

Credit Suisse HOLT Equity Factor Indices

Index Rules

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Index Sponsor

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The CFROI (CFROE For Financials) Revisions metric aims to capture the net impact of the CFROI forecast based on changes in the consensus earnings per share (“**EPS**”) estimate by aggregating the week to week changes over the past 13 weeks. CFROI revisions are HOLT model-derived impact on the CFROI from a change in the consensus earnings estimates from one period to the next. This measure refers to the 13 week change in either CFROI (Full Year 1 or “FY1”) or CFROI (Fully Year 2 “FY2”). During the first three quarters of the company's fiscal year, revisions refer to the change in CFROI (FY1). During the fourth fiscal quarter revisions refers to the change in CFROI (FY2). **Price Momentum** – 40% weight

Measures the 52-week price momentum with the most recent month removed.

All of the above scores and calculated and determined by the Scoring Agent. Each company score is systematically standardised and winsorised at the 5th and 95th percentile.

2.1.3. Quality Factor (“Quality”)

The **Quality Factor** is designed to measure the relative operational performance of a stock. The Quality Factor includes two sub-components:

- (i) The HOLT Quality Factor (100% weight for Financials / 50% weight otherwise);
- (ii) The Leverage Factor (0% weight for Financials / -50% weight otherwise).

The HOLT Quality Factor is calculated as the weighted sum of the following scores:

HOLT CFROI LFY – 50% weight

The CRFOI (CFROE for Financials) is the Cash Flow Return on Investment (Equity) as defined by the Scoring Agent proprietary methodology. It is defined as the last fiscal year measure of cash return on a firm’s capital (equity). More information on the CFROI methodology and how it is calculated by the Scoring Agent can be found on the following website (<https://www.credit-suisse.com/microsites/holt/en.html>).

5 Year Median CFROI – 25% weight

The 5 year median CFROI (CFROE for Financials) is the median of past 5 fiscal year end observations of the CFROI (CFROE) metric.

5 year CFROI Range – 25% weight

The 5 year CFROI (CFROE for Financials) Range is defined as the difference between maximum and minimum CFROI (CFROE) annual metric observations in the past 5 fiscal years.

All of the above scores and calculated and determined by the Scoring Agent. Each company score is systematically standardised and winsorised at the 5th and 95th percentile.

The **Leverage Factor** aims to measure a company's exposure to debt levels. It is calculated as the equal-weighted average of the Debt-to-assets and Debt-to-equity which are standardised prior to summation.

Debt-to-assets is calculated as the ratio of long-term and short-term debt to total assets, where assets total is computed as the most recently reported value from quarterly reports. Debt-to-equity is calculated as the ratio of long-term and short-term debt to common equity, where common equity is computed as the average of the four most recently reported values from.

The Leverage Factor is calculated and determined by the Weight Calculation Agent.

For purposes of determining the Quality Factor, "Financials" refer to all Index Components categorised as a financial services company by the Scoring Agent.

2.1.4. Beta Factor ("Low Beta")

The **Beta Factor** aims to measure the sensitivity of a given stock against market moves (the "Historical Beta"). It is calculated by operating a linear regression on the historical stock returns against the market portfolio returns. The composition of the market portfolio depends on the geography and is typically a proxy for the region-specific Benchmark as defined in Section 2.2.1.

The objective of the regression is to express a stock's i return on any given day t (" $r_{i,t}$ ") in the form of the following linear equation:

$$r_{i,t} = \alpha_i + \beta_i r_{M,t} + \varepsilon_{i,t}$$

Where:

α_i is a constant number specific to stock i ;

β_i is the regression coefficient called Historical Beta of stock i used to determine the Beta Factor;

$r_{M,t}$ is the "market" portfolio return at time t ;

$\varepsilon_{i,t}$ is a constant number specific to stock i ;

The Beta Factor is calculated and determined by the Weight Calculation Agent.

2.1.5. Size Factor ("Size")

The **Size Factor** is defined as the logarithm of the total stock market capitalisation, averaged over the last month.

The Size Factor for stock i is calculated as follows:

$$SIZ_i = \ln \left(\frac{1}{20} \sum_{j=1}^{20} mc_{i,t-j} \right)$$

Where:

SIZ_i is the Size Factor for stock i ; and

$mc_{i,t}$ is the market capitalisation for stock i on day t

The stock market capitalisation on a given day is calculated as the product of the total number of shares outstanding for that specific stock and its closing price.

The Size Factor is calculated and determined by the Weight Calculation Agent.

2.2. Optimisation Methodology

2.2.1. Universe and Benchmark Definition

The Weight Calculation Agent will determine and create three Benchmarks, each of which will be region specific. A Benchmark is a notional index made up of the relevant Universe of equities components weighted by free float market capitalisation which aims to include sufficiently large and liquid stocks within a specified region: being the US, Europe, Japan and Global.

Each Benchmark will be constructed as follows:

- i. **Benchmark Initial Universe:** an initial universe (the “**Investible Universe**”) comprising 99% of the investible equity universe across regions screened on an annual basis. The Investible Universe is mainly composed of ordinary stocks and may also include preferred stocks exhibiting equity-like characteristics. The Investible Universe is then refined according to the following three criteria:
- ii. **Country Selection:** for each relevant region (being the US, Europe, Japan and Global), the Weight Calculation Agent will retain the stocks which are associated with countries in such region as determined by the Weight Calculation Agent.
- iii. **Liquidity:** All stocks included in the Investible Universe are screened for liquidity. Stocks trading less than 90% of open trading days and / or having a Turnover Ratio below 15% are typically deemed ineligible for inclusion. The "Turnover Ratio" is defined as the yearly traded volume over the share free float and is calculated by the Weight Calculation Agent. Additionally, all the stocks having a free float under 15% of their total market capitalisation are also typically deemed ineligible for inclusion.
- iv. **Size:** Each Benchmark targets inclusion of 85% largest stocks ranked by market capitalisation within the Investible Universe. As a result of this process, the smallest stocks are removed from the universe.

Following the application of the 4 rules above, a final universe of equities (a “**Universe**”) is created for each region-specific Benchmark.

Each Benchmark will be rebalanced on a quarterly basis on the last Friday of January, April, July and October of each year in accordance with the above 4 rules. The relevant Universe corresponding to such Benchmark may also change on a quarterly basis as a result of any rebalancing.

2.2.2. Factor Optimisation

On a quarterly basis, the Weight Calculation Agent will run an optimisation process (the “**Optimisation Process**”) subject to a defined set of constraints (the “**Constraints**”) aiming to determine the Target Weights for each Index Component which will maximise / minimize respectively the exposure to the relevant Investment Factor (the “**Optimised Factor**”) as defined in Section 2.1. in respect of each Index. The aggregate of the Target Weights for all of the Index Component in an Index shall not exceed 100%.

To run the Optimisation Process, the Weight Calculation Agent will use as inputs the Factor Scores for each such Index Component and each relevant Factor as defined in Section 2.1.

The Optimised Factor(s) for each Index is specified in Table 2: Index Optimised Factor as per below:

Table 2: Index Optimised Factor

Index Name	Optimised Factor	Optimisation	Minimum Index Component Weight	Number of Index Components
CS HOLT Equity Factor Global Value Index	Value	Max	0.25%	
CS HOLT Equity Factor Global Quality Index	Quality	Max	0.25%	
CS HOLT Equity Factor Global Momentum Index	Momentum	Max	0.25%	145 to 155
CS HOLT Equity Factor Global Size Index	Size	Min	0.25%	(Target 150)
CS HOLT Equity Factor Global Low Beta Index	Low Beta	Min	0.25%	
CS HOLT Equity Factor Global Multi-Factor Index	All Factors	Aggregate*	0.15%	
CS HOLT Equity Factor Europe Value Index	Value	Max	0.25%	
CS HOLT Equity Factor Europe Quality Index	Quality	Max	0.25%	
CS HOLT Equity Factor Europe Momentum Index	Momentum	Max	0.25%	
CS HOLT Equity Factor Europe Size Index	Size	Min	0.25%	
CS HOLT Equity Factor Europe Low Beta Index	Low Beta	Min	0.25%	
CS HOLT Equity Factor Europe Multi-Factor Index	All Factors	Aggregate*	0.15%	
CS HOLT Equity Factor US Value Index	Value	Max	0.25%	
CS HOLT Equity Factor US Quality Index	Quality	Max	0.25%	
CS HOLT Equity Factor US Momentum Index	Momentum	Max	0.25%	95-105
CS HOLT Equity Factor US Size Index	Size	Min	0.25%	(Target 100)
CS HOLT Equity Factor US Low Beta Index	Low Beta	Min	0.25%	
CS HOLT Equity Factor US Multi-Factor Index	All Factors	Aggregate*	0.15%	
CS HOLT Equity Factor Japan Value	Value	Max	0.25%	
CS HOLT Equity Factor Japan Quality	Quality	Max	0.25%	
CS HOLT Equity Factor Japan Momentum	Momentum	Max	0.25%	
CS HOLT Equity Factor Japan Size	Size	Min	0.25%	
CS HOLT Equity Factor Japan Low Beta	Low Beta	Min	0.25%	
CS HOLT Equity Factor Japan Multi-Factor	All Factors	Aggregate*	0.15%	

*For purposes of Table 2: Index Optimised Factor, "Aggregate" means an Optimisation Process that (i) maximizes Value, Quality and Momentum and (ii) minimizes Size and Low Beta.

2.2.3. Optimisation Constraints

The Optimisation Process is subject to the Constraints as set out below. For purposes of applying the Constraints, each Index will be compared against the region-specific Benchmark that corresponds to such Index.

In the event where the Optimisation Process does not lead to a result, the Index Administrator may determine whether one or more constraints shall be relaxed by the Weight Calculation Agent.

1. Tracking Error Constraints

With respect to any Index which is optimised for a single factor, the ex-ante forecasted tracking-error to its relevant region-specific Benchmark is set at 3%.

With respect to any Index which is optimised for more than one factor, the ex-ante forecasted tracking-error to its relevant region-specific Benchmark is set at 5%

2. Exposure Constraints

Sector Constraint: The aggregated Target Weight of each active sector (GICS1) in an Index shall not differ from its relevant region-specific Benchmark's sector weight by more than 5% in absolute terms

Industry Constraint: The aggregated Target Weight of each industry group (GICS2) in an Index shall not differ from its relevant region-specific Benchmark's industry group weight by more than 2% in absolute terms

Country Constraint: The country exposure in an Index shall not differ from its relevant region-specific Benchmark's country exposure by more than 5% in absolute terms

Index Component Exposure Constraint: The Target Weight assigned to any Index Component in an Index shall not be (i) less than such Index Component's respective weight within the relevant region-specific Benchmark by a margin of 2.5% or more or (ii) greater than such Index Component's respective weight within the relevant region-specific Benchmark by a margin of 1% or more.

Alpha Active Exposure Constraint: With respect to an Index and any Factor(s) which are not being optimised for, the exposure of each such non-optimised Factor within the Index shall not differ by more than 10% in absolute terms from the exposure of each such non-optimised Factor in such Index's relevant region-specific Benchmark.

Idiosyncratic Volatility Factor Exposure Constraint: With respect to any Index which is optimised for more than one Factor, the exposure to the Idiosyncratic Volatility Factor in such Index, as defined and calculated by the Weight Calculation Agent, shall not differ by more than 1% in absolute terms from the exposure of the Idiosyncratic Volatility Factor in such Index's relevant region-specific Benchmark. The Idiosyncratic Volatility of an Index is the aggregated Idiosyncratic Volatility of each component comprised in such Index. The Idiosyncratic Volatility of

each component represents the part of volatility which is specific to the component, i.e. not explained by its sensitivity to the market. .

3. Trading Constraints

Purchasing Constraint: The increase in Target Weight assigned to any Index Component on an Index Rebalancing shall remain below 1/13.34 of its 20-day average daily volume.

Holding Constraint: The Target Weight assigned to any Index Component on an Index Rebalancing shall remain below 1/3 of its 20-day average daily volume.

Selling Constraint: The decrease in Target Weight assigned to any Index Component on an Index Rebalancing shall remain below 1/6.67 of its 20-day average daily volume in absolute terms.

Turnover Constraint: The absolute sum of the changes in Target Weight on an Index Rebalancing shall be capped at 50%.

Market Capitalization Constraint: The Target Weight assigned to any Index Component on an Index Rebalancing shall remain below 0.35% of its market capitalization.

4. Specific Constraints

- Any Index which is being optimized for the Quality Factor

Financial Constraints: The aggregated Target Weight of Financials in an Index shall not differ from its relevant region-specific Benchmark's sector weight by more than 0.5% in absolute terms.

- Any Index which is being optimized for more than one Investment Factor

Active Alpha Exposure:

With respect to an Index and any Factor, the exposure of such Factor within the Index shall be positive where the optimization is set to maximization, or negative where optimization is set to minimization.

2.3. Index Rebalancing Process

The following Index Rebalancing Process is run for each Index with respect to each Allocation Calculation Month:

- **Step 1: Data production**

On each relevant Allocation Calculation Month, the Scoring Agent runs its proprietary scoring model as described in Section 2.2 as of the Official Calculation Data Date for each Investment Factor.

The Scoring Agent then provides the Weight Calculation Agent with the Official Calculation Data on the day falling two London Business Days following the Official Calculation Data Date (the “**Data Submission Date**”).

- **Step 2: Target Weight Calculation**

The Weight Calculation Agent calculates the Target Weights for each Index Component following the Optimisation Process described in Section 2.2.

The Weight Calculation Agent then provides the Index Calculation Agent with the relevant Target Weights on the day falling two London Business Days following the Data Submission Date.

- **Step 3: Index Rebalancing**

Following receipt of the Target Weights, the Index Calculation Agent implements the Index Rebalancing over the relevant Index Rebalancing Period.

3. Calculation of the Index Value: Gross Total Return, Price Return and Net Total Return Indices

3.1. Target Number of Shares Calculation

The Target Number of Shares invested in Index Component i with respect to the Last Index Rebalancing Day for the corresponding Index Rebalancing Period is calculated by the Index Calculation Agent according to the following formula:

$$Target\ NS_i^{LIR} = Weight_{i,Target} \times \frac{Index\ Level_{FIR-Lag}}{Price_{i,FIR-Lag} \times FX_{FIR-Lag}^{CCY_i}}$$

Where:

$Target\ NS_i^{LIR}$	The Target Number of Shares of Index Component i with respect to the Last Index Rebalancing Day;
$Weight_{i,Target}$	The latest Target Weight of Index Component i calculated by the Weight Calculation Agent with respect to the relevant Index Rebalancing Period;
$Index\ Level_{FIR-Lag}$	The Index Value on Index on Index Calculation Day $FIR - Lag$
$Price_{i,FIR-Lag}$	The official closing price of Index Component i published by the primary exchange on Index Calculation Day $FIR - Lag$. Where such price is not available on the relevant Index Calculation Day, the Index Calculation Agent will use the most recent available price.
$FX_{FIR-Lag}^{CCY_i}$	The WMR London 4pm fixing quoted as the number of Index Currency per 1 unit of Index Component i Currency (“ CCY ”) on Index Calculation Day $FIR - Lag$. Where such fixing is not available on the relevant Index Calculation Day, the Index Calculation Agent will use the most recent available fixing.
$FIR - Lag$	The Index Calculation Day falling Lag Index Calculation Days prior to the First Index Rebalancing Day with respect to the relevant Index Rebalancing Period
Lag	2

3.2. Target Number of Shares Calculation During the Rebalancing Period

The composition of the Index is rebalanced on a quarterly basis.

The Target Number of Shares for Index Component i with respect to any Index Rebalancing Day t_{Reb} for the corresponding Rebalancing Period is determined as follows:

$$Target\ NS_{i,t_{Reb}} = NS_{i,FIR-1} + \frac{m \times (Target\ NS_i^{LIR} - NS_{i,FIR-1})}{M}$$

Where:

$Target\ NS_{i,t_{Reb}}$	The Target Number of Shares of Index Component i on Index Rebalancing Day t_{Reb} ;
$NS_{i,FIR-1}$	The Number of Shares of Index Component i falling on the day immediately prior to the First Index Rebalancing Day;
m	The m^{th} day of the Rebalancing Period;
$Target\ NS_i^{LIR}$	The Target Number of Shares on the Last Index Rebalancing Day
M	Prior to the Index Rebalancing Switch Day: 1 On and after the Index Rebalancing Switch Day: 5

3.3. Number of Shares Calculation

3.3.1. Index Rebalancing

The Number of Shares invested in Index Component i with respect to any Index Calculation Day t which is an Index Rebalancing Day is calculated by the Index Calculation Agent according to the following formula:

- With respect to the Index Start Date, the Number of Shares invested in Index Component i is calculated according to the following formula:

$$NS_{i,0} = Weight_{i,0} \times \frac{100}{Price_{i,0} \times FX_0^{CCYi}}$$

- With respect to the relevant Index Rebalancing Period, any Index Calculation Day t which is a valid Index Trading Day from (and including) the First Index Rebalancing Day to (and including) the Last Index Rebalancing Day

$$NS_{i,t} = Target\ NS_{i,t} \times \frac{Index\ Level_t^{investible}}{\sum_i Price_{i,t} \times FX_t^{CCY_i} \times Target\ NS_{i,t}}$$

- With respect to any other Index Calculation Day t , in the absence of any Ordinary Corporate Actions and Extraordinary Corporate Actions:

$$NS_{i,t} = NS_{i,t-1}$$

Where:

$NS_{i,0}$	The Number of Shares of Index Component i on the Index Start Date
$Weight_{i,0}$	The Target Weights of Index Component i on the Index Start Date
$FX_0^{CCY_i}$	The WMR London 4pm fixing quoted as the number of Index Currency per 1 unit of Index Component i Currency (“ CCY $_i$ ”) on the Index Start Date
$NS_{i,t}$	The Number of Shares of Index Component i on Index Calculation Day t
$Target\ NS_{i,t}$	The Target Number of Shares of Index Component i on Index Rebalancing Day t
$Index\ Level_t^{investible}$	The Investible Index Value on Index Calculation Day t
$Price_{i,t}$	The official closing price of Index Component i published by the primary exchange on Index Calculation Day t . Where such price is not available on the relevant Index Calculation Day, the Index Calculation Agent will use the most recent available price
$FX_t^{CCY_i}$	The WMR London 4pm fixing quoted as the number of Index Currency per 1 unit of Index Component i Currency (“ CCY $_i$ ”) on Index Calculation Day t . Where such fixing is not available on the relevant Index Calculation Day, the Index Calculation Agent will use the most recent available fixing.
$NS_{i,t-1}$	The Number of Shares of Index Component i on Index Calculation Day $t - 1$;
$Price_{i,t}$	The official closing price of Index Component i published by the primary exchange on Index Calculation Day t . Where such price is not available on the relevant Index Calculation Day, the Index Calculation Agent will use the most recent available price

3.4. Index Value Calculation

3.4.1. Index Value

The Index Value with respect to any Index Calculation Day t is calculated by the Index Calculation Agent according to the following formula:

- In respect of the Index Start Date:

$$IndexLevel_0 = 100$$

- In respect of any following Index Calculation t

$$IndexLevel_t = \sum_i Price_{i,t} \times FX_t^{CCY_i} \times NS_{i,t-1} \times AF_{i,t}$$

$IndexLevel_0$	The Index Value on the Index Start Date;
$IndexLevel_t$	The Index Value on Index on Index Calculation Day t ;
$Price_{i,t}$	The official closing price of Index Component i published by the primary exchange on Index Calculation Day t . Where such price is not available on the relevant Index Calculation Day, the Index Calculation Agent will use the most recent available price
$FX_t^{CCY_i}$	The WMR London 4pm fixing quoted as the number of Index Currency per 1 unit of Index Component i Currency (“ CCY ”) on Index Calculation Day t . Where such fixing is not available on the relevant Index Calculation Day, the Index Calculation Agent will use the most recent available fixing.
$NS_{i,t-1}$	The Number of Shares of Index Component i on Index Calculation Day $t - 1$;
$AF_{i,t}$	The Adjustment Factor linked to Corporate Actions of Index Component i on Index Calculation Day t as further described in Section 4;

3.4.2. Rebalancing Cost Calculation

The Rebalancing Cost to any Index Rebalancing Day is calculated by the Index Calculation Agent according to the following formula:

- In respect of any Index Calculation Day t which is an Index Rebalancing Day:

$$Cost_t = \sum_i RC \times \left| \frac{Target\ NS_{i,t} \times IndexLevel_t}{\sum_i Price_{i,t} \times FX_t^{CCY_i} \times Target\ NS_{i,t}} - NS_{i,t-1} \times AF_{i,t} \right| \times Price_{i,t} \times FX_t^{CCY_i}$$

- Otherwise:

$$Cost_t = 0$$

Where:

$Cost_t$ The Rebalancing Cost on Index Calculation Day t ;
 RC 0.05%

3.4.3. Investible Index Value

The Investible Index Value with respect to any Index Calculation Day t is calculated by the Index Calculation Agent according to the following formula:

- In respect of the Index Start Date:

$$IndexLevel_0^{Investible} = 100$$

- In respect of any following Index Calculation t :

$$IndexLevel_t^{Investible} = IndexLevel_t - Cost_t$$

$IndexLevel_0^{Investible}$ The Investible Index Value on the Index Start Date;

$IndexLevel_t^{Investible}$ The Investible Index Value on Index on Index Calculation Day t ;

$IndexLevel_t$ The Index Value on Index on Index Calculation Day t .

$Cost_t$ The Rebalancing Cost on Index Calculation Day t ;

4. Adjustments Linked to Corporate Actions

4.1. Ordinary Corporate Actions

Each of the events described in Sections 4.1.1. to 4.1.4 shall be Ordinary Corporate Actions.

4.1.1. Dividends and other distributions

With respect to any Index Calculation Day t where an Index Component is subject to a dividend payment, the Number of Shares invested in Index Component i which is subject to a corporate action is calculated by the Index Calculation Agent according to the following formula:

$$NS_{i,t} = NS_{i,t-1} \times \frac{Price_{i,t} + Dividend_{i,t} \times [1 - WHT_{i,t}]}{Price_{i,t}}$$

Where:

$NS_{i,t}$ The Number of Shares of Index Component i on Index Calculation Day t ;

$NS_{i,t-1}$ The Number of Shares of Index Component i on Index Calculation Day $t - 1$;

$Price_{i,t}$ The official closing price of Index Component i published by the primary exchange on Index Calculation Day t ;

$Dividend_{i,t}$ The dividend amount in respect of Index Component i paid from (but excluding) Index Calculation Day $t-1$ to (and including) Index Calculation Day t as determined by the Index Calculation Agent;

$WHT_{i,t}$ Where the Index is a Format whose type is “**Net Total Return**”:
The rate of withholding tax applicable on Index Calculation Day t for dividends paid by Index Component i to non-resident individuals who do not benefit from double taxation treaties.

Where the Index is a Format whose type is “**Gross Total Return**”:

0

Where the Index is a Format whose type is “**Price Return**”:

- Where the dividend is deemed ordinary: 1
- Where the dividend is deemed special or extraordinary, the rate of withholding tax applicable on Index Calculation Day t for dividends paid by Index Component i to non-resident individuals who do not benefit from double taxation treaties.

4.1.2. Capital Increases

With respect to any Index Calculation Day t where an Index Component is subject to a Capital Increase, the Number of Shares invested in Index Component i which is subject to a corporate action is calculated by the Index Calculation Agent according to the following formula:

$$NS_{i,t} = NS_{i,t-Cl} \times \frac{Price_{i,t}}{Price_{i,t-Cl} - rB_i}$$

Where:

$$rB_i = \frac{Price_{i,t} - B_i}{BV_i + 1}$$

$Price_{i,t}$	The official closing price of Index Component i published by the primary exchange on Index Calculation Day t ;
$Price_{i,t-Cl}$	The closing price of Index Component i on Index Calculation t prior to any Capital Increase;
$NS_{i,t-Cl}$	The Number of Shares of Index Component i on Index Calculation day t prior to any Capital Increase
rB_i	The calculated value of the rights issues for Index Component i on Index Calculation Day $t-1$;
B_i	The price of the rights issue for Index Component i
BV_i	The subscription ratio for Index Component i on Index Calculation Day $t-1$

4.1.3. Capital Reduction

With respect to any Index Calculation Day t where an Index Component is subject to a Capital Reduction, the Number of Shares invested in Index Component i which is subject to a corporate action is calculated by the Index Calculation Agent according to the following formula:

$$NS_{i,t} = NS_{i,t-1} \times \frac{1}{H_{i,t}}$$

Where:

$H_{i,t}$ The reduction ratio of the Index Component i on Index Calculation Day t.

4.1.4. Share Splits and Par Value Conversions

With respect to any Index Calculation Day t where an Index Component is subject to a Share Split and Par Value Conversion, the Number of Shares invested in Index Component i which is subject to a corporate action is calculated by the Index Calculation Agent according to the following formula:

$$NS_{i,t} = NS_{i,t-SP} \times \frac{V_{i,t-SP}}{V_{i,t}}$$

Where:

$V_{i,t}$ The new par value of Index Component i on Index Calculation Day t

$V_{i,t-SP}$ The former par value of Index Component i prior to any Share Split and Par Value Conversion on Index Calculation Day t

$NS_{i,t-SP}$ The Number of Shares of Index Component i on Index Calculation day t prior to any Share Split and Par Value Conversion

4.2. Extraordinary Corporate Actions

The Extraordinary Corporate Actions described in this Section reflect the "Guideline for Extraordinary Corporate Actions" (Version 1.1, March 2nd 2018) published by the Index Calculation Agent (the "**Guidelines**"). The Index Calculation Agent may amend or revise the Guidelines from time to time and notwithstanding the provisions set out in this Section 4.2, the Calculation Agent may take into account any such revised or amended Guidelines in making the relevant determinations, notifications and/or or adjustments in connection with any extraordinary corporate action. The latest version of the Guidelines is available on the following web site under "Guideline for Extraordinary Corporate Actions" (<https://www.solactive.com/news/documents/>).

The Index Calculation Agent uses best efforts to provide accurate information about Extraordinary Corporate Actions in a timely manner. Extraordinary Corporate Actions such as ad-hoc de-listings, unspecified listing dates for Spun-off Companies, or undisclosed, incomplete or mismatched transactions terms require a high level of flexibility and short reaction times. In case an extraordinary corporate action occurs and is not as set out below or in the Guidelines, the Index Calculation Agent reserves the right to make adjustments to the relevant Index in an appropriate way on a best-effort basis and shall notify the Index Sponsor of such adjustments.

"**Extraordinary Corporate Actions**" refer to each of the following events:

- a Merger
- a Takeover bid

- a Spin-Off
- a Delisting
- a Nationalisation
- Insolvency
- Squeeze Out
- Tender Offer.

An Index Component is delisted and a "**Delisting**" shall occur 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 Calculation Agent.

"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 Calculation Agent based on notices submitted to public or self-regulatory authorities or other information considered by the Index Calculation Agent to be relevant.

With respect 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.

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

A **"Squeeze Out"** will occur where the acquiring company initiates a squeeze-out procedure for the remaining outstanding shares of the target company.

A **"Tender Offer"** will occur where the results of the tender offer are announced, the offer is successful and the free float of the target company falls below 15%.

4.2.1. Timing of Index Adjustment

As soon as reasonably practicable following the actual occurrence of an Extraordinary Corporate Action, the Index Calculation Agent shall notify the Index Sponsor of the date on which an adjustment to the relevant Index shall be made, which shall be no earlier than 2 London Business Days following the notification date. The closing prices of the relevant Index Component on the day falling 2 London Business Days following the notification date by the Index Calculation Agent shall form the basis for any adjustment to the relevant impacted Index.

Should sufficient notice of Extraordinary Corporate Actions be available, the Index Calculation Agent will give notice so that the effective date of the adjustment to the relevant Index will coincide with the completion date of such Extraordinary Corporate Action. The Index Calculation Agent retains the ability to give notice of the anticipated occurrence of an Extraordinary Corporate Action at an earlier date and, by extension, electing an effective date for the adjustment to the relevant Index that precedes the actual completion date of the Extraordinary Corporate Action should it determine that doing so will aid clarity and prevent unnecessary delays for the Index Sponsor.

4.2.2. Standard Treatment of Mergers and Takeover bids

Where an Index Component is subject to a (i) Merger, (ii) Takeover bid, (iii) Tender Offer or (iv) Squeeze Out, the legal entity that is being acquired or, as the case may be, squeezed out will be removed from the relevant Index on the effective date as announced by the Index Calculation Agent. The relevant Index is subject to further adjustments in accordance with the following cases:

1. Merger, Takeover bid, Squeeze Out or acquisition by way of Tender Offer of an Index Component with or by another Index Component in the same Index
 - a. **Cash terms:** The weight of the target company / target Index Component based on its last closing price will be allocated on a *pro rata* basis across the remaining Index Components

- b. **Stock terms:** The Number of Shares of the acquiring company / acquiring Index Component will be increased according to the offer terms
 - c. **Cash and Stock terms:** The cash portion will be reinvested *pro rata* across the remaining Index Components. The Number of shares of the acquiring company / acquiring Index Component will be increased according to the offer terms
- 2. Merger, Takeover bid, Squeeze Out or acquisition by way of Tender Offer of an Index Component with or by another non-Index Component
 - a. **Cash terms:** The weight of the target company / target Index Component based on its last closing price is allocated on a *pro rata* basis across the remaining Index Components
 - b. **Stock terms:** The weight of the target company / target Index Component based on its last closing price is allocated *pro rata* across the remaining Index Components
 - c. **Cash and Stock terms:** The weight of the target company / target Index Component based on its last closing price is allocated on a *pro rata* basis across the remaining Index Components

The Nationalisation of an Index Component shall be treated in the same manner as a Merger, Takeover bid, or acquisition of an Index Component with or by another non-Index Component.

4.2.3. Standard Treatment of Spin-Offs

A "Spin-off" will occur if an Index Component (the "**Parent Company**") distributes part of its business or operations into a separate legal entity that is subsequently listed on an exchange, trading or listing system, acceptable to the Index Calculation Agent (the "**Spun-off Company**"), the Spin-off Company will be added to the Index on the effective date of the Spin-off as per the terms of the relevant Spin-off transaction.

The Parent Company will remain in the Index unchanged. The Spun-off Company will remain in the Index until the next Index Rebalancing Day.

The Spun-off Company will be added to the relevant Index with a price of 0 initially. The Index Calculation will be switched to official prices once the Spun-off Company starts to trade.

If the Spun-off Company does not start to trade on the effective date, a theoretical price for the Spun-off Company will be implemented by the Index Calculation Agent as a fixed price until trading commences.

If the first trading day of the Spun-off Company remains unknown on the Index Rebalancing Day immediately following the effective date of the Spin-Off, the Spun-off Company will be removed from the relevant Index with a price of 0.

In the event the Spun-off Company is already an existing component of the relevant Index at the time of the Spin-off, the additional shares demerged from the Parent Company will be added to the Spun-off Company (resulting in an increase in the Number of Shares of such Spun-off Company) on the effective date of the Spin-off.

4.2.4. Delisting

If a Delisting occurs, the Index Calculation Agent shall notify the Index Sponsor that the impacted Index Component will be removed from the relevant Index and the weight of such impacted Index Component will be allocated on a *pro rata* basis across the remaining Index Components, in each case, on the date falling 2 London Business Days following the date of notification.

4.2.5. Bankruptcy / Insolvency / Liquidation

If an Insolvency occurs with respect to an Index Component or the Index Component is bankrupt, files for bankruptcy, insolvent or is being liquidated, the Index Calculation Agent will notify the Index Sponsor once it determines the news to be definitive and judges there is no likelihood of trade in the impacted Index Component resuming. Thereafter, the relevant Index Component will be removed from the relevant Index and the weight of such impacted Index Component will be allocated on a *pro rata* basis across the remaining Index Components, in each case, on the date falling 2 London Business Days following the date of notification.

If the impacted Index Component has already been delisted from the corresponding Exchange and / or no valid price for the impacted Index Component is available, the Index Calculation Agent will use a price source for calculating the relevant Index based on alternative liquid markets until the impacted Index Component is removed from the relevant Index. If no appropriate price source for the impacted Index Component is available, the impacted Index Component will be removed with a price of 0 from the relevant Index.

5. Hedged and Beta-Hedged Format Indices

5.1. Funding Calculations

5.1.1. Funding Component Definitions

Funding Calculation Day Any day where the Funding Rate is published on Reuters

Funding Rate

Where the Index Currency is USD:

- The rate for deposits of three months in USD as displayed on Reuters page LIBOR01 (Bloomberg: US0003M)

Where the Index Currency is EUR:

- The rate for deposits of three months in EUR as displayed on Reuters page EURIBOR01 (Bloomberg: EUR003M)

Where the Index Currency is JPY:

- The rate for deposits of three months in JPY as displayed on Reuters page LIBOR01 (Bloomberg: JY0003M)

5.1.2. Funding Component Calculation

The Funding Component Value is calculated by the Index Calculation Agent according to the following formula:

- In respect of the Index Start Date:

$$FC_0 = 1,000$$

In respect of any following Funding Calculation day c:

$$FC_c = FC_{c-1} \times \left[1 + FR_{c-1} \times \frac{D_{c-1,c}}{360} \right]$$

In respect of any Index Calculation Day t, the Funding Component Value is equal to:

- The Funding Component Value of Index Calculation Day t, if Index Calculation Day t is a Funding Calculation Day c
- The following formula otherwise:

$$FC_t = FC_{t_{fc}} \times \left[1 + FR_{t_{fc}} \times \frac{D_{t_{fc},t}}{360} \right]$$

Where:

FC_0 The Funding Component Value on the Index Start Date;

FC_c The Funding Component Value on the Funding Calculation Day c;

FR_{c-1} The Funding Rate on the Funding Calculation Day c-1. Where such rate is not available, the rate will be determined by the Index

	Calculation Agent, taking into considerations the prevailing swap market rates
$D_{c-1,c}$	The number of calendar days from but excluding Funding Calculation Day c-1 to and including Funding Calculation Day c;
FC_t	The Funding Component Value on the Index Calculation Day t;
$FC_{t_{fc}}$	The Funding Component Value on the Funding Calculation Day t_{fc} ;
t_{fc}	The Funding Calculation Day immediately preceding Index Calculation Day t;
$FR_{t_{fc}}$	The Funding Rate on the Funding Calculation Day t_{fc} . Where such rate is not available, the rate will be determined by the Index Calculation Agent, taking into considerations the prevailing swap market rates
$D_{t_{fc},t}$	The number of calendar days from but excluding Funding Calculation Day t_{fc} to and including Index Calculation Day t;

5.2. Definitions

Hedged Index Rebalancing Day	With respect to the relevant Index Start Date, the last Index Trading Day of each month and the Index Start Date.
Long Index Component	With respect to any Index whose Format is Net Hedged or Net Beta-Hedged, the Long Index Component for such Index shall be the same Index but in Net Total Return Format With respect to any Index whose Format is Gross Hedged or Gross Beta-Hedged, the Long Index Component for such Index shall be the same Index but in Gross Total Return Format
Rebalancing Methodology	With respect to a Long Index Component, and in respect of any Hedged Index Rebalancing Day, the Weight is equal to 100%. With respect to a Short Index Component, and in respect of any Hedged Index Rebalancing Day: <ul style="list-style-type: none"> - Where the Format of the Index is specified as Net Hedged or Gross Hedged, the Weight is equal to -100%; - Where the Format of the Index is specified as Net Beta-Hedged or Gross Beta-Hedged, the Weight is calculated based on the beta of such Long Index Component against such Short Index Component, as described in Section 5.3.
Short Index Component	With respect to any Index whose Format is Net Hedged, Net Beta-Hedged, Gross Hedged or Gross Beta-Hedged, the Short Index Component for such Index shall correspond to its relevant Region

as set out in **Table 3: Hedged and Beta Hedged Index Definitions**

Table 3: Hedged and Beta Hedged Index Definitions

Region	Index Currency	Short Index Component (SIC)	Short Cost	Beta Hedged Index Start Date
Global	USD	MSCI World Gross Total Return (Bloomberg: GDDUWI)	-0.35%	6 February 2003
Europe	EUR	MSCI Europe Gross Total Return (Bloomberg: M8EU)	-0.35%	28 February 2003
US	USD	MSCI US Gross Total Return (Bloomberg: GDDUUS)	-0.35%	28 February 2003
Japan	JPY	MSCI Japan Gross Total Return (Bloomberg: GDDLJN)	0.00%	28 February 2003

5.3. Covariance and Variance Calculation

5.3.1. Return Calculation

On any Index Calculation Day t , each Index Component Return is calculated by the Index Calculation Agent as:

$$\text{Return}_{i,t} = \ln \left(\frac{IC_{i,t}}{IC_{i,t-1}} \right)$$

Where:

$\text{Return}_{i,t}$ The Index Component Return of Index Component i on Index Calculation Day t

$IC_{i,t}$ The Index Component Value of Index Component i on Index Calculation Day t . Where such Index Component Value is not available on the relevant Index Calculation Day, the relevant Index Component Value will be the Index Component Value of Index Component i in respect of the immediate preceding Index Calculation Day for which an Index Component Value is available.

$IC_{i,t-1}$ The Index Component Value of Index Component i on Index Calculation Day $t - 1$. Where such Index Component Value is not available on the relevant Index Calculation Day, the relevant Index Component Value will be the Index Component Value of Index Component i in respect of the immediate preceding Index Calculation Day for which an Index Component Value is available.

5.3.2. Exponential Volatility Calculation Method

On any Index Calculation Day t , the Realised Volatility of an Index Component i is calculated by the Index Calculation Agent as follows:

- With respect to the Initialisation Date:

$$\sigma_{i,0} = 0$$

- With respect to any following Index Calculation Day t:

$$\sigma_{i,t} = \sqrt{\lambda \times \sigma_{i,t-1}^2 + 252 \times (1 - \lambda) \times \text{Return}_{i,t}^2}$$

Where:

$\sigma_{i,t}$	The Realised Volatility of Index Component i on Index Calculation Day t;
λ	0.995
Initialisation Date	The Index Start Date of the relevant Long Index Component

5.3.3. Exponential Covariance Calculation

On any Index Calculation Day t, the Realised Covariance between the Long Index Component and the Short Index Component is calculated by the Index Calculation Agent as:

- With respect to the Initialisation Date:

$$COV_{L,S,0} = 0$$

- With respect to any following Index Calculation Day t:

$$COV_{L,S,t} = \lambda \times COV_{L,S,t-1} + 252 \times (1 - \lambda) \times \text{Return}_{L,t} \times \text{Return}_{S,t}$$

Where:

$COV_{L,S,t}$	The Realised Covariance between the Long Index Component and the Short Index Component on Index Calculation Day t;
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5.4. Weight Calculation

5.4.1. Hedged Indices (being any Index whose Format is Net Hedged or Gross Hedged)

With respect to Hedged Indices, the Weight of each Index Component is calculated by the Index Calculation Agent as follows:

- With respect to the Long Index Component, the Weight is equal to 100% on any Hedged Index Rebalancing Day t_{HReb} :
- With respect to the Short Index Component, the Weight is calculated on any Hedged Index Rebalancing Day t_{HReb} as follows :

$$W_{S,t_{HReb}} = -100\%$$

Where:

$W_{S,t_{HReb}}^H$ The Weight of the Short Component on Hedged Index Rebalancing Day t_{HReb} ;

5.4.2. Beta-Hedged Indices (being any Index whose Format is Net Beta-Hedged or Gross Beta-Hedged)

With respect to Beta-Hedged Indices, the Weight of each Index Component is calculated by the Index Calculation Agent as follows:

- With respect to the Long Index Component, the Weight is equal to 100% on any Hedged Index Rebalancing Day t_{HReb}
- With respect to the Short Index Component, the Weight is calculated on any Hedged Index Rebalancing Day t_{HReb} as follows :

$$W_{S,t_{HReb}} = -\frac{COV_{L,S,t_{HReb}-Lag}}{\sigma_{S,t_{HReb}-Lag}^2}$$

Where:

$COV_{L,S,t_{HReb}-Lag}$ The Realised Covariance between the Long Index Component and the Short Index Component on Lag days prior to the Hedged Index Rebalancing Day t_{HReb} ;

$\sigma_{S,t_{HReb}-Lag}$ The Realised Volatility of the Short Index Component on Lag days prior to the Hedged Index Rebalancing Day t_{HReb} ;

5.5. Calculation of the Hedged Indices and Beta-Hedged Indices Values

5.5.1. Unit Calculation

With respect to the Index Start Date, the Number of Units invested in Index Component i is calculated by the Index Calculation Agent according to the following formula:

$$N_{i,0} = W_{i,0} \times \frac{Index_0}{IC_{i,0}}$$

With respect to any Index Calculation Day t which is a Hedged Index Rebalancing Day t_{HReb} , the Number of Units invested in Index Component i is calculated according to the following formula:

$$N_{i,t_{HReb}} = W_{i,t_{HReb}} \times \frac{Index_{t_{HReb}-Lag}}{IC_{i,t_{HReb}-Lag}}$$

With respect to any other Index Calculation Day:

$$N_{i,t} = N_{i,t-1}$$

Where:

$N_{i,0}$	Number of Units of Index Component i in the Index in respect of the Index Start Date;
$W_{i,0}$	Weight of Index Component i in the Index in respect of the Index Start Date;
$Index_0$	The Index Value in respect of the Index Start Date;
$IC_{i,0}$	The Index Component Value in respect of the Index Start Date;
$W_{i,t_{HReb}}$	Weight of Index Component i in the Index in respect of Hedged Index Rebalancing Day t_{HReb} ;
$Index_{t_{HReb}-Lag}$	The Index Value on Index Calculation Day $t_{HReb} - Lag$;
$IC_{i,t_{HReb}-Lag}$	The Index Component Value of Index Component i on Index Calculation Day $t_{HReb} - Lag$;
$t_{HReb} - Lag$	The Index Calculation Day falling Lag Index Calculation Days prior to Hedged Index Rebalancing Day t_{HReb} .
$N_{i,t}$	Number of Units of Index Component i in the Index in respect of Index Calculation Day t ;
$N_{i,t-1}$	Number of Units of Index Component i in the Index in respect of Index Calculation Day $t-1$.

5.5.2. Index Performance

The Index Performance from the Index Calculation Day $t-1$ immediately preceding Index Calculation Day t to Index Calculation Day t , is calculated by the Index Calculation Agent according to the following formula:

$$Perf_{t-1,t} = N_{L,t-1} \times (IC_{L,t} - IC_{L,t-1}) + N_{S,t-1} \times (IC_{S,t} - IC_{S,t-1})$$

Where:

$Perf_{t-1,t}$ The Index Performance from Index Calculation Day t-1 to Index Calculation Day t.

5.5.3. Funding Cost

The Funding Cost is calculated by the Index Calculation Agent according to the following formulae:

$$TRE_t = N_{L,t} \times IC_{L,t} + N_{S,t} \times IC_{S,t}$$

And:

$$FundingCost_{t-1,t} = TRE_{t-1} \times \left(\frac{FC_t}{FC_{t-1}} - 1 \right)$$

Where:

$FundingCost_{t-1,t}$ Funding Cost from Index Calculation Day t-1 to Index Calculation Day t;

TRE_t Total Return Exposure on Index Calculation Day t;

FC_t Funding Component Value on Index Calculation Day t;

FC_{t-1} Funding Component Value on Index Calculation Day t-1;

5.5.4. Rebalancing Cost

The Hedged Index Rebalancing Cost is calculated by the Index Calculation Agent according to the following formula:

- In respect of the Index Start Date:

$$RC_0^H = 0$$

- In respect of any following Index Calculation Day t:

$$RC_t^H = \sum_{i=1}^N TF \times |N_{i,t-1} - N_{i,t}| \times IC_{i,t}$$

Where:

RC_t^H Hedged Index Rebalancing Cost on Index Calculation Day t;

RC_0^H Hedged Index Rebalancing Cost on Index Start Date;

TF 0.05%;

5.5.5. Aggregate Cost

The Aggregate Cost in respect of any Index Calculation Day t is calculated by the Index Calculation Agent according to the following formula:

$$AC_{t-1,t} = (|N_{L,t-1}| \times IC_{L,t-1} \times LC + |N_{S,t-1}| \times IC_{S,t-1} \times SC) \times \frac{D_{t-1,t}}{365}$$

Where:

$AC_{t-1,t}$	The Aggregate Cost from Index Calculation Day t-1 to Index Calculation Day t;
LC	The Long Cost and is equal to 0.50% with respect to the Indices whose format is Net Hedged and Net Beta Hedged. The Long Cost is 0.0% otherwise;
SC	With respect to the Indices whose format is Net Hedged and Net Beta Hedged, the Short Cost as defined in Table 3: Hedged and Beta Hedged Index Definitions . The Short Cost is 0.0% otherwise.
$D_{t-1,t}$	The number of calendar days from but excluding Index Calculation Day t-1 to and including Index Calculation Day t.

5.5.6. Index Value

The Index Value is calculated by the Index Calculation Agent according to the following formula:

- In respect of the Index Start Date:

$$Index_0 = 1,000$$

- in respect of any following Index Calculation Day t:

$$Index_t = Index_{t-1} + Perf_{t-1,t} - FundingCost_{t-1,t} - RC_{t-1}^H - AC_{t-1,t}$$

Where:

$Index_0$	Index Value on the Index Start Date ;
$Index_t$	Index Value on Index Calculation Day t;
$Index_{t-1}$	Index Value on Index Calculation Day t-1;

6. Publication of the Index Values

The Index Calculation Agent retains the right to delay publication of an Index if it reasonably believes there are circumstances that prevent the correct calculation of such Index.

Each Index will be calculated by the Index Calculation Agent and published on Bloomberg Calculation and publication of each Index in respect of each Index Calculation Day t is expected to take place on the Index Calculation Day following the relevant Index Calculation Day t .

In the event that an Index Value is published by the Index Calculation Agent and is amended after it is initially published, such amended Index Value will be considered the official fixing level and used in all applicable calculations. In the event that the published value of any Index Component or other Index input that could impact a calculation of an Index Value, is changed or amended in respect of a time period prior to the day on which such Index Value is being determined, the Index Calculation Agent shall be under no obligation to recalculate such Index Value or make any corresponding adjustment to such Index Value in order to take account of such change by altering such Index Value. The Index Calculation Agent, in consultation with the Index Committee, nonetheless, will have the discretion to make appropriate adjustments in good faith and in order to achieve a commercially reasonable outcome and (where there is a corresponding applicable regulatory obligation) shall take into account whether fair treatment is achieved by any such adjustment in accordance with its applicable regulatory obligations, in any particular situation, in light of the facts and circumstances of such situation.

Each Index may be replaced by a successor index.

6.1. Index Precision

The respective Index Values will be rounded to 2 decimal places when published.

7. Amendment of the Index Rules; Index Component Substitution; Withdrawal of an Index

The Index Sponsor may in consultation with the Index Committee, supplement, amend (in whole or in part), revise, rebalance or withdraw an Index at any time if one of the following occurs:

- a) there is any event or circumstance that in the determination of the Index Sponsor makes it impossible or impracticable to calculate any such Index pursuant to the Index Rules;
- b) a change to the Index Rules is required to address an error, ambiguity or omission in the determination of the Index Sponsor;
- c) the Index Sponsor determines that an Extraordinary Event has occurred; or
- d) the Index Sponsor determines that an Index Component Disruption Event has occurred.

A supplement, amendment, revision or rebalancing may lead to a change in the way the Index is calculated or constructed. Such changes may include, without limitation, substitution of an Index Component, or changes to the relevant Strategy.

“Index Component Disruption Event” means an Equity Disruption Event.

“Extraordinary Event” means any of the following events or circumstances:

- a) change in either (i) the liquidity of any Index Component (including the application of any gating, side-pocketing or other similar arrangement), (ii) the form of payment of a transaction linked to any Index Component, or (iii) the trading volume, terms or listing of any Index Component;
- b) change in any applicable law or regulation, or any decision or promulgation of any change in the interpretation by any court, tribunal or regulatory authority of any applicable law or regulation;
- c) any event or circumstance that means the value of an Index Component is, in the determination of the Index Sponsor, unreliable;
- d) an Index Component is permanently discontinued or otherwise unavailable;
- e) change in the method by which the value of an Index Component is calculated;
- f) any event that, in the determination of the Index Sponsor (and/or its affiliates), has a material adverse effect on the ability of a market participant to establish, maintain, value, rebalance or unwind a hedge position (which may include physical investments or entering into futures contracts or OTC derivatives) in relation to an investment product linked to such Index;
- g) any other event which, either (i) in the determination of the Index Sponsor has a material adverse impact on the ability of the Index Calculation Agent, or Index Sponsor to perform its duties, or (ii) in the determination of the Index Sponsor, serves to frustrate or affect the purpose or aims of the Index Strategy (for example if the Index Sponsor determines at any time that there is a material risk of an Index Value becoming negative), or (iii) in the determination of the Index Sponsor, the overall notional amount of products linked to such Index falls to a size which renders the continuation of the Index economically unviable for the Index Sponsor.

which, in the case of each of (a) – (e) above, has or will have, as determined by the Index Sponsor in its discretion, a material effect either on the performance of such Index, or the ability of the Index Calculation Agent to calculate the value of such Index, or the ability of such Index to achieve the Index Strategy, or the ability of a hypothetical investor to replicate such Index.

Following any withdrawal of such Index as described above the Index Sponsor may, but is not obliged to do so, replace such Index with a successor index and/or replace the relevant Strategy with a similar successor strategy or an entirely new strategy at any time, as it deems appropriate in its discretion.

8. Index Disruption Events

8.1. Index Disruption

Where, in the determination of the Index Sponsor, an Index Disruption Event has occurred or is existing and subsisting in respect of any Index Calculation Day (a “Disrupted Day”), the Index Sponsor may in respect of such Disrupted Day (i) suspend the calculation and publication of an Index Value and/or (ii) determine an Index Value on the basis of estimated or adjusted data and publish an estimated level of an Index Value and/or, the Index Sponsor may, following such Disrupted Day, take any action including but not limited to designation of alternative price sources, reconstitution of the relevant Index or a temporary change of Weights.

Where the Index Sponsor uses estimated or adjusted data pursuant to this Section 8.1, it shall estimate or adjust such data with the primary intention of maintaining, so far as commercially reasonable, consistency of the exposure of the Index to the Strategy. Any estimate of the value of an Index Component in respect of a Disrupted Day shall be made by the Index Sponsor using the methodology and calculations for determining the value of such Index Component last-in-effect prior to the occurrence of the Disrupted Day.

For these purposes, “Index Disruption Event” means a General Disruption Event, or an Index Component Disruption Event.

8.2. General Disruption Events

In the determination of the Index Sponsor, the following events are each a “General Disruption Event”:

- a) a closure of the money markets denominated in a relevant currency as determined by the Index Sponsor other than for ordinary public holidays, or a restriction or suspension in trading in these markets that would materially impact the determination arising in the construction or calculation of the relevant Index and relevant Index Value;
- b) the failure, suspension or postponement of any calculation within the relevant Index Strategy in respect of any Index Calculation Day, any event resulting in a breakdown in any means of communication or a procedure normally used to enable the determination of an Index Value, any other event, in the determination of the Index Sponsor preventing the prompt or accurate determination of an Index Value, or the Index Sponsor concludes that as a consequence of any such event that the last reported Index Value should not be relied upon; and
- c) the occurrence, in respect of any security, option, futures, derivative or foreign exchange contract or other instrument referenced in the calculation of the relevant Index or any not falling within Sections 8.3 below, of (i) any suspension of or limitation imposed on trading by any relevant exchange or other trading facility, (ii) the closure of any relevant exchange or other trading facility before its scheduled closing time, or (iii) any other event that disrupts or impairs, as determined by the Index Sponsor, the ability of market

participants in general to effect transactions in, or obtain market values for, the relevant contract.

8.3. Equity Disruption Events

In the determination of the Index Sponsor, with respect to any Index Component, the following events are each an “Equity Disruption Event”:

- a) a Market Disruption Event, which the Index Sponsor determines is material, at any time during the one-hour period before the scheduled closing time of the Exchange in respect of such Index Component;
- b) an Early Closure;
- c) a Stock Trading Volume Event;
- d) any event that disrupts or impairs (as determined by the Index Sponsor) the ability of market participants (or the Index Sponsor and/or its affiliates) in general to effect transactions in, or obtain market values for, futures or options contracts referencing an Index Component.

For these purposes:

“Early Closure” means, in respect of an Index Component, the closure on any Exchange Business Day of the Exchange or any Related Exchange prior to its scheduled closing time, unless such earlier closing time is announced by such Exchange or Related Exchange at least one hour prior to the earlier of (i) the actual closing time for the regular trading session on such Exchange or Related Exchange on such Exchange Business Day and (ii) the submission deadline for orders to be entered into the Exchange or Related Exchange system for execution at the scheduled closing time on such Exchange Business Day;

“Exchange Disruption” means any event (other than an Early Closure) that disrupts or impairs, as determined by the Index Sponsor, the ability of market participants in general to effect transactions in, or obtain market values for, any Index Component;

“Exchange” means, in respect of an Index Component the exchange or quotation system on which such Index Component is principally traded;

“Exchange Business Day” means any Scheduled Trading Day on which each Exchange is open for trading during its regular trading sessions, notwithstanding any such Exchange closing before its scheduled closing time;

“Market Disruption Event” means, in respect of an Index Component, the occurrence or existence on any Scheduled Trading Day of a Trading Disruption or an Exchange Disruption.

“Minimum Trading Volume” means USD 5 million three month daily average traded volume.

“Related Exchange” means in relation to an Index Component, each exchange or quotation system where trading has a material effect (as determined by the Index Sponsor) on the overall market for futures or options contracts relating to such Index Component;

“Scheduled Trading Day” means, in respect of any Exchange, any day on which such Exchange is scheduled to be open for trading for its regular trading session;

“Stock Issuer” means in respect of an Index Component, the issuer of such Index Component;

“Stock Trading Volume Event” means, in respect of an Index Component, the average daily trading volume (the product of (i) the average volume of trading in the shares of such Index Component on all exchanges over the preceding 3 month period and (ii) the closing level of such Index Component) declines below the Minimum Trading Volume.

“Trading Disruption” means any suspension of or limitation imposed on trading by the relevant Exchange or otherwise, and whether by reason of movements in price exceeding limits permitted by the relevant Exchange or otherwise, relating to any Index Component on the relevant Exchange.

such calculation, determination, amendment, interpretation and selections in accordance with its applicable regulatory obligations (having regard in each case to the criteria stipulated herein and (where relevant) on the basis of information provided to or obtained by employees or officers of CS responsible for making the relevant calculations, determinations, amendments, interpretations and selections). For the avoidance of doubt, any calculations or determinations made by CS under the Index Rules on an estimated basis may not be revised following the making of such calculation or determination.

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