GUIDELINES

Solactive Tradable European Factor Indices

- Value
- Quality
- Low Beta
- Price Momentum
- Earnings Momentum

Version 2.0 dated 30 September, 2019

This document contains the rules for the calculation of the indices in the Solactive Tradable European Factor Index Series. The rules are a combination of general rules that apply to all indices and index-specific rules that only apply to a particular index.

Solactive AG makes every effort to accurately implement the rules as defined in this document but does not offer any explicit or tacit guarantee or assurance in regards either to the results from the use of the Index nor the Index value at any point in time or in any other respect.

The Index is owned, calculated and published by Solactive AG which strives to the best of its ability to ensure the correctness of the calculation. However, there is no obligation for Solactive AG – irrespective of possible obligations to issuers – to advise third parties, including investors and/or financial intermediaries, of any errors in the Index. The publication of the Index by Solactive AG is not a recommendation for capital investment and does not contain any assurance or opinion of Solactive AG regarding a possible investment in a financial instrument based on this Index.

Introduction

This document provides the rules as to the composition, calculation and management of five related indices – each one an "**Index**" and together the Solactive Tradable European Factor Index Series (the "**Series**"). Any changes made to the guidelines are initiated by the Index Committee as specified in Section 1.6 of this document. Each Index in the Series is calculated and published by Solactive AG. The name "Solactive" is trademarked.

1 The indices

There are five indices in the Solactive Tradable European Factor Index Series:

- Solactive Tradable European Value Factor Index ("**Value Index**")
- Solactive Tradable European Quality Factor Index ("**Quality Index**")
- Solactive Tradable European Low Beta Factor Index ("**Low Beta Index**")
- Solactive Tradable European Price Momentum Factor Index ("**Price Momentum Index**")
- Solactive Tradable European Earnings Momentum Factor Index ("**Earnings Momentum Index**")

Each Index is available in both Price Return ("**PR**") and Net Total Return ("**NTR**") versions. Each of these is an Index of Solactive AG and is calculated and distributed by Solactive AG.

1.1 Index overview

Each Index in the Solactive Tradable European Factor Index Series contains the common equity stocks of 50 European-listed companies and is designed to meet two objectives:

a) The constituent stocks should have a high degree of exposure to the equity risk factor specified for that Index;

b) The replicating stock portfolio of the Index should be liquid and easy to buy or sell.

The construction methodology for each Index in the Series consists of three steps:

- A universe of potential Index Components (the "**Index Universe**") is derived by applying liquidity and other filtering criteria to a broad European equity index benchmark. The starting Index Universe is the same for each Index in the Series (i.e. the same stocks may appear in multiple indices)

- The 50 Index Components of each Index are then selected by applying a set of index-specific selection criteria to the Index Universe.

- The Index Components of each Index are assigned a weight of either 1.5%, 2.0% or 2.5% depending how their liquidity compares with that of the other stocks selected for that index (as measured by average daily traded notional value of shares).

The indices in the Series are rebalanced monthly to ensure that the risk factor exposures remain current and the constituent weights near to their target weights. All indices, in both the price and net total return versions, are published in Euros.

1.2 Short name and ISIN

The ISINs, WKNs, Reuters codes and Bloomberg tickers for the indices are as follows:

Factor Index[1]	Return Type	ISIN	WKN	Reuters	Bloomberg[2]
Value	PR	DE000SLA33X7	SLA33X	.STEFVAPR	STEFVAPR
	NTR	DE000SLA3322	SLA332	.STEFVANT	STEFVANT
Quality	PR	DE000SLA33Y5	SLA33Y	.STEFQUPR	STEFQUPR
	NTR	DE000SLA3330	SLA333	.STEFQUNT	STEFQUNT
Low Beta	PR	DE000SLA33Z2	SLA33Z	.STEFLBPR	STEFLBPR
	NTR	DE000SLA3348	SLA334	.STEFLBNT	STEFLBNT
Price Momentum	PR	DE000SLA3306	SLA330	.STEFPMPR	STEFPMPR
	NTR	DE000SLA3355	SLA335	.STEFPMNT	STEFPMNT
Earnings Momentum	PR	DE000SLA3314	SLA331	.STEFEMPR	STEFEMPR
	NTR	DE000SLA3363	SLA336	.STEFEMNT	STEFEMNT

1. The full index name in each case is the "Solactive Tradable European [---] Factor Index".
2. Bloomberg tickers are followed by <Index>

1.3 Initial value

Each Index in the Series is based at 100.00 as of the close of trading on 10 December, 2010.

1.4 Distribution

Each Index in the Series is published via the price marketing services of Boerse Stuttgart AG and is distributed to all affiliated vendors. Each vendor decides on an individual basis as to whether they will distribute/display the Index via their information systems.

1.5 Prices and calculation frequency

Intraday Calculation

The level of each Price Return and Net Total Return Index in the Series is calculated on each Business Day based on the most recent traded price of each Index Component on the relevant Exchange where it is listed. Prices of Index Components not listed in the Index Currency are translated using spot foreign exchange rates as quoted by Reuters. Should there be no current price available on Reuters, the most recent price or the Trading Price on Reuters for the preceding Trading Day is used in the calculation.

The Index is calculated every Business Day from 9:00am to 17:30pm, CET with prices disseminated every fifteen seconds. In the event that data cannot be provided to Reuters or to the pricing services of Boerse Stuttgart AG, the Index cannot be distributed.

End of Day Calculation:

An official closing index level for each Price Return and Net Total Return index in the Series is calculated based on the closing price on the relevant Primary Exchange in Europe on which each Index Component is listed. Stocks whose prices are quoted in a currency other than the Index Currency are converted to the Index Currency using the official daily exchange fixing rates as published by World Markets Company PLC ("WM").

Any incorrect calculation is adjusted on a retrospective basis.

1.6 Decision-making Bodies

A committee composed of staff from Solactive AG (the **"Index Committee"**, or the "Committee") is responsible for decisions regarding the composition of each Index in the Series as well as any amendments to the rules. The future composition of the Index is determined by the Committee on the Selection Days according to the procedure outlined in 2.1 of this document. The Committee shall also decide about the future composition of the Index in the event that any Extraordinary Events should occur and the implementation of any necessary adjustments.

Members of the Committee can recommend changes to the guideline and submit them to the Committee for approval.

1.7 Publication

All specifications and information relevant for calculating the Index are made available on the Solactive web site (http://www.solactive.de) and related sub-pages.

1.8 Historical Data

Historical index values are provided starting from 10 December, 2010.

1.9 Licensing

Licences to use the Index as the benchmark for funds, notes, certificates or as the underlying value for derivative instruments are issued to stock exchanges, banks, financial services providers and investment houses by Solactive AG**.**

2 Construction of the Index

2.1 Selection of the Index Components

The initial composition of each Index in the Series, as well as the new composition of that Index at each Adjustment Day is based on the following three-step process:

Step 1: Construction of the Index Universe: On each Selection Day, the Index Calculator will construct a list of stocks – the Index Universe – from which the Index Components of each Index in the Series will be chosen. To construct the Index Universe, the Index Calculator takes as a starting point, the constituents of the Solactive Europe Total Market 675 Index ("**SETM 675**") as defined by Solactive as of the close of business on the Selection Day. From this it removes all stocks that meet one or more of the following five criteria:

1. Is classified as an investment trust or mutual fund (FactSet Industry 6010);

2. Does not have a FactSet Industry Classification;

3. Is not listed on a stock exchange of Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom;

4. Is among the 75 least liquid names in the SETM 675, as measured by their average daily traded notional value in euros during the preceding three months ("**3m ADVT**") as of the Selection Day;

5. Is involved in a merger, tender, nationalisation, insolvency or delisting or whose trading is otherwise compromised in the judgement of the Index Committee;

The Index Universe is comprised of all remaining stocks. In the unlikely event that fewer than 400 stocks remain after the application of the above criteria, the Index Committee may relax any of the above criteria to ensure a sufficiently broad selection universe of tradable stocks for the construction of the indices.

Step 2: Classification into sector groups: Each stock in the Index Universe is classified into one of nineteen "**Sector Groups**" based on its FactSet Industry classification. This is done by assigning each FactSet Industry to a Sector Group as laid out in Appendix B. All stocks in a FactSet Industry are then classified as being part of the Sector Group to which that Industry is assigned.

Step 3: Application of specific selection criteria for the creation of each index: The Index Components for each Index in the Series are chosen from the Selection Universe according to the selection criteria defined in [Appendix C].

2.2 Weighting

On each Selection Day, the Index Components of each Index are ranked by their 3m ADVT. The weighting of each Index Component in that index as of the Selection Date is then determined according to:

- The 15 stocks in each Index with the highest 3m ADVT are assigned a weight of 2.5%
- The 15 stocks in each Index with the lowest 3m ADVT are assigned a weight of 1.5%
- The remaining 20 stocks in each Index are assigned a weight of 2.0%

2.3 Ordinary Adjustment

The composition of each Index in the Series is reviewed monthly.

Changes to the Index Components and weightings go into effect as of the close of business on the Adjustment Day. Observations of all necessary variables (e.g. index composition, share prices, fundamental stock data) is taken on the Selection Day, which is three business days prior to the Adjustment Day (i.e. usually the Tuesday immediately preceding the Rebalance Day).

The composition of the Index is reviewed on the Selection Day and necessary changes are announced. The first adjustment will be made In October 2017 based on the Trading Prices of the Index Components on the Adjustment Day of that month.

At each Ordinary Adjustment, the Index Shares for each Index Component are computed based on the target weights as of the closing prices on the Selection Day. Because the new index composition (i.e. Index Components and Index Shares) does not go into effect until the Adjustment Day, the actual percentage weights of each Index Component at the time of the Adjustment Day may differ from the target weights due to changes in the market prices of the Index Component shares.

Solactive AG shall publish any changes made to the Index composition on the Selection Day and consequently with sufficient notice before the Adjustment Day.

2.4 Extraordinary Adjustment

An extraordinary adjustment, if applicable, is triggered and applied in compliance with the rules set forth in the Solactive Guideline for Extraordinary Corporate Actions.

3 Calculation of the Index

3.1 Index Formula

The Index Value on a Business Day at the relevant time is calculated in accordance with the following formula:

$$Index_t = \frac{\sum_{i=1}^{50}(x_{i,t} * p_{i,t} * f_{i,t})}{D_t}$$

With:

$x_{i,t}$ = Number of Index Shares of the Index Component *i* on Trading Day *t*
$p_{i,t}$ = Price of Index Component *i* on Trading Day *t*
$f_{i,t}$ = Foreign exchange rate to convert the Price of Index Component *i* on Trading Day *t* into the Index Currency
D_t = Divisor on Trading Day *t*

The initial Divisor on the Start Date is calculated according to the following formula:

$$D_t = \frac{\sum_{i=1}^{50}(p_{i,t} * f_{i,t} * x_{i,t})}{1000}$$

After the close of trading on each Adjustment Day *t* the new Divisor D_{t+1} is calculated as follows:

$$D_{t+1} = \frac{\sum_{i=1}^{50}(p_{i,t} * f_{i,t} * x_{i,t+1})}{Index_t}$$

This Divisor is valid starting the immediately following Business Day.

3.2 Precision

The value of the Index will be rounded to four decimal places.

Trading Prices and foreign exchange rates will be rounded to six decimal places.

Number of Index Shares in the Index and Index Divisors will be rounded to six decimal places

3.3 Adjustments

Indices need to be adjusted for systematic changes in prices once these become effective. This requires the new Number of Index Shares of the affected Index Component and the Divisor to be calculated on an ex-ante basis.

Following the Committee's decision, the Index is adjusted for distributions, capital increases and stock splits.

This procedure ensures that the first ex quote can be properly reflected in the calculation of the Index. This ex-ante procedure assumes the general acceptance of the Index calculation formula as well as open access to the parameter values used. The calculation parameters are provided by the Index Calculator.

3.4 Cash Dividends and Other Distributions

For each Index in the Series, Regular Cash Distributions and Special Distributions are included in the Net Total Return indices. Only Special Distributions are included in the price return indices. Their inclusion is reflected through an adjustment of the Divisor. The new Divisor is calculated as follows:

$$D_{t+1} = D_t * \frac{\sum_{i=1}^{n}(p_{i,t} * f_{i,t} * x_{i,t}) - (x_{i,t} * y_{i,t} * g_{i,t})}{\sum_{i=1}^{n}(p_{i,t} * f_{i,t} * x_{i,t})}$$

With:

$p_{i,t}$ = Price of Index Component *i* on Trading Day *t*
$f_{i,t}$ = Foreign exchange rate to convert the Price of Index Component *i* on Trading Day *t* into the Index Currency
$x_{i,t}$ = Number of Index Shares of the Index Component *i* on Trading Day *t*
$y_{i,t}$ = Distribution of Index Component *i* with ex-date *t+1* multiplied by the Dividend Correction Factor
$g_{i,t}$ = Foreign exchange rate to convert the amount of the distribution of Index Component *i* on Trading Day *t* into the Index Currency
D_t = Divisor on Trading Day *t*
D_{t+1} = Divisor on Trading Day *t+1*

3.5 Corporate Actions

3.5.1 Principles

Following the announcement by an Index Component of the terms and conditions of a corporate action the Index Calculator determines whether such corporate action has a dilutive, concentrative or similar effect on the price of the respective Index Component.

If this should be the case the Index Calculator shall make the necessary adjustments that are deemed appropriate in order to take into account the dilutive, concentrative or similar effect and shall determine the date on which this adjustment shall come into effect.

Amongst other things the Index Calculator can take into account the adjustment made by an Affiliated Exchange as a result of the corporate action with regard to option and futures contracts on the respective share traded on this Affiliated Exchange.

3.5.2 Capital Increases

In the case of capital increases with ex-date *t+1* the Index is adjusted as follows:

Number of Index Shares Adjustment

$$x_{i,t+1} = x_{i,t} * (1 + B)$$

With:

$x_{i,t+1}$ = Number of Index Shares of Index Component *i* on Trading Day *t+1*
$x_{i,t}$ = Number of Index Shares of Index Component *i* on Trading Day *t*
B = Shares received for every share held

Price Adjustment

$$p_{i,t+1} = \frac{p_{i,t} + s * B}{1 + \mathrm{B}}$$

With:

$p_{i,t+1}$ = Hypothetical Price of Index Component *i* on Trading Day *t+1*
$p_{i,t}$ = Price of Index Component i on Trading Day *t*
s = Subscription Price in the Index Component currency
B = Shares received for every share held

Divisor Adjustment

$$D_{t+1} = D_t * \frac{\sum_{i=1}^{n}(p_{i,t} * f_{i,t} * x_{i,t}) + \sum_{i=1}^{n}[(x_{i,t+1} * p_{i,t+1} * f_{i,t}) - (x_{i,t} * p_{i,t} * f_{i,t})]}{\sum_{i=1}^{n}(p_{i,t} * f_{i,t} * x_{i,t})}$$

With:

$D_{i,t+1}$ = Divisor on Trading Day *t+1*
$D_{i,t}$ = Divisor on Trading Day *t*
$p_{i,t}$ = Price of Index Component *i* on Trading Day *t*
$f_{i,t}$ = Foreign exchange rate to convert the Price of Index Component *i* on Trading Day *t* into the Index Currency
$x_{i,t}$ = Number of Index Shares of the Index Component *i* on Trading Day *t*

$p_{i,t+1}$ = Hypothetical price of Index Component *i* on Trading Day *t+1*
$x_{i,t+1}$ = Number of Index Shares of the Index Component *i* on Trading Day *t+1*

3.5.3 Share Splits

In the case of share splits with ex-date on Trading Day *t+1* it is assumed that the prices change in ratio of the terms of the split. The new Number of Index Shares is calculated as follows:

$$x_{i,t+1} = x_{i,t} * \mathrm{B}$$

With:
$x_{i,t+1}$ = Number of Index Shares of the affected Index Component on Trading Day t+1
$x_{i,t}$ = Number of Index Shares of the affected Index Component on Trading Day t
B = Shares after the share split for every share held before the split

3.5.4 Stock Distributions

In the case of stock distributions with ex-date on Trading Day *t+1* it is assumed that the prices change according to the terms of the distribution. The new Number of Index Shares is calculated as follows:

$$x_{i,t+1} = x_{i,t} * (1 + \mathrm{B})$$

With:

$x_{i,t+1}$ = Number of Index Shares of the affected Index Component on Trading Day *t+1*
$x_{i,t}$ = Number of Index Shares of the affected Index Component on Trading Day *t*
B = Shares received for every share held

3.6 Miscellaneous

3.6.1 Recalculation

Solactive AG makes the greatest possible efforts to accurately calculate and maintain its indices. However, the occurrence of errors in the index determination process cannot be ruled out. In such cases Solactive AG adheres to its publicly available Correction Policy.

3.6.2 Market Disruption

In periods of market stress or disruption, Solactive AG calculates its indices following predefined and exhaustive arrangements set out in its publicly available Disruption Policy.

4 Definitions

3m ADTV – The average of the notional value of shares traded in a stock over all business days during the preceding three-month period as sourced from FactSet.

"Adjustment Day" is the second Friday of the month or the trading day immediately preceding it. Changes to the index composition (Index Components and Weights) go into effect after the close of business on this date.

"Affiliated Exchange" – With regard to an Index Component, an exchange or trading or quotation system on which options and futures contracts on the Index Component in question are traded, as specified by the Index Calculator.

"Business Day" – Any day from Monday to Friday.

"Dividend Correction Factor" – Equal to 1 minus the applicable withholding tax rate and/or other applicable tax rate currently prevalent in the respective country. (Summary of tax withholding rates applied to all indices in the Series is available at https://www.solactive.com/de/neuigkeiten/unterlagen/)

"Exchange" – For the Index Component of an Index, the stock exchange where the Index Component has its primary listing. The Committee may decide to declare a different stock exchange the "Exchange" for trading reasons, even if the company is only listed there via a Stock Substitute.

An **"Extraordinary Event"** is

- a Merger
- a Takeover bid
- a delisting
- the Nationalisation of a company
- Insolvency.

The Trading Price for this Index Component on the day the event came into effect is the last available market price for this Index Component quoted on the Exchange on the day the event came into effect (or, if a market price is not available for the day the event came into effect, the last available market price quoted on the Exchange on a day specified as appropriate by the Index Calculator), as determined by the Index Calculator, and this price is used as the Trading Price of the particular Index Component until the end of the day on which the composition of the Index is next set.

In the event of the Insolvency of an issuer of an Index Component the Index Component shall remain in the Index until the next Adjustment Day. As long as a market price for the affected Index Component is available on a Business Day, this shall be applied as the Trading Price for this Index Component on the relevant Business Day, as determined in each case by the Index Calculator. If a market price is not available on a Business Day the Trading Price for this Index Component is set to zero. The Committee may also decide to eliminate the respective Index Component at an earlier point in time prior to the next Adjustment Day. The procedure in this case is identical to an elimination due to and Extraordinary Event.

An Index Component is **"delisted"** if the Exchange announces pursuant to the Exchange regulations that the listing of, the trading in or the issuing of public quotes on the Index Component at the Exchange has ceased immediately or will cease at a later date, for whatever reason (provided delisting is not because of a Merger or a Takeover bid), and the Index Component is not immediately listed, traded or quoted again on an exchange, trading or listing system, acceptable to the Index Calculator,

"Insolvency" occurs with regard to an Index Component if (A) all shares of the respective issuer must be transferred to a trustee, liquidator, insolvency administrator or a similar public officer as result of a voluntary or compulsory liquidation, insolvency or winding-up proceedings or comparable proceedings

affecting the issuer of the Index Components or (B) the holders of the shares of this issuer are legally enjoined from transferring the shares.

A **"Takeover bid"** is a bid to acquire, an exchange offer or any other offer or act of a legal person that results in the related legal person acquiring as part of an exchange or otherwise more than 10% and less than 100% of the voting shares in circulation from the issuer of the Index Component or the right to acquire these shares, as determined by the Index Calculator based on notices submitted to public or self-regulatory authorities or other information considered by the Index Calculator to be relevant.

With regard to an Index Component a **"Merger"** is

(i) a change in the security class or a conversion of this share class that results in a transfer or an ultimate definite obligation to transfer all the shares in circulation to another legal person,

(ii) a merger (either by acquisition or through forming a new structure) or a binding obligation on the part of the issuer to exchange shares with another legal person (except in a merger or share exchange under which the issuer of this Index Component is the acquiring or remaining company and which does not involve a change in security class or a conversion of all the shares in circulation),

(iii) a takeover offer, exchange offer, other offer or another act of a legal person for the purposes of acquiring or otherwise obtaining from the issuer 100% of the shares issued that entails a transfer or the irrevocable obligation to transfer all shares (with the exception of shares which are held and controlled by the legal person), or

(iv) a merger (either by acquisition or through forming a new structure) or a binding obligation on the part of the issuer of the share or its subsidiaries to exchange shares with another legal person, whereby the issuer of the share is the acquiring or remaining company and it does not involve a change in the class or a conversion of the all shares issued, but the shares in circulation directly prior to such an event (except for shares held and controlled by the legal person) represent in total less than 50% of the shares in circulation directly subsequent to such an event.

"Merger Date" is the date on which a Merger is concluded or the date specified by the Index Calculator if such a date cannot be determined under the law applicable to the Merger.

"Nationalisation" is a process whereby all shares or the majority of the assets of the issuer of the shares are nationalised or are expropriated or otherwise must be transferred to public bodies, authorities or institutions.

"Index Benchmark" – The Solactive European Total Market 675 Price Return Index ("SETM 675")

The **"Index Calculator"** is Solactive AG or any other appropriately appointed successor in this function.

"Index Component" is each share currently included in the Index.

The **"Index Currency"** is euros.

"Index Universe" – In respect of a Selection Day, the list of stocks that are eligible for inclusion into an Index of the Series. These are selected according to the rules set out in section [2.1].

"Market Capitalization" is, with regard to each of the shares in the Index Universe on a Selection Day or Adjustment Day, the value published as the Market Capitalization for this day. As at the date of this document Market Capitalization is defined as the value of a company calculated by multiplying the number of shares outstanding of the company by its share price.

"**Market Disruption Event"** – Relates to all events causing a halt to regular pricing for any of the index components or the market in general.
"Normal exchange closing time" is the time at which the Exchange or an Affiliated Exchange is normally closed on working days without taking into account after-hours trading or other trading activities carried out outside the normal trading hours.

"Number of Shares" is in respect of an Index Component and any given Business Day the number or fractional shares included in the Index. It is calculated for any Index Component as the ratio of (A) the Percentage Weight of an Index Component multiplied by the Index value and the Divisor and (B) its Trading Price (converted into the index currency according to the principles laid out in Section 1.5 of this document).

"Percentage Weight" of an Index Component at any given point is the percentage of the index level that can be attributed to that Index Component. It can be calculated as: *(Trading_Price_in_Index_Currency_day(t) * Number_of_Shares_day (t) * 1/Divisor_day(t)) / Index_value_day(t))*

"Sector Group" – A classification structure used to group stocks of companies with similar business activity. The structure is derived from the FactSet Industry classification. Each FactSet Industry is assigned to a Sector Group, which then applies to all stocks in that FactSet Industry. Details of the FactSet Industry to Sector Group correspondence is provided in [Appendix A].

"Selection Day" is the Business Day three Business Days before the Adjustment Day (i.e. usually the Tuesday before the second Friday of the month). On this date the observations of price, volume, fundamental and other characteristics of the constituents of the Index Universe that are required to calculate the monthly index rebalance are taken.

"Stock Substitute" includes in particular American Depository Receipts (ADR) and Global Depository Receipts (GDR).

With regard to an Index component (subject to the provisions given above under "Extraordinary Events") the **"Trading Price**" in respect of a Trading Day is the closing price on this Trading Day determined in accordance with the Exchange regulations. If the Exchange has no closing price for an Index Component, the Index Calculator shall determine the Trading Price and the time of the quote for the share in question in a manner that appears reasonable to him.

A **"Trading Day**" is in relation to the Index or an Index Component a Trading Day on the Exchange (or a day that would have been such a day if a market disruption had not occurred), excluding days on which trading may be ceased prior to the normal Exchange closing time. The Index Calculator is ultimately responsible as to whether a certain day is a Trading Day with regard to the Index or an Index Component or in any other connection relating to this document.

5 Appendix A

5.1 Contact Data

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5.2 Calculation of the Index – Change in Calculation Method

The application by the Index Calculator of the method described in this document is final and binding. The Index Calculator shall apply the method described above for the composition and calculation of the Index. However, it cannot be excluded that the market environment, supervisory, legal, financial or tax reasons may require changes to be made to this method. The Index Calculator may also make changes to the terms and conditions of the Index and the method applied to calculate the Index, which he deems to be necessary and desirable in order to prevent obvious or demonstrable error or to remedy, correct or supplement incorrect terms and conditions. The Index Calculator is not obliged to provide information on any such modifications or changes. Despite the modifications and changes the Index Calculator will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.

6 Appendix B

Table 1 below shows the allocation of each FactSet Industry to the corresponding Sector Group.

There are 19 Sector Groups in total: Automobiles, Banks, Basic Resources, Chemicals, Construction, Energy, Financial Services, Food & Beverage, Healthcare, Industrials, Insurance, Media, Personal and Household Goods, Real Estate, Retail, Technology, Telecommunications, Travel & Leisure and Utilities.

The table shows each FactSet Industry, classified under its FactSet Sector and Economy classifications, and the Sector Group to which it is assigned.

In the event of a change in the FactSet Industry classification structure or the creation of a new FactSet Industry, the Index Committee will amend the classification below as needed to ensure that every FactSet Industry is assigned to the Sector Group that best describes the character of the activity of the companies within that FactSet Industry.

Table 1: FactSet Industry → Sector Group Allocation

ECONOMY: Basic Materials	CODE	SECTOR GROUP
SECTOR: Non-Energy Minerals	**1100**	
Steel	1105	Basic Resources
Aluminum	1115	Basic Resources
Precious Metals	1120	Basic Resources
Other Metals/Minerals	1125	Basic Resources
Forest Products	1130	Basic Resources
Construction Materials	1135	Construction
ECONOMY: Consumer Durables		
SECTOR: Consumer Durables	**1400**	
Motor Vehicles	1405	Automobiles
Automotive Aftermarket	1410	Automobiles
Homebuilding	1415	Personal and Household Goods
Home Furnishings	1420	Personal and Household Goods
Electronics/Appliances	1425	Personal and Household Goods
Tools & Hardware	1430	Personal and Household Goods
Recreational Products	1435	Personal and Household Goods
Other Consumer Specialties	1445	Personal and Household Goods
ECONOMY: Consumer Non-Durables		
SECTOR: Consumer Non-Durables	**2400**	
Foods: Major Diversified	2405	Food & Beverage
Foods: Specialty/Candy	2410	Food & Beverage
Foods: Meat/Fish/Dairy	2415	Food & Beverage
Beverages: Non-Alcoholic	2420	Food & Beverage
Beverages: Alcoholic	2425	Food & Beverage
Tobacco	2430	Personal and Household Goods
Household/Personal Care	2435	Personal and Household Goods
Apparel/Footwear	2440	Personal and Household Goods
Consumer Sundries	2450	Personal and Household Goods
ECONOMY: Consumer Services		
SECTOR: Distribution Services	**3250**	
Wholesale Distributors	3255	Industrials
Food Distributors	3260	Retail
Electronics Distributors	3265	Retail
Medical Distributors	3270	Retail

SECTOR: Consumer Services	**3400**	
Media Conglomerates	3405	Media
Broadcasting	3410	Media
Cable/Satellite TV	3415	Media
Publishing: Newspapers	3420	Media
Publishing: Books/Magazines	3425	Media
Movies/Entertainment	3430	Media
Restaurants	3435	Travel & Leisure
Hotels/Resorts/Cruiselines	3440	Travel & Leisure
Casinos/Gaming	3445	Travel & Leisure
Other Consumer Services	3450	Media
SECTOR: Retail Trade	**3500**	
Food Retail	3505	Retail
Drugstore Chains	3510	Retail
Department Stores	3515	Retail
Discount Stores	3520	Retail
Apparel/Footwear Retail	3525	Retail
Home Improvement Chains	3530	Retail
Electronics/Appliance Stores	3535	Retail
Specialty Stores	3540	Retail
Catalog/Specialty Distribution	3545	Retail
Internet Retail	3550	Retail
ECONOMY: Energy		
SECTOR: Energy Minerals	**2100**	
Oil & Gas Production	2105	Energy
Integrated Oil	2110	Energy
Oil Refining/Marketing	2120	Energy
Coal	2125	Energy
SECTOR: Industrial Services	**3100**	
Contract Drilling	3105	Energy
Oilfield Services/Equipment	3110	Energy
Engineering & Construction	3115	Construction
Environmental Services	3120	Energy
Oil & Gas Pipelines	3130	Energy
ECONOMY: Finance		
SECTOR: Finance	**4800**	
Major Banks	4805	Banks
Regional Banks	4810	Banks
Savings Banks	4825	Banks
Finance/Rental/Leasing	4830	Financial Services
Investment Banks/Brokers	4840	Financial Services
Investment Managers	4845	Financial Services
Financial Conglomerates	4850	Financial Services
Property/Casualty Insurance	4855	Insurance
Multi-Line Insurance	4860	Insurance
Life/Health Insurance	4865	Insurance
Specialty Insurance	4875	Insurance
Insurance Brokers/Services	4880	Insurance
Real Estate Development	4885	Real Estate
Real Estate Investment Trusts	4890	Real Estate
SECTOR: Miscellaneous	6000	
Miscellaneous	6005	Financial Services

Investment Trusts/Mutual Funds	6010	Financial Services
ECONOMY: Healthcare		
SECTOR: Health Technology	**2300**	
Pharmaceuticals: Major	2305	Healthcare
Pharmaceuticals: Other	2310	Healthcare
Pharmaceuticals: Generic	2315	Healthcare
Biotechnology	2320	Healthcare
Medical Specialties	2325	Healthcare
SECTOR: Health Services	**3350**	
Managed Health Care	3355	Healthcare
Hospital/Nursing Management	3360	Healthcare
Medical/Nursing Services	3365	Healthcare
Services to the Health Industry	3370	Healthcare
ECONOMY: Industrials		
SECTOR: Producer Manufacturing	**1200**	
Metal Fabrication	1205	Industrials
Industrial Machinery	1210	Industrials
Trucks/Construction/Farm Machinery	1220	Industrials
Auto Parts: OEM	1225	Automobiles
Building Products	1230	Construction
Electrical Products	1235	Industrials
Office Equipment/Supplies	1245	Industrials
Miscellaneous Manufacturing	1250	Industrials
Industrial Conglomerates	1255	Industrials
SECTOR: Process Industries	**2200**	
Chemicals: Major Diversified	2205	Chemicals
Chemicals: Specialty	2210	Chemicals
Chemicals: Agricultural	2215	Chemicals
Textiles	2220	Industrials
Agricultural Commodities/Milling	2225	Industrials
Pulp & Paper	2230	Basic Resources
Containers/Packaging	2235	Industrials
Industrial Specialties	2240	Industrials
SECTOR: Commercial Services	**3200**	
Miscellaneous Commercial Services	3205	Industrials
Advertising/Marketing Services	3210	Media
Commercial Printing/Forms	3215	Industrials
Financial Publishing/Services	3220	Industrials
Personnel Services	3235	Industrials
SECTOR: Transportation	**4600**	
Air Freight/Couriers	4605	Industrials
Airlines	4610	Travel & Leisure
Trucking	4615	Industrials
Railroads	4620	Industrials
Marine Shipping	4625	Industrials
Other Transportation	4630	Industrials
ECONOMY: Technology		
SECTOR: Electronic Technology	**1300**	
Semiconductors	1305	Technology
Electronic Components	1310	Industrials
Electronic Equipment/Instruments	1315	Technology
Telecommunications Equipment	1320	Technology

Aerospace & Defense	1330	Industrials
Computer Processing Hardware	1340	Technology
Computer Peripherals	1345	Technology
Computer Communications	1352	Technology
Electronic Production Equipment	1355	Technology
SECTOR: Technology Services	**3300**	
Data Processing Services	3305	Technology
Information Technology Services	3308	Technology
Packaged Software	3310	Technology
Internet Software/Services	3320	Technology
SECTOR: Communications	**4900**	
Major Telecommunications	4905	Telecommunications
Specialty Telecommunications	4910	Telecommunications
Wireless Telecommunications	4915	Telecommunications
ECONOMY: Utilities		
SECTOR: Utilities	**4700**	
Electric Utilities	4705	Utilities
Gas Distributors	4735	Utilities
Water Utilities	4755	Utilities
Alternative Power Generation	4760	Utilities

7 Appendix C

This appendix contains the specific stock selection criteria to be applied to the Index Universe to arrive at the Index Components for each Index in the Series.

Definitions

The following definitions apply. All values are observed as of the Selection Day unless otherwise specified. Observations for all price data are taken from FactSet. Observations for all fundamental data are taken from Datastream.

1. *Earnings to Price Ratio ("**E/P(S)**")* = The FactSet (or any reference source taking the place of FactSet and providing comparable data items, acceptable to and as determined by the Index Calculator) consensus average earnings per share for the next fiscal year divided by the closing share price of stock *S*

2. *EPS_analysts(S)* = The number of analysts submitting estimates for the earnings per share mean FY 1 to FactSet (or any reference source taking the place of FactSet and providing comparable data items, acceptable to and as determined by the Index Calculator) for stock *S*

3. *Book to Price Ratio ("**B/P(S)**")* = The book value per share of common equity divided by the closing share price of stock *S*

4. *Dividend Yield ("**DY(S)**")* = The FactSet (or any reference source taking the place of FactSet and providing comparable data items, acceptable to and as determined by the Index Calculator) consensus estimate of 12m forward dividend per share divided by the closing share price of stock *S*

5. *DY_analysts* = The number of analysts submitting estimates for 12m forward dividends per share to FactSet (or any reference source taking the place of FactSet and providing comparable data items, acceptable to and as determined by the Index Calculator) for stock *S*

6. *Return on assets ("**ROA(S)**")* = The ratio of net income before extraordinary items to total assets for stock *S*

7. *Debt to equity ("**D/E(S)**")* = The ratio of total debt to total equity for stock *S*

8. *Cash ratio ("**CR(S)**")* = The ratio of net cash flow (from operating, financing and investing activities as well as change in cash and short term investments) to short term debt plus interest expenses for stock *S*

9. *1y Earnings estimate ("**EE_{1y}(S)**")* = The FactSet (or any reference source taking the place of FactSet and providing comparable data items, acceptable to and as determined by the Index Calculator) consensus earnings estimates for stock *S* for the current fiscal year, if there are at least six months left in the current fiscal year. If there are fewer than six months left in the current fiscal year, the FactSet (or any reference source taking the place of FactSet and providing comparable data items, acceptable to and as determined by the Index Calculator) consensus earnings estimates for the next fiscal year are used. For example, if the fiscal year end is September 2014, then for a rebalance in Feb 2014, the FactSet (or any reference source taking the place of FactSet and providing comparable data items, acceptable to and as determined by the Index Calculator) consensus estimates for the fiscal year ending in September 2014 would be used, while for a

rebalance done in Mar 2014, the estimates for the next fiscal year (ending in Sept 2015) would be used.

10. *1yE_analysts* = The number of analysts submitting estimates for 1y forward earnings for stock S

11. *2y Earnings estimate ("**$EE_{2y}(S)$**")* = The FactSet (or any reference source taking the place of FactSet and providing comparable data items, acceptable to and as determined by the Index Calculator) consensus earnings estimates for stock *S* for the next fiscal year, if there are at least six months left in the current fiscal year. If there are fewer than six months left in the current fiscal year, the FactSet (or any reference source taking the place of FactSet and providing comparable data items, acceptable to and as determined by the Index Calculator) consensus earnings estimates for the next plus one fiscal year are used. For example, if the fiscal year end is September 2014, then for a rebalance in Feb 2014, the FactSet (or any reference source taking the place of FactSet and providing comparable data items, acceptable to and as determined by the Index Calculator) consensus estimates for the fiscal year ending in September 2015 would be used, while for a rebalance done in Mar 2014, the estimates for the next fiscal year (ending in Sept 2016) would be used.

12. *2yE_analysts* = The number of analysts submitting estimates of 2y forward earnings for stock *S*

13. *12m Price return ("**$PR_{12m}(S)$**")* = The percentage return of stock *S* over the past 12 months calculated based on a 5d moving average of the starting and ending observations:

$$PR_{12m}(S) = \frac{\sum_{i=0}^{4} S_{SD-n}}{\sum_{i=0}^{4} S_{SD-12m-n}}$$

Where

$SS_{D\text{-}12m\text{-}n}$ = the price of stock *S* on the nth business day before the day 12 months before the Selection Day (i.e. the five days up to and including the close of business on the day 12 months prior to the Selection Day)

$SS_{D\text{-}\text{-}n}$ = the price of stock *S* on the nth business day before the Selection Day (i.e. the five days up to and including the close of business on the Selection Day)

14. 1m Price return ("**$PR_{1m}(S)$**") = The percentage return of stock *S* over the past month calculated based on a 5d moving average of the starting and ending observations:

$$PR_{1m}(S) = \frac{\sum_{i=0}^{4} S_{SD-n}}{\sum_{i=0}^{4} S_{SD-1m-n}}$$

Where

$SS_{D\text{-}1m\text{-}n}$ = the price of stock *S* on the nth business day before the day one month before the Selection Day (i.e. the five days up to and including the close of business on the day one month prior to the Selection Day)

$SS_{D\text{-}\text{-}n}$ = Defined as above.

15. *12m-1m Price return ("**$PR_{12\text{-}1m}(S)$**")* = The percentage return of stock *S* over the past 12 months less the return of the same stock over the last one month:

$$PR_{12-1m}(S) = PR_{12m}(S) - PR_{1m}(S)$$

16. *1 month trailing Index-relative return ("**$RelRtn_{1m}(S)$**")* = The percentage change in the stock price over the last one month less the percentage change in the benchmark index over the same period

$$RelRtn_{1m}(S) = \frac{S_{SD}}{S_{SD-1m}} - \frac{I_{SD}}{I_{SD-1m}}$$

Where

S_{SD} = Closing stock price on the Selection Day

$S_{SD\text{-}1m}$ = Closing stock price one month prior to the Selection Day

I_{SD} = Closing level of the benchmark index on the Selection Day

$I_{SD\text{-}1m}$ = Closing level of the benchmark index one month prior to the Selection Day

17. *2 month trailing Index-relative return ("**$RelRtn_{2m}(S)$**")* = The percentage change in the stock price over the last one month less the percentage change in the benchmark index over the same period

$$RelRtn_{2m}(S) = \frac{S_{SD-1m}}{S_{SD-2m}} - \frac{I_{SD-1m}}{I_{SD-2m}}$$

Where $S_{SD\text{-}1m}$ and $I_{SD\text{-}1m}$ are defined as above and:

$S_{SD\text{-}2m}$ = Closing stock price two months prior to the Selection Day

$I_{SD\text{-}2m}$ = Closing level of the benchmark index two months prior to the Selection Day

18. *3 month trailing Index-relative return ("**$RelRtn_{3m}(S)$**")* = The percentage change in the stock price over the last one month less the percentage change in the benchmark index over the same period

$$RelRtn_{3m}(S) = \frac{S_{SD-2m}}{S_{SD-3m}} - \frac{I_{SD-2m}}{I_{SD-3m}}$$

Where $S_{SD\text{-}2m}$ and $I_{SD\text{-}2m}$ are defined as above, and:

$S_{SD\text{-}3m}$ = Closing stock price three months prior to the Selection Day

$I_{SD\text{-}3m}$ = Closing level of the benchmark index three months prior to the Selection Day

19. *12 month historical beta* ("**$Beta(S_i)$**") = The beta between a stock S_i and the Index Benchmark calculated over the last twelve months using daily stock price observation according to:

$$Beta(S_i) = \frac{Cov(S_i, Indx)}{Var(Indx)}$$

Where

$Cov(S_i, Indx)$ = Covariance of stock price S_i and the Index Benchmark

$Var(Indx)$ = Variance of the Index Benchmark

Index Construction Rules

7.1 Value Index

On each Selection Day, the Index Components of the Solactive Tradable Value Factor Index (the "Value Index") are derived from the Index Universe according to the following steps:

1. Remove from the Index Universe any stock S_i for which
    a. Fewer than three analysts submit FY1 forward earnings per share estimates (EPS_*analysts*$(S_i) < 3$);
    b. Fewer than three analysts submit 12m forward dividend per share estimates (*DY_analysts(Si)* < 3);
    c. An earnings-to-price ratio cannot be calculated;
    d. A book-to-price ratio cannot be calculated;
2. Remove from the Index Universe, any stock S_i which meets one or more of the following criteria:
    a. Ranks in the lowest 1/3 of stocks in its Sector Group by book-to-price ratio (i.e. lowest 1/3 of values for $B/P(S_i)$.)
    b. Ranks in the lowest 1/3 of stocks in its Sector Group by dividend yield (i.e. lowest 1/3 of values for $DY(S_i)$.)
3. If two or more stocks are tied such that the cut-off for exclusion cannot be clearly determined (for example, if 40% of stocks have zero dividend yield, making the "bottom 1/3 by dividend yield" criterion ambiguous), then use those stocks' ranking according to the other criterion to determine which to remove.
4. Rank all remaining stocks S_i in the Index Universe by their earnings-to-price ratio $E/P(S_i)$.
5. The new Index Components effective at the next Adjustment Day will be the 50 stocks with the highest earnings to price ratio, subject to the following critiera:
    a. Any current Index Component that ranks among the top 75 stocks with the highest earnings to price ratio will remain in the index;
    b. The Index Components will contain a maximum of 10 stocks per Sector Group, except Industrials which may have up to 15 stocks.

7.2 Quality

On each Selection Day, the Index Components of the Solactive Tradable Quality Factor Index (the "Quality Index") are derived from the Index Universe according to the following steps:

1. Remove from the Index Universe any stock S_i for which the return on assets $ROA(S_i)$, debt to equity $D/E(S_i)$ or Cash Ratio $CR(S_i)$ cannot be calculated.
2. Remove from the Index Universe any stock S_i included in the Banks or Insurance Sector Group.
3. Remove from the Index Universe any stock S_i which meets one or more of the following criteria:
    a. Ranks among the 25% of stocks in its Sector Group with the lowest return on assets
    b. Ranks among the 25% of stocks in that Sector Group with the highest debt-to-equity ratio
    c. Ranks among the 25% of stocks in that Sector Group with the lowest cash ratio
4. Produce an ordered ranking of all remaining stocks S_i in the Index Universe by their return on assets $ROA(S_i)$ such that the stock with the highest ROA has a rank of 1, the next highest has a rank of 2, and so on by consecutive integers up to the last stock in the Index Universe.

5. In the same way as the previous step, produce an ordered ranking of all stocks S_i in the Index Universe by their debt-to-equity ratio $D/E(S_i)$ such that the stock with the lowest debt-to-equity ratio has a rank of 1.
6. In the same way, produce an ordered ranking of all stocks S_i in the Index Universe by their cash ratio $CR(S_i)$ such that the stock with the highest cash ratio has a rank of 1.
7. For each stock S_i, compute R_i equal to the sum of its three rankings.
8. The new Index Components of the Quality Index effective at the next Adjustment Day will be the 50 stocks with the lowest values for R_i, subject to the following criteria:
    a. Any current Index Component that ranks among the 75 stocks with the lowest value for R_i will remain in the index;
    b. The Index Components will contain a maximum of 10 stocks per Sector Group, except Industrials which may have up to 15 stocks.
9. In the event of a tie in the ranking values between two or more stocks such that the lowest ranking stocks cannot be determined, the ranking by ROA will be used to determine the tie-breaker. If a tie still persists, stocks will be chosen based on which have the higher liquidity (3m ADTV).

7.3 Low Beta

On each Selection Day, the Index Components of the Solactive Tradable Low Beta Factor Index (the "Low Beta Index") are derived from the Index Universe according to the following steps:

1. Remove from the Index Universe any stock S_i for which the 12 month historical beta $Beta(S_i)$ cannot be calculated.
2. The new Index Components of the Low Beta Index effective at the next Adjustment Day will be the 50 stocks from the remaining Index Universe with the lowest value for $Beta(S_i)$, subject to the following criteria:
    a. Any current Index Component that ranks among the 75 stocks with the lowest value for $Beta(S_i)$ will remain in the index;
    b. The Index Components will contain a maximum of 10 stocks per Sector Group, except Industrials which may have up to 15 stocks.

7.4 Price Momentum

On each Selection Day, the Index Components of the Solactive Tradable Price Momentum Factor Index (the "Price Momentum Index") are derived from the Index Universe according to the following steps:

1. Remove from the Index Universe any stock whose 12m-1m price return $PR_{12\text{-}1m}(S)$ cannot be computed.
2. Rank all remaining stocks S_i in the Index Universe by their 12m-1m price return $PR_{12m\text{-}1m}(S_i)$
3. The new Index Components effective at the next Adjustment Day will be the 50 stocks with the highest 12m – 1m return, subject to a maximum of 10 stocks per Sector Group, except Industrials which may have up to 15 stocks. (Note that the highest return may still be negative.)

7.5 Earnings Momentum

On each Selection Day, the Index Components of the Solactive Tradable Earnings Momentum Factor Index (the "Earnings Momentum Index") are derived from the Index Universe according to the following steps:

1. Remove from the Index Universe any stock S_i for which
    a. Fewer than three analysts submit 1y forward earnings estimates ($1yE\_analysts(S_i) < 3$) for the stock or for which no value for the mean 1y forward earnings estimates is available;
    b. Fewer than three analysts submit 2y forward earnings estimates ($2yE\_analysts(Si) < 3$) for the stock or for which no value for the mean 2y forward earnings estimates is available;
    c. The value for either the mean 1y forward earnings estimates or 2y forward earnings estimates, either currently as of three months prior to the Selection Day, is not available.
2. For each stock S_i, compute the three month change in the 1 year forward earnings $EE_{1y}Chg3m(S_i)$ and the three month change in the 2 year forward earnings $EE_{3y}Chg3m(S_i)$ according to the following formulae:

$$EE_{1y}Chg3m(S_i) = \frac{EE_{1y}(S_i)}{EE_{1y}3m(S_i)} - 1$$

$$EE_{2y}Chg3m(S_i) = \frac{EE_{2y}(S_i)}{EE_{2y}3m(S_i)} - 1$$

    Where

    $EE_{1y}3m(S_i)$ = the value of the 1y forward earnings estimate as of the Observation Day of the month three months prior to the current Observation Day

    $EE_{2y}3m(S_i)$ = the value of the 2y forward earnings estimate as of the Observation Day of the month three months prior to the current Observation Day

3. For each stock, S_i, compute the sum of the three-month percentage change in 1y and 2y earnings estimates $EE_{Chg}(S_i) = EE_{1y}Chg3m(S_i) + EE_{2y}Chg3m(S_i)$
4. The new Index Components effective at the next Adjustment Day will be the 50 stocks with the largest positive values of $EE_{Chg}(S_i)$, subject to the following criteria:
    a. Any current Index Component that ranks among the 75 stocks with the largest positive values of $EE_{Chg}(S_i)$ will remain in the index;
    b. The Index Components will contain a maximum of 10 stocks per Sector Group, except Industrials which may have up to 15 stocks.
    c. If fewer than 50 stocks have positive values for $EE_{Chg}(S_i)$ then retain in the index the stocks that had the highest values for $EE_{Chg}(S_i)$ in the prior month's rebalance and that have not experienced a negative revision in the current period.
    d. If there are still fewer than 50 stocks chosen, the remainder should be those with the smallest negative revision in the current period.