

# INDEX GUIDELINE

HSBC US Dynamic Hedging 1 Index  
HSBC US Dynamic Hedging 4 Index

Version 1.4

30 September 2025

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## INTRODUCTION

This document (the “**GUIDELINE**”) is to be used as a guideline with regard to the composition, calculation and maintenance of each of the following two indices: (i) HSBC US Dynamic Hedging 1 Index, and (ii) HSBC US Dynamic Hedging 4 Index (each such index, the “**INDEX**”). References herein to the “**INDEX**” shall refer to each INDEX individually and this GUIDELINE shall be construed accordingly. Any amendments to the rules made to the GUIDELINE are approved by the INDEX COMMITTEE specified in Section 5.5. The INDEX is owned by HSBC Bank plc (“**INDEX OWNER**”). The INDEX is calculated, administered and published by Solactive AG (“**SOLACTIVE**”) assuming the role as administrator (the “**INDEX ADMINISTRATOR**”) under the Regulation (EU) 2016/1011 (the “**BENCHMARK REGULATION**” or “**BMR**”). The name “Solactive” is trademarked.

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**or opinion of The INDEX ADMINISTRATOR regarding a possible investment in a financial instrument based on this INDEX.**

*The text uses defined terms which are formatted with "SMALL CAPS". Such Terms shall have the meaning assigned to them as specified in Section 6 (Definitions).*

# 1. INDEX SPECIFICATIONS

## 1.1. SCOPE OF THE INDEX

Category	Description
Asset Class	Equity
Strategy	<p>The INDEX is a rules-based strategy which aims at providing protection against large and sudden downturns on US Equities through a program of systematic put ratio on S&amp;P 500 Index. The INDEX notionally enters into OTC option positions referencing the S&amp;P 500 Index, each option with an expiration date of <math>n</math> days, and notionally holds the position until its expiration date. It also hedges the total delta position of the portfolio at the close of each CALCULATION DAY by purchasing/selling the FIRST FUTURE on the S&amp;P 500 Index.</p> <p>The INDEX is calculated on a notional basis. The investment exposure provided by the INDEX to the OTC options referenced in the INDEX is purely synthetic and an investor in the INDEX will have no rights in respect of any such OTC options. For the avoidance of doubt, any reference herein to options being “entered into” is purely on a notional basis.</p>
Regional Allocation	North America

Table 1 Index Overview

## 1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers

Name	ISIN	Currency	BBG ticker	RIC
HSBC US Dynamic Hedging 1 Index	DE000SL0K781	USD	HSIEUDH1 Index	.HSIEUDH1
HSBC US Dynamic Hedging 4 Index	DE000SL0K799	USD	HSIEUDH4 Index	.HSIEUDH4
HSBC US Dynamic Hedging 1 Indicative Index	DE000SL0RFA7	USD	HSIOUDH1 Index	.HSIOUDH1
HSBC US Dynamic Hedging 4 Indicative Index	DE000SL0RFB5	USD	HSIOUDH4 Index	.HSIOUDH4

Table 2: Index Identifiers

The INDEX is published on the website of the INDEX ADMINISTRATOR ([www.solactive.com](http://www.solactive.com)) and is, in addition, available via the price marketing services of Boerse Stuttgart GmbH and may be distributed to all of its affiliated vendors. Each vendor decides on an individual basis as to whether it will distribute or display the INDEX via its information systems.

Any publication in relation to the INDEX (e.g. notices, amendments to the GUIDELINE) will be available at the website of the INDEX ADMINISTRATOR: <https://www.solactive.com/news/announcements/>.

### 1.3. INITIAL LEVEL OF THE INDEX

The initial level of the INDEX on the START DATE is 100. Historical values from the LIVE DATE will be recorded in accordance with Article 8 of the BMR. Levels of the INDEX published for a period prior to the LIVE DATE have been back-tested using EXCHANGE PRICES<sup>1</sup>.

### 1.4. PRICES AND CALCULATION FREQUENCY

The levels of the HSBC US DYNAMIC HEDGING 1 INDEX and HSBC US DYNAMIC HEDGING 4 INDEX are calculated in respect of each CALCULATION DAY  $t$  and is published at 09:00 a.m. CET on the CALCULATION DAY immediately following CALCULATION DAY  $t$ . The level of the INDEX is based on the EXCHANGE PRICES on the EXCHANGES on which the INDEX COMPONENTS are listed as outlined in Section 4.1.

The levels of the HSBC US DYNAMIC HEDGING 1 INDICATIVE INDEX and HSBC US DYNAMIC HEDGING 4 INDICATIVE INDEX are calculated in respect of each CALCULATION DAY  $t$  and is published at 05:00 p.m. EST on the CALCULATION DAY  $t$ .

### 1.5. LICENSING

Licenses to use the INDEX as the underlying value for financial instruments, investment funds and financial contracts may be issued to stock exchanges, banks, financial services providers and investment houses by the INDEX OWNER.

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<sup>1</sup> Levels of the INDEX prior to 9<sup>th</sup> January 2020 were provided by the INDEX OWNER

## 2. INDEX SELECTION

### 2.1. SELECTION OF THE INDEX COMPONENTS

In respect to each CALCULATION DAY  $t$ , the Strategy shall make the following notional investments:

- Short notional position in Put Option (“**OPTION  $Q_t$** ”) is entered into with the following properties:
  - TRADE DATE  $TR_Q$  of the OPTION  $Q_t$  is CALCULATION DAY  $t$
  - EXPIRATION DATE  $TE_Q$  of the OPTION  $Q_t$  entered into on CALCULATION DAY  $t$  is the  $n$ -th CALCULATION DAY following CALCULATION DAY  $t$

Where  $n$ : is the TARGET EXPIRY DAYS as specified in Table 4: Index Parameters

- The STRIKE PRICE  $K_{Q_t}$  of the OPTION  $Q_t$  entered on CALCULATION DAY  $t$  is calculated in accordance with the following formula:

$$K_{Q_t} = Cap_s \times UI_{t-1}$$

With:

$Cap_s$ : SHORT PUT STRIKE CAP for the respective index as specified in Table 4: Index Parameters

$UI_{t-1}$ : means the UNDERLYING INDEX CLOSING LEVEL in respect of the CALCULATION DAY immediately preceding CALCULATION DAY  $t$

- CALCULATION DAY  $t$  is not a Half Trading Day<sup>2</sup>
- Long notional position in Put Option (“**OPTION  $Q_t$** ”) is entered into with the following properties:
  - TRADE DATE  $TR_Q$  of the OPTION  $Q_t$  is CALCULATION DAY  $t$
  - EXPIRATION DATE  $TE_Q$  of the OPTION  $Q_t$  entered into on CALCULATION DAY  $t$  is the  $n$ -th CALCULATION DAY following CALCULATION DAY  $t$

Where  $n$ : is the TARGET EXPIRY DAYS as specified in Table 4: Index Parameters

- The STRIKE PRICE  $K_{Q_t}$  of the OPTION  $Q_t$  entered on CALCULATION DAY  $t$  is calculated in accordance with the following formula:

$$K_{Q_t} = Cap_l \times UI_{t-1}$$

With:

$Cap_l$ : LONG PUT STRIKE CAP for the respective index as specified in Table 4: Index Parameters

$UI_{t-1}$ : means the UNDERLYING INDEX CLOSING LEVEL in respect of the CALCULATION DAY immediately preceding CALCULATION DAY  $t$

- CALCULATION DAY  $t$  is not a Half Trading Day

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<sup>2</sup> Half trading day treatment is applied effective from 27 June 2025



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- Hedges the total delta position of the portfolio at the close by purchasing/selling the FRONT FUTURE on the S&P 500 Index.

The Strike Price  $K_{Q_t}$  shall be rounded to the nearest dollar (half-way values rounded up)

## 2.2. NUMBER OF UNITS OF THE INDEX COMPONENTS

In relation to CALCULATION DAY  $t$ , the NUMBER OF UNITS  $Units_{t,Q_t}$  in respect of Option  $Q_t$  traded on CALCULATION DAY  $t$  will be calculated in accordance with the following formula:

$$Units_{t,Q_t} = \begin{cases} \text{Min} \left( -\frac{Index_{t-1}}{UI_{t-1}} \times \frac{1}{n} \times Leverage_t; 0 \right) & \text{if Option } Q_t \text{ is sold} \\ \text{Max} \left( \frac{Index_{t-1}}{UI_{t-1}} \times \frac{1}{n} \times Leverage_t; 0 \right) & \text{if Option } Q_t \text{ is purchased} \end{cases}$$

With:

*Min*: means the MINIMUM FUNCTION

*Max*: means the MAXIMUM FUNCTION

*Index<sub>t-1</sub>*: means the level of the INDEX in respect of the CALCULATION DAY immediately preceding CALCULATION DAY t

*UI<sub>t-1</sub>*: means the UNDERLYING INDEX CLOSING LEVEL in respect of the CALCULATION DAY immediately preceding CALCULATION DAY t

*n*: means the TARGET EXPIRY DAYS as specified in Table 4: Index Parameters

*Leverage<sub>t</sub>*: means the LEVERAGE value of Put OPTION *Q<sub>t</sub>* in respect of the CALCULATION DAY t

### 2.2.1. Leverage

In relation to a CALCULATION DAY t, the LEVERAGE *Leverage<sub>t</sub>* of Put Option *Q<sub>t</sub>* is calculated in accordance with the following formula:

$$Leverage_t = \begin{cases} 1 & \text{if Option } Q_t \text{ is sold} \\ \text{Min} \left( \text{Max} \left( \frac{PX_{t-1,Q_{short}}}{PX_{t-1,Q_{long}}}; Floor_l \right), Cap_l \right) & \text{if Option } Q_t \text{ is purchased} \end{cases}$$

With:

*Min*: means the MINIMUM FUNCTION

*Max*: means the MAXIMUM FUNCTION

*P<sub>Q<sub>short,t-1</sub></sub>*: means the PRICE of Put OPTION *Q<sub>t</sub>* sold in respect of the CALCULATION DAY immediately preceding CALCULATION DAY t

*P<sub>Q<sub>long,t-1</sub></sub>*: means the PRICE of Put OPTION *Q<sub>t</sub>* purchased in respect of the CALCULATION DAY immediately preceding CALCULATION DAY t

*Floor<sub>l</sub>*: means 2

*Cap<sub>l</sub>*: means 6

## 3.REBALANCE

### 3.1. ORDINARY REBALANCE

No ordinary rebalance takes place.

### 3.2. EXTRAORDINARY REBALANCE

No extraordinary rebalance takes place.

## 4. CALCULATION OF THE INDEX

### 4.1. INDEX FORMULA

In relation to CALCULATION DAY  $t$ , the level of the INDEX  $Index_t$  is calculated in accordance with the following formula:

- In relation to the START DATE  $t_0$ :

$$Index_{t_0} = 100$$

- In relation to any following CALCULATION DAY  $t$ :

$$Index_t = Index_{t_0} + RealisedPnL_t + PortfolioMtM_t + DeltaPnL_t$$

With:

$Index_{t_0}$ : means the level of the INDEX in respect of the START DATE  $t_0$

$RealisedPnL_t$ : the REALISED PNL in respect of CALCULATION DAY  $t$

$PortfolioMtM_t$ : the PORTFOLIO MARK-TO-MARKET in respect of CALCULATION DAY  $t$

$DeltaPnL_t$ : the DELTA PNL in respect of CALCULATION DAY  $t$

#### 4.1.1. Realised PnL

The REALISED PNL is calculated in accordance with the following formula:

- In relation to the START DATE  $t_0$ :

$$RealisedPnL_{t_0} = 0$$

- In relation to any following CALCULATION DAY  $t$ :

$$RealisedPnL_t = RealisedPnL_{t-1} + \sum_{Q \in EOP_t} Units_{TR_Q, Q} \times (Payout_Q - NP_{TR_Q, Q})$$

With:

$RealisedPnL_{t-1}$ : the REALISED PNL in respect of the CALCULATION DAY immediately preceding CALCULATION DAY  $t$

$EOP_t$ : each OPTION  $Q$  comprising the EXITING OPTION PORTFOLIO in respect of CALCULATION DAY  $t$

$Units_{TR_Q, Q}$ : the NUMBER OF UNITS in respect of OPTION  $Q$  traded on TRADE DATE  $TR_Q$

$Payout_Q$ : the PAYOUT of OPTION  $Q$

$NP_{TR_Q, Q}$ : the NET PREMIUM in respect to TRADE DATE  $TR_Q$  and OPTION  $Q$

#### 4.1.2. Continuing Option Portfolio

In relation to CALCULATION DAY  $t$ , the CONTINUING OPTION PORTFOLIO  $COP_t$  is the set comprising of those OPTIONS  $Q$  that each satisfy the following criteria:

- TRADE DATE ( $TR_Q$ ) in respect of OPTION  $Q$  falls on or prior to CALCULATION DAY  $t$
- EXPIRATION DATE ( $TE_Q$ ) in respect of OPTION  $Q$  falls after CALCULATION DAY  $t$

#### 4.1.3. Exiting Option Portfolio

In relation to CALCULATION DAY  $t$  the EXITING OPTION PORTFOLIO  $EOP_t$  is the set comprising of those OPTIONS  $Q$  that each satisfy the following criteria:

- TRADE DATE ( $TR_Q$ ) in respect of OPTION  $Q$  falls prior to CALCULATION DAY  $t$
- EXPIRATION DATE ( $TE_Q$ ) in respect of OPTION  $Q$  falls on CALCULATION DAY  $t$

#### 4.1.4. New Option Portfolio

In relation to CALCULATION DAY  $t$ , the NEW OPTION PORTFOLIO  $NOP_t$  is the set comprising of those OPTIONS  $Q$  that each satisfy the following criteria:

- TRADE DATE ( $TR_Q$ ) in respect of OPTION  $Q$  falls on CALCULATION DAY  $t$

#### 4.1.5. Portfolio Mark-To-Market

In relation to CALCULATION DAY  $t$ , the PORTFOLIO MARK-TO-MARKET  $PortfolioMtM_t$  is calculated in accordance with the following formula:

$$PortfolioMtM_t = \sum_{Q \in COP_t} Units_{TR_Q, Q} \times (PX_{t, Q} - NP_{TR_Q, Q}) \times DF_{t, TE_Q}$$

With:

$DF_{t, TE_Q}$ : DISCOUNT FACTOR in respect to EXPIRATION DATE  $TE_Q$  of OPTION  $Q$  as of CALCULATION DAY  $t$ .

$COP_t$ : each Option  $Q$  comprising the CONTINUING OPTION PORTFOLIO in respect of CALCULATION DAY  $t$

$Units_{TR_Q, Q}$ : the NUMBER OF UNITS in respect of OPTION  $Q$  traded on TRADE DATE  $TR_Q$

$PX_{t, Q}$ : the PRICE of OPTION  $Q$  in respect of CALCULATION DAY  $t$

$NP_{TR_Q, Q}$ : the NET PREMIUM in respect to TRADE DATE  $TR_Q$  and OPTION  $Q$

#### 4.1.6. Payout

In relation to OPTION  $Q$  the PAYOUT  $Payout_Q$  is calculated in accordance with the following formula:

$$Payout_Q = \begin{cases} \text{Max}(0, K_Q - USI_{TE_Q}) & \text{if type of Option } Q \text{ is Put} \\ \text{Max}(0, USI_{TE_Q} - K_Q) & \text{if type of Option } Q \text{ is Call} \end{cases}$$

With:

$Max$ : means the MAXIMUM FUNCTION

$USI_{TE_Q}$ : the UNDERLYING SETTLEMENT INDEX LEVEL as of EXPIRATION DATE  $TE_Q$

$K_Q$ : the STRIKE PRICE of OPTION  $Q$

$TE_Q$ : the EXPIRATION DATE of OPTION  $Q$

#### 4.1.7. Price

The PRICE  $PX_{t, Q}$  of OPTION  $Q$  as of CALCULATION DAY  $t$  is calculated in accordance with the following formula:

$$PX_{t,Q} = theoPX_{t,Q} \left( \sigma_{t,K_Q,TE_Q} \right)$$

With:

$theoPX_{t,Q}$ : the THEORETICAL PRICE  $theoPX_{t,Q}$  of OPTION  $Q$  as of CALCULATION DAY  $t$

$\sigma_{t,K_Q,TE_Q}$ : the IMPLIED VOLATILITY as of CALCULATION DAY  $t$  in relation to STRIKE PRICE  $K_Q$  and EXPIRATION DATE  $TE_Q$  of OPTION  $Q$

#### 4.1.8. Theoretical Price

The THEORETICAL PRICE  $theoPX_{t,Q}$  of OPTION  $Q$  as of CALCULATION DAY  $t$  as a function of the IMPLIED VOLATILITY  $\sigma$  can be calculated in accordance with the following formula:

$$theoPX_{t,Q} = \begin{cases} \left( K_Q \times IN \left( -d_{2,Q,t}(\sigma) \right) - Fwd_{t,TE_Q} \times IN \left( -d_{1,Q,t}(\sigma) \right) \right) & \text{if type of Option } Q \text{ is Put} \\ \left( Fwd_{t,TE_Q} \times IN \left( d_{1,Q,t}(\sigma) \right) - K_Q \times IN \left( d_{2,Q,t}(\sigma) \right) \right) & \text{if type of Option } Q \text{ is Call} \end{cases}$$

- With the functions of the implied volatility  $\sigma$ :

$$d_{1,Q,t}(\sigma) = \frac{\log \left( \frac{Fwd_{t,TE_Q}}{K_Q} \right) + \frac{\sigma^2}{2} \times DCFT_{t,TE_Q}}{\sigma \times \sqrt{DCFT_{t,TE_Q}}}$$

and

$$d_{2,Q,t}(\sigma) = d_{1,Q,t}(\sigma) - \sigma \times \sqrt{DCFT_{t,TE_Q}}$$

With:

$Fwd_{t,TE_Q}$ : FORWARD in respect to EXPIRATION DATE  $TE_Q$  of OPTION  $Q$  as of CALCULATION DAY  $t$

$K_Q$ : The STRIKE PRICE of OPTION  $Q$

$DCFT_{t,TE_Q}$ : The DAY COUNT FRACTION in respect to EXPIRATION DATE  $TE_Q$  of OPTION  $Q$  as of CALCULATION DAY  $t$

$IN(.)$ : CUMULATIVE DISTRIBUTION FUNCTION of the Standard Normal Distribution

$\log(.)$ : The NATURAL LOGARITHM FUNCTION

#### 4.1.9. Net Premium

The NET PREMIUM  $NP_{TR_Q,Q}$  of OPTION  $Q$  as of TRADE DATE  $TR_Q$  is calculated in accordance with the following formula:

$$NP_{TR_Q,Q} = PX_{TR_Q,Q} + \text{Sign}(Units_{TR_Q,Q}) \times \text{Max} \left( \text{Vega}_{TR_Q,Q} \times \text{Spread} \times \text{Max} \left( 1, \frac{\sigma_{TR_Q,K_Q,TE_Q}}{\sigma_0} \right), \text{Floor} \times UI_t \right)$$

- With:

$$Sign(Units_{TR_Q,Q}) = \begin{cases} -1 & \text{if Option } Q \text{ is sold} \\ 1 & \text{if Option } Q \text{ is purchased} \end{cases}$$

Where:

*Max*: means the MAXIMUM FUNCTION

$PX_{TR_Q,Q}$ : the PRICE of OPTION  $Q$  in respect of TRADE DATE  $TR_Q$

$Vega_{TR_Q,Q}$ : the VEGA of OPTION  $Q$  in respect of TRADE DATE  $TR_Q$

*Spread*: means 25%

$\sigma_0$ : means 25% if OPTION  $Q$  is sold and 40% otherwise

$\sigma_{t,K_Q,TE_Q}$ : the IMPLIED VOLATILITY as of TRADE DATE  $TR_Q$  in relation to STRIKE PRICE  $K_Q$  of OPTION  $Q$  and EXPIRATION DATE  $TE_Q$

*Floor*: means 0.025%

$UI_t$ : means the UNDERLYING INDEX CLOSING LEVEL in respect of the CALCULATION  $t$

#### 4.1.10. Delta PnL

The DELTA PNL is calculated in accordance with the following formula:

- In relation to the START DATE  $t_0$ :

$$DeltaPnL_{t_0} = 0$$

- In relation to any following CALCULATION DAY  $t$ :

$$DeltaPnL_t = DeltaPnL_{t-1} + DeltaPnL_{close,t} - DeltaCost_t$$

With:

$$\begin{aligned} DeltaPnL_{close,t} &= \left( \sum_{Q \in COP_t} (-Units_{t-1,Q} \times Delta_{t-1,Q}) \right) \\ &\times (FrontFut_{close,t} - FrontFut_{close,t-1}) \end{aligned}$$

With:

$DeltaPnL_{t-1}$ : the DELTA PNL in respect of the CALCULATION DAY immediately preceding CALCULATION DAY  $t$

$DeltaCost_t$ : the DELTA COST in respect of CALCULATION  $t$

$COP_t$ : each OPTION  $Q$  comprising the CONTINUING OPTION PORTFOLIO in respect of CALCULATION DAY  $t$

$Units_{t-1,Q}$ : the NUMBER OF UNITS in respect of OPTION  $Q$  on the CALCULATION DAY immediately preceding CALCULATION DAY  $t$

$Delta_{t-1,Q}$ : the DELTA of OPTION  $Q$  in respect of the CALCULATION DAY immediately preceding CALCULATION DAY  $t$

$FrontFut_{close,t-1}$ : the FUTURES CLOSE in respect of the CALCULATION DAY immediately preceding CALCULATION DAY t of the FRONT FUTURES in respect of the CALCULATION DAY t

$FrontFut_{close,t}$ : the FUTURES CLOSE in respect of the CALCULATION DAY t of the FRONT FUTURES in respect of the CALCULATION DAY t

#### 4.1.11. Delta Cost

In relation to CALCULATION DAY t, the DELTA COST is calculated in accordance with the following formula:

- If CALCULATION DAY day t is a FUTURE ROLL DAY:

$$DeltaCost_t = \left[ Abs \left( FrontFut_{close,t} \times \sum_{Q \in COP_t} (Units_{t-1,Q} \times Delta_{t-1,Q}) \right) + Abs \left( BackFut_{close,t} \times \sum_{Q \in COP_t} (Units_{t,Q} \times Delta_{t,Q}) \right) \right] \times TC$$

- Otherwise:

$$DeltaCost_t = [DeltaChange_{close,t} \times FrontFut_{close,t}] \times TC$$

With:

$$DeltaChange_{close,t} = Abs \left( \left( \sum_{Q \in COP_t} (Units_{t,Q} \times Delta_{t,Q}) \right) - \left( \sum_{Q \in COP_t} (Units_{t-1,Q} \times Delta_{t-1,Q}) \right) \right)$$

With:

$FrontFut_{close,t}$ : the FUTURES CLOSE in respect of the CALCULATION DAY t of the FRONT FUTURES in respect of the CALCULATION DAY t

$BackFut_{close,t}$ : the FUTURES CLOSE in respect of the CALCULATION DAY t of the BACK FUTURES in respect of the CALCULATION DAY t

$COP_t$ : each OPTION Q comprising the CONTINUING OPTION PORTFOLIO in respect of CALCULATION DAY t

$Units_{t-1,Q}$ : the NUMBER OF UNITS in respect of OPTION Q on the CALCULATION DAY immediately preceding CALCULATION DAY t of OPTION Q

$Units_{t,Q}$ : the NUMBER OF UNITS in respect of OPTION Q on CALCULATION DAY t

$Delta_{t-1,Q}$ : the DELTA of OPTION Q in respect of the CALCULATION DAY immediately preceding CALCULATION DAY t

$Delta_{t,Q}$ : the DELTA of OPTION Q in respect of CALCULATION DAY t

TC: means 0.01%



#### 4.1.12. Delta

The DELTA  $\Delta_{t,Q}$  of OPTION  $Q$  as of CALCULATION DAY  $t$  is:

- if the type of Option  $Q$  is “Call”, calculated in accordance with the following formula:

$$\Delta_{t,Q} = DF_{t,TE_Q} \times IN\left(d_{1,Q,t}(\sigma_{t,K,TE})\right); \text{ and}$$

- if the type of Option  $Q$  is “Put”, calculated in accordance with the following formula:

$$\Delta_{t,Q} = DF_{t,TE_Q} \times \left( IN\left(d_{1,Q,t}(\sigma_{t,K,TE})\right) - 1 \right)$$

Where:

$$d_{1,Q,t}(\sigma_{t,K,TE}) = \frac{\log\left(\frac{Fwd_{t,TE}}{K}\right) + \frac{\sigma_{t,K,TE}^2}{2} \times DCFT_{t,TE}}{\sigma_{t,K,TE} \times \sqrt{DCFT_{t,TE}}}$$

With:

$DF_{t,TE_Q}$ : DISCOUNT FACTOR in respect to EXPIRATION DATE  $TE_Q$  of OPTION  $Q$  as of CALCULATION DAY  $t$

$Fwd_{t,TE_Q}$ : FORWARD in respect to EXPIRATION DATE  $TE_Q$  of OPTION  $Q$  as of CALCULATION DAY  $t$

$K$ : The STRIKE PRICE of OPTION  $Q$

$DCFT_{t,TE_Q}$ : The DAY COUNT FRACTION in respect of EXPIRATION DATE  $TE_Q$  of OPTION  $Q$  as of CALCULATION DAY  $t$

$IN(.)$ : CUMULATIVE DISTRIBUTION FUNCTION of the Standard Normal Distribution

$\log(.)$ : The NATURAL LOGARITHM FUNCTION.

$\sigma_{t,K,TE}$ : the IMPLIED VOLATILITY as of CALCULATION DAY  $t$  in relation to STRIKE PRICE  $K$  EXPIRATION DATE  $TE$

#### 4.1.13. Day Count Fraction

The DAY COUNT FRACTION in respect of EXPIRATION DATE  $TE$  as of CALCULATION DAY  $t$  is (i) the number of CALCULATION DAYS from (and including) CALCULATION DAY  $t$  to (and excluding) EXPIRATION DATE  $TE$  divided by (ii) 252.

#### 4.1.14. Vega

The VEGA of OPTION  $Q$  as of CALCULATION DAY  $t$  is calculated as follows:

$$v_{Q,t} = \frac{\exp\left(-\frac{d_{1,Q,t}(\sigma_{t,K,TE_Q})^2}{2}\right) \times Fwd_{t,TE_Q} \times \sqrt{DCFT_{t,TE_Q}}}{\sqrt{2 \times \pi} \times 100}$$

Where:

$$d_{1,Q,t}(\sigma) = \frac{\log\left(\frac{Fwd_{t,TE_Q}}{K_Q}\right) + \frac{\sigma^2}{2} \times DCFT_{t,TE_Q}}{\sigma \times \sqrt{DCFT_{t,TE_Q}}}$$

With:

$Fwd_{t,TE_Q}$ : FORWARD in respect to EXPIRATION DATE  $TE_Q$  of OPTION  $Q$  as of CALCULATION DAY  $t$ .

$K_Q$ : The STRIKE PRICE of OPTION  $Q$ .

$DCFT_{t,TE_Q}$ : The DAY COUNT FRACTION in respect to EXPIRATION DATE  $TE_Q$  of OPTION  $Q$  as of CALCULATION DAY  $t$ .

$IN(.)$ : CUMULATIVE DISTRIBUTION FUNCTION of the Standard Normal Distribution

$\log(.)$ : The NATURAL LOGARITHM FUNCTION.

$\exp(.)$ : EXPONENTIAL FUNCTION to the Basis of Euler's number  $e$ .

$\sigma_{t,K_Q,TE_Q}$ : the Implied Volatility as of CALCULATION DAY  $t$  in relation to STRIKE PRICE  $K_Q$  of OPTION  $Q$  and EXPIRATION DATE  $TE_Q$

#### 4.1.15. Discount Factor

In relation to CALCULATION DAY  $t$  and EXPIRATION DATE  $TE$ , the DISCOUNT FACTOR  $DF_{t,TE}$  is calculated as follows:

- If EXPIRATION DATE  $TE$  is an ELIGIBLE EXPIRATION DATE in relation to CALCULATION DAY  $t$ :

$$DF_{t,TE} = \frac{(C_t^{TE,K_1} - P_t^{TE,K_1}) - (C_t^{TE,K_2} - P_t^{TE,K_2})}{K_2 - K_1}$$

With:

$K_1$ : means the STRIKE PRICE, in respect of CALCULATION DAY  $t$ , for which the EXCHANGE PRICE of the ELIGIBLE LISTED CALL OPTION minus the EXCHANGE PRICE of the ELIGIBLE LISTED PUT OPTION is the lowest non-negative amount

$K_2$ : means the STRIKE PRICE, in respect of CALCULATION DAY  $t$ , for which the EXCHANGE PRICE of the ELIGIBLE LISTED CALL OPTION minus the EXCHANGE PRICE of the ELIGIBLE LISTED PUT OPTION is the lowest positive amount

$C_t^{TE,K_1}$ : means the EXCHANGE PRICE in respect of CALCULATION DAY  $t$  of the ELIGIBLE LISTED CALL OPTION expiring on EXPIRATION DATE  $TE$  with a STRIKE PRICE  $K_1$

$C_t^{TE,K_2}$ : means the EXCHANGE PRICE in respect of CALCULATION DAY  $t$  of the ELIGIBLE LISTED CALL OPTION expiring on EXPIRATION DATE  $TE$  with a STRIKE PRICE  $K_2$

$P_t^{TE,K_1}$ : means the EXCHANGE PRICE in respect of CALCULATION DAY  $t$  of the ELIGIBLE LISTED PUT OPTION expiring on EXPIRATION DATE  $TE$  with a STRIKE PRICE  $K_1$

$P_t^{TE,K_2}$ : means the EXCHANGE PRICE in respect of CALCULATION DAY  $t$  of the ELIGIBLE LISTED PUT OPTION expiring on EXPIRATION DATE  $TE$  with a STRIKE PRICE  $K_2$

- If EXPIRATION DATE  $TE$  is not an ELIGIBLE EXPIRATION DATE and falls before the earliest to occur ELIGIBLE EXPIRATION DATE in relation to CALCULATION DAY  $t$ :

$$DF_{t,TE} = \exp\left(\frac{DC_{t,TE} \times (\log(DF_{t,T_2}))}{DC_{t,T_2}}\right)$$

With:

$T_2$ : means the ELIGIBLE EXPIRATION DATE in respect of CALCULATION DAY  $t$  expiring immediately after EXPIRATION DATE  $TE$

$DF_{t,T_2}$ : the DISCOUNT FACTOR in relation to CALCULATION DAY  $t$  and ELIGIBLE EXPIRATION DATE  $T_2$

$DC_{t,TE}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) CALCULATION DAY  $t$  and ending on (but excluding) EXPIRATION DATE  $TE$

$DC_{t,T_2}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) CALCULATION DAY  $t$  and ending on (but excluding) ELIGIBLE EXPIRATION DATE  $T_2$

$\log(.)$ : The NATURAL LOGARITHM FUNCTION.

$\exp(.)$ : EXPONENTIAL FUNCTION to the Basis of Euler's number  $e$ .

- If EXPIRATION DATE  $TE$  is not an ELIGIBLE EXPIRATION DATE and falls after the earliest to occur ELIGIBLE EXPIRATION DATE in relation to CALCULATION DAY  $t$ :

$$DF_{t,TE} = \exp\left(\log(DF_{t,T_1}) + \frac{DC_{T_1,TE} \times (\log(DF_{t,T_2}) - \log(DF_{t,T_1}))}{DC_{T_1,T_2}}\right)$$

$T_1$ : means the ELIGIBLE EXPIRATION DATE in respect of CALCULATION DAY  $t$  expiring immediately before EXPIRATION DATE  $TE$

$T_2$ : means the ELIGIBLE EXPIRATION DATE in respect of CALCULATION DAY  $t$  expiring immediately after EXPIRATION DATE  $TE$

$DF_{t,T_1}$ : the DISCOUNT FACTOR in relation to CALCULATION DAY  $t$  and ELIGIBLE EXPIRATION DATE  $T_1$

$DF_{t,T_2}$ : the DISCOUNT FACTOR in relation to CALCULATION DAY  $t$  and ELIGIBLE EXPIRATION DATE  $T_2$

$DC_{T_1,TE}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) ELIGIBLE EXPIRATION DATE  $T_1$  and ending on (but excluding) EXPIRATION DATE  $TE$

$DC_{T_1,T_2}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) ELIGIBLE EXPIRATION DATE  $T_1$  and ending on (but excluding) ELIGIBLE EXPIRATION DATE  $T_2$

$\log(.)$ : The NATURAL LOGARITHM FUNCTION

$\exp(.)$ : EXPONENTIAL FUNCTION to the Basis of Euler's number  $e$

#### 4.1.16. Number of Calculation Days

The NUMBER OF CALCULATION DAYS  $DC_{T_1,T_2}$  is the number of Calculation Days in the period commencing on,  $T_1$  minus Lag, and ending on,  $T_2$  minus Lag, where Lag is:

- (i) 0.5 (half Day), if  $T_1$  or  $T_2$  is the EXPIRATION DATE of a MONTHLY LISTED OPTION

- (ii) 0 otherwise

#### 4.1.17. Forward

In relation to CALCULATION DAY  $t$  and EXPIRATION DATE  $TE$ , the FORWARD  $Fwd_{t,TE}$  is calculated as follows:

- If EXPIRATION DATE  $TE$  is an ELIGIBLE EXPIRATION DATE in relation to CALCULATION DAY  $t$ :

$$Fwd_{t,TE} = \frac{C_t^{TE,K_1} - P_t^{TE,K_1}}{DF_{t,TE}} + K_1$$

With:

$K_1$ : means the STRIKE PRICE, in respect of CALCULATION DAY  $t$ , for which the EXCHANGE PRICE of the ELIGIBLE LISTED CALL OPTION minus the EXCHANGE PRICE of the ELIGIBLE LISTED PUT OPTION is the lowest non-negative amount

$C_t^{TE,K_1}$ : means the EXCHANGE PRICE in respect of CALCULATION DAY  $t$  of the ELIGIBLE LISTED CALL OPTION expiring on EXPIRATION DATE  $TE$  with a STRIKE PRICE  $K_1$

$P_t^{TE,K_1}$ : means the EXCHANGE PRICE in respect of CALCULATION DAY  $t$  of the ELIGIBLE LISTED PUT OPTION expiring on EXPIRATION DATE  $TE$  with a STRIKE PRICE  $K_1$

$DF_{t,TE}$ : means the DISCOUNT FACTOR in relation to CALCULATION DAY  $t$  and EXPIRATION DATE  $TE$

- If EXPIRATION DATE  $TE$  is not an ELIGIBLE EXPIRATION DATE and falls before the earliest to occur ELIGIBLE EXPIRATION DATE in relation to CALCULATION DAY  $t$ :

$$Fwd_{t,TE} = \exp\left(\frac{\log(Fwd_{t,T_2}) \times DC_{t,TE} + \log(UI_t) \times DC_{TE,T_2}}{DC_{t,T_2}}\right)$$

With:

$T_2$ : means the ELIGIBLE EXPIRATION DATE in respect of CALCULATION DAY  $t$  expiring immediately after EXPIRATION DATE  $TE$

$Fwd_{t,T_2}$ : the FORWARD In relation to CALCULATION DAY  $t$  and EXPIRATION DATE  $T_2$

$UI_t$ : the UNDERLYING INDEX CLOSING LEVEL as of CALCULATION DAY  $t$

$DC_{t,TE}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) CALCULATION DAY  $t$  and ending on (but excluding) EXPIRATION DATE  $TE$

$DC_{TE,T_2}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) EXPIRATION DATE  $TE$  and ending on (but excluding) ELIGIBLE EXPIRATION DATE  $T_2$

$DC_{t,T_2}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) CALCULATION DAY  $t$  and ending on (but excluding) ELIGIBLE EXPIRATION DATE  $T_2$

$\log(.)$ : The NATURAL LOGARITHM FUNCTION.

$\exp(.)$ : EXPONENTIAL FUNCTION to the Basis of Euler's number  $e$

- If EXPIRATION DATE  $TE$  is not an ELIGIBLE EXPIRATION DATE and falls after the earliest to occur ELIGIBLE EXPIRATION DATE in relation to CALCULATION DAY  $t$ :

$$Fwd_{t,TE} = \exp \left( \log(Fwd_{t,T_1}) + \frac{DC_{T_1,T} \times (\log(Fwd_{t,T_2}) - \log(Fwd_{t,T_1}))}{DC_{T_1,T_2}} \right)$$

With:

$T_1$ : means the ELIGIBLE EXPIRATION DATE in respect of CALCULATION DAY t expiring immediately before EXPIRATION DATE  $TE$

$T_2$ : means the ELIGIBLE EXPIRATION DATE in respect of CALCULATION DAY t expiring immediately after EXPIRATION DATE  $TE$

$Fwd_{t,T_1}$ : the FORWARD In relation to CALCULATION DAY t and EXPIRATION DATE  $T_1$

$Fwd_{t,T_2}$ : the FORWARD In relation to CALCULATION DAY t and EXPIRATION DATE  $T_2$

$DC_{T_1,T_2}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) ELIGIBLE EXPIRATION DATE  $T_1$  and ending on (but excluding) ELIGIBLE EXPIRATION DATE  $T_2$

$\log(.)$ : The NATURAL LOGARITHM FUNCTION.

$\exp(.)$ : EXPONENTIAL FUNCTION to the Basis of Euler's number  $e$ .

#### 4.1.18. Implied Volatility

In relation to CALCULATION DAY t, STRIKE PRICE  $K$  and EXPIRATION DATE  $TE$ , the IMPLIED VOLATILITY  $\sigma_{t,K,TE}$  is calculated as follows:

- If EXPIRATION DATE  $TE$  is an ELIGIBLE EXPIRATION DATE in relation to CALCULATION DAY t and STRIKE PRICE  $K$  is the STRIKE PRICE of an ELIGIBLE LISTED OPTION:

In case of  $K \geq Fwd_{t,TE}$ , define  $\sigma_{t,K,TE}$  as the solution  $\sigma_{t,K,TE}$  of the equation:

$$C_t^{TE,K} = DF_{t,TE} \times \left( Fwd_{t,TE} \times IN \left( d_{1,K,TE,t}(\sigma_{t,K,TE}) \right) - K \times IN \left( d_{2,K,TE,t}(\sigma_{t,K,TE}) \right) \right)$$

And in case of  $K < Fwd_{t,TE}$ , define  $\sigma_{t,K,TE}$  as the solution  $\sigma_{t,K,TE}$  of the equation:

$$P_t^{TE,K} = DF_{t,TE} \times \left( K \times IN \left( -d_{2,K,TE,t}(\sigma_{t,K,TE}) \right) - Fwd_{t,TE} \times IN \left( -d_{1,K,TE,t}(\sigma_{t,K,TE}) \right) \right)$$

With functions:

$$d_{1,K,TE,t}(\sigma) = \frac{\log \left( \frac{Fwd_{t,TE}}{K} \right) + \frac{\sigma^2}{2} \times DCFT_{t,TE}}{\sigma \times \sqrt{DCFT_{t,TE}}}$$

and

$$d_{2,K,TE,t}(\sigma) = d_{1,K,TE,t}(\sigma) - \sigma \times \sqrt{DCFT_{t,TE}}$$

And with:

$C_t^{TE,K}$ : means the EXCHANGE PRICE in respect of CALCULATION DAY t of the ELIGIBLE LISTED CALL OPTION expiring on EXPIRATION DATE  $TE$  with a STRIKE PRICE  $K$

$P_t^{TE,K}$ : means the EXCHANGE PRICE in respect of CALCULATION DAY t of the ELIGIBLE LISTED PUT OPTION expiring on EXPIRATION DATE  $TE$  with a STRIKE PRICE  $K$

$DF_{t,TE}$ : the DISCOUNT FACTOR in relation to CALCULATION DAY  $t$  and EXPIRATION DATE  $TE$

$Fwd_{t,TE}$ : the FORWARD in relation to CALCULATION DAY  $t$  and EXPIRATION DATE  $TE$

$DCFT_{t,TE}$ : The DAY COUNT FRACTION in respect to EXPIRATION DATE  $TE$  as of CALCULATION DAY  $t$ .

$IN(.)$ : CUMULATIVE DISTRIBUTION FUNCTION of the Standard Normal Distribution

- If EXPIRATION DATE  $TE$  is an ELIGIBLE EXPIRATION DATE in relation to CALCULATION DAY  $t$  but the STRIKE PRICE  $K$  is not the STRIKE PRICE of an ELIGIBLE LISTED OPTION:

- (i) if STRIKE PRICE  $K$  is lower than the lowest STRIKE PRICE of ELIGIBLE LISTED OPTION in respect of CALCULATION DAY  $t$  and EXPIRATION DATE  $TE$ :

$$\sigma_{t,K,TE} = \sigma_{t,K_{min},TE}; \text{ and}$$

- (ii) if STRIKE PRICE  $K$  is higher than the highest STRIKE PRICE of ELIGIBLE LISTED OPTION in respect of CALCULATION DAY  $t$  and EXPIRATION DATE  $TE$ :

$$\sigma_{t,K,TE} = \sigma_{t,K_{max},TE}; \text{ and}$$

- (iii) otherwise, if sub-paragraph (i) or (ii) do not apply:

$$\sigma_{t,K,TE} = \sigma_{t,K_1,TE} + \frac{(K - K_1) \times (\sigma_{t,K_2,TE} - \sigma_{t,K_1,TE})}{(K_2 - K_1)}$$

With:

$K_{min}$ : means the lowest STRIKE PRICE of ELIGIBLE LISTED OPTIONS in respect to CALCULATION DAY  $t$  expiring on EXPIRATION DATE  $TE$

$K_{max}$ : means the highest STRIKE PRICE of ELIGIBLE LISTED OPTIONS in respect to CALCULATION DAY  $t$  expiring on EXPIRATION DATE  $TE$

$K_1$ : means the STRIKE PRICE, in respect of CALCULATION DAY  $t$ , for which the EXCHANGE PRICE of the ELIGIBLE LISTED CALL OPTION minus the EXCHANGE PRICE of the ELIGIBLE LISTED PUT OPTION is the lowest non-negative amount

$K_2$ : means the STRIKE PRICE, in respect of CALCULATION DAY  $t$ , for which the EXCHANGE PRICE of the ELIGIBLE LISTED CALL OPTION minus the EXCHANGE PRICE of the ELIGIBLE LISTED PUT OPTION is the lowest positive amount

$\sigma_{t,K,TE}$ : means the Implied Volatility in respect of CALCULATION DAY  $t$  with EXPIRATION DATE  $TE$  being an ELIGIBLE EXPIRATION DATE and STRIKE PRICE  $K$  being the STRIKE PRICE of an ELIGIBLE LISTED OPTION

- If EXPIRATION DATE  $TE$  is not an ELIGIBLE EXPIRATION DATE and falls before the earliest to occur ELIGIBLE EXPIRATION DATE in relation to CALCULATION DAY  $t$ :

$$\sigma_{t,K,TE} = \sigma_{t,K,T_2}$$

With:

$T_2$ : means the ELIGIBLE EXPIRATION DATE in respect of CALCULATION DAY  $t$  expiring immediately after EXPIRATION DATE  $TE$

$\sigma_{t,K,T_2}$ : means the Implied Volatility in respect of CALCULATION DAY t with EXPIRATION DATE  $T_2$  being an ELIGIBLE EXPIRATION DATE

- If EXPIRATION DATE  $TE$  is not an ELIGIBLE EXPIRATION DATE and falls after the earliest to occur ELIGIBLE EXPIRATION DATE in relation to CALCULATION DAY t:

$$\sigma_{t,K,TE} = \sqrt{\frac{1}{DC_{t,TE}} \times \text{Max} \left( 0, (\sigma_{t,K,T_1})^2 \times DC_{t,T_1} + \frac{(DC_{t,TE} - DC_{t,T_1}) \times [(\sigma_{t,K,T_2})^2 \times DC_{t,T_2} - (\sigma_{t,K,T_1})^2 \times DC_{t,T_1}]}{(DC_{t,T_2} - DC_{t,T_1})} \right)}$$

With:

$\sigma_{t,K,T_1}$ : means the Implied Volatility in respect of CALCULATION DAY t with EXPIRATION DATE  $T_1$  being an ELIGIBLE EXPIRATION DATE

$\sigma_{t,K,T_2}$ : means the Implied Volatility in respect of CALCULATION DAY t with EXPIRATION DATE  $T_2$  being an ELIGIBLE EXPIRATION DATE

$DC_{t,T_1}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) CALCULATION DAY t and ending on (but excluding) ELIGIBLE EXPIRATION DATE  $T_1$

$DC_{t,TE}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) CALCULATION DAY t and ending on (but excluding) EXPIRATION DATE  $TE$

$DC_{t,T_2}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) CALCULATION DAY t and ending on (but excluding) ELIGIBLE EXPIRATION DATE  $T_2$

$DC_{t,TE}$ : means the NUMBER OF CALCULATION DAYS in the period commencing on (and including) CALCULATION DAY t and ending on (but excluding) EXPIRATION DATE  $TE$

## 4.2. ACCURACY

The level of the INDEX will be rounded to 4 decimal places.

## 4.3. RECALCULATION

The INDEX ADMINISTRATOR makes the greatest possible efforts to accurately calculate and maintain the INDEX. However, errors in the determination process may occur from time to time for a variety of reasons (internal or external) and therefore cannot be completely ruled out in respect of any INDEX. The INDEX ADMINISTRATOR endeavors to correct all errors that have been identified within a reasonable period of time. The understanding of “a reasonable period of time” as well as the general measures to be taken generally depend on the underlying and is specified in the SOLACTIVE Correction Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/correction-policy/>.

## 4.4. MARKET DISRUPTION

In periods of market stress the INDEX ADMINISTRATOR shall calculate the INDEX following predefined and exhaustive arrangements as described in the SOLACTIVE Disruption Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/disruption-policy/>. Such market stress can arise due to a variety of reasons, but generally results in inaccurate or delayed prices for one or more INDEX

## INDEX GUIDELINE

COMPONENTS. The determination of the INDEX may be limited or impaired at times of illiquid or fragmented markets and market stress.



## 5. MISCELLANEOUS

### 5.1. DISCRETION

Any discretion which may need to be exercised in relation to the determination of the INDEX (for example the determination of the Index Universe (if applicable), the selection of the INDEX COMPONENTS (if applicable) or any other relevant decisions in relation to the INDEX) shall be made in accordance with strict rules regarding the exercise of discretion or expert judgement by the INDEX ADMINISTRATOR.

### 5.2. METHODOLOGY REVIEW

The methodology of the INDEX is subject to regular review, at least annually. If a change of the methodology has been identified within such review (e.g. if the underlying market or economic reality has changed since the launch of the INDEX or if the present methodology is based on obsolete assumptions and factors and no longer reflects the reality as accurately, reliably and appropriately as before), such change will be made in accordance with the SOLACTIVE Methodology Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/methodology-policy/>.

Such change in the methodology will be announced on the SOLACTIVE website under the Section “Announcements”, which is available at <https://www.solactive.com/news/announcements/>. The date of the last amendment of this INDEX is contained in this GUIDELINE.

### 5.3. CHANGES IN CALCULATION METHOD

The application by the INDEX ADMINISTRATOR of the method described in this document is final and binding. The INDEX ADMINISTRATOR 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 and financial or tax reasons may require changes to be made to this method. The INDEX ADMINISTRATOR may also make changes to the terms and conditions of the INDEX and the method applied to calculate the INDEX that it 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 ADMINISTRATOR is not obliged to provide information on any such modifications or changes. Despite the modifications and changes, the INDEX ADMINISTRATOR will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.

### 5.4. TERMINATION

The INDEX ADMINISTRATOR makes the greatest possible efforts to ensure the resilience and continued integrity of its indices over time. Where necessary, the INDEX ADMINISTRATOR shall follow a clearly defined and transparent procedure to adapt INDEX methodologies to account for changing underlying markets (see Section 5.2 “Methodology Review”) in order to maintain continued reliability and comparability of the indices. Nevertheless, if no other options are available the orderly cessation of the INDEX may be indicated. This is usually the case when the underlying market

or economic reality, which an index is set to measure or to reflect, changes substantially and in a way not foreseeable at the time of inception of the INDEX, the index rules, and particularly the selection criteria, can no longer be applied coherently or the INDEX is no longer used as the underlying value for financial instruments, investment funds and financial contracts.

The INDEX ADMINISTRATOR has established and maintains clear guidelines on how to identify situations in which the cessation of an index is unavoidable, how stakeholders are to be informed and consulted and the procedures to be followed for a termination or the transition to an alternative index. Details are specified in the SOLACTIVE Termination Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/termination-policy/>.

### 5.5. INDEX COMMITTEE

An index committee composed of staff from the INDEX ADMINISTRATOR and its subsidiaries (the “**INDEX COMMITTEE**”) is responsible for decisions regarding any amendments to the rules of the INDEX. Any such amendment, which may result in an amendment of the GUIDELINE, must be submitted to the INDEX COMMITTEE for prior approval and will be made in compliance with the Methodology Policy, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/methodology-policy/>.

## 6. DEFINITIONS

**“ASK PRICE”** shall mean the official settlement sell price as published by the relevant exchange.

**“BACK FUTURE”** means the next sequential futures contract following the FRONT FUTURE relative to CALCULATION DAY  $t$

**“BENCHMARK REGULATION”** shall have the meaning as defined in Section “Introduction”.

**“BID PRICE”** shall mean the official settlement buy price as published by the relevant exchange.

**“BMR”** shall have the meaning as defined in Section “Introduction”.

**“CALCULATION DAY”** means a weekday on which each of the exchanges Chicago Board Options Exchange (CBOE) and New York Stock Exchange (NYSE) are open for business.

**“CONTINUING OPTION PORTFOLIO”** has the meaning given to it in section 4.1.2.

**“CUMULATIVE DISTRIBUTION FUNCTION”** defines the standard normal distribution.

**“DAY COUNT FRACTION”** has the meaning given to it in section 4.1.13.

**“DELTA”** has the meaning given to it in section 4.1.12.

**“DELTA COST”** has the meaning given to it in section 4.1.11

**“DELTA PNL”** has the meaning given to it in section 4.1.10

**“DISCOUNT FACTOR”** has the meaning given to it in section 4.1.15.

**“ELIGIBLE LISTED OPTION”** in relation to a CALCULATION DAY  $t$  is any listed option identified by its chain RICs of 0#SPXW\*.U or 0#SPX\*.U identified by the three-tuple of type of: Call or Put, the EXPIRATION DATE  $TE$ , and a STRIKE PRICE  $K$ . The EXPIRATION DATE  $TE$  needs to be on or before a date that is 30 Calendar Days following and excluding CALCULATION DAY  $t$ , and on a Friday (or on the immediately preceding CALCULATION DAY if Friday is not a CALCULATION DAY). Such an option must have a non-null BID PRICE and a non-null ASK PRICE where the bid price is lower or equal to the ask price.

**“ELIGIBLE LISTED CALL OPTION”** in relation to a CALCULATION DAY  $t$  is an ELIGIBLE LISTED OPTION of type Call.

**“ELIGIBLE LISTED PUT OPTION”** in relation to a CALCULATION DAY  $t$  is an ELIGIBLE LISTED OPTION of type Put.

**“ELIGIBLE EXPIRATION DATE”** in relation to a CALCULATION DAY  $t$  is any EXPIRATION DATE of an ELIGIBLE LISTED OPTION that falls after CALCULATION DAY  $t$ .

**“EXCHANGE PRICE”** of an ELIGIBLE LISTED OPTION in relation to a CALCULATION DAY  $t$  means the average of the BID PRICE and ASK PRICE.

**“EXITING OPTION PORTFOLIO”** has the meaning given to it in section 4.1.3.

**“EXPIRATION DATE”** is defined in relation to an OPTION.

**“EXPONENTIAL FUNCTION”** means the exponential function to the basis of Euler’s Number  $e$ .

**“FORWARD”** has the meaning given to it in section 4.1.17.

**“FRONT FUTURE”** means the futures contract (that has not expired) with the closest expiration date relative to CALCULATION DAY  $t$ .

**“FUTURES CLOSE”** has the meaning given to it in section 4.1.17.

**“FUTURE ROLL DAY”** in relation to a futures contract that is the FRONT FUTURE relative to the CALCULATION DAY  $t$  shall mean the CALCULATION DAY immediately preceding the expiration date of the futures contract.

**“GUIDELINE”** shall have the meaning as defined in Section “Introduction”.

**“HALF TRADING DAY”** means a CALCULATION DAY on which an early market close is announced by the relevant Exchange

**“INDEX”** shall have the meaning as defined in Section “Introduction”.

**“INDEX ADMINISTRATOR”** shall have the meaning as defined in Section “Introduction”.

**“INDEX COMMITTEE”** shall have the meaning as defined in Section 5.5.

**“INDEX COMPONENTS”** shall mean the union of NEW OPTION PORTFOLIO, CONTINUING OPTION PORTFOLIO, and EXITING OPTION PORTFOLIO.

**“INDEX CURRENCY”** is USD.

**“INDEX OWNER”** shall have the meaning as defined in section “Introduction”.

**“IMPLIED VOLATILITY”** has the meaning given to it in section 4.1.18.

**“LEVERAGE”** as the meaning given to it in section 2.2.1.

**“LIVE DATE”** shall be 14<sup>th</sup> February 2024.

**“LONG PUT STRIKE CAP”** has the meaning given to it in Table 4: Index Parameters

**“MAXIMUM FUNCTION”** means, when followed by a series of amounts inside brackets where each amount is separated by a comma, whichever is the higher of the amounts.

**“MINIMUM FUNCTION”** means, when followed by a series of amounts inside brackets where each amount is separated by a comma, whichever is the lower of the amounts.

**“MONTHLY LISTED OPTION”** in relation to a CALCULATION DAY  $t$  is any listed option identified by its chain RICs of 0#SPX\*.U identified by the three-tuple of type of: Call or Put, the EXPIRATION DATE  $TE$ , and a STRIKE PRICE  $K$ .

**“NATURAL LOGARITHM FUNCTION”** is the inverse of the EXPONENTIAL FUNCTION.

**“NET PREMIUM”** has the meaning given to it in section 4.1.9.

**“NEW OPTION PORTFOLIO”** has the meaning given to it in section 4.1.4.

**“NUMBER OF UNITS”** has the meaning given to it in section 2.2.

**“OPTION”** means an OTC (Over the counter) derivative that securitizes the right but not the obligation to buy (an option of type Call) or sell (an option of type Put) a pre-defined reference instrument relating to a position in respect of the UNDERLYING ASSET at a pre-defined day, the EXPIRATION DATE  $TE$ , for a pre-defined price, the STRIKE PRICE  $K$ .

**“PAYOUT”** has the meaning given to it in section 4.1.6.

**“PORTFOLIO MARK-TO-MARKET”** has the meaning given to it in section 4.1.5.

**“PRICE”** has the meaning given to it in section 4.1.7.

**“REALISED PNL”** has the meaning given to it in section 4.1.1. **“SHORT PUT STRIKE CAP”** has the meaning given to it in Table 4: Index Parameters

**“START DATE”** shall be 3<sup>rd</sup> January 2007.

**“STRIKE PRICE”** is defined in relation to an OPTION.

**“SOLACTIVE”** shall have the meaning as defined in Section “Introduction”.

**“TARGET EXPIRY DAYS”** has the meaning given to it in Table 4: Index Parameters.

**“THEORETICAL PRICE”** has the meaning given to it in section 4.1.8.

**“TRADE DATE”** in relation to a traded Option *Q* means the CALCULATION DAY *t* where a position of OPTION *Q* has been entered.

**“UNDERLYING ASSET”** means the S&P 500 Index.

**“UNDERLYING INDEX CLOSING LEVEL”** in relation to a CALCULATION DAY *t* means the official closing level of the **UNDERLYING ASSET** on that day on the relevant exchange, identified by its RIC .SPX.

**“UNDERLYING SETTLEMENT INDEX LEVEL”** in relation to a CALCULATION DAY *t* means the official closing level of the **UNDERLYING ASSET** on that day on the relevant exchange, identified by its RIC .SPX.

**“VEGA”** has the meaning given to it in section 4.1.14.

## 7. VERSIONING

VERSION	DATE	DESCRIPTION
1.0	February 14 <sup>th</sup> , 2024	Initial Guideline creation ( <i>initial version</i> )
1.1	June 3 <sup>rd</sup> , 2024	Correction of typo in Section 4.1.9 Net Premium – updated from 25% to 0.025%
1.2	June 25 <sup>th</sup> , 2025	Clarification: <ul style="list-style-type: none"> <li>- To the definition of Delta Cost in Section 4.1.11</li> <li>- On the half-trading day treatment (Section 2.1) applied effective from 27 June 2025</li> </ul>
1.3	July 3 <sup>rd</sup> , 2025	Clarification to the definition of an Eligible Listed Option
1.4	September 30 <sup>th</sup> , 2025	Add Indicative Index.

Table 3: Versioning



## APPENDIX

INDEX RIC	SHORT PUT STRIKE CAP	LONG PUT STRIKE CAP	TARGET EXPIRY DAYS
.HSIEUDH1	85 percent	70 percent	66
.HSIEUDH4	90 percent	80 percent	44

Table 4: Index Parameters

INDEX RIC	REALISED PNL AS OF 9 <sup>TH</sup> JAN 2020	PORTFOLIO MtM AS OF 9 <sup>TH</sup> JAN 2020	DELTA PNL AS OF 9 <sup>TH</sup> JAN 2020
.HSIEUDH1	-14.3031393478089	-0.156691516278412	19.9820186353131
.HSIEUDH4	-3.36057993517806	-0.140901001629225	0.792242448742577

Table 5: Index Initialization

TYPE	STRIKE	ENTRY DATE	EXPIRY DATE	NUMBER OF UNITS	PRICE	NET PREMIUM
Put	2474	2019-10-04	2020-01-09	- 0.00055019091707	13.606609419080 7	12.868606919080 7
Put	2037	2019-10-04	2020-01-09	0.00330114550243	2.3490708630813 0	3.0870733630813
Put	2509	2019-10-07	2020-01-10	- 0.00054263265388	17.370960225425 6	16.636262725425 6
Put	2066	2019-10-07	2020-01-10	0.00314311104675	3.3052746269965 9	4.0399721269966
Put	2498	2019-10-08	2020-01-13	- 0.00054532890459	22.844061930299 4	22.102311753922 3
Put	2057	2019-10-08	2020-01-13	0.00286599081179	3.5339239887314 5	4.2571889887314 5
Put	2459	2019-10-09	2020-01-14	- 0.00055343267789	15.565851864554 10	14.836001864554 1
Put	2025	2019-10-09	2020-01-14	0.00332059606733	2.7860035669412 1	3.5158535669412 1
Put	2481	2019-10-10	2020-01-15	- 0.00054853959594	14.593035113089 70	13.858502613089 7
Put	2044	2019-10-10	2020-01-15	0.00306477931095	2.6082898810520 8	3.3428223810520 8
Put	2497	2019-10-11	2020-01-16	- 0.00054507847762	12.297518296344 00	11.554950796344 0
Put	2057	2019-10-11	2020-01-16	0.00304964161423	2.0417103221316 7	2.7842778221316 7
Put	2525	2019-10-14	2020-01-17	- 0.00053915011615	13.133941044228 60	12.392403544228 6
Put	2079	2019-10-14	2020-01-17	0.00323490069688	2.1659495031632 0	2.9074870031632
Put	2521	2019-10-15	2020-01-21	- 0.00053996794376	10.934495993288	10.185575993288 4
Put	2076	2019-10-15	2020-01-21	0.00323980766256	1.9018449062740 1	2.6507649062740 1



## INDEX GUIDELINE

Put	2546	2019-10-16	2020-01-22	- 0.00053468093669	12.368389171899 70	11.620966671899 7
Put	2097	2019-10-16	2020-01-22	0.00307410269925	2.0239362121185 0	2.7713587121185 0
Put	2541	2019-10-17	2020-01-23	- 0.00053570461510	11.728821611488 70	10.979334111488 7
Put	2093	2019-10-17	2020-01-23	0.00321422769057	1.9652292966444 8	2.7147167966444 8
Put	2548	2019-10-18	2020-01-24	- 0.00053420632150	13.972518128919 70	13.225968128919 7
Put	2099	2019-10-18	2020-01-24	0.00318823389175	2.1940144415648 8	2.9405644415648 8
Put	2538	2019-10-21	2020-01-27	- 0.00053627216656	10.762425947700 6	10.010745947700 6
Put	2090	2019-10-21	2020-01-27	0.00321763299933	1.8945541821346 4	2.6462341821346 4
Put	2556	2019-10-22	2020-01-28	- 0.00053266212591	12.907816087481 80	12.158818587481 80
Put	2105	2019-10-22	2020-01-28	0.00302590273707	2.1437760454542 1	2.8927735454542 1
Put	2547	2019-10-23	2020-01-29	- 0.00053453097148	11.927594944313 40	11.176464944313 4
Put	2097	2019-10-23	2020-01-29	0.00320718582886	2.0503369362975 8	2.8014669362975 8
Put	2554	2019-10-24	2020-01-30	- 0.00053298841712	12.091840087728 0	11.339267587728 0
Put	2103	2019-10-24	2020-01-30	0.00310059768076	1.9776297226773 6	2.7302022226773 6
Put	2559	2019-10-25	2020-01-31	- 0.00053190969278	10.866679091248 3	10.111041591248 30
Put	2107	2019-10-25	2020-01-31	0.00319145815671	1.7954277892080 6	2.5510652892080 7
Put	2569	2019-10-28	2020-02-03	- 0.00052974678817	11.412447598374 10	10.652592598374 1
Put	2116	2019-10-28	2020-02-03	0.00317848072903	1.8793783661150 2	2.6392333661150 2
Put	2584	2019-10-29	2020-02-04	- 0.00052677016060	12.515265426414 80	11.756042926414
Put	2128	2019-10-29	2020-02-04	0.00316062096362	1.9756865685910 9	2.7349090685910 9
Put	2581	2019-10-30	2020-02-05	- 0.00052719549555	11.107073055721 30	10.345380555721 3
Put	2126	2019-10-30	2020-02-05	0.00316317297332	1.8329457085630 7	2.5946382085630 7
Put	2590	2019-10-31	2020-02-06	- 0.00052549566843	12.814926758207 50	12.055536758207 5
Put	2133	2019-10-31	2020-02-06	0.00315297401056	2.0915063617366 9	2.8508963617366 9

## INDEX GUIDELINE

Put	2582	2019-11-01	2020-02-07	- 0.00052708531891	10.382900673736 9	9.6161731737369 1
Put	2126	2019-11-01	2020-02-07	0.00316251191347	1.6871606775049 4	2.4538881775049 4
Put	2607	2019-11-04	2020-02-10	- 0.00052199938732	11.329573295476 30	10.560005795476 3
Put	2147	2019-11-04	2020-02-10	0.00313199632392	1.9152375070383 2	2.6848050070383 2
Put	2617	2019-11-05	2020-02-11	- 0.00052007803368	12.773152724363 90	12.004497724363 9
Put	2155	2019-11-05	2020-02-11	0.00307651775841	2.1078346306913 7	2.8764896306913 7
Put	2613	2019-11-06	2020-02-12	- 0.00052066546588	12.327593629290 6	11.558398629290 6
Put	2152	2019-11-06	2020-02-12	0.00312399279526	2.0092274548985 9	2.7784224548985 9
Put	2615	2019-11-07	2020-02-13	- 0.00052026570045	12.028834749642 6	11.257539749642 6
Put	2154	2019-11-07	2020-02-13	0.00312159420270	1.9620886383146 0	2.7333836383146
Put	2622	2019-11-08	2020-02-14	- 0.00051880814706	11.779633162877 40	11.006363162877 4
Put	2160	2019-11-08	2020-02-14	0.00311284888236	1.8332138949846 1	2.6064838949846 1
Put	2629	2019-11-11	2020-02-18	- 0.00051746740510	11.901800506695 20	11.130048006695 2
Put	2165	2019-11-11	2020-02-18	0.00310480443059	1.7945338158408 6	2.5662863158408 6
Put	2624	2019-11-12	2020-02-19	- 0.00051846573685	11.253318494509 00	10.480358494509
Put	2161	2019-11-12	2020-02-19	0.00311079442112	1.6228389424339 2	2.3957989424339 2
Put	2628	2019-11-13	2020-02-20	- 0.00051762523510	12.048065517845 2	11.274555517845 2
Put	2164	2019-11-13	2020-02-20	0.00310575141063	1.7575938162441 9	2.5311038162441 9
Put	2630	2019-11-14	2020-02-21	- 0.00051722565133	12.303143354713 70	11.528985854713 7
Put	2166	2019-11-14	2020-02-21	0.00310335390796	1.7817475624057 4	2.5559050624057 4
Put	2632	2019-11-15	2020-02-24	- 0.00051677317782	10.433107487988 10	9.6529924879881 3
Put	2168	2019-11-15	2020-02-24	0.00310063906695	1.5553659744967 0	2.3354809744967
Put	2652	2019-11-18	2020-02-25	- 0.00051281230371	11.213455131099 80	10.432947631099 8
Put	2184	2019-11-18	2020-02-25	0.00307687382225	1.6979694972805 7	2.4784769972805 7

## INDEX GUIDELINE

Put	2654	2019-11-19	2020-02-26	- 0.00051256295665	12.271252889265 10	11.491207889265 10
Put	2185	2019-11-19	2020-02-26	0.00307537773987	1.8548999224481 9	2.6349449224481 9
Put	2652	2019-11-20	2020-02-27	- 0.00051284884430	13.035561331381 60	12.258446331381 6
Put	2184	2019-11-20	2020-02-27	0.00307709306580	1.8929732718596 2	2.6700882718596 2
Put	2642	2019-11-21	2020-02-28	- 0.00051475658859	12.931378322445 80	12.155493322445 8
Put	2176	2019-11-21	2020-02-28	0.00308853953156	1.8689116260335 4	2.6447966260335 4
Put	2638	2019-11-22	2020-03-02	- 0.00051553761844	11.475829052210 70	10.698256552210 7
Put	2172	2019-11-22	2020-03-02	0.00309322571066	1.5173403165161 8	2.2949128165161 8
Put	2644	2019-11-25	2020-03-03	- 0.00051438520530	10.013909993286 6	9.2304999932866 3
Put	2177	2019-11-25	2020-03-03	0.00308631123183	1.4044199336578 7	2.1878299336578 7
Put	2664	2019-11-26	2020-03-04	- 0.00051057107444	10.442960004550 6	9.6578300045506 2
Put	2194	2019-11-26	2020-03-04	0.00306342644665	1.4802334794267 4	2.2653634794267 4
Put	2669	2019-11-27	2020-03-05	- 0.00050945210372	10.580660729741 8	9.7922532297418 8
Put	2198	2019-11-27	2020-03-05	0.00305671262232	1.5306078642885 6	2.3190153642885 6
Put	2681	2019-11-29	2020-03-06	- 0.00050732097072	12.583271617569 10	11.798026617569 1
Put	2208	2019-11-29	2020-03-06	0.00304392582433	1.7765987945535 3	2.5618437945535 3
Put	2670	2019-12-02	2020-03-09	- 0.00050933023954	15.382695242034 5	14.604227742034 5
Put	2199	2019-12-02	2020-03-09	0.00305598143723	2.0355091076333 6	2.8139766076333 6
Put	2647	2019-12-03	2020-03-10	- 0.00051369806833	16.606280511027 00	15.832980511027 0
Put	2180	2019-12-03	2020-03-10	0.00308218841000	2.2148178548381 3	2.9881178548381 3
Put	2629	2019-12-04	2020-03-11	- 0.00051711581164	13.361297889540 0	12.583107889540 0
Put	2165	2019-12-04	2020-03-11	0.00310269486981	1.8830394556353 4	2.6612294556353 4
Put	2646	2019-12-05	2020-03-12	- 0.00051387693321	13.603162273219 30	12.823804773219 3
Put	2179	2019-12-05	2020-03-12	0.00308326159929	1.8436471057839 6	2.6230046057839 6

## INDEX GUIDELINE

Put	2650	2019-12-06	2020-03-13	- 0.00051309150983	11.798228911181 60	11.011751411181 60
Put	2182	2019-12-06	2020-03-13	0.00307854905898	1.7734750848325 1	2.5599525848325 1
Put	2674	2019-12-09	2020-03-16	- 0.00050848678692	15.711957057431 60	14.927967057431 6
Put	2202	2019-12-09	2020-03-16	0.00305092072153	2.4811849494251 9	3.2651749494251 9
Put	2666	2019-12-10	2020-03-17	- 0.00051015689748	14.821512928786 60	14.038382928786 6
Put	2195	2019-12-10	2020-03-17	0.00306094138488	2.3077326162799 7	3.0908626162799 7
Put	2663	2019-12-11	2020-03-18	- 0.00051067570356	13.830304516620 2	13.044897016620 2
Put	2193	2019-12-11	2020-03-18	0.00306405422137	2.2212679255525 1	3.0066754255525 1
Put	2670	2019-12-12	2020-03-19	- 0.00050918812555	11.897686353652 9	11.105543853652 9
Put	2199	2019-12-12	2020-03-19	0.00305512875332	1.9408179645431 7	2.7329604645431 7
Put	2693	2019-12-13	2020-03-20	- 0.00050485053307	11.596496126889 30	10.804296126889 3
Put	2218	2019-12-13	2020-03-20	0.00302910319839	1.8599480570923 8	2.6521480570923 8
Put	2693	2019-12-16	2020-03-23	- 0.00050481805361	10.270227522930 7	9.4723650229307 5
Put	2218	2019-12-16	2020-03-23	0.00302890832165	1.6987393630364 4	2.4966018630364 4
Put	2713	2019-12-17	2020-03-24	- 0.00050120874393	11.332367882782 90	10.534237882782 9
Put	2234	2019-12-17	2020-03-24	0.00300725246357	1.8169988701908 4	2.6151288701908 4
Put	2714	2019-12-18	2020-03-25	- 0.00050101143766	11.515829171325 30	10.718044171325 3
Put	2235	2019-12-18	2020-03-25	0.00300606862595	1.8755769236848 8	2.6733619236848 8
Put	2712	2019-12-19	2020-03-26	- 0.00050122652986	10.878907091325 3	10.077564591325 3
Put	2234	2019-12-19	2020-03-26	0.00300735917914	1.8461707149552 0	2.6475132149552 0
Put	2725	2019-12-20	2020-03-27	- 0.00049902844051	11.530462052365 9	10.725157052365 9
Put	2244	2019-12-20	2020-03-27	0.00294061865256	1.9345775371341 7	2.7398825371341 7
Put	2738	2019-12-23	2020-03-30	- 0.00049652809356	12.191441171151 60	11.385438671151 60
Put	2255	2019-12-23	2020-03-30	0.00295940495060	2.0585424260358 7	2.8645449260358 7

## INDEX GUIDELINE

Put	2740	2019-12-24	2020-03-31	- 0.00049608487529	12.343065043591 8	11.537220043591 8
Put	2257	2019-12-24	2020-03-31	0.00293799607746	2.0602468921225 2	2.8660918921225 2
Put	2740	2019-12-26	2020-04-01	- 0.00049617989504	10.974298675408 8	10.164321175408 8
Put	2256	2019-12-26	2020-04-01	0.00297264407545	1.9302455474207 9	2.7402230474207 9
Put	2754	2019-12-27	2020-04-02	- 0.00049364641440	13.072125466160 60	12.262120466160 6
Put	2268	2019-12-27	2020-04-02	0.00280659794753	2.2072398561148 8	3.0172448561148 8
Put	2754	2019-12-30	2020-04-03	- 0.00049360171131	14.766659380867 1	13.961336880867 1
Put	2268	2019-12-30	2020-04-03	0.00292329965075	2.4806298631806 5	3.2859523631806 5
Put	2738	2019-12-31	2020-04-06	- 0.00049644914709	11.921245850854 50	11.113550850854
Put	2255	2019-12-31	2020-04-06	0.00295525566462	1.9740208385420 8	2.7817158385420 8
Put	2746	2020-01-02	2020-04-07	- 0.00049495951087	10.029895165772 10	9.2154326657721 0
Put	2262	2020-01-02	2020-04-07	0.00296975706520	1.6604832808040 7	2.4749457808040 7
Put	2769	2020-01-03	2020-04-08	- 0.00049082648056	13.578824274586 4	12.770111774586 40
Put	2280	2020-01-03	2020-04-08	0.00294495888334	1.9469368695932 9	2.7556493695932 9
Put	2750	2020-01-06	2020-04-09	- 0.00049426185564	11.651907984601 80	10.840337984601 8
Put	2264	2020-01-06	2020-04-09	0.00296557113386	1.7362413121971 3	2.5478113121971 3
Put	2759	2020-01-07	2020-04-13	- 0.00049252711019	12.679359268731 80	11.870064268731 8
Put	2272	2020-01-07	2020-04-13	0.00295516266111	1.8439552029540 4	2.6532502029540 4
Put	2752	2020-01-08	2020-04-14	- 0.00049386826527	10.726852506206 4	9.9135900062064 2
Put	2266	2020-01-08	2020-04-14	0.00296320959161	1.7193207418431 5	2.5325832418431 5
Put	2765	2020-01-09	2020-04-15	- 0.00049149248813	10.136563833882 2	9.3178888338822 3
Put	2277	2020-01-09	2020-04-15	0.00294895492877	1.7053353390682 9	2.5240103390682 9

Table 6: Initial Portfolio as of 9th January 2020 for HSIEUDH1 Index

TYPE	STRIKE	ENTRY DATE	EXPIRY DATE	NUMBER OF UNITS	PRICE	NET PREMIUM
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## INDEX GUIDELINE

Put	2770	2019-11-05	2020-01-09	- 0.000719674039412	12.41413191701 57	11.645476917015 7
Put	2463	2019-11-05	2020-01-09	0.003068325365104	2.879172222185 5	3.6478272221855
Put	2767	2019-11-06	2020-01-10	- 0.000720465432274	12.02550907497 52	11.256314074975 2
Put	2460	2019-11-06	2020-01-10	0.003106432067171	2.725999323128 4	3.4951943231284
Put	2769	2019-11-07	2020-01-13	-0.00071989283655	11.58933159882 46	10.818036598824 6
Put	2461	2019-11-07	2020-01-13	0.003175744676639	2.559144758696 9	3.3304397586969
Put	2777	2019-11-08	2020-01-14	- 0.000717865581841	11.32389914638 80	10.550629146388
Put	2468	2019-11-08	2020-01-14	0.003250922888619	2.374052572201 9	3.1473225722019
Put	2784	2019-11-11	2020-01-15	- 0.000716003595007	11.68623159289 35	10.914479092893 5
Put	2474	2019-11-11	2020-01-15	0.003415237132169	2.425486429162 2	3.1972389291622
Put	2778	2019-11-12	2020-01-16	- 0.000717380468977	11.05464452042 96	10.281684520429 6
Put	2470	2019-11-12	2020-01-16	0.003456409485488	2.234922919562 3	3.0078829195623
Put	2783	2019-11-13	2020-01-17	-0.00071620085092	11.92791745074 13	11.154407450741 3
Put	2473	2019-11-13	2020-01-17	0.003542558780372	2.510628286568 6	3.2841382865686
Put	2785	2019-11-14	2020-01-21	- 0.000715662054464	11.95920031394 79	11.185042813947 9
Put	2475	2019-11-14	2020-01-21	0.003400088318107	2.539204461034 4	3.3133619610344
Put	2787	2019-11-15	2020-01-22	- 0.000715045311854	10.14115212503 3	9.361037125033
Put	2477	2019-11-15	2020-01-22	0.003367735938258	2.083152890317 8	2.8632678903178
Put	2808	2019-11-18	2020-01-23	- 0.000709514649656	11.06837382174 13	10.287866321741 3
Put	2496	2019-11-18	2020-01-23	0.003454041242264	2.325839647335 2	3.1063471473352
Put	2810	2019-11-19	2020-01-24	- 0.000709167492281	12.42077995875 76	11.640734958757 6
Put	2498	2019-11-19	2020-01-24	0.00337483751977	2.666547380282 7	3.4465923802827
Put	2808	2019-11-20	2020-01-27	- 0.000709561251883	13.46170485476 91	12.684589854769 1
Put	2496	2019-11-20	2020-01-27	0.003305136913025	2.795136951594 3	3.5722519515943

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Put	2798	2019-11-21	2020-01-28	- 0.000712153787603	13.29325399861 41	12.517368998614 1
Put	2487	2019-11-21	2020-01-28	0.003429815521008	2.691204225728 6	3.4670892257286
Put	2793	2019-11-22	2020-01-29	- 0.000713235872823	11.76572315763 24	10.988150657632 4
Put	2483	2019-11-22	2020-01-29	0.003523042037361	2.197786662156 4	2.9753591621564
Put	2799	2019-11-25	2020-01-30	- 0.000711631783967	9.601526781331 6	8.8181167813316
Put	2488	2019-11-25	2020-01-30	0.00380967939450	1.857224962832 8	2.6406349628328
Put	2820	2019-11-26	2020-01-31	-0.00070635346234	10.25252525252 55	9.4673952525255
Put	2507	2019-11-26	2020-01-31	0.003651723308412	2.012826401611 5	2.7979564016115
Put	2826	2019-11-27	2020-02-03	- 0.000704780002786	10.62784411562 91	9.8394366156291
Put	2512	2019-11-27	2020-02-03	0.00358986486378	2.182831003546 8	2.9712385035468
Put	2838	2019-11-29	2020-02-04	-0.00070186213327	13.05297041809 69	12.267725418096 9
Put	2523	2019-11-29	2020-02-04	0.003417250960307	2.644427578443 2	3.4296725784432
Put	2827	2019-12-02	2020-02-05	-0.00070462542563	17.16675307758 57	16.388285577585 7
Put	2513	2019-12-02	2020-02-05	0.003478051322549	3.397977055231 5	4.1764445552315
Put	2802	2019-12-03	2020-02-06	- 0.000710639180337	18.80610059098 34	18.032800590983 4
Put	2491	2019-12-03	2020-02-06	0.003590185318444	3.588328682346 9	4.3616286823469
Put	2784	2019-12-04	2020-02-07	- 0.000715284488895	14.17528394102 86	13.397093941028 6
Put	2475	2019-12-04	2020-02-07	0.003748740218673	2.752019732157 2	3.5302097321572
Put	2801	2019-12-05	2020-02-10	- 0.000710773656334	14.78723343255 2	14.007875932552
Put	2490	2019-12-05	2020-02-10	0.003661099620256	2.827919665818 5	3.6072771658185
Put	2806	2019-12-06	2020-02-11	- 0.000709696369593	12.24785657721 91	11.461379077219 1
Put	2494	2019-12-06	2020-02-11	0.003711012731461	2.587164597086 6	3.3736420970866
Put	2831	2019-12-09	2020-02-12	- 0.000703383025431	17.12427539124 09	16.340285391240 9
Put	2517	2019-12-09	2020-02-12	0.003329874884663	4.049981142395 8	4.8339711423958

## INDEX GUIDELINE

Put	2822	2019-12-10	2020-02-13	- 0.000705839474198	15.97701758140 20	15.193887581402 0
Put	2509	2019-12-10	2020-02-13	0.002984455757498	3.727025667217 0	4.5101556672170
Put	2819	2019-12-11	2020-02-14	- 0.000706497007285	14.80519376316 32	14.019786263163 2
Put	2506	2019-12-11	2020-02-14	0.003028612119817	3.430969770858 3	4.2163772708583
Put	2827	2019-12-12	2020-02-18	- 0.000704376734217	12.19713788794 37	11.404995387943 7
Put	2513	2019-12-12	2020-02-18	0.003039500412079	2.791611632291 2	3.5837541322912
Put	2852	2019-12-13	2020-02-19	- 0.000698357235196	11.53100346891 75	10.738803468917 5
Put	2535	2019-12-13	2020-02-19	0.003051269522664	2.616920807997 8	3.4091208079978
Put	2852	2019-12-16	2020-02-20	- 0.000698335349747	9.758587733669 9	8.9607252336699
Put	2535	2019-12-16	2020-02-20	0.003077092480519	2.345950063432 9	3.1438125634329
Put	2872	2019-12-17	2020-02-21	- 0.000693364491852	11.46261114214 41	10.664481142144 1
Put	2553	2019-12-17	2020-02-21	0.002884229434642	2.845669485922 8	3.6437994859228
Put	2873	2019-12-18	2020-02-24	- 0.000693105281340	11.67652656894 16	10.878741568941 6
Put	2554	2019-12-18	2020-02-24	0.002791890049026	2.930828742661 3	3.7286137426613
Put	2872	2019-12-19	2020-02-25	-0.00069343547520	11.07952423112 99	10.278181731129 9
Put	2553	2019-12-19	2020-02-25	0.002762671742694	2.829806353056 0	3.6311488530560
Put	2885	2019-12-20	2020-02-26	- 0.000690378757163	11.51907346599 67	10.713768465996 7
Put	2564	2019-12-20	2020-02-26	0.002703035902222	2.993460686983 1	3.7987656869831
Put	2899	2019-12-23	2020-02-27	- 0.000686940054401	12.08743343879 50	11.281430938795 0
Put	2577	2019-12-23	2020-02-27	0.002643399657058	3.051500126603 4	3.8575026266034
Put	2902	2019-12-24	2020-02-28	- 0.000686256598644	12.34923568388 30	11.543390683883 0
Put	2579	2019-12-24	2020-02-28	0.002718361662751	3.059851484768 8	3.8656964847688
Put	2901	2019-12-26	2020-03-02	- 0.000686348733517	10.96733021882 17	10.157352718821 7
Put	2579	2019-12-26	2020-03-02	0.002770030608913	2.742126983597 0	3.5521044835970



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Put	2916	2019-12-27	2020-03-03	- 0.000682817961565	13.47446352907 04	12.664458529070 4
Put	2592	2019-12-27	2020-03-03	0.002730978582910	3.235693641417 5	4.0456986414175
Put	2916	2019-12-30	2020-03-04	- 0.000682748474972	15.89607033262 84	15.090747832628 4
Put	2592	2019-12-30	2020-03-04	0.002843183083769	3.728546797542 7	4.5338692975427
Put	2899	2019-12-31	2020-03-05	- 0.000686661448478	12.50762865186 72	11.699933651867 2
Put	2577	2019-12-31	2020-03-05	0.002927472624699	2.947892946145 3	3.7555879461453
Put	2908	2020-01-02	2020-03-06	- 0.000684623462756	10.10538081117 67	9.2909183111768
Put	2585	2020-01-02	2020-03-06	0.002904792065025	2.264219971089 2	3.0786824710892
Put	2932	2020-01-03	2020-03-09	- 0.000678860673978	15.19251224707 37	14.383799747073 7
Put	2606	2020-01-03	2020-03-09	0.003029805282118	3.124933682030 6	3.9336461820306
Put	2911	2020-01-06	2020-03-10	- 0.000683614013251	12.52282962829 44	11.711259628294 4
Put	2588	2020-01-06	2020-03-10	0.003323531097094	2.595721950393 0	3.4072919503930
Put	2922	2020-01-07	2020-03-11	- 0.000681197907724	13.85808270541 79	13.048787705417 9
Put	2597	2020-01-07	2020-03-11	0.003286378704889	2.803392867373 3	3.6126878673733
Put	2913	2020-01-08	2020-03-12	- 0.000683048594555	11.31762856504 18	10.504366065041 8
Put	2590	2020-01-08	2020-03-12	0.003376531354321	2.478416157224 7	3.2916786572247
Put	2928	2020-01-09	2020-03-13	- 0.000679741931939	10.36351880852 53	9.5448438085253
Put	2602	2020-01-09	2020-03-13	0.003104025400798	2.289862282727 9	3.1085372827279

Table 7: Initial Portfolio as of 9th January 2020 for HSIEUDH4 Index

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