 %	3.24 %	0.07 %	2.66 %	0.43 %	-0.26 %
Industrials	12.76 %	11.77 %	1.00 %	2.62 %	0.48 %	-0.02 %
Cyclical Consumer	13.24 %	11.79 %	1.45 %	-3.69 %	0.02 %	-0.35 %
Non-Cyclical Consumer	11.36 %	9.58 %	1.77 %	0.25 %	-1.43 %	0.09 %
Financials	16.86 %	18.66 %	-1.80 %	0.48 %	1.60 %	-1.99 %
Healthcare	12.79 %	11.87 %	0.93 %	4.88 %	-0.28 %	0.34 %
Technology	13.29 %	16.77 %	-3.48 %	-1.79 %	-3.78 %	-0.45 %
Telecoms	2.98 %	3.24 %	-0.26 %	1.47 %	0.23 %	0.05 %
Utilities	4.14 %	3.19 %	0.95 %	0.17 %	-0.93 %	0.03 %
Total				8.51 %	-3.68 %	-1.85 %

Analytics are based on daily total return index series (dividends reinvested).

Analytics are calculated from base date to 30-Jun-2018.

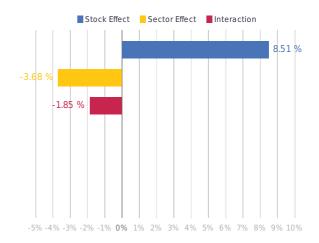
Analytics are updated monthly with EOM values.

Performances are annualised for periods longer than a year.

Please see Menchero Multi-period Attribution in the glossary for a detailed explanation of the attribution model. The sector classification used is the Thomson Reuters Business Classification. The statistics of historical performance are annualised.

### Sector Performance Attribution as of 30-Jun-2018

The figure displays the breakdown of the index's outperformance with regard to its cap-weighted reference index into returns attributed to stock effect, sector effect, and interaction effect from the Menchero Multi-period Attribution model. The analysis is based on the selected period.



# **Multi-Beta Component Performances**

The Component Performances analytic shows the allocation and the performance of the components of the multi-beta index at the latest completed calendar quarter in order to provide an in-depth analysis of the quarterly performance.

This analytic is updated at the end of calendar quarter and shows the quarterly performance, year-to-date performance, live performance and historical performance of the components.

#### Multi-Beta Component Performances as of 30-Jun-2018

The table shows the weight allocated to the underlying indices at the penultimate rebalancing. For each component index, the return over the last quarter, the year-to-date return, the live performance and the historical performance are reported.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Allocation	Q Return	YTD Return	Live Perf	Hist. Perf
SciBeta USA HFInt LVol Div MStrat	16.7 %	2.12 %	1.92 %	-0.23 %	11.29 %
SciBeta USA HFInt MCap Div MStra	16.7 %	4.59 %	6.48 %	2.38 %	11.77 %
SciBeta USA HFInt Val Div MStrat (4	16.7 %	1.74 %	1.19 %	-0.80 %	11.98 %
SciBeta USA HFInt HMom Div MStra	16.7 %	2.43 %	2.52 %	-0.55 %	11.44 %
SciBeta USA HFInt HProf Div MStra	16.7 %	6.09 %	6.47 %	3.49 %	12.81 %
SciBeta USA HFInt LInv Div MStrat	16.7 %	3.77 %	2.77 %	1.64 %	11.58 %

Allocations are reported at 16-Mar-2018.

Quarterly returns are calculated between 30-Mar-2018 and 30-Jun-2018.

YTD returns are calculated between 29-Dec-2017 and 30-Jun-2018.

Live performances are calculated between Live date (16-Mar-2018) and 30-Jun-2018.

Historical performances are calculated between Base date (21-Jun-2002) and 30-Jun-2018.

Analytics are updated quarterly.

### Multi-Beta Component Performances as of 30-Jun-2018

The table shows the weight allocated to the underlying indices at the penultimate rebalancing. For each component index, the relative return over the last quarter, the year-to-date relative return, the live relative performance and the historical relative performance are reported.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Allocation	Q RRet	YT D RRet	Live RPerf	Hist. RPerf
SciBeta USA HFInt LVol Div MStrat	16.7 %	-1.33 %	-0.87 %	0.43 %	2.41 %
SciBeta USA HFInt MCap Div MStra	16.7 %	1.14 %	3.68 %	3.04 %	2.88 %
SciBeta USA HFInt Val Div MStrat (4	16.7 %	-1.71 %	-1.60 %	-0.14 %	3.09 %
SciBeta USA HFInt HMom Div MStra	16.7 %	-1.02 %	-0.27 %	0.11 %	2.56 %
SciBeta USA HFInt HProf Div MStra	16.7 %	2.64 %	3.67 %	4.14 %	3.92 %
SciBeta USA HFInt LInv Div MStrat	16.7 %	0.32 %	-0.02 %	2.30 %	2.70 %

Allocations are reported at 16-Mar-2018.

Quarterly relative returns are calculated between 30-Mar-2018 and 30-Jun-2018.

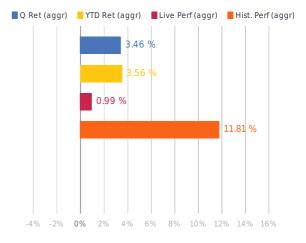
YTD relative returns are calculated between 29-Dec-2017 and 30-Jun-2018. Live relative performances are calculated between Live date (16-Mar-2018) and 30-Jun-2018

Historical relative performances are calculated between Base date (21-Jun-2002) and 30-Jun-2018.

Analytics are updated quarterly.

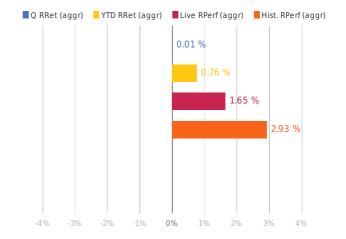
### Multi-Beta Component Performances as of 30-Jun-2018

The figure displays the aggregated returns and performance of the component indices.



### Multi-Beta Component Performances as of 30-Jun-2018

The figure displays the aggregated relative returns and performance of the component indices.



# **Index Diversification**

The Diversification analytics measure the benefits of portfolio diversification after adjusting for the effect of factor exposures.

#### Diversification as of 30-Jun-2018

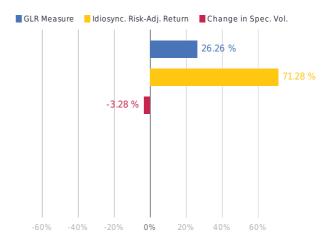
The table shows the average index concentration level and the low correlation objective measure (GLR) based on historical returns and weights over the period. The GLR measure is the ratio of the variance of a portfolio's returns to the weighted average of the variance of its constituents' returns. The Idiosyncratic Risk-Adjusted Return is calculated as the ratio of unexplained return to the standard deviation of the residuals in the risk factor exposure (seven factor) regression. The Change in Specific Volatility is calculated as the difference in volatility of the strategy and its Multi-factor Benchmark, a synthetic portfolio levered to match returns of the respective strategy that contains the same magnitude of systematic risk.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	Broad CW
Effective Number of Constituents (avera	178.0	134.3
GLR Measure	26.3 %	29.7 %
Idiosyncratic Risk-Adj. Return	0.71	n/a
Change in Specific Volatility	-3.28 %	n/a

Analytics are calculated at 30-Jun-2018. Analytics are updated monthly.

### Diversification as of 30-Jun-2018

The figure displays the diversification measures of the index.



# **Index Fundamentals**

Fundamental attributes refers to the fundamental aggregate characteristics of the index.

### Index Fundamentals as of 30-Jun-2018

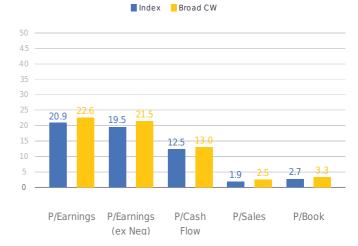
The table shows the index's fundamental attributes based on the index's weight profile at the last rebalancing time. The corresponding statistics of the Broad cap-weighted reference index (Broad CW) are also reported.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	Broad CW
Price / Earnings	20.90	22.58
Price / Earnings (ex Neg)	19.55	21.45
Price / Cash Flow	12.47	13.00
Price / Sales	1.88	2.47
Price / Book Value	2.71	3.34
Gross Profitability	29.26 %	26.16 %
Total Asset Growth	5.15 %	14.69 %
Dividend Yield	1.75 %	1.86 %

Analytics are calculated at 30-Jun-2018. Analytics are updated quarterly.

### Index Fundamentals as of 30-Jun-2018

The figure displays the index's fundamental attributes based on the index's weight profile at the last rebalancing time. The corresponding statistics of the Broad cap-weighted reference index (Broad CW) are also reported.



The Broad cap-weighted reference index (Broad CW) is the cap-weighted index whose constituents cover all stocks in the geographic region of the Scientific Beta index being analysed.

# **Extreme Risk Analysis**

The Extreme Risk Analytics calculate two measures of downside risk – Value-at-Risk and Conditional Value-at-Risk – aggregated over a certain time period together with the corresponding risk-adjusted returns and also provide monthly forecasts of the two risk measures based on a conditional time-series model that takes into account the clustering of volatility and assumes the conditional return distribution is fat-tailed.

### Extreme Risk Analysis as of 30-Jun-2018

The table shows summary statistics of the index's extreme risk over the selected analysis period. The corresponding statistics of the Broad cap-weighted reference index (Broad CW) are also reported.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	Broad CW
Return	11.86 %	8.89 %
EVT 1% VaR	2.04 %	2.28 %
EVT 1% CVaR	2.47 %	2.78 %
Ret to EVT 1% VaR ratio	0.32	0.21
Ret to EVT 1% CVaR ratio	0.27	0.17
For. Monthly EVT 1% VaR	7.17 %	7.81 %
For. Monthly EVT 1% CVaR	8.69 %	9.45 %

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018.

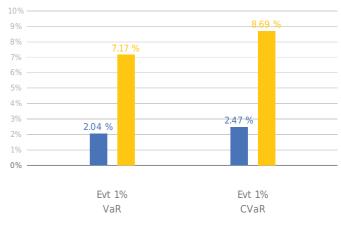
Analytics are updated monthly with EOM values.

Performances are annualised for periods longer than a year.

## Extreme Risk Analysis as of 30-Jun-2018

The figure shows the in-sample and forecasted monthly Value-at-Risk and Conditional Value-at-Risk for the index over the selected analysis period.

In-Sample Forecasted Monthly



Broad CW is the cap-weighted index whose constituents cover all stocks in the geographic region of the Scientific Beta index being analysed.

### Extreme Relative Risk Analysis as of 30-Jun-2018

The table shows summary statistics of the index's extreme relative risk with regard to its Broad cap-weighted reference index (Broad CW) over the selected analysis period.

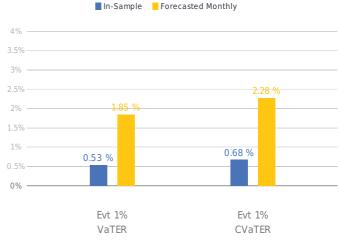
SciBeta USA HFInt Div MBeta MStrat (Sct- ntr) 6F4S-EW	/ Broad CW
Excess Return	2.98 %
EVT 1% VaTER	0.53 %
EVT 1% CVaTER	0.68 %
Ret to EVT 1% VaTER ratio	0.35
Ret to EVT 1% CVaTER ratio	0.27
For. Monthly EVT 1% VaTER	1.85 %
For. Monthly EVT 1% CVaTER	2.28 %

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values.

Performances are annualised for periods longer than a year.

### Extreme Relative Risk Analysis as of 30-Jun-2018

The figure shows the in-sample and forecasted monthly Value-at-Tracking Error and Conditional Value-at-Tracking Error for the index over the selected analysis period.



Broad CW is the cap-weighted index whose constituents cover all stocks in the geographic region of the Scientific Beta index being analysed.

# **Risk Factor Exposure**

The Risk Factor Exposure analysis assesses the exposure of a given strategy to a set of seven factors: Market factor, Size factor, Value factor, Momentum factor, Volatility factor, Profitability factor and Investment factor.

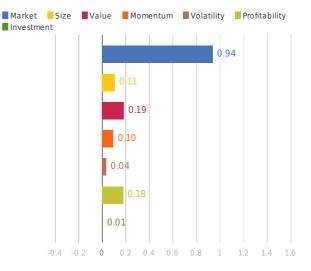
### Risk Factor Exposure as of 30-Jun-2018

The table shows the coefficient estimates and r-square of the regression of the strategy's excess returns (over the risk-free rate) using the seven-factor model over the selected analysis period. The t-statistics associated with the coefficient estimates are also reported.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Coefficient	t-stat
Unexplained	1.84 %	2.8
Market factor	0.94	124.6
Size (SMB) factor	0.11	9.9
Value (HML) factor	0.19	9.0
Momentum (MOM) factor	0.10	11.2
Volatility factor	0.04	3.8
Profitability factor	0.18	10.0
Investment factor	0.01	0.3
Factor Intensity	0.61	
r <sup>2</sup>	0.97	

### Risk Factor Exposure as of 30-Jun-2018

The figure displays the exposure of the index's excess return (over the risk-free rate) to Market factor, SMB factor, HML factor, MOM factor, VOL factor, PRO factor and INV factor.



Analytics are based on weekly **total** return index series (dividends reinvested) in **USD**.

Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values.

Performances are annualised for periods longer than a year.

The Market factor is the excess return series of the cap-weighted index of all stocks that constitute the index portfolio over the risk-free rate. SMB factor is the return series of an equal-weighted portfolio that is long for the bottom 30% stocks ranked by market capitalisation (mid market-cap stocks) and short for the top 30% stocks ranked by market capitalisation (large market-cap stocks). HML factor is the return series of an equal-weighted portfolio that is long for the bottom 30% stocks (and short for the bottom 30% stocks) sorted on book-to-market value in descending order. The MOM factor is the return series of an equal-weighted portfolio that is long the winner stocks and short the loser stocks. The winner stocks (inversely the loser stocks) are defined as the top 30% (inversely the bottom 30%) of stocks, sorted on the past 52 weeks' compounded returns excluding the most recent month, in descending order. The VOL factor is the return series of an equal-weighted portfolio that is long the bottom 30% stocks (low volatility stocks) and short the top 30% stocks (high profitability stocks) and short the bottom 30% stocks (low profitability stocks) sorted on gross profitability in descending order. The INV factor is the return series of an equal-weighted portfolio that is long the top 30% stocks (high profitability stocks) and short the bottom 30% stocks (low investment stocks) and short the top 30% stocks (high profitability stocks) and short the bottom 30% stocks (low investment stocks) and short the top 30% stocks (high investment stocks) sorted on two year asset growth in descending order. The risk-free rates used are defined according to the regional universe of the index.

# **Relative Factor Score**

Relative Factor Score identifies the exposure of an index to the academically consensual factors such as Size, Value, Momentum, Volatility, Profitability and Investment.

### Relative Factor Score as of 30-Jun-2018

The table shows the relative factor score and relative score intensity of the strategy index, beta cap-weighted index and the broad cap-weighted index.

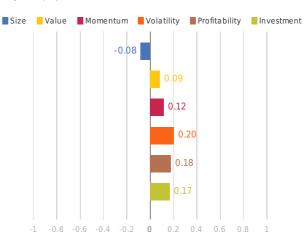
SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Index	Broad CW
Size (SMB) factor	-0.08	-0.56
Value (HML) factor	0.09	-0.05
Momentum (MOM) factor	0.12	0.00
Volatility factor	0.20	0.16
Profitability factor	0.18	0.06
Investment factor	0.17	-0.01
Relative Score Intensity	0.68	-0.40

Analytics are based on quarterly weights.

Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated quarterly with EOQ values.

### Relative Factor Score as of 30-Jun-2018

The figure displays the relative factor scores of the index.



# **Bull/Bear Market Performances**

Bull / Bear Market Performances refer to return and risk in phases with positive/negative market returns.

#### Bull / Bear Market Performances as of 30-Jun-2018

The analysis is based on the complete history of index returns. The table shows general statistics of the index's absolute performance and risk in periods of bull and bear market regimes and in periods of extreme bull and extreme bear market regimes.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Ext Bull Market	Bull Market	Bear Market	Ext Bear Market
Return	39.32 %	26.15 %	-19.47 %	-37.05 %
Volatility	13.23 %	12.51 %	25.40 %	33.64 %
Sharpe ratio	2.90	2.00	-0.82	-1.12

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values.

Performances are annualised.

### Bull / Bear Market Performances as of 30-Jun-2018

Max Return Avg Return

The figure displays the index's average, minimum, and maximum annualised absolute returns in quarters characterised by bull and bear market regimes and by extreme bull and extreme bear market regimes. The analysis is based on the complete history of index returns.

Min Return



The returns and volatility are annualised. The risk-free rate used is defined according to the regional universe of the index.

### Bull / Bear Market Rel. Performances as of 30-Jun-2018

The analysis is based on the complete history of index returns. The table shows general statistics of the index's relative performance and relative risk (with respect to its cap-weighted reference index) in the periods of bull and bear market regimes respectively.

SciBeta USA HFInt Div MBeta MStrat (Sct- ntr) 6F4S-EW	Ext Bull Market	Bull Market	Bear Market	Ext Bear Market
Relative Return	-1.33 %	1.26 %	5.91 %	4.58 %
Tracking-Error	3.16 %	2.91 %	5.30 %	6.45 %
Information Ratio	-0.42	0.44	1.11	0.71

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values. Performances are annualised.

### Bull / Bear Market Rel. Performances as of 30-Jun-2018

The figure displays the index's average, minimum and maximum annualised relative returns (with respect to its cap-weighted reference index) in quarters characterised by bull and bear market regimes, respectively. The analysis is based on the complete history of index returns.



The statistics are based on daily total returns (with dividends reinvested). The relative returns and tracking error are annualised. The risk-free rate used is defined according to the regional universe of the index.

# **High/Low Vol Regime Performances**

High / Low Volatility Regime Performances indicate performance statistics in high/low volatility regimes.

### High / Low Vol Regime Performances as of 30-Jun-2018

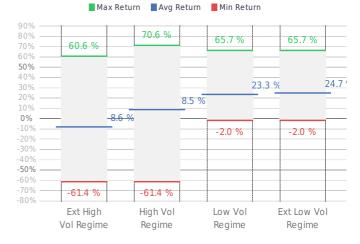
The analysis is based on the complete history of index returns. The table shows general statistics of the index's absolute performance and risk in periods of high and low volatility market regimes and in periods of extreme high and low volatility market regimes.

SciBeta USA HFInt Div MBeta MStrat (Sct- ntr) 6F4S-EW	Ext High Vol Regime	High Vol Regime	Low Vol Regime	Ext Low Vol Regime
Annualized Return	-14.49 %	2.75 %	21.99 %	23.24 %
Volatility	27.62 %	21.91 %	9.75 %	9.27 %
Sharpe ratio	-0.57	0.09	2.09	2.33

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values. Performances are annualised.

### High / Low Vol Regime Performances as of 30-Jun-2018

The figure displays the index's average, minimum, and maximum quarterly absolute returns in quarters characterised by high and low volatility market regimes and by extreme high and low volatility market regimes. The analysis is based on the complete history of index returns.



The returns and volatility are annualised. The risk-free rate used is defined according to the regional universe of the index.

### High / Low Vol Regime Rel. Performances as of 30-Jun-2018

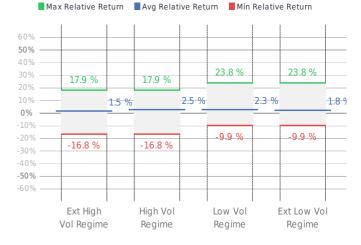
The analysis is based on the complete history of index returns. The table shows general statistics of the index's relative performance and relative risk (with respect to its cap-weighted reference index) in the periods of high and low volatility market regimes respectively.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr) 6F4S-EW	Ext High Vol Regime	High Vol Regime	Low Vol Regime	Ext Low Vol Regime
Annualized Relative Return	3.02 %	3.59 %	2.39 %	1.70 %
Tracking-Error	5.76 %	4.58 %	2.53 %	2.51 %
Information Ratio	0.52	0.78	0.94	0.68

Analytics are based on daily **total** return index series (dividends reinvested) in **USD**. Analytics are calculated from base date (21-Jun-2002) to 30-Jun-2018. Analytics are updated monthly with EOM values. Performances are annualised.

### High / Low Vol Regime Rel. Performances as of 30-Jun-2018

The figure displays the index's average, minimum and maximum quarterly relative returns (with respect to its cap-weighted reference index) in quarters characterised by high and low volatility market regimes, respectively. The analysis is based on the complete history of index returns.



The statistics are based on daily total returns (with dividends reinvested). The relative returns and tracking error are annualised. The risk-free rate used is defined according to the regional universe of the index.

# **Turnover & Capacity**

Turnover and capacity analysis addresses the main implementation issues of ERI Scientific Beta indices.

### Turnover & Capacity as of 30-Jun-2018

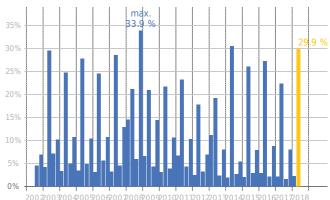
The table shows the turnover level of the index in % and the capacity of the index (long-only indices) as measured by the average market capitalisations, in M\$. The corresponding statistics of the Broad cap-weighted reference index (Broad CW) are also reported, along with those of the Beta cap-weighted reference index (Beta CW) in case of univaried stock selection. \* For long/short indices, the table also reports the average capacity and latest capacity in M\$ of the long branch and the short branch of the unleveraged branch indices. \* For Market Beta Adjusted (Overlay) indices, the reported investability measures do not take into account the cost of replication of the cap-weighted index using futures overlay.

SciBeta USA HFInt Div MBeta MStrat (Sct-ntr)6F4S-EW	Index	Broad CW
Turnover (annualised)	44.3 %	3.8 %
Average Capacity (M\$)	33 371	100 180
Latest Capacity (M\$)	48 202	186 662

Analytics are calculated at 30-Jun-2018. Analytics are updated quarterly.

### Turnover History as of 30-Jun-2018

The chart below shows the turnover history of the index since inception on a quarterly basis



In case of univaried stock selection, the Beta cap-weighted reference index (Beta CW) is the cap-weighted index whose constituents are drawn from the same stock selection as that of the Scientific Beta index being analysed. The Broad cap-weighted reference index (Broad CW) is the cap-weighted index whose constituents cover all stocks in the geographic region of the Scientific Beta index being analysed.

# **Sector Allocation**

Sector Allocation refers to the separation of investment weights of the strategy portfolio into various sectors.

### Sector Allocation as of 30-Jun-2018

The table shows industry sector exposures (in weight percentage) of the index, based on the index's weight profile at the last rebalancing time.

SciBeta USA HFInt Div MBeta MStrat (Sct- ntr) 6F4S-EW	Weight
Energy	7.9 %
Basic Materials	2.3 %
Industrials	11.5 %
Cyclical Consumer	14.6 %
Non-Cyclical Consumer	8.7 %
Financials	16.2 %
Healthcare	13.7 %
Technology	19.1 %
Telecoms	2.3 %
Utilities	3.6 %

Analytics are calculated at 30-Jun-2018. Analytics are updated quarterly.

The sector classification used is the Thomson Reuters Business Classification.

### Sector Allocation as of 30-Jun-2018

The table shows the differences in aggregated sector weights of the index with regard to its Broad cap-weighted reference index (Broad CW), based on the index's weight profile at the last rebalancing time.

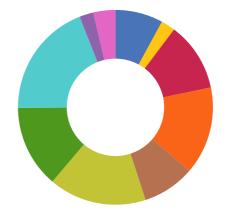
SciBeta USA HFInt Div MBeta MStrat (Sct- ntr) 6F4S-EW	Excess Weight
Energy	1.4 %
Basic Materials	-0.3 %
Industrials	1.6 %
Cyclical Consumer	1.6 %
Non-Cyclical Consumer	1.2 %
Financials	-0.1 %
Healthcare	0.1 %
Technology	-6.5 %
Telecoms	0.2 %
Utilities	0.7 %

Analytics are calculated at 30-Jun-2018. Analytics are updated quarterly.

#### Sector Allocation as of 30-Jun-2018

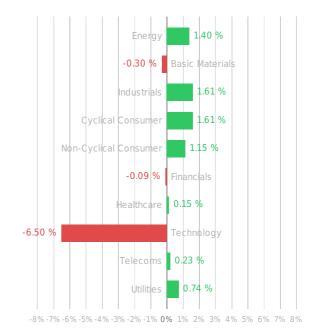
The figure displays industry sector exposures (in weight percentage) of the index, based on the index's weight profile at the last rebalancing time.

Energy Basic Materials Industrials Cyclical Consumer
Non-Cyclical Consumer Financials Healthcare Technology
Telecoms Utilities



### Sector Allocation as of 30-Jun-2018

The figure displays the differences in aggregated sector weights of the index with regard to its Broad cap-weighted reference index (Broad CW), based on the index's weight profile at the last rebalancing time.



The sector classification used is the Thomson Reuters Business Classification.

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