ScientificBeta
An EDHEC-Risk Institute Venture

Performance and Risk Report

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

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31 March 2020

Overview

Index Description as of 31-Mar-2020

The table summarises the index construction principles.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Index
Currency	USD
Number of Constituents	316
Cap Coverage (Global Universe)	36.9 %
Regional Universe	United States
Stock Selection	H-FInt. Multi-Beta Six-Factor EW
Weighting Scheme	Div. Multi-Strategy (4S)
Risk Control	Mkt Beta Adjusted (CW Overlay)
TO Control	n/r
Base date	18-Jun-2004
Live Date	16-Mar-2018
Broad CW	SciBeta USA CW
Index Changes	June 2016 June-2019

Analytics are calculated at 31-Mar-2020.
Analytics are updated quarterly.

The index coverage is calculated at the last rebalancing time.

Index Characteristics

Universe - **United States of America**

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

Selection - **Multi-Beta (EW) Six-Factor Stock Selection**

Multi-Beta stock selection is a form of multi-factor allocation that consists of selecting stocks from the underlying equity universe that correspond to one of the chosen risk factors.

Filter - **High Factor Intensity Filter**

The Factor Intensity filter is applied to a stock selection scheme, targeting a given factor tilt, to improve its exposure to other rewarded factors in a multi-factor investment setting.
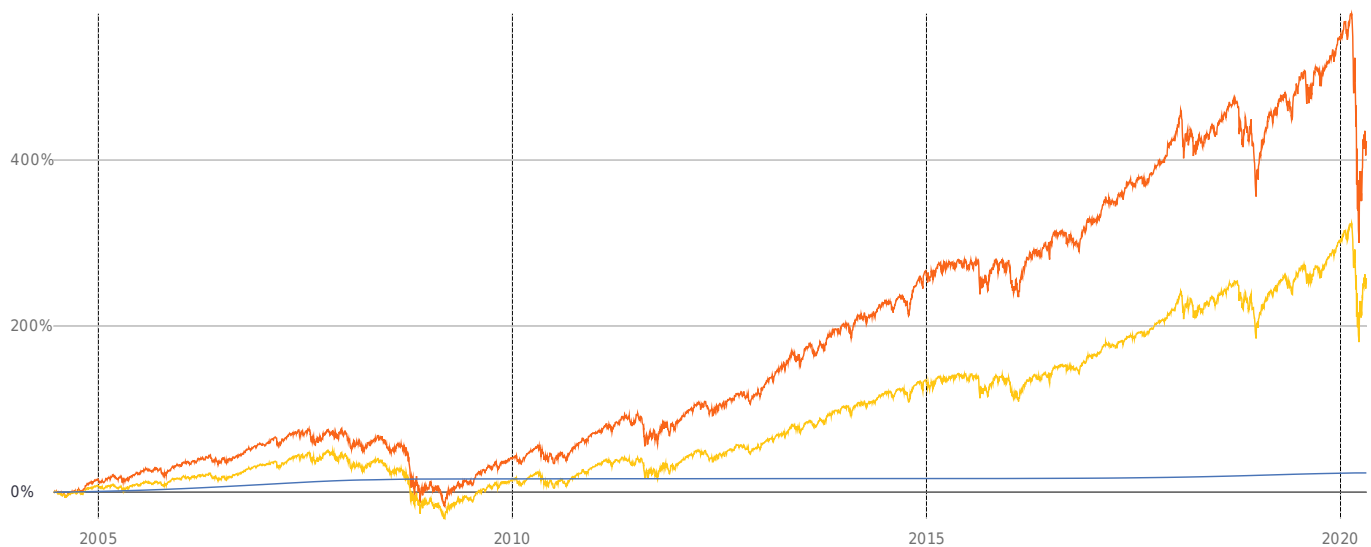
Weighting - **Diversified Multistrategy**

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 - **Market Beta Adjusted (Overlay)**

Market Beta Adjustment (Overlay) is a risk control option that enables investors to correct for the market beta bias by adjusting the market beta of an index to one. This is done in accordance with the standard market practice of mixing with the cap-weighted index through a swap or a future overlay by borrowing cash at the overnight rate.

Total Return Index in USD

Index ——— Cap-W. ——— Risk-free ———

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Latest Performances

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

Latest Performances (Total Return) as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Index	Broad CW
1-Month Return	-18.24 %	-12.23 %
3-Month Return	-26.75 %	-19.23 %
Year-to-Date Return	-26.75 %	-19.23 %
1-Year Return	-15.66 %	-6.48 %
3-Year Return	1.73 %	5.38 %
5-Year Return	4.97 %	6.69 %

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.

Live	Index	Broad CW
Return	-5.45 %	-0.73 %
Volatility	26.42 %	23.91 %
Sharpe ratio	n/r	n/r

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.
Performances are annualised for periods longer than a year.
Live date is 16-Mar-2018.

Since base date	Index	Broad CW
Return	10.33 %	7.72 %
Volatility	20.15 %	19.24 %
Sharpe ratio	0.45	0.33

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.
Performances are annualised for periods longer than a year.
Base date is 18-Jun-2004.

Latest Performances (Net Return) as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Index	Broad CW
1-Month Return	-18.32 %	-12.28 %
3-Month Return	-26.90 %	-19.36 %
Year-to-Date Return	-26.90 %	-19.36 %
1-Year Return	-16.28 %	-7.03 %
3-Year Return	1.02 %	4.76 %
5-Year Return	4.23 %	6.03 %

*Analytics are based on daily **net** returns (dividends net of tax reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.

Live	Index	Broad CW
Return	-6.12 %	-1.32 %
Volatility	26.43 %	23.91 %
Sharpe ratio	n/r	n/r

*Analytics are based on daily **net** returns (dividends net of tax reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.
Performances are annualised for periods longer than a year.
Live date is 16-Mar-2018.

Since base date	Index	Broad CW
Return	9.51 %	7.00 %
Volatility	20.15 %	19.24 %
Sharpe ratio	0.41	0.30

*Analytics are based on daily **net** returns (dividends net of tax reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.
Performances are annualised for periods longer than a year.
Base date is 18-Jun-2004.

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.

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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 (Total Return) as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	/ Broad CW
1-Month Relative Return	-6.01 %
3-Month Relative Return	-7.52 %
Year-to-Date Relative Return	-7.52 %
1-Year Relative Return	-9.18 %
3-Year Relative Return	-3.65 %
5-Year Relative Return	-1.71 %

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.

Live	/ Broad CW
Relative Return	-4.72 %
Tracking-Error	4.94 %
Information ratio	n/r

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.
Performances are annualised for periods longer than a year.
Live date is 16-Mar-2018.

Since base date	/ Broad CW
Relative Return	2.61 %
Tracking-Error	3.59 %
Information ratio	0.73

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.
Performances are annualised for periods longer than a year.
Base date is 18-Jun-2004.

Latest Relative Performances (Net Return) as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	/ Broad CW
1-Month Relative Return	-6.04 %
3-Month Relative Return	-7.54 %
Year-to-Date Relative Return	-7.54 %
1-Year Relative Return	-9.25 %
3-Year Relative Return	-3.74 %
5-Year Relative Return	-1.81 %

*Analytics are based on daily **net** returns (dividends net of tax reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.

Live	/ Broad CW
Relative Return	-4.80 %
Tracking-Error	4.94 %
Information ratio	n/r

*Analytics are based on daily **net** returns (dividends net of tax reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.
Performances are annualised for periods longer than a year.
Live date is 16-Mar-2018.

Since base date	/ Broad CW
Relative Return	2.50 %
Tracking-Error	3.60 %
Information ratio	0.70

*Analytics are based on daily **net** returns (dividends net of tax reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020 and updated monthly.
Performances are annualised for periods longer than a year.
Base date is 18-Jun-2004.

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 constituents cover all stocks in the geographical region of the Scientific Beta index being analysed.

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Annual Performances

Annual Performances refers to calendar year returns.

Annual Performances (Total Return) as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Index	Broad CW
Year 2020 (YTD)	-26.75 %	-19.23 %
Year 2019	32.61 %	31.87 %
Year 2018	-6.66 %	-4.30 %
Year 2017	23.91 %	21.95 %
Year 2016	13.27 %	11.48 %
Year 2015	3.30 %	1.09 %
Year 2014	19.04 %	13.77 %
Year 2013	38.91 %	32.29 %
Year 2012	18.89 %	15.85 %
Year 2011	7.52 %	1.60 %

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**. Analytics are calculated at 31-Mar-2020 and updated monthly with EOM values.*

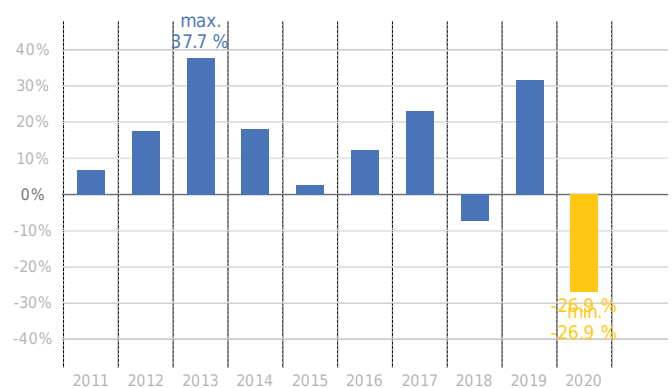## Annual Performances (Net Return) as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Index	Broad CW
Year 2020 (YTD)	-26.90 %	-19.36 %
Year 2019	31.66 %	31.08 %
Year 2018	-7.28 %	-4.85 %
Year 2017	23.04 %	21.22 %
Year 2016	12.39 %	10.74 %
Year 2015	2.61 %	0.46 %
Year 2014	18.25 %	13.07 %
Year 2013	37.71 %	31.36 %
Year 2012	17.71 %	14.92 %
Year 2011	6.68 %	0.87 %

*Analytics are based on daily **net** returns (dividends net of tax reinvested) in **USD**. Analytics are calculated at 31-Mar-2020 and updated monthly with EOM values.*

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 Performances (Total Return) as of 31-Mar-2020

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

Annual Performances (Net Return) as of 31-Mar-2020

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

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.

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Annual Relative Performances

Annual Performances refers to calendar year returns.

Annual Relative Performances (Total Return) as of 31-Mar-2020

The table shows the index's annual relative returns with regard to its Broad cap-weighted 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 6F4S-EW MBA (Ovr)	/ Broad CW
Year 2020 (YTD)	-7.52 %
Year 2019	0.74 %
Year 2018	-2.36 %
Year 2017	1.96 %
Year 2016	1.79 %
Year 2015	2.21 %
Year 2014	5.27 %
Year 2013	6.61 %
Year 2012	3.04 %
Year 2011	5.92 %

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**. Analytics are calculated at 31-Mar-2020 and updated monthly with EOM values.*

The return of the current calendar year is the year-to-date return without annualisation.

Annual Relative Performances (Net Return) as of 31-Mar-2020

The table shows the index's annual relative returns with regard to its Broad cap-weighted 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.
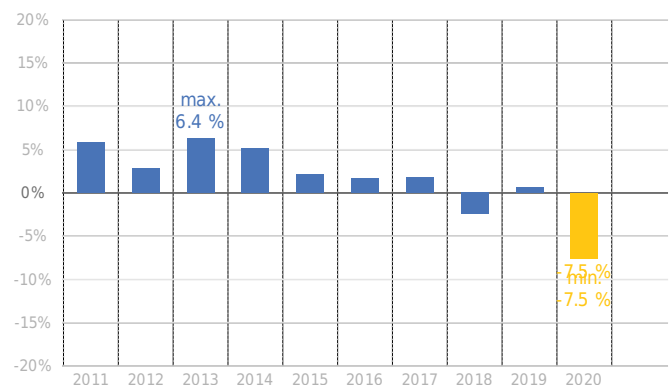
SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	/ Broad CW
Year 2020 (YTD)	-7.54 %
Year 2019	0.58 %
Year 2018	-2.43 %
Year 2017	1.82 %
Year 2016	1.65 %
Year 2015	2.15 %
Year 2014	5.19 %
Year 2013	6.35 %
Year 2012	2.78 %
Year 2011	5.81 %

*Analytics are based on daily **net** returns (dividends net of tax reinvested) in **USD**. Analytics are calculated at 31-Mar-2020 and updated monthly with EOM values.*

Annual Relative Performances (Total Return) as of 31-Mar-2020

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

Annual Relative Performances (Net Return) as of 31-Mar-2020

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

The return of the current calendar year is the year-to-date return without annualisation.

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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).

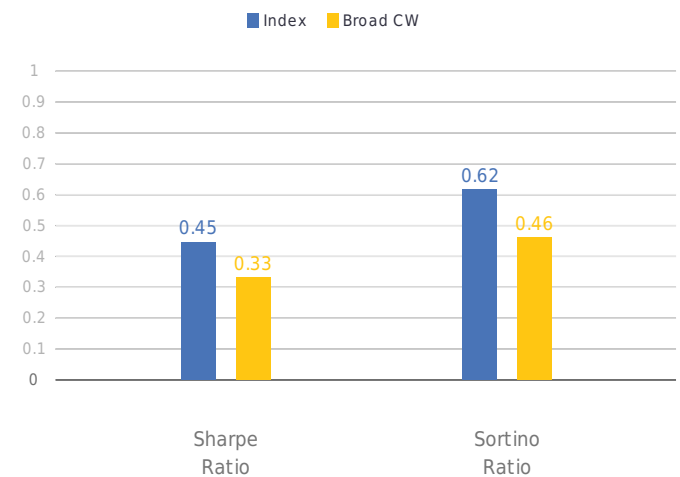## Performance and Risk Characteristics as of 31-Mar-2020

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 cap-weighted reference index (Beta CW) in case of univaried stock selection.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Index	Broad CW
Return	10.33 %	7.72 %
Volatility	20.15 %	19.24 %
Sharpe ratio	0.45	0.33
Sortino ratio	0.62	0.46
Max Drawdown	53.1 %	54.6 %

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated monthly with EOM values.
Performances are annualised for periods longer than a year.

Performance and Risk Characteristics as of 31-Mar-2020

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.

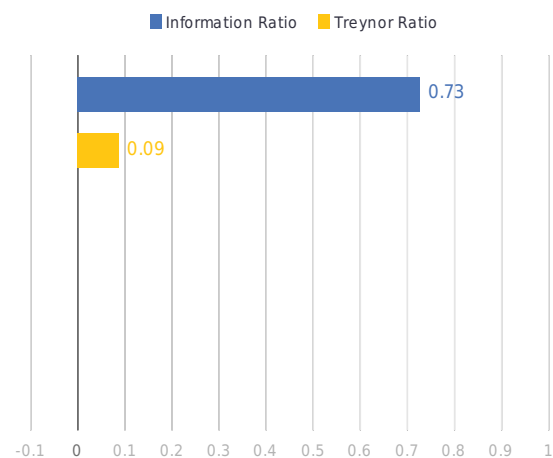## Relative Performance and Risk as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	/ Broad CW
Relative Return Over CW	2.61 %
Tracking-Error	3.59 %
Information Ratio	0.73
Treynor Ratio	0.09
Max Relative Drawdown	13.9 %

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated monthly with EOM values.
Performances are annualised for periods longer than a year.

Relative Performance and Risk as of 31-Mar-2020

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.

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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.
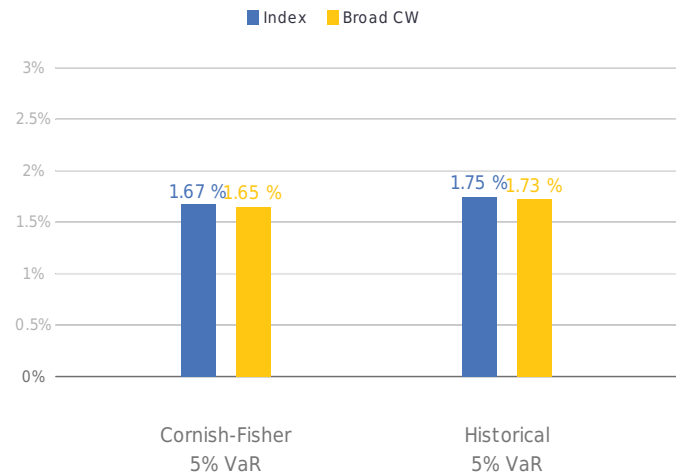
Risk Analysis as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Index	Broad CW
Cornish-Fisher 5% VaR	1.67 %	1.65 %
Historical 5% VaR	1.75 %	1.73 %
Max Drawdown	53.1 %	54.6 %
Time Under Water	825	1 164

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**. Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020. Analytics are updated monthly with EOM values.*

Risk Analysis as of 31-Mar-2020

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 cap-weighted 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 31-Mar-2020

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 6F4S-EW MBA (Ovr)	/ Broad CW
Cornish-Fisher 5% VaTER	0.33 %
Historical 5% VaTER	0.31 %
Max Relative Drawdown	13.9 %
Rel. Time Under Water	979
Extreme Relative Return (5%)	-1.48 %
Extreme Tracking-Error (95%)	5.89 %
Average Tracking-Error	3.19 %

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**. Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020. Analytics are updated monthly with EOM values.*

Relative Risk Analysis as of 31-Mar-2020

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.
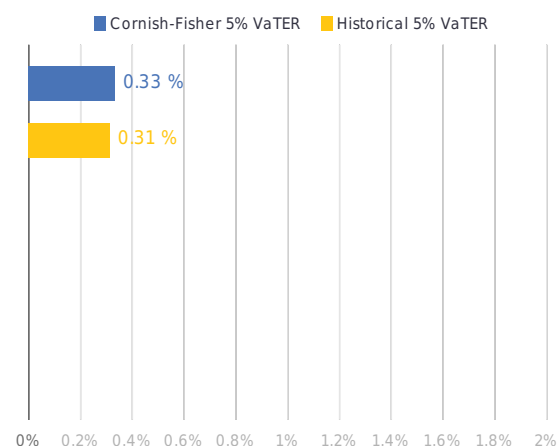
The statistics are based on daily total returns (with dividends reinvested). All statistics are annualised and performance ratios that involve the average returns are based on the geometric average, which reliably reflects multiple holding period returns for investors. The risk-free rates used are defined 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.

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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 31-Mar-2020

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.
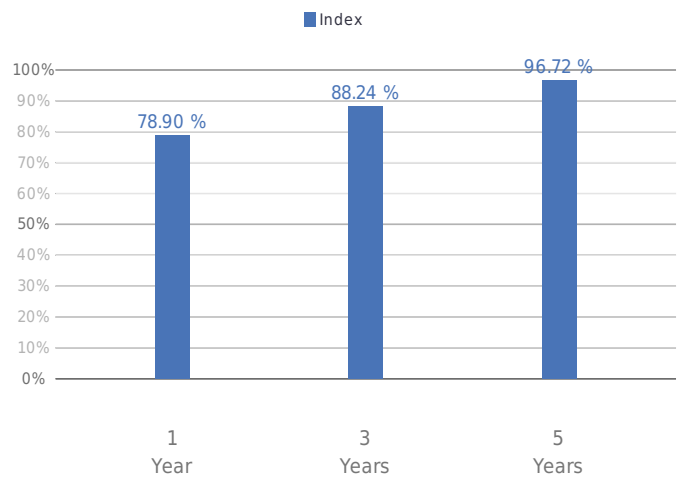
SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Index	LT-US
Excess Return	1.72 %	n/r
Tracking-Error	3.27 %	n/r
Information Ratio	0.53	n/r
Prob. of Outperf. (1 year)	78.9 %	n/r
Prob. of Outperf. (3 years)	88.2 %	n/r
Prob. of Outperf. (5 years)	96.7 %	n/r
End of Period	31-Mar-2020	31-Dec-2018
Period	10 years	40 years

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated at 31-Mar-2020.
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.

Robustness Analysis as of 31-Mar-2020

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.

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Multi-Beta Allocation

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

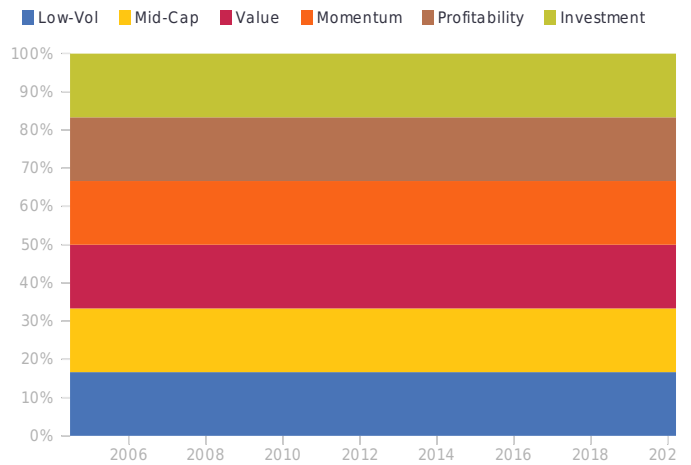## Multi-Beta Allocation as of 20-Mar-2020

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 6F4S-EW MBA (Ovr)	Latest	Average
SciBeta USA HFInt LVol Div MStrat (4S)	16.7 %	16.7 %
SciBeta USA HFInt MCap Div MStrat (4S)	16.7 %	16.7 %
SciBeta USA HFInt Val Div MStrat (4S)	16.7 %	16.7 %
SciBeta USA HFInt HMom Div MStrat (4S)	16.7 %	16.7 %
SciBeta USA HFInt HProf Div MStrat (4S)	16.7 %	16.7 %
SciBeta USA HFInt LInv Div MStrat (4S)	16.7 %	16.7 %
SciBeta USA CW Overlay	10.4 %	13.3 %

Allocations are reported at 20-Mar-2020.
Analytics are updated quarterly.

Multi-Beta Allocation as of 20-Mar-2020

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

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

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 31-Mar-2020

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. The factor contribution to the excess returns (over the risk-free rate) of the strategy are displayed in the last column. The t-statistics associated with the coefficient estimates are also reported.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Coefficient	t-stat	Perf.
Alpha	2.25 %	2.5	2.34 %
Market	1.06	150.1	6.66 %
r²	0.96		

*Analytics are based on weekly **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated quarterly with EOQ values.
Performances are annualised for periods longer than a year.

CAPM Performance Attribution as of 31-Mar-2020

The figure displays the attribution of the index's excess return (over the risk-free rate) to market factor and unexplained excess returns (Alpha).
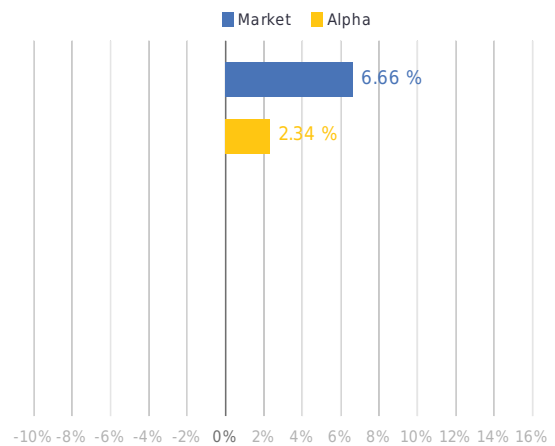
The Market factor is the weekly return of the cap-weighted index of all stocks that constitute the index portfolio. The risk-free rates used are defined according to the regional universe of the index.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

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 31-Mar-2020

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. The factor contribution to the excess returns (over the risk-free rate) of the strategy are displayed in the last column. The t-statistics associated with the coefficient estimates are also reported.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Coefficient	t-stat	Perf.
Alpha	2.32 %	2.6	2.41 %
Market factor	1.05	148.8	6.64 %
Size (SMB) factor	0.06	3.9	-0.11 %
Value (HML) factor	-0.03	-1.8	0.05 %
r²	0.97		

*Analytics are based on weekly **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated quarterly with EOQ values.
Performances are annualised for periods longer than a year.

Fama-French Factor Performance Attribution as of 31-Mar-2020

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).
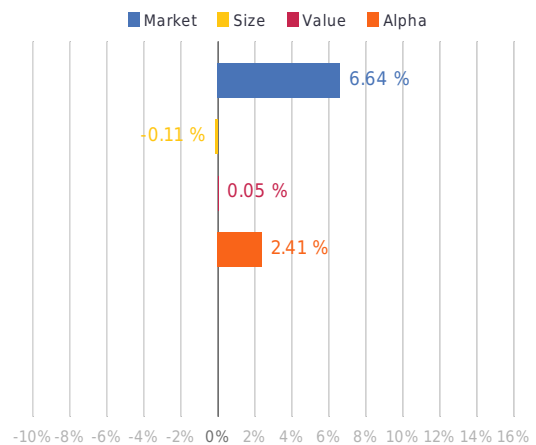
The Market factor is the excess return series of the cap-weighted index of all stocks that constitute the index portfolio over the risk-free rate. SMB factor is the return series of an equal-weighted portfolio that is long small-cap stocks and short the top 30% stocks ranked by market capitalisation (large market-cap stocks). HML factor is the return series of an equal-weighted portfolio that is long for the top 30% stocks (value stocks) and short for the bottom 30% stocks (growth stocks) sorted on book-to-market value in descending order. The SMB and HML factors are market beta neutralised ex-post on a quarterly basis. The risk-free rates used are defined according to the regional universe of the strategy.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

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.

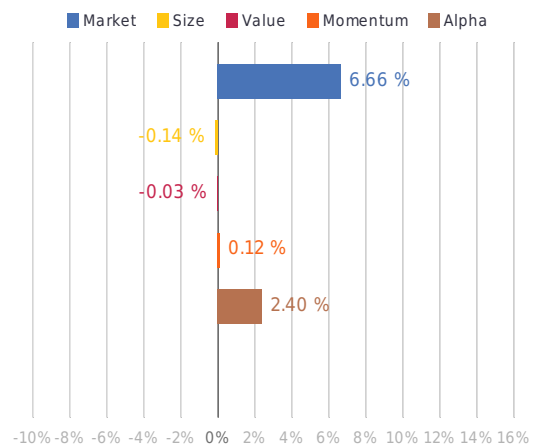## Carhart Factor Analysis as of 31-Mar-2020

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. The factor contribution to the excess returns (over the risk-free rate) of the strategy are displayed in the last column. The t-statistics associated with the coefficient estimates are also reported.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Coefficient	t-stat	Perf.
Alpha	2.25 %	2.6	2.40 %
Market factor	1.06	152.0	6.66 %
Size (SMB) factor	0.08	5.0	-0.14 %
Value (HML) factor	0.02	1.1	-0.03 %
Momentum (MOM) factor	0.08	5.9	0.12 %
r²	0.97		

*Analytics are based on weekly **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated quarterly with EOQ values.
Performances are annualised for periods longer than a year.

Carhart Factor Performance Attribution as of 31-Mar-2020

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 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 small-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 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 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 SMB, HML and MOM factors are market beta neutralised ex-post on a quarterly basis. The risk-free rates used are defined according to the regional universe of the index.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

Sector Performance Contribution

Sector performance contribution is used to evaluate the contribution of a specific sector to the performance of the index.

Sector Performance Contribution as of 31-Mar-2020

The first table shows the results of the performance contribution of specific sectors to the excess performance of the index for long only indices or to the absolute performance of the index for long/short indices. The second table shows the results of the annual performance contribution of specific sectors. The analytic is computed for each calendar quarter using daily data.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Q1 - 2020	Q4 - 2019	Q3 - 2019	Q2 - 2019
Energy	-0.68 %	0.08 %	0.07 %	-0.25 %
Basic Materials	-0.10 %	0.06 %	-0.05 %	-0.05 %
Industrials	-0.18 %	0.13 %	0.02 %	0.12 %
Cyclical Consumer	-3.03 %	0.39 %	0.65 %	-0.30 %
Non-Cyclical Consumer	-0.60 %	0.07 %	0.24 %	0.21 %
Financials	-1.33 %	-0.87 %	0.58 %	0.17 %
Healthcare	-0.17 %	-0.77 %	0.07 %	0.30 %
Technology	-0.46 %	-1.61 %	-0.25 %	-0.50 %
Telecoms	0.19 %	-0.06 %	-0.07 %	-0.02 %
Utilities	-1.36 %	-0.09 %	0.76 %	0.23 %
Excess Performance	-7.52 %	-2.67 %	2.05 %	-0.09 %

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
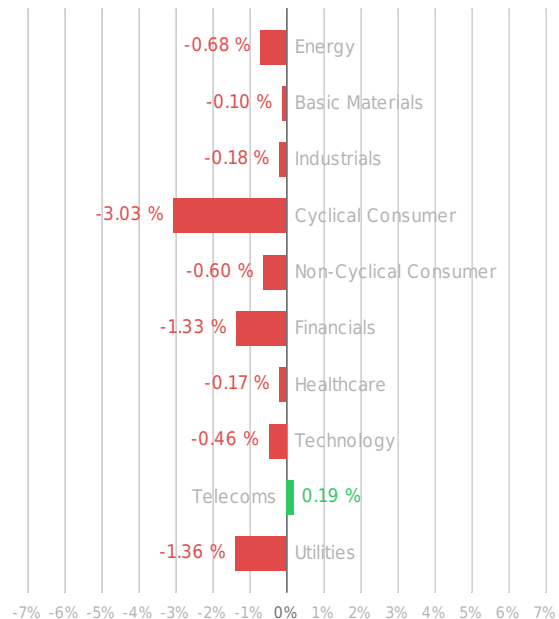*Analytics are calculated at 27-Apr-2020 and updated quarterly.*

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	2020	2019	2018	2017	2016	2015
Energy	-0.68 %	0.14 %	0.24 %	0.52 %	-1.08 %	0.96 %
Basic Materials	-0.10 %	0.05 %	-0.11 %	0.01 %	0.03 %	-0.11 %
Industrials	-0.18 %	0.56 %	-0.21 %	1.46 %	0.51 %	0.34 %
Cyclical Consumer	-3.03 %	1.42 %	-1.56 %	0.05 %	0.20 %	-0.60 %
Non-Cyclical Consumer	-0.60 %	0.89 %	-0.21 %	0.90 %	0.21 %	0.84 %
Financials	-1.33 %	0.00 %	-0.16 %	0.51 %	0.04 %	0.64 %
Healthcare	-0.17 %	-0.10 %	-0.14 %	0.93 %	0.84 %	0.56 %
Technology	-0.46 %	-3.78 %	-0.60 %	-3.17 %	0.06 %	-0.18 %
Telecoms	0.19 %	-0.15 %	0.15 %	-0.11 %	-0.19 %	-0.13 %
Utilities	-1.36 %	1.82 %	0.23 %	0.92 %	1.19 %	-0.12 %
Excess Performance	-7.52 %	0.74 %	-2.36 %	1.96 %	1.79 %	2.21 %

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated at 27-Apr-2020 and updated quarterly.

Sector Performance Contribution as of 31-Mar-2020

The figure displays the sector contribution of the index's outperformance with regard to its cap-weighted reference index. The analysis is based on the last quarter.

Sectors are important short-term drivers of the performance of smart factor indices. The sector performance contribution analytic evaluates the contribution of each sector to the excess performance of the index (in excess of the reference cap-weighted index) for long only indices or to the absolute performance for long/short indices. The sector classification used is the Thomson Reuters Business Classification. Please see Sector Performance Contribution indices in the glossary for a detailed explanation of the contribution model.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

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 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Index	Broad CW
Return	10.33 %	7.72 %
EVT 1% VaR	2.25 %	2.18 %
EVT 1% CVaR	2.75 %	2.66 %
Ret to EVT 1% VaR ratio	0.25	0.18
Ret to EVT 1% CVaR ratio	0.20	0.15
For. Monthly EVT 1% VaR	35.22 %	32.72 %
For. Monthly EVT 1% CVaR	43.26 %	40.01 %

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated monthly with EOM values.
Performances are annualised for periods longer than a year.

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 as of 31-Mar-2020

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.

Extreme Relative Risk Analysis as of 31-Mar-2020

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.
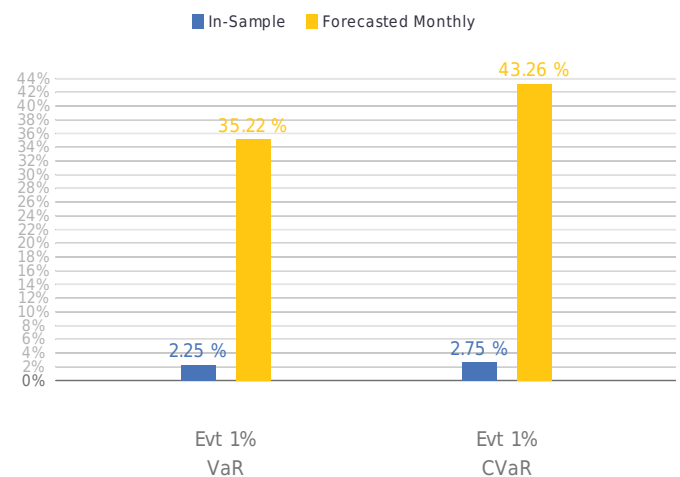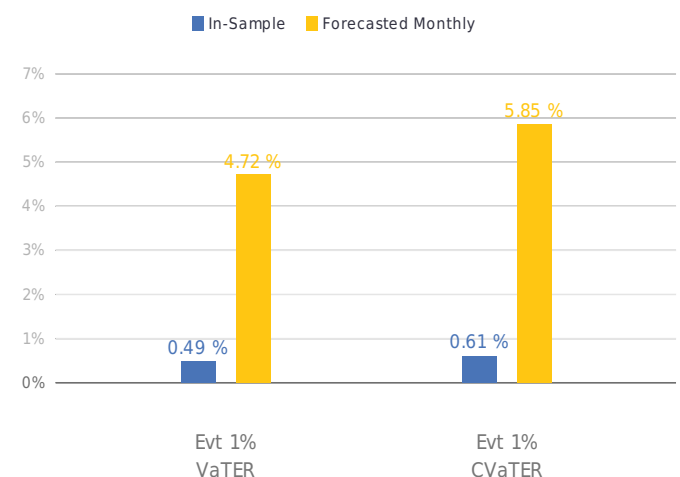
SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	/ Broad CW
Excess Return	2.61 %
EVT 1% VaTER	0.49 %
EVT 1% CVaTER	0.61 %
Ret to EVT 1% VaTER ratio	0.33
Ret to EVT 1% CVaTER ratio	0.27
For. Monthly EVT 1% VaTER	4.72 %
For. Monthly EVT 1% CVaTER	5.85 %

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated monthly with EOM values.
Performances are annualised for periods longer than a year.

Extreme Relative Risk Analysis as of 31-Mar-2020

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.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

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 31-Mar-2020

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, together with the factor contribution to the excess returns (over the risk-free rate) of the strategy. Furthermore, the table displays Factor Intensity, which is the sum of all the beta coefficients of the factor regression, except the market beta, Factor Deconcentration, which is the inverse of the sum of squared relative betas, and the Factor Exposure Quality, which is the product of multiplying the Factor Intensity measure by the Effective Number of Factors.
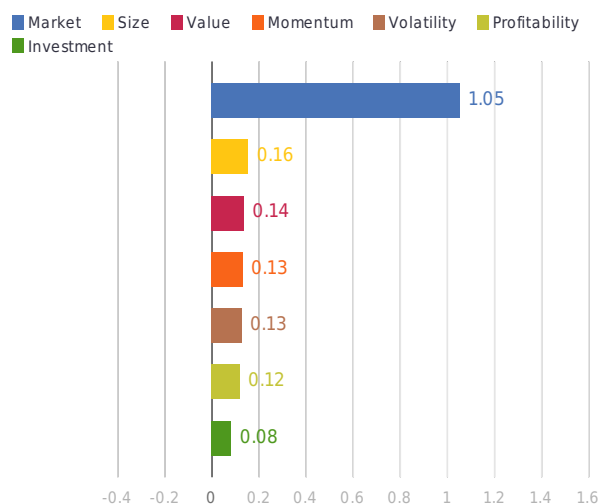
SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Coefficient	t-stat	Perf.
Unexplained	0.81 %	1.1	1.11 %
Market factor	1.05	171.7	6.64 %
Size (SMB) factor	0.16	10.3	-0.27 %
Value (HML) factor	0.14	5.4	-0.21 %
Momentum (MOM) factor	0.13	9.9	0.18 %
Volatility factor	0.13	10.2	1.01 %
Profitability factor	0.12	5.3	0.46 %
Investment factor	0.08	3.3	0.06 %
Factor Intensity	0.76		
Factor Deconcentration	5.83		
Factor Exposure Quality	4.43		
Eff. Number of Factor Bets	3.28		
r²	0.97		

*Analytics are based on weekly **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated quarterly with EOQ values.
Performances are annualised for periods longer than a year.

Risk Factor Exposure as of 31-Mar-2020

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.

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 small-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 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 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 volatility stocks) sorted on past volatility in descending order. The PRO 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 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 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 SMB, HML, MOM, VOL, PRO and INV factors are market beta neutralised ex-post on a quarterly basis. The risk-free rates used are defined according to the regional universe of the index.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

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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.

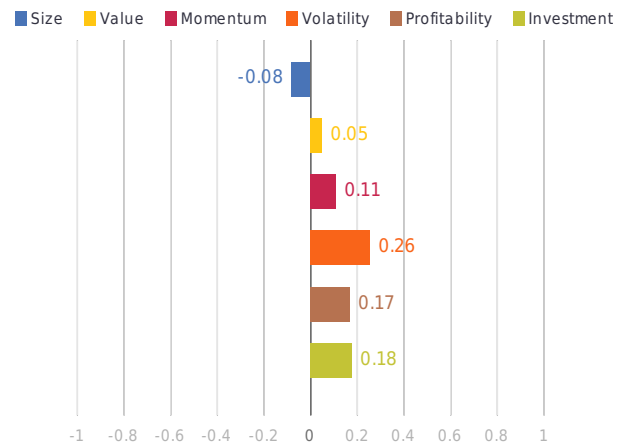**Relative Factor Score** as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Index	Broad CW
Size (SMB) factor	-0.08	-0.57
Value (HML) factor	0.05	-0.06
Momentum (MOM) factor	0.11	0.02
Volatility factor	0.26	0.16
Profitability factor	0.17	0.07
Investment factor	0.18	-0.02
Relative Score Intensity	0.68	-0.41

Analytics are based on quarterly weights.
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated quarterly with EOQ values.

Relative Factor Score as of 31-Mar-2020

The figure displays the relative factor scores of the index.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

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Bull / Bear Market Performances

Bull / Bear Market Performances refer to return and risk in phases with positive/negative market returns.
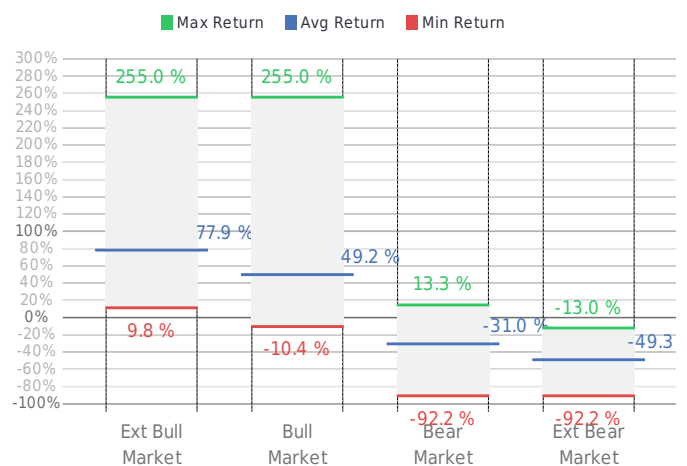
Bull / Bear Market Performances as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Ext Bull Market	Bull Market	Bear Market	Ext Bear Market
Return	72.82 %	43.40 %	-37.35 %	-54.49 %
Volatility	13.74 %	13.87 %	29.19 %	37.51 %
Sharpe ratio	5.22	3.03	n/r	n/r
Market beta	0.98	1.00	1.05	1.05

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated monthly with EOM values.
Performances are annualised.

Bull / Bear Market Performances as of 31-Mar-2020

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.

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

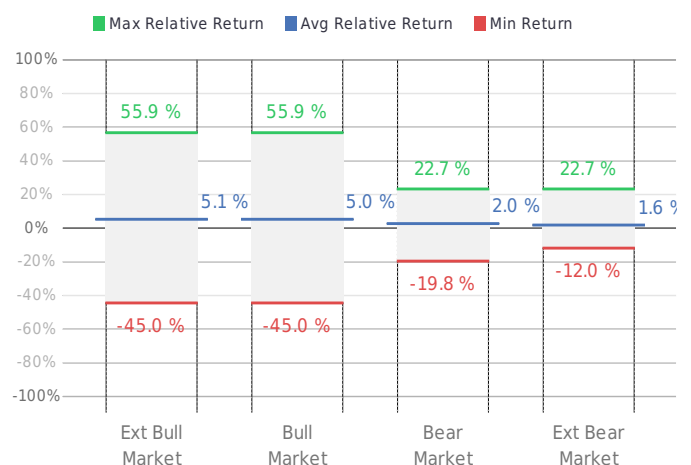## Bull / Bear Market Rel. Performances as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Ext Bull Market	Bull Market	Bear Market	Ext Bear Market
Relative Return	4.46 %	4.48 %	0.39 %	-0.35 %
Tracking-Error	3.07 %	2.94 %	4.70 %	5.82 %
Information Ratio	1.45	1.52	0.08	n/r

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated monthly with EOM values.
Performances are annualised.

Bull / Bear Market Rel. Performances as of 31-Mar-2020

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.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

High / Low Vol Regime Performances

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

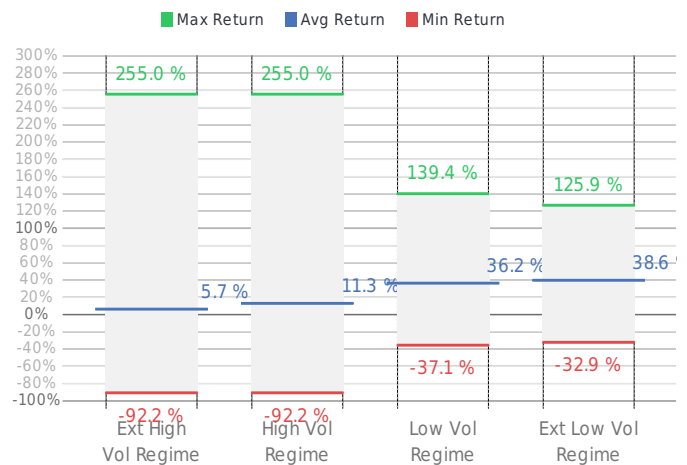## High / Low Vol Regime Performances as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Ext High Vol Regime	High Vol Regime	Low Vol Regime	Ext Low Vol Regime
Annualized Return	-20.05 %	-7.10 %	31.03 %	34.13 %
Volatility	34.64 %	26.85 %	9.43 %	8.71 %
Sharpe ratio	n/r	n/r	3.13	3.71
Market beta	1.03	1.03	1.03	1.04

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated monthly with EOM values.
Performances are annualised.

High / Low Vol Regime Performances as of 31-Mar-2020

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.

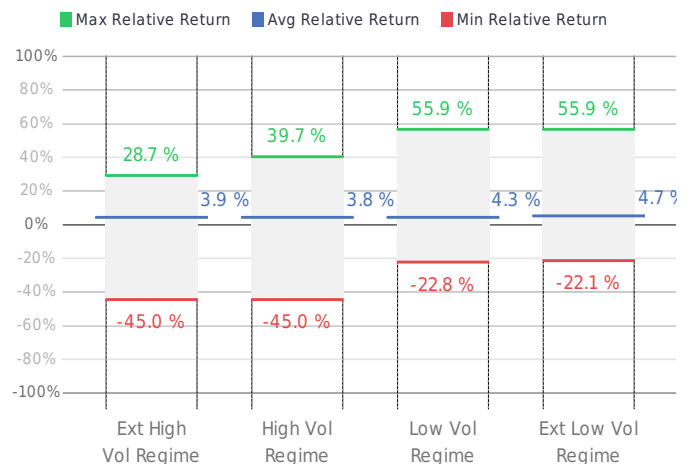## High / Low Vol Regime Rel. Performances as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Ext High Vol Regime	High Vol Regime	Low Vol Regime	Ext Low Vol Regime
Annualized Relative Return	1.51 %	2.00 %	3.30 %	3.93 %
Tracking-Error	5.30 %	4.29 %	2.73 %	2.69 %
Information Ratio	0.29	0.47	1.21	1.04

*Analytics are based on daily **total** returns (dividends reinvested) in **USD**.*
Analytics are calculated from base date (18-Jun-2004) to 31-Mar-2020.
Analytics are updated monthly with EOM values.
Performances are annualised.

High / Low Vol Regime Rel. Performances as of 31-Mar-2020

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.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

Sector Allocation

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

Sector Allocation as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Weight	Norm Weight
Energy	3.0 %	3.0 %
Basic Materials	2.2 %	2.2 %
Industrials	9.6 %	9.6 %
Cyclical Consumer	15.3 %	15.3 %
Non-Cyclical Consumer	11.1 %	11.1 %
Financials	14.3 %	14.3 %
Healthcare	10.3 %	10.3 %
Technology	19.7 %	19.7 %
Telecoms	1.7 %	1.7 %
Utilities	12.7 %	12.7 %
Total	100.0 %	100.0 %

The "Norm Weight" column displays the normalised weights.

Analytics are calculated at 31-Mar-2020.
Analytics are updated quarterly.

The sector classification used is the Thomson Reuters Business Classification.

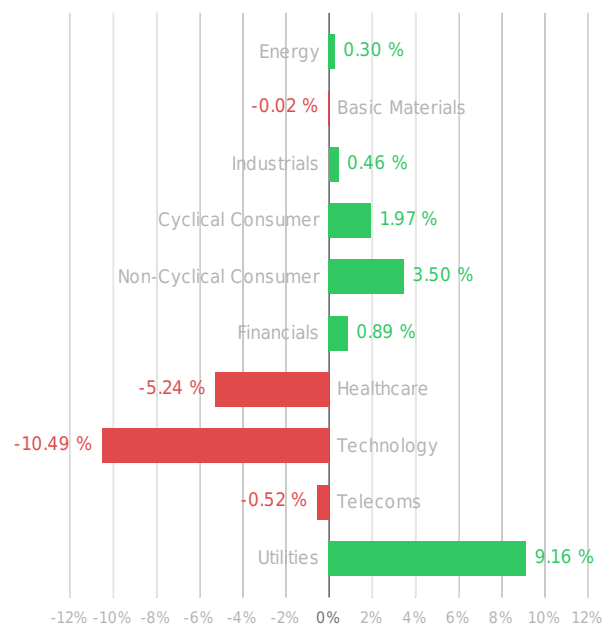## Sector Allocation as of 31-Mar-2020

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

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

Sector Allocation as of 31-Mar-2020

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 6F4S-EW MBA (Ovr)	Excess Weight	Excess Norm Weight
Energy	0.3 %	0.3 %
Basic Materials	-0.0 %	-0.0 %
Industrials	0.5 %	0.5 %
Cyclical Consumer	2.0 %	2.0 %
Non-Cyclical Consumer	3.5 %	3.5 %
Financials	0.9 %	0.9 %
Healthcare	-5.2 %	-5.2 %
Technology	-10.5 %	-10.5 %
Telecoms	-0.5 %	-0.5 %
Utilities	9.2 %	9.2 %
Total	0.0 %	0.0 %

The "Excess Norm Weight" column displays the excess normalised weights.

Analytics are calculated at 31-Mar-2020.
Analytics are updated quarterly.

Sector Allocation as of 31-Mar-2020

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.

Sector	Excess
Energy	0.30 %
Basic Materials	-0.02 %
Industrials	0.46 %
Cyclical Consumer	1.97 %
Non-Cyclical Consumer	3.50 %
Financials	0.89 %
Healthcare	-5.24 %
Technology	-10.49 %
Telecoms	-0.52 %
Utilities	9.16 %

The sector classification used is the Thomson Reuters Business Classification.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

Carbon Footprinting and Exposure

Carbon Exposure analytics measure portfolio exposure to carbon-intensive companies and sectors.

Carbon Footprinting as of 31-Mar-2020

The table shows the relevant carbon footprinting metrics for the index and the Broad cap-weighted reference index (Broad CW) at the last quarterly rebalancing, along with the exposure of the index relative to that of the Broad cap-weighted reference, where relevant. For the Broad cap-weighted index, it is possible to compute a total capitalisation and corresponding Total Emissions.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Index	Broad CW	Change
Total Emissions (S1+2, Gt)	n/r	1.71	n/r
Total Emissions (S1+2+3, Gt)	n/r	7.43	n/r
Current Total Capitalisation (FF, M$)	n/r	24 128 186	n/r
Carbon Footprint (S1+2, kt/B$)	187	71	164.07 %
Carbon Footprint (S1+2+3, kt/B$)	643	309	108.39 %
Carbon Intensity (S1+2, t/M$)	333	183	81.94 %
Carbon Intensity (S1+2+3, t/M$)	1 143	796	43.58 %

Analytics are calculated at the end of the latest quarter and with emissions data updated annually in June on the basis of the figures reported at the end of the previous year. For Carbon Intensity calculations, corporate revenues are those of the year for which greenhouse gas emissions are reported. For Carbon Footprint calculations, corporate capitalisations are taken at end-of-quarter. Constituent weights used for all carbon footprinting metrics are end-of-quarter weights.

Carbon footprinting metrics are computed in respect of Scope 1 plus Scope 2 emissions (direct emissions from sources owned or controlled by the reporting company and emissions from the combustion of fuels to generate electricity, steam, heating, and cooling purchased and consumed by the reporting company, respectively) and in respect of the former plus Scope 3 emissions (all indirect emissions beyond Scope 2 emissions that occur in the value chain of the reporting company). Emissions provided by Institutional Shareholder Services are relied upon to compute emission-based carbon metrics.

Carbon Exposure as of 31-Mar-2020

The table shows the Weighted Average Carbon Intensity of constituents and the cumulated weight of constituents qualifying as Carbon-related Assets. Figures are shown for the index and the Broad cap-weighted reference index (Broad CW) at the last quarterly rebalancing, along with the exposure of the index relative to that of the Broad cap-weighted reference.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Index	Broad CW	Change
Weighted Average Carbon Intensity (S1+2, t/M$)	481	174	177.41 %
Weighted Average Carbon Intensity (S1+2+3, t/M$)	1 405	621	126.19 %
Exposure to Carbon-Related Assets	16.48 %	7.05 %	133.74 %
of which Fossil Fuels	4.43 %	3.65 %	21.51 %
of which Fossil Fuel Utilities and IPPs	0.33 %	0.05 %	532.96 %
of which Other Utilities and IPPs	11.72 %	3.35 %	249.67 %
WACI of Carbon-Related Assets (S1+2, t/M$)	2 513	1 651	52.25 %

Analytics are calculated at the end of the latest quarter and with emissions data updated annually in June on the basis of the figures reported at the end of the previous year. For Weighted Average Carbon Intensity calculations, corporate revenues are those of the year for which greenhouse gas emissions are reported. Constituent weights used for all carbon exposure metrics are end-of-quarter weights.

The Weighted Average Carbon Intensity is computed in respect of Scope 1 plus Scope 2 emissions (direct emissions from sources owned or controlled by the reporting company and emissions from the combustion of fuels to generate electricity, steam, heating, and cooling purchased and consumed by the reporting company, respectively) and in respect of the former plus Scope 3 emissions (all indirect emissions beyond Scope 2 emissions that occur in the value chain of the reporting company). Exposure to Carbon-related Assets is based on the Thomson Reuters Business Classification (TRBC) and aggregates investments into i) the Energy - Fossil Fuels Business Sector, where fossil fuels are understood as Coal, Oil and Gas; ii) the Fossil Fuel Utilities and Independent Power Producers (IPPs) Activities; and iii) Other Utilities and IPPs with the exception of those identified under Nuclear or Renewable Utilities or IPPs (this covers the Electric Utilities; Independent Power Producers; Heating & Air-Conditioning Supply and Multiline Utilities Activities). Note that the Reserved Emissions, Fossil Fuels and Power Generation Metrics allow for finer grain analysis of Stranding Risk. Emissions provided by Institutional Shareholder Services are relied upon to compute emission-based carbon metrics.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

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WACI Decomposition

WACI Decomposition is a single-period, holding-based method that breaks down the Weighted Average Carbon Intensity of the index relative to that of its cap-weighted reference into sector-weighting, intra-sector stock-selection and interaction effects.

WACI Decomposition as of 31-Mar-2020

The table shows the results of analysis in the spirit of Brinson, Hood and Beebower (1986), in which the index's WACI relative to its cap-weighted reference is broken down into stock effect, sector effect, and interaction effect.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Index Sector Weight	Index Sector WACI	Index Sector Contr.	Broad CW Sector Weight	Broad CW Sector WACI	Broad CW Sector Contr.	Excess	Stock	Sector	Inter.
Energy	4.46 %	547	24	0.38 %	524	2	22.40	0.09	21.37	0.94
Basic Materials	2.44 %	678	17	0.24 %	901	2	14.39	-0.53	19.81	-4.89
Industrials	10.86 %	152	17	1.02 %	122	1	15.31	0.31	12.03	2.97
Cyclical Consumer	17.50 %	39	7	1.39 %	38	1	6.24	0.01	6.09	0.14
Non-Cyclical Consumer	10.40 %	68	7	0.73 %	57	0	6.66	0.08	5.53	1.05
Financials	17.74 %	41	7	1.55 %	47	1	6.46	-0.11	7.69	-1.12
Healthcare	11.05 %	22	2	1.47 %	19	0	2.19	0.04	1.86	0.28
Technology	21.71 %	31	7	3.02 %	14	0	6.35	0.51	2.68	3.16
Telecoms	1.78 %	38	1	0.22 %	45	0	0.57	-0.02	0.70	-0.11
Utilities	12.45 %	3 157	393	0.36 %	2 787	10	382.87	1.35	336.81	44.71
Total	Index WACI		481	Ref. WACI		18	463.45	1.73	414.58	47.13

Analytics are calculated at the end of the latest quarter and with emissions data updated annually in June on the basis of the figures reported at the end of the previous year. For Weighted Average Carbon Intensity calculations, corporate revenues are those of the year for which greenhouse gas emissions are reported. Constituent weights used for all carbon exposure metrics are end-of-quarter weights. The sector classification used is the Thomson Reuters Business Classification. The analysis is performed over the latest quarter.

Emissions provided by Institutional Shareholder Services are relied upon to compute emission-based carbon metrics.

WACI Decomposition as of 31-Mar-2020

The figure displays the breakdown of the index's WACI difference in relation to that of its cap-weighted reference index into stock effect, sector effect, and interaction effect.
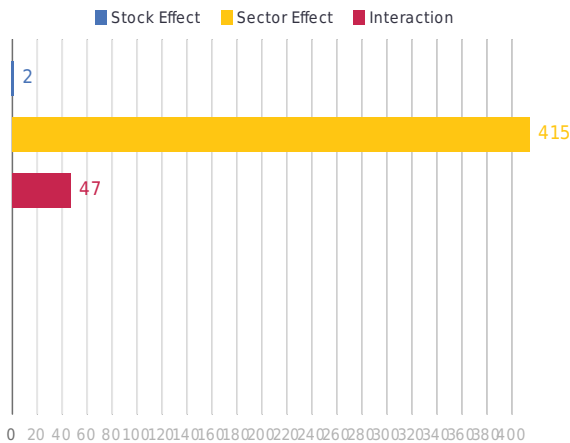
Emissions provided by Institutional Shareholder Services are relied upon to compute emission-based carbon metrics.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

Reserved Emissions

The Reserved Emissions report shows the potential carbon dioxide emissions associated with the burning of fossil-fuel reserves controlled by an investment portfolio.

Reserved Emissions as of 31-Mar-2020

The table shows the carbon dioxide that would be emitted by the burning of the fossil fuel reserves controlled by an USD1bn investment in the index. The corresponding figures for the Broad cap-weighted reference index (Broad CW) are also reported, along with the exposure of the index relative to that of the Broad cap-weighted reference.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Index	Broad CW	Change
Potential CO2 Emissions (Mt/B$)	1.19	0.85	40.30 %
Of which from Coal reserves	0.10	0.01	643.05 %
Of which from Oil and Gas reserves	1.09	0.83	30.64 %

Analytics are calculated at the end of the latest quarter and with ESG data updated at the beginning of the penultimate month of the quarter.

Reserved Emissions as of 31-Mar-2020

The figure displays the normalised potential CO2 emissions from the reserves controlled by the index and the Broad cap-weighted reference index (Broad CW) at the last quarterly rebalancing.
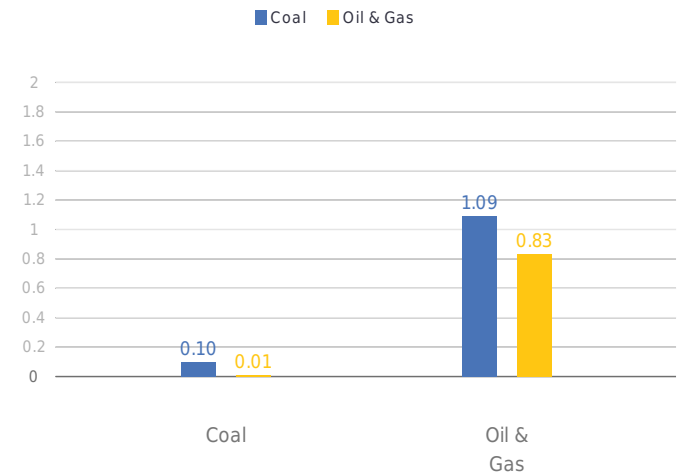
Data sourced from Institutional Shareholder Services are relied upon to compute emissions-based carbon metrics. Coal reserves are the sum of proven and probable reserves based on the last reported reserves amount by mine and are allocated to companies based on percentage ownership of individual mines. Oil and gas reserves are proven reserves (1P) net of royalty payments. The calculation of CO2 emission potential requires several conversions to the raw reserves figures; the methodological framework is the IPCC Revised 1996 Guidelines for National Greenhouse Gas Inventories. The data covers the top publicly-traded coal and oil and gas reserve holders globally (circa 500 companies) ranked by the potential carbon emissions content of their reported reserves.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

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Fossil Fuels

The Fossil Fuels report measures investment exposure to the fossil fuels industry and companies with significant fossil fuel involvement.

Fossil Fuels as of 31-Mar-2020

The table shows the cumulated weight of index constituents for targeted sector or industry and the cumulated of constituents with involvement in the activity of interest irrespective of sector or industry, along with their Weighted Average Carbon Intensity. The corresponding figures for the Broad cap-weighted reference index (Broad CW) are also reported, along with the exposure of the index relative to that of the Broad cap-weighted reference.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Index	Broad CW	Change	Index WACI	Broad CW WACI	Change
Companies classified in the Energy Sector	4.43 %	3.65 %	21.51 %	547	524	4.41 %
Companies classified in the Energy - Fossil Fuels Bus Sector	4.43 %	3.65 %	21.51 %	547	524	4.41 %
Of which in the Coal Industry Group	0.00 %	0.00 %	n/r	0	0	n/r
Of which in the Oil & Gas Industry Groups	3.80 %	2.90 %	31.14 %	629	588	6.99 %
Companies with 25-50% of turnover from Fossil Fuels	4.33 %	1.25 %	246.84 %	2 249	1 180	90.56 %
Companies with 50-100% of turnover from Fossil Fuels	12.00 %	6.12 %	95.86 %	2 614	1 644	58.98 %
Companies with 30% or more of turnover from thermal coal mining	0.00 %	0.00 %	n/r	0	0	n/r

Analytics are calculated at the end of the latest quarter. Emissions data are updated annually in June on the basis of the figures reported at the end of the previous year; other ESG data updated at the beginning of the penultimate month of the quarter. For Weighted Average Carbon Intensity calculations, corporate revenues are those of the year for which greenhouse gas emissions are reported. Constituents weights used for all metrics are end-of-quarter weights. The sector classification used is the Thomson Reuters Business Classification.

Industry classification is as per the Thomson Reuters Business Classification (TRBC); the Energy sector is comprised of the Energy - Fossil Fuels; Renewable Energy; and Uranium Business Sectors. The Energy - Fossil Fuels Business Sector is comprised of the Coal; Oil & Gas and Oil & Gas Related Equipment and Services Industry Groups; we group the latter two under the heading Oil & Gas Industry Groups. Involvement in fossil fuels at a level of 25-50% and 50%-100% of turnover and in thermal coal mining at a level of 30% or more of turnover is determined regardless of industry classification. Institutional Shareholder Services data are relied upon to measure fossil fuel involvement beyond industry classification and compute emissions-based carbon metrics.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

Power Generation

The Power Generation report measures investment exposure to power-generation along with its fuel mix and Weighted Average Carbon Intensity.

Power Generation as of 31-Mar-2020

The table shows the power generation capacity of Utilities controlled by an USD1bn investment in the index and its fuel mix along with the cumulated weight of power-generating Utilities in the index and their Weighted Average Carbon Intensity. The corresponding figures for the Broad cap-weighted reference index (Broad CW) are also reported, along with the exposure of the index relative to that of the Broad cap-weighted reference.
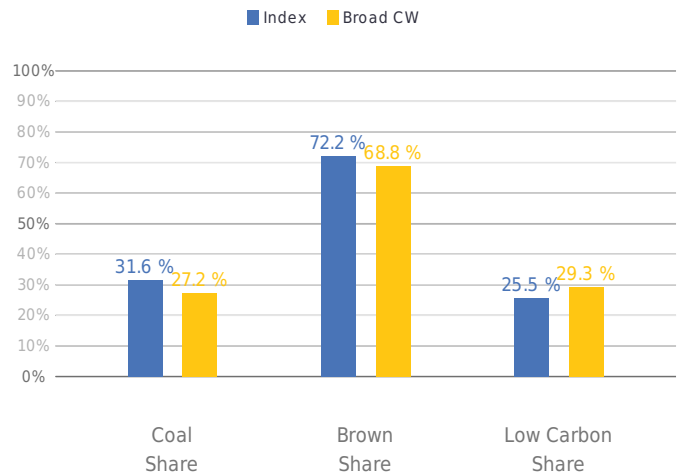
SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Index	Broad CW	Change
Controlled Power Generation Capa... (MW/B$)	56.42	15.75	258.19 %
Brown share	72.22 %	68.81 %	4.95 %
Of which Coal	31.63 %	27.22 %	16.21 %
Of which Gas	38.53 %	38.80 %	-0.70 %
Of which Oil	2.06 %	2.80 %	-26.27 %
Renewables	8.82 %	12.87 %	-31.48 %
Nuclear	16.70 %	16.39 %	1.85 %
Others	2.26 %	1.92 %	17.71 %
Weight of analysed utilities	11.72 %	4.49 %	160.97 %
WACI of analysed utilities	3 324	2 241	48.30 %

Analytics are calculated at the end of the latest quarter and with ESG data updated at the beginning of the penultimate month of the quarter.

Power Generation as of 31-Mar-2020

The figure displays the Coal, Brown and Low Carbon shares of the Utilities with power generation capacity controlled by the index and the Broad cap-weighted reference index (Broad CW) at the last quarterly rebalancing.

Utilities with power-generation capacity are companies with such capacity classified in the TRBC Utilities and Financials economic sectors. The equity share method is used to allocate the relevant share of a company's total power generation capacity to the index. Brown share refers to the share of the power generation capacity relying on high carbon emitting fossil fuels, i.e. coal, oil and gas. Renewables refer to Geothermal, Solar, Wind, Biomass and Hydroelectricity. Institutional Shareholder Services data are relied upon to measure power generation capacity and fuel mix and compute emissions-based carbon metrics.

SciBeta United States High-Factor-Intensity Diversified Multi-Beta Multi-Strategy 6-Factor 4-Strategy EW Market Beta Adjusted (Overlay)

31 March 2020

Physical Risks

The Physical Risks report presents the estimated exposure of index constituents to the long-term and acute physical risks from climate change.

Physical Risks as of 31-Mar-2020

The table shows the cumulated weight of index constituents that are classified as having Low, Medium or High exposure to long-term and acute physical risks from climate change, respectively. The corresponding figures for the Broad cap-weighted reference index (Broad CW) are also reported, along with the exposure of the index relative to that of the Broad cap-weighted reference.

SciBeta USA HFInt Div MBeta MStrat 6F4S-EW MBA (Ovr)	Index	Broad CW	Change
Exposure to long-term physical risks			
Low	85.81 %	85.07 %	0.87 %
Medium	24.58 %	14.93 %	64.65 %
High	0.00 %	0.00 %	n/r
Exposure to acute physical risks			
Low	58.06 %	57.51 %	0.94 %
Medium	45.76 %	37.20 %	23.03 %
High	6.57 %	5.29 %	24.13 %

The table shows the cumulated weight of index constituents that are classified as having Low, Medium or High exposure to long-term and acute physical risks from climate change, respectively. The corresponding figures for the Broad cap-weighted reference index (Broad CW) are also reported, along with the exposure of the index relative to that of the Broad cap-weighted reference.

Institutional Shareholder Services data are relied upon to compute the above exposure.

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