

INDEX GUIDELINE

HSBC SLV Series N

Version 1.0

11 November 2025

CONTENTS

Introduction	4
1. Index Specifications	5
1.1. Scope of the Index	5
1.2. Identifiers and Publication	6
1.3. Initial Level of the Index	6
1.4. Prices and calculation frequency	6
1.5. Licensing.....	6
2. the index: Index Selection	7
2.1. Selection of Index Components.....	7
2.2. Selection of the Eligible Listed Options.....	8
2.2.1. Filtering of Eligible Listed Options	8
2.2.2. Listed Options Bid/Ask Prices.....	9
2.2.3. Option purchase in the event no Eligible Listed Options identified on Selection Day.....	9
2.2.4. Option purchase in the event that selected Option is not Eligible	9
2.2.5. Option unwind in the event of no observable market.....	9
2.3. Selection of the hedge instrument.....	10
2.4. TWAP Calculation Methodology	10
2.4.1. Option execution	10
2.4.2. Hedge Instrument execution	11
2.4.3. Impact of corporate actions on held Options.....	12
3. Rebalance of the index	13
3.1. Ordinary Rebalance	13
3.2. Extraordinary Rebalance	13
4. Calculation of the Index	14
4.1. the index: Index formula	14
4.1.1. Option Portfolio Mark-To-Market.....	15
4.1.2. Continuing Option Portfolio	15
4.1.3. Delta Mark-To-Market	15
4.1.4. Cash Amount.....	16
4.1.5. Premium Paid.....	16
4.1.6. Unwind Values	17
4.1.7. Delta Hedge Values.....	17
4.1.8. Delta Hedge Cost	18

INDEX GUIDELINE

4.1.9.	Option Friction Cost	18
4.1.10.	Funding Cost calculation	18
4.2.	the index: Option Pricing Methodology	21
4.2.1.	Payoff	21
4.2.2.	Premium	21
4.2.3.	Eligible Listed Option Implied Volatility	22
4.2.4.	Option Greeks Calculation	22
4.2.5.	Portfolio Vega calculation	23
4.2.6.	Fixing Vol	23
4.2.7.	Day Count Fraction	23
4.2.8.	Discount Factor	23
4.2.9.	Maturity Selection	24
4.2.10.	Forward	24
4.2.11.	Discount Factor and Forward for an Eligible Listed Expiration Date	25
4.2.12.	Implied Volatility	26
4.3.	Accuracy	28
4.4.	Recalculation	28
4.5.	Market Disruption	28
5.	Miscellaneous	29
5.1.	Discretion	29
5.2.	Methodology Review	29
5.3.	Changes in calculation method	29
5.4.	Termination	29
5.5.	OVERSIGHT Committee	30
6.	Definitions	31
7.	Versioning	34
Contact		35

INTRODUCTION

This document (the "**GUIDELINE**") is to be used as a guideline with regard to the composition, calculation and maintenance of the HSBC SLV Series N (the "**INDEX**"). Any amendments to the rules made to the GUIDELINE are approved by the OVERSIGHT COMMITTEE specified in Section 5.5. 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.

HSBC Bank plc (the "**INDEX OWNER**") owns the copyright and all other intellectual property rights in the INDEX. Any use of these intellectual property rights may only be made with the prior written consent of the INDEX OWNER.

The INDEX OWNER is not responsible for the actions or inactions of the INDEX ADMINISTRATOR in accordance with the agreement on index administration and index calculation between the INDEX OWNER and the INDEX ADMINISTRATOR and any other separate agreements between the INDEX OWNER and the INDEX ADMINISTRATOR that have been or may be entered into from time to time.

The INDEX will be governed by the INDEX ADMINISTRATOR. The INDEX ADMINISTRATOR controls the creation and operation of the INDEX, including (but not limited to) all stages and processes involved in the production, calculation, maintenance, administration and dissemination of the INDEX. Notwithstanding that the INDEX relies on information from third party sources, the INDEX ADMINISTRATOR has primary responsibility for all aspects of the INDEX administration and determination process.

In no event shall the INDEX OWNER be liable (whether directly or indirectly, in contract, tort or otherwise) for any loss incurred by any person that arises out of or in connection with the INDEX, including in relation to the performance by the INDEX OWNER of any part of its role in respect of the INDEX, save in the case of gross negligence, fraud or wilful default. In no event, shall the INDEX OWNER have any liability to any persons for any direct, indirect, special, punitive or consequential damages (including lost profits) even if notified of the possibility of such damages.

With respect to any products linked to any index, the INDEX OWNER expressly disclaims all liability for regulatory, juridical or reputational consequences suffered by any party in any transaction connected with the INDEX.

The GUIDELINE and the policies and methodology documents referenced herein contain the underlying principles and rules regarding the structure and operation of the INDEX. The INDEX ADMINISTRATOR does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of the INDEX nor the level of the INDEX at any certain point in time nor in any other respect. The INDEX ADMINISTRATOR strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for The INDEX ADMINISTRATOR – irrespective of possible obligations to issuers – to advise third parties, including investors and/or financial intermediaries, of any errors in the INDEX. The publication of the INDEX by The INDEX ADMINISTRATOR does not constitute a recommendation for capital investment and does not contain any assurance or

opinion of The INDEX ADMINISTRATOR regarding a possible investment in a financial instrument based on the 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	The INDEX is a rules-based strategy which will aims to track the performance of a portfolio of out-of-the-money put options and shares. Each day, the INDEX notionally enters a long position in a listed put option in respect of the UNDERLYING STOCK with a target maturity of 1 year and a strike price close to 75% moneyness (see Section 2.1 below for further details on strike price and maturity selection). The options comprised in the portfolio are delta hedged daily and subsequently unwound approximately 3 months prior to their expiry. The INDEX is calculated on a notional basis. The investment exposure provided by the INDEX is purely synthetic and an investor in the INDEX will have no rights in respect of any such options and shares. This portfolio will aim to capture the difference between the market implied volatility of the listed options held in the portfolio and the realized volatility of the UNDERLYING STOCK.
Regional Allocation	North America

Table 1: Index Overview

1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifier:

Name	ISIN	Index Currency	Type	BBG ticker	RIC
HSBC SLV Series N	DE000SLOSBB2	USD	Excess Return	HSIESLVN	.HSIESLVN

The INDEX is published on the website of the INDEX ADMINISTRATOR (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.

1.4. PRICES AND CALCULATION FREQUENCY

The level of the INDEX is 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 .

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.

2. THE INDEX: INDEX SELECTION

2.1. SELECTION OF INDEX COMPONENTS

On each CALCULATION DAY t that constitutes an ELIGIBLE TRADING DATE, a predetermined number of units of a target **LISTED OPTION** shall be executed in connection with the INDEX.

The predetermined number of units to be executed shall be established on the SELECTION DAY, being the CALCULATION DAY immediately preceding CALCULATION DAY t .

The parameters of the INDEX are defined below:

PARAMETER	GUIDELINES NOTATION	HSIESLVN
UNDERLYING STOCK		NVDA US Equity
UNDERLYING STOCK CLOSING PRICE	S_t^{close}	NVDA US Equity official closing price on CALCULATION DAY t
LISTED OPTIONS		NVDA US Equity Listed Options
DELTA HEDGE FEE	dhf	0.015%
OPTION VEGA FEE	ovf	0.5
SELECTION DAY		CALCULATION DAY immediately preceding CALCULATION DAY t
TRADE DATE	TD_O	Purchase date of OPTION O
EXPIRATION DATE	TE_O	As defined below in this Section 2.1
UNWIND DATE	TU_O	As defined below in this Section 2.1
ALLOCATED BUDGET	AB	$\frac{2\%}{185}$
NUMBER OF UNITS	$Units_{t,O}$	$\frac{Index_{t-1}^{ER}}{Vega_{SD_0}} \cdot AB$

Table 2: Options' Characteristics

Where:

$Index_{t-1}^{ER}$: the EXCESS RETURN LEVEL of the INDEX as determined in Section 4.1

Target Strike_t: means, with respect to CALCULATION DAY t , the target **STRIKE PRICE** relating to CALCULATION DAY t . This shall be calculated as 75% of the UNDERLYING STOCK CLOSING PRICE on the SELECTION DAY relating to CALCULATION DAY t .

$$Target\ Strike_t = 0.75 \cdot EOD_{t-1}$$

Adjusted K_t : means the scaled value of **Target Strike $_t$** on CALCULATION DAY t . If a stock-split or reverse stock-split of the **UNDERLYING STOCK** becomes effective between the SELECTION DAY associated to CALCULATION DAY t and CALCULATION DAY t , the **Adjusted K_t** shall reflect an appropriate adjustment to ensure that the scaling is consistent with the stock-split or reverse stock-split as applicable. In the absence of such an event, the **Adjusted K_t** and **Target Strike $_t$** will be equal.

$$\text{Adjusted } K_t = \frac{\text{Target Strike}_t}{\text{StockSplit}_{t-1,t}}$$

K_t : means the **ELIGIBLE LISTED STRIKE** with EXPIRATION DATE **TE_O** which is the closest to **Adjusted K_t** . If two different **STRIKE PRICES** satisfy this condition, the lower **STRIKE PRICE** shall be selected.

StockSplit $_{t-1,t}$: as defined in Section 2.4.3

EOD $_{t-1}$: as defined in Section 2.4.2

TE_O : means the first **ELIGIBLE LISTED EXPIRATION DATE** observed as of the SELECTION DAY associated to CALCULATION DAY t , falling on or after the 250th CALCULATION DAY following CALCULATION DAY t which falls either in June or January

Units $_{TR,O}$: means the **NUMBER OF OPTIONS** originally purchased on TRADE DATE **TD_O** for the portfolio for OPTION **O** . For the avoidance of any doubt, in the event of a stock-split or reverse stock-split in respect of the **UNDERLYING STOCK** between SELECTION DAY and the associated CALCULATION DAY, the number of units traded shall reflect an appropriate adjustment to ensure that the scaling is consistent with the stock-split or reverse stock-split as applicable.

Vega $_{SD,O}$: means the **VEGA** of OPTION **O** in respect of SELECTION DAY t

TU $_O$: means the 185th **ELIGIBLE TRADING DATE** post **TD_O**

2.2. SELECTION OF THE ELIGIBLE LISTED OPTIONS

2.2.1. Filtering of Eligible Listed Options

On any CALCULATION DAY t , a LISTED OPTION is an "ELIGIBLE LISTED OPTION" if (i) its **STRIKE PRICE** is an **ELIGIBLE LISTED STRIKE**, and (ii) its **EXPIRATION DATE** is an **ELIGIBLE LISTED EXPIRATION DATE**, as defined below:

1. A "**ELIGIBLE LISTED EXPIRATION DATE**" means an **EXPIRATION DATE** in respect of a LISTED OPTION where the following condition is satisfied: There are not less than two corresponding listed **STRIKE PRICES**

with **BID PRICES** and **ASK PRICES** for both CALL OPTIONS and PUT OPTIONS, where the **BID PRICES** are lower than or equal to the corresponding **ASK PRICES**.

2. An "**ELIGIBLE LISTED STRIKE**" means a STRIKE PRICE in respect of a LISTED OPTION where the following condition is satisfied: The OPTION has a **BID PRICE** and an **ASK PRICE**, where the **BID PRICE** is lower than or equal to the **ASK PRICE**.

2.2.2. Listed Options Bid/Ask Prices

On any CALCULATION DAY t in respect of the Options TWAP Window:

1. The LISTED BID PRICE for each available LISTED OPTION is the TWAP Bid¹ in respect of such OPTION, as such term is defined in Section 2.4., and
2. The LISTED ASK PRICE for each available LISTED OPTION is the TWAP Ask² in respect of such OPTION, as such term is defined in Section 2.4,
3. The LISTED MID PRICE for each available LISTED OPTION is the TWAP Mid³ in respect of such OPTION, as such term is defined in Section 2.4.

This Section 2.2.2 is subject to the proviso that if, on any CALCULATION DAY t , the STRIKE PRICE of an OPTION comprised in the portfolio is not an **ELIGIBLE LISTED STRIKE**, such OPTION'S ASK PRICE, BID PRICE or MID PRICE (as appropriate) is computed according to Section 4.2 using (1) an **IMPLIED VOLATILITY** determined in accordance with Section 4.2.12 using LISTED ASK PRICE, LISTED BID PRICE or LISTED MID PRICE (as appropriate), and (2) a FORWARD and a DISCOUNT FACTOR determined in accordance with Section 4.2.8 and 4.2.10 using LISTED MID PRICES.

2.2.3. Option purchase in the event no Eligible Listed Options identified on Selection Day

If on a SELECTION DAY no **ELIGIBLE LISTED OPTIONS** are identified, there shall be no **OPTION** execution on the related CALCULATION DAY.

2.2.4. Option purchase in the event that selected Option is not Eligible

If on a CALCULATION DAY t , a **LISTED OPTION** proposed to be purchased as described in Section 2.1 is not an **ELIGIBLE LISTED OPTION**, there shall be no execution in respect of such **LISTED OPTION**.

2.2.5. Option unwind in the event of no observable market

On any given CALCULATION DAY t , for any **OPTION O** which is proposed to be unwound on such date, if there is no observable market identified, the **OPTION O** unwind price will be interpolated as described in Section 4.2

¹ Provided that prior to the **LIVE DATE**, the end of day valuation **EXCHANGE BID PRICE** was used, and not the TWAP Bid.

² Provided that prior to the **LIVE DATE**, the end of day valuation **EXCHANGE ASK PRICE** was used, and not the TWAP Ask.

³ Provided that prior to the **LIVE DATE**, the average of the end of day valuation **EXCHANGE BID PRICE** and end of day valuation **EXCHANGE ASK PRICE** was used, and not the TWAP Mid.

2.3. SELECTION OF THE HEDGE INSTRUMENT

On any CALCULATION DAY t , the **HEDGE INSTRUMENT** is the **UNDERLYING STOCK**, being the underlying equity security that is associated with the **OPTION** contract.

The TWAP calculation methodology in respect of the **HEDGE INSTRUMENT** is set out in Section 2.4 below.

2.4. TWAP CALCULATION METHODOLOGY

This Section sets out the calculation methodology for time weighted average prices with respect to **OPTIONS** and the **HEDGE INSTRUMENT**, such prices comprising each of the **TWAP BID**, **TWAP ASK**, **TWAP MID** and **TWAP LAST**.

2.4.1. Option execution

The tables below define the “**START TIME**” and “**END TIME**” of each of the observations periods and execution periods that are used to compute the **TWAP BID**, **TWAP ASK**, **TWAP MID** and **TWAP LAST**.

All hours follow those of the New York Stock Exchange time zone (EST time).

Half Trading Day?	Start Time	End Time	Bucket Size
No	15:50	16:00	1 second
Yes	12:50	13:00	1 second

Table 3: Option TWAP Window

TWAP MID, TWAP BID, TWAP ASK, TWAP LAST

“**TWAP MID**” is defined as the time weighted average mid-price on a given second s over a window of n seconds, calculated in accordance with the following formula:

$$TWAP_s^n(Mid) = \frac{TWAP_s^n(Bid) + TWAP_s^n(Ask)}{2}$$

Where:

$$TWAP_s^n(Bid) = \text{TWAP BID as defined below}$$

$$TWAP_s^n(Ask) = \text{TWAP ASK as defined below}$$

“**TWAP BID**” is defined as the time weighted average bid price on a given second s over a window of n seconds, calculated in accordance with the following formula:

$$TWAP_s^n(Bid) = \frac{1}{n'} \sum_{i=0}^{n-1} Bid(s-i)$$

Where:

- **Bid(*t*)** is the prevailing **EXCHANGE BID PRICE** of a Valid Quote at time *t* or, if no Valid Quote is observed at this time, zero;
- ***n'***: represents the number of Valid Quotes in the interval in which the average is computed.
- "Valid Quote": An **EXCHANGE BID PRICE/EXCHANGE ASK PRICE** quote is deemed to be a Valid Quote if both **EXCHANGE BID PRICE** and **EXCHANGE ASK PRICE** are non-null, with (i) the **EXCHANGE ASK PRICE** being greater to the **EXCHANGE BID PRICE**, and (ii) the **EXCHANGE BID PRICE** being above zero.

"**TWAP ASK**" is defined as the time weighted average ask price on a given second *s* over a window of *n* seconds, calculated in accordance with the following formula:

$$TWAP_s^n(Ask) = \frac{1}{n'} \sum_{i=0}^{n-1} Ask(s - i)$$

Where:

- **Ask(*t*)** is the prevailing **EXCHANGE ASK PRICE** of the Valid Quote at time *t* or, if no Valid Quote is observed at this time, zero;
- ***n'***: represents the number of Valid Quotes in the interval in which the average is computed.
- "Valid Quote": An **EXCHANGE BID PRICE/EXCHANGE ASK PRICE** quote is deemed to be a Valid Quote if both **EXCHANGE BID PRICE** and **EXCHANGE ASK PRICE** are non-null, with (i) the **EXCHANGE ASK PRICE** being greater than or equal to the **EXCHANGE BID PRICE**, and (ii) the **EXCHANGE BID PRICE** being above zero.

"**TWAP LAST**" is defined as the time weighted average ask price on a given second *s* over a window of *n* seconds, calculated in accordance with the following formula:

$$TWAP_s^n(Last) = \frac{1}{n} \sum_{i=0}^{n-1} Last(s - i)$$

Where:

- **Last(*t*)** is the prevailing **EXCHANGE LAST PRICE** at time *t*
- ***n***: represents the number of **EXCHANGE LAST PRICE** quotes in the interval in which the average is computed.

2.4.2. *Hedge Instrument execution*

This Section sets out the calculation methodology for the **Fixing Spot_{*t*}**, **EOD_{*t*}** and **NbShares_{*t*}** values.

For each CALCULATION DAY *t*:

- **Fixing Spot_t** is calculated as the mid-point between the average closing bid (observed in a 5min time interval across 1 second windows) and the average closing ask (observed in a 5min time interval across 1 second windows). The determination of the window depends on whether CALCULATION DAY t is a HALF TRADING DAY or not:
 - o If CALCULATION DAY t is a HALF TRADING DAY: window start: 12:30:00 / window end: 12:35:00
 - o If CALCULATION DAY t is not a HALF TRADING DAY: window start: 15:30:00 / window end: 15:35:00
- **EOD_t** corresponds to the 'Market on Close' official level for the **HEDGE INSTRUMENT** on the UNDERLYING STOCK EXCHANGE.
- **NbShares_t** corresponds to the number of shares held by the portfolio following any shares execution on CALCULATION DAY t.

2.4.3. *Impact of corporate actions on held Options*

The INDEX methodology with regards to corporate actions in respect of the **UNDERLYING STOCK** and its associated listed option market shall adhere to the Options Clearing Corporation's by-laws, rules and guidelines for the treatment of corporate actions (the OCC rules). This ensures consistency with listed derivatives markets.

All adjustments to **STRIKE PRICES** and OPTION contract deliverables determined in accordance with OCC rules shall be implemented in the calculations in respect of the INDEX effective as of the ex-dividend or ex-distribution date or such other date as specified in respect of the applicable corporate action.

Strike Price Adjustments:

The OCC may adjust the **STRIKE PRICE** of affected OPTIONS to preserve the economic value of the OPTION contract. The adjustments are calculated using OCC's standardized formulas, ensuring that the aggregate value of the OPTION position remains unchanged for the holder.

Number of Shares per contract:

The number of shares deliverable upon exercise of any affected OPTION shall be adjusted in accordance with OCC rules.

For any given OPTION **O** purchased at **TD_O**, that same OPTION on a CALCULATION DAY t falling later than **TD_O** will have its **STRIKE PRICE** adjusted in line with the OCC rules.

For each OPTION contract **ScaleFactor_{O,t}** will be defined as the cumulative contract adjustments from the OPTION trade date **TD_O**, up-to CALCULATION DAY t and each OPTION will have on CALCULATION DAY t its **STRIKE PRICE** adjusted in line with the OCC rules.

For any given OPTION **O**; **Units_{O,t}** represents the number of OPTIONS held by the INDEX on CALCULATION DAY t taking into account all corporate actions and their related adjustments that occurred between the OPTION **O** TRADE DATE **TD_O** and CALCULATION DAY t.

StockSplit_{t₁,t₂} shall represent the product of all contract multipliers between **t₁** and **t₂**

3. REBALANCE OF THE INDEX

3.1. ORDINARY REBALANCE

No ordinary rebalance takes place with respect to the **INDEX**.

3.2. EXTRAORDINARY REBALANCE

No extraordinary rebalance takes place with respect to the **INDEX**.

4. CALCULATION OF THE INDEX

4.1. THE INDEX: INDEX FORMULA

The "EXCESS RETURN LEVEL" of the INDEX $Index_t^{ER}$ is calculated in accordance with the following formula:

- In relation to START DATE t_0 :

$$Index_{t_0}^{ER} = 100$$

- On each following CALCULATION DAY t :

$$Index_t^{ER} = Index_{t-1}^{ER} + Index_t^{TR} - Index_{t-1}^{TR} \times (1 + ON_{t-1} \times \frac{Act(t-1, t)}{360})$$

The "TOTAL RETURN LEVEL" of the INDEX $Index_t^{TR}$ is calculated in accordance with the following formula:

- In relation to START DATE t_0 :

$$Index_{t_0}^{TR} = 100$$

- On each following CALCULATION DAY t :

$$Index_t^{TR} = Option\ Portfolio MtM_t + Delta\ MtM_t + Cash_t$$

Where:

$Index_t^{TR}$: means the TOTAL RETURN LEVEL of the INDEX on CALCULATION DAY t

$Index_{t-1}^{TR}$: means the TOTAL RETURN LEVEL of the INDEX on CALCULATION DAY $t-1$

$Index_t^{ER}$: means the EXCESS RETURN LEVEL of the INDEX on CALCULATION DAY t

$Index_{t-1}^{ER}$: means the EXCESS RETURN LEVEL of the INDEX on CALCULATION DAY $t-1$

ON_{t-1} : Overnight rate (SOFRRATE Index, provided that prior to 2 April 2018 FEDL01 Index is used) level on CALCULATION DAY $t-1$ (or, if such a rate is not available, the immediately preceding rate)

$Act(t-1, t)$: means the number of calendar days from, and including, CALCULATION DAY $t-1$ to, but excluding, the CALCULATION DAY t

$Option\ Portfolio MtM_t$: means the OPTION PORTFOLIO MARK-TO-MARKET in respect of CALCULATION DAY t

$Cash_t$: means the CASH AMOUNT in respect of CALCULATION DAY t

$Delta\ MtM_t$: means the DELTA MARK-TO-MARKET in respect of CALCULATION DAY t

4.1.1. Option Portfolio Mark-To-Market

In relation to CALCULATION DAY t , the OPTION PORTFOLIO MARK-TO-MARKET *OptionPortfolioMtM* is calculated in accordance with the following formula

$$OptionPortfolioMtM_t = \sum_{\substack{O \in COP_t \\ TU_O > t}} Units_{O,t} \times Mid_{t,O}$$

Where:

COP_t : each OPTION O comprising the CONTINUING OPTION PORTFOLIO in respect of CALCULATION DAY t , as described in Section 4.1.2

$Units_{O,t}$: the NUMBER OF UNITS in respect of OPTION O as defined in Section 2.1.

$Mid_{t,O}$: the MID PRICE of OPTION O in respect of CALCULATION DAY t

TU_O : the UNWIND DATE of OPTION O as defined in Section 2.1.

TE_O : the EXPIRATION DATE of OPTION O as defined in Section 2.1.

4.1.2. Continuing Option Portfolio

In relation to CALCULATION DAY t , the CONTINUING OPTION PORTFOLIO COP_t is the set comprising of each OPTION O that satisfies the following criteria:

- TRADE DATE (TR_O) in respect of OPTION O falls on or prior to CALCULATION DAY t
- EXPIRATION DATE (TE_O) in respect of OPTION O falls on or after CALCULATION DAY t
- UNWIND DATE (TU_O) in respect of OPTION O falls on or after CALCULATION DAY t

4.1.3. Delta Mark-To-Market

In relation to CALCULATION DAY t , the DELTA MARK-TO-MARKET *Delta MtM_t* is defined as:

- $Delta MtM_t = EOD_t \cdot NbShares_t$
- $NbShares_t = - \sum_{\substack{O \in COP_t \\ TU_O > t \text{ AND } TE_O > t}} Units_{O,t} \cdot Delta_{O,t}$

Where:

EOD_t : as defined in Section 2.4.2

$Delta_{O,t}$: the NUMBER OF SHARES of **HEDGE INSTRUMENT** held on calculation date t in respect of OPTION O as defined in Section 4.2.4

4.1.4. Cash Amount

The CASH AMOUNT $Cash_t$ is calculated in accordance with the following formula:

- In relation to START DATE t_0 :

$$Cash_{t_0} = 100$$

- On each following CALCULATION DAY t :

$$Cash_t = Cash_{t-1} \times \left(1 + ON_{t-1} \times \frac{ACT_{t-1,t}}{360} \right) - PR_t + UV_t + DHV_t - DHC_t - OPTF_t + DHCC_t$$

Where:

PR_t : the PREMIUM PAID in respect of CALCULATION DAY t

UV_t : the UNWIND VALUES in respect of CALCULATION DAY t

DHV_t : the DELTA HEDGE VALUES in respect of CALCULATION DAY t

DHC_t : the DELTA HEDGE FRICTION COST in respect of CALCULATION DAY t

$OPTC_t$: the OPTION FRICTION COST in respect of CALCULATION DAY t

ON_{t-1} : the Overnight rate (SORFRATE Index) level as of the CALCULATION DAY $t-1$ (or, if such a rate is not available, the immediately preceding rate)

$DHCC_t$: the DELTA HEDGE CARRY COST

$ACT_{t-1,t}$: the number of calendar days from, and including, CALCULATION DAY $t-1$ to, but excluding CALCULATION DAY t

4.1.5. Premium Paid

In relation to CALCULATION DAY t , the PREMIUM PAID PR_t is calculated in accordance with the following formula:

$$PR_t = \sum_{O \in COP_t \text{ AND } TR_O = t} P_{O,t}$$

With

$$P_{O,t} = Units_{O,t} \cdot \text{Max}(0, Mid_{t,O})$$

Where:

COP_t : each OPTION O comprising the CONTINUING OPTION PORTFOLIO in respect of CALCULATION DAY t , as described in Section 4.1.2.

$Units_{O,t}$: the NUMBER OF UNITS in respect of OPTION O as defined in Section 2.1

TR_O : the TRADE DATE of OPTION O as defined in Section 2.1

$Mid_{t,O}$: the MID PRICE of OPTION O in respect of CALCULATION DAY t

4.1.6. Unwind Values

In relation to CALCULATION DAY t , the UNWIND VALUES UV_t is calculated in accordance with the following formula:

$$UV_t = \sum_{O \in COP_t \text{ AND } TU_O=t \text{ AND } TE_O > t} UV_{O,t}$$

With

$$UV_{O,t} = Units_{O,t} \times \text{Max}(0, Mid_{t,O})$$

Where:

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

$Mid_{t,O}$: the MID PRICE of OPTION O in respect of CALCULATION DAY t

4.1.7. Delta Hedge Values

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

$$DHV_t = (StockSplit_{t-1,t} \cdot NbShares_{t-1} - NbShares_t) \cdot EOD_t$$

Where:

EOD_t : as defined in Section 2.4.2

$StockSplit_{t-1,t}$ represents the scaling factor if a stock-split / reverse stock-split occurs between CALCULATION DAY $t-1$ and CALCULATION DAY t .

For the avoidance of any doubt, $StockSplit_{t-1,t} \cdot Units_{O,t-1} \cdot Delta_{t-1,O}$ shall represent the number of shares held on CALCULATION DAY $t-1$ for OPTION O corrected by any stock-split / reverse stock-split which might have occurred between CALCULATION DAY $t-1$ and CALCULATION DAY t .

4.1.8. Delta Hedge Cost

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

$$DHC_t = abs(DHV_t) \cdot dhf$$

Where:

dhf : is the delta hedge fee 0.00015 (1.5 basis points)

abs : is the absolute value function

4.1.9. Option Friction Cost

In relation to CALCULATION DAY t , the OPTION FRICTION COST $OPTC_t$ is calculated in accordance with the following formula:

$$OPTF_t = \sum_{O \in COP_t \text{ AND } (TU_0 = t \text{ OR } TD_0 = t)} Units_{O,t} \cdot Vega(O_t) \cdot ovf$$

Where:

$Vega(O_t)$: the VEGA of OPTION O in respect of CALCULATION DAY t as defined in Section 4.2.4

ovf means the Option VEGA FEE

4.1.10. Funding Cost calculation

In relation to CALCULATION DAY t , the Delta Hedge Carry Cost ($DHCC_t$) is calculated in accordance with the following formula:

$$DHCC_t = \left(-1 \cdot Delta MtM_{t-1} \cdot Repo_{t-1} \cdot \frac{ACT_{t-1,t}}{360} \right) + Div_t$$

Where:

$Delta MtM_{t-1}$: means the mark-to-market of the delta position on CALCULATION DAY $t-1$

$Repo_t$: is calculated using the published daily settlement price of Basis Trade at Index Close (BTIC) on the Adjusted Interest Rate Total Return Futures, in accordance with the Steps set out below:

Step 0: If CALCULATION DAY is prior to the first CALCULATION DAY of 2024, $Repo_t$ is defaulted to 85 basis points

Step 1: Identify the NEAR CONTRACT and FAR CONTRACT

- From the Eligible Contracts as defined in the Adjustment Rate Reference Contracts table below, the contract with EXPIRATION DATE closest to and prior to (including on) CALCULATION DAY $t + 1$ year is selected as the NEAR CONTRACT.
- From the Eligible Contracts as defined in the Adjustment Rate Reference Contracts table below, the contract with EXPIRATION DATE closest to and after (excluding on) CALCULATION DAY $t + 1$ year is selected as the FAR CONTRACT.

Adjustment Rate Reference Contract	Contract Type	Exchange	Exchange Ticker	Eligible Contracts	Spread
Adjusted Interest Rate S&P 500 Total Return (EFFR) Futures	Basis Trade at Index Close (BTIC) contracts	CME	AST	H, M, U, Z	0.0

Where

$$\text{CALCULATION DAY } t + 1\text{year} \begin{cases} \text{date}(\text{year}(t) + 1, \text{month}(t), \text{day}(t) - 1), & \text{if } \text{month}(t) = 2 \text{ and } \text{day}(t) = 29 \\ \text{date}(\text{year}(t) + 1, \text{month}(t), \text{day}(t)), & \text{otherwise} \end{cases}$$

With

$\text{date}(y, m, d)$: means the calendar day with year of y , month of m , and day of d

$\text{year}(x)$: means the year of a calendar day x

$\text{month}(x)$: means the month of a calendar x

$\text{day}(x)$: means the day of a calendar day x

Step 2: Interpolation of Basis Trade at Index Close (BTIC) to get Adjustment Rate:

- If FC_t is unavailable due to a missing listing, the NEAR CONTRACT NC_t is used instead such that $AdjRate_t = NC_t$
- Else:

$$AdjRate_t = NC_t + (FC_t - NC_t) \cdot \frac{N_{year,t} - N_{NCexpiry,t}}{N_{FCexpiry,t} - N_{NCexpiry,t}}$$

Where:

NC_t : means the published settlement price of the NEAR CONTRACT quoted in basis points expressed as an annualized number, on CALCULATION DAY t . For clarity, the value is typically presented in basis points (e.g., 50, representing 0.50%) and will be used directly in the formula as 0.50%

FC_t : means the published settlement price for FAR CONTRACT, quoted in basis points expressed as an annualized number, on CALCULATION DAY t . For clarity, the value is typically presented in basis points (e.g., 50, representing 0.50%) and will be used directly in the formula as 0.50%

$N_{year,t}$: means the number of calendar days between CALCULATION DAY t (including) and CALCULATION DAY $t + 1$ yr (excluding)

$N_{NCexpiry,t}$: means the number of calendar days between CALCULATION DAY t (including) the and EXPIRATION DATE of NEAR CONTRACT (excluding)

$N_{FCexpiry,t}$: means the number of calendar days between CALCULATION DAY t (including) the and EXPIRATION DATE of FAR CONTRACT (excluding)

Div_t : means dividend payments the INDEX is entitled to with regards to the shares held on the last CALCULATION DAY prior to the ex-dividend date. The determination shall be as follows:

$$\left\{ \begin{array}{l} \text{if CALCULATION DAY } t \text{ is not a dividend ex - date then;} \\ \quad \quad \quad \mathbf{Div\ payments}_t = 0 \\ \text{if CALCULATION DAY } t \text{ is a dividend ex - date then;} \\ \quad \quad \quad \mathbf{Div\ payments}_t = \mathbf{NBShares}_{t-1} \cdot \mathbf{StockSplit}_{t-1,t} \cdot \mathbf{Div}_t \end{array} \right.$$

4.2. THE INDEX: OPTION PRICING METHODOLOGY

4.2.1. Payoff

For 1 unit of OPTION with STRIKE PRICE K_O on its EXPIRATION DATE,

$$Payoff = \text{Max}(0, K_O - EOD_{TE_O})$$

4.2.2. Premium

In relation to OPTION O , the PREMIUM $PX_{t,O}$ as of CALCULATION DAY t is calculated in accordance with the following formula:

$$\begin{aligned} PX_{t,O} &= PX(t, CP, Fwd_{t,TE_O}, DF_{t,TE_O}, TE_O, K_O, \sigma_{t,K_O,TE_O}) \\ &= DF_{t,TE_O} \times CP \\ &\quad \times \left(Fwd_{t,TE_O} \times N\left(CP \times d_{1,K_O,TE_O,t}(\sigma_{t,K_O,TE_O})\right) - K_O \times N\left(CP \times d_{2,K_O,TE_O,t}(\sigma_{t,K_O,TE_O})\right) \right) \end{aligned}$$

- With:

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

and

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

Where:

Fwd_{t,TE_O} : the FORWARD in relation to CALCULATION DAY t and EXPIRATION DATE TE_O as calculated in accordance with Section 4.2.10

DF_{t,TE_O} : the DISCOUNT FACTOR in relation to CALCULATION DAY t and EXPIRATION DATE TE_O as calculated in accordance with Section 4.2.8

σ_{t,K_O,TE_O} : the **IMPLIED VOLATILITY** σ as of CALCULATION DAY t in relation to STRIKE PRICE K_O of OPTION O and EXPIRATION DATE TE_O as calculated in accordance with Section 4.2.12.

$DCF_{t,TE}$: the DAY COUNT FRACTION in respect to EXPIRATION DATE TE as of CALCULATION DAY t as defined in Section 0

K_O : the STRIKE PRICE of OPTION O

TE_O : the EXPIRATION DATE of OPTION O

$N(x)$: CUMULATIVE DISTRIBUTION FUNCTION of the Standard Normal Distribution, being a value computed according to the following formula:

$$N(x) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^x e^{-\frac{u^2}{2}} du$$

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

4.2.3. Eligible Listed Option Implied Volatility

The ELIGIBLE LISTED OPTION IMPLIED VOLATILITY in relation to an ELIGIBLE LISTED OPTION O with STRIKE PRICE K and EXPIRATION DATE TE on any CALCULATION DAY t is calculated as the **IMPLIED VOLATILITY** σ for which the PREMIUM for such OPTION matches the price of the ELIGIBLE LISTED OPTION (LISTED BID PRICE, LISTED ASK PRICE, or LISTED MID PRICE):

$$Price_{t,O}^{TE,K} = PX_{t,O} = PX(CP, Fwd_{t,TE}^{Cash}, DF_{t,TE}, K, t, TE, \sigma)$$

Where:

$Price_{t,O}^{TE,K}$: is either the LISTED BID PRICE, LISTED ASK PRICE or LISTED MID PRICE in respect of CALCULATION DAY t of the ELIGIBLE LISTED OPTION O expiring on EXPIRATION DATE TE with a STRIKE PRICE K

$PX_{t,O}$: The PREMIUM of OPTION O as of CALCULATION DAY t as determined in accordance with Section 4.2.2.

CP : The OPTION TYPE of ELIGIBLE LISTED OPTION O expiring on EXPIRATION DATE TE with a STRIKE PRICE K

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

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

4.2.4. Option Greeks Calculation

The DELTA and VEGA of any OPTION O are computed in accordance with the following formulas:

The DELTA $Delta_{t,O}$ of OPTION O as of CALCULATION DAY t is calculated as follows:

With:

$$Delta_{t,O} = CP \cdot DF_{t-1,TE,O} \cdot \frac{CFwd_{t,TE,O}}{FixingSpot_t} \cdot N \left(\frac{CP \cdot \frac{\log\left(\frac{CFwd_{t,TE,O}}{K_{O,t}}\right) + \frac{\sigma_{t-1,K_{O,t-1},TE,O}^2}{2} \times DCF_{t,TE,O}}{\sigma_{t-1,K_{O,t-1},TE,O} \times \sqrt{DCF_{t,TE,O}}}}{1} \right)$$

Where:

CP : whether the OPTION O is **OPTION TYPE** Call ($CP = 1$) or **OPTION TYPE** Put ($CP = -1$)

$K_{O,t}$: represents the **STRIKE PRICE** of OPTION O observed at time t . The recursive relationship between two consecutive CALCULATION DAY is given by:

$$K_{O,t} = K_{O,t-1} / StockSplit_{t-1,t}$$

$DCF_{t,TE,O}$: The DAY COUNT FRACTION in respect to EXPIRATION DATE TE_O of OPTION O as of CALCULATION DAY t as defined in Section 0.

$CFwd_{t,TE,O}$: means the computed forward on CALCULATION DAY t with respect to EXPIRATION DATE TE_O defined as:

$$CFwd_{t,TE_0} = \text{Fixing Spot}_t \cdot \frac{Fwd_{t-t,TE_0}^{cash}}{EOD_{t-1}}$$

And:

The VEGA $Vega_{t,o}$ of OPTION O as of CALCULATION DAY t is calculated as follows:

$$\begin{aligned} Vega_{t,o} &= Vega(t, CP, Fwd_{t,TE}^{cash}, DF_{t,TE_0}, TE_0, K_O, \sigma_{t,K_O,TE_0}) \\ &= DF_{t,TE_0} \times Fwd_{t,TE_0} \times N'(d_{1,O,t}(\sigma_{t,K_O,TE_0})) \times \sqrt{DCF_{t,TE_0}} \end{aligned}$$

4.2.5. Portfolio Vega calculation

The PORTFOLIO VEGA on CALCULATION DAY t represents the aggregate Vega exposure of all OPTIONS as of such CALCULATION DAY t other than those purchased or unwound on such CALCULATION DAY t . It is calculated solely for the purpose of determining certain costs relating to transactions referencing the INDEX.

The PORTFOLIO VEGA on CALCULATION DAY t is determined as follows:

$$(Portfolio\ Vega)_t = \sum_{O \in COP_t \& TR_0 < t \& TU_0 > t} Units_{O,t} \cdot Vega_{O,t}$$

4.2.6. Fixing Vol

On CALCULATION DAY t , the FIXING VOL is defined as the implied volatility calculated in respect of the OPTION purchased on CALCULATION DAY t as described in Section 4.2.12. It is used solely for the purpose of determining certain costs relating to transactions referencing the INDEX. For the avoidance of any doubt, if no OPTION execution occurs on CALCULATION DAY t , no FIXING VOL shall be determined for that day.

4.2.7. 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 (but excluding) EXPIRATION DATE TE divided by (ii) 252.

4.2.8. Discount Factor

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

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

Where:

T_1 : means the ELIGIBLE LISTED EXPIRATION DATE T_1 selected in accordance with Section 4.2.9

T_2 : means the ELIGIBLE LISTED EXPIRATION DATE T_2 selected in accordance with Section 4.2.9

DF_{t,T_1} : the DISCOUNT FACTOR in relation to CALCULATION DAY t and ELIGIBLE LISTED EXPIRATION DATE T_1 calculated in accordance with Section 4.2.9. If $T_1 = t$, then the DISCOUNT FACTOR in relation to CALCULATION DAY t and ELIGIBLE LISTED EXPIRATION DATE T_1 is 1.

DF_{t,T_2} : the DISCOUNT FACTOR in relation to CALCULATION DAY t and ELIGIBLE LISTED EXPIRATION DATE T_2 calculated in accordance with Section 4.2.9.

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

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

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

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

4.2.9. Maturity Selection

In relation to CALCULATION DAY t and EXPIRATION DATE TE , two EXPIRATION DATES T_1, T_2 are selected with regards to TE following the below methodology:

- Where EXPIRATION DATE TE is lower than any EXPIRATION DATE within the set of ELIGIBLE LISTED EXPIRATION DATES, $T_1 = t$ and T_2 is the shortest ELIGIBLE LISTED EXPIRATION DATE in respect of CALCULATION DAY t .
- Where EXPIRATION DATE TE is strictly greater than any EXPIRATION DATE within the set of ELIGIBLE LISTED EXPIRATION DATES, $T_1 = T_2 = TE$.
- Otherwise, (i) T_1 is the furthest ELIGIBLE LISTED EXPIRATION DATE in respect of CALCULATION DAY t that is less than or equal to TE , and (ii) T_2 is the shortest ELIGIBLE LISTED EXPIRATION DATE in respect of CALCULATION DAY t that is greater than or equal to TE .

-

4.2.10. Forward

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

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

Where:

T_1 : means the ELIGIBLE LISTED EXPIRATION DATE T_1 selected in accordance with Section 4.2.9

T_2 : means the ELIGIBLE LISTED EXPIRATION DATE T_2 selected in accordance with Section 4.2.9

Fwd_{t,T_1} : the FORWARD in relation to CALCULATION DAY t and EXPIRATION DATE T_1 calculated in accordance with Section 4.2.11. If $T_1 = t$, then the FORWARD in relation to CALCULATION DAY t and EXPIRATION DATE T_1 is the UNDERLYING CLOSING INDEX LEVEL as of CALCULATION DAY t

Fwd_{t,T_2} : the FORWARD in relation to CALCULATION DAY t and EXPIRATION DATE T_2 calculated in accordance with Section 4.2.11

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

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

4.2.11. Discount Factor and Forward for an Eligible Listed Expiration Date

In relation to CALCULATION DAY t , for an EXPIRATION DATE T_i of an ELIGIBLE LISTED OPTION, the DISCOUNT FACTOR and FORWARD for that EXPIRATION DATE shall be calculated in accordance with the following methodology: For each STRIKE PRICE $K_{i,j}, j \in [1, 2 \dots n_i]$ for the selected EXPIRATION DATE T_i on which both call and put OPTION prices are available, the Black Scholes model shall be used to calculate the "call-put parity" relation:

$$C_t^{T_i K_{i,j}} - P_t^{T_i K_{i,j}} = DF_i \cdot (Fwd_i - K_{i,j})$$

Where:

$C_t^{T_i K_{i,j}}$: The mid-price in respect of CALCULATION DAY t of an ELIGIBLE LISTED CALL OPTION expiring on EXPIRATION DATE T_i with a STRIKE PRICE $K_{i,j}$

$P_t^{T_i K_{i,j}}$: The mid-price in respect of CALCULATION DAY t of an ELIGIBLE LISTED PUT OPTION expiring on EXPIRATION DATE T_i with a STRIKE PRICE $K_{i,j}$

Using the "call-put parity" formula for each **STRIKE PRICE**, the following linear model is obtained:

$$Y = \alpha + \beta \cdot X$$

With for any $j \in [1, 2 \dots n_i]$

$$\begin{aligned} Y_j &= C(K_{i,j}) - P(K_{i,j}) \\ X_j &= K_{i,j} \end{aligned}$$

A linear regression of the model set out above is performed using the ordinary least squares estimation:

$$\beta = \frac{\sum_{j=1}^{n_i} (X_j - X^{mean}) \cdot (Y_j - Y^{mean})}{\sum_{j=1}^{n_i} (X_j - X^{mean})^2}$$

So for any $j \in [1, 2 \dots n_i]$, DF_i and Fwd_i are determined using the following relations:

$$\begin{aligned} Y_j &= \alpha + \beta \cdot X_j \\ DF_i \cdot (Fwd_i - K_{i,j}) &= \alpha + \beta \cdot K_{i,j} \\ DF_i &= -\beta \\ Fwd_i &= -\frac{\alpha}{\beta} \end{aligned}$$

On any CALCULATION DAY t , we define:

- $Fwd_{t,TE}^{cash}$: means the FORWARD on CALCULATION DAY t associated to EXPIRATION DATE TE obtained by the above methodology relative

$$Fwd_{t,TE}^{cash} = -\frac{\alpha}{\beta}$$

- DF_{t,TE_0} : means the DISCOUNT FACTOR on CALCULATION DAY t associated to EXPIRATION DATE TE

$$DF_{t,TE_0} = -\beta$$

4.2.12. Implied Volatility

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

In order to calculate the **IMPLIED VOLATILITY**, up to four LISTED OPTIONS are required.

In relation to CALCULATION DAY t and EXPIRATION DATE TE , two EXPIRATION DATES T_1, T_2 are selected in accordance with Section 4.2.9

The DISCOUNT FACTOR and FORWARD for the two selected EXPIRATION DATES are calculated in accordance with Section 4.2.11

With respect to each selected ELIGIBLE LISTED EXPIRATION DATE T_i , two STRIKE PRICES K_1 , and K_2 are selected using the following criteria:

- Where STRIKE PRICE K is strictly lower than the lowest STRIKE PRICE of ELIGIBLE LISTED OPTION in respect of CALCULATION DAY t and EXPIRATION DATE T_i , $K_2 = K_1$, where K_1 is lowest STRIKE PRICE of ELIGIBLE LISTED OPTION in respect of CALCULATION DAY t and EXPIRATION DATE T_i
- Where STRIKE PRICE K is strictly higher than the highest STRIKE PRICE of ELIGIBLE LISTED OPTION in respect of CALCULATION DAY t and EXPIRATION DATE T_i , $K_1 = K_2$, where K_2 is the highest STRIKE PRICE of ELIGIBLE LISTED OPTION in respect of CALCULATION DAY t and EXPIRATION DATE T_i

- Otherwise, (i) K_1 is the highest STRIKE PRICE of ELIGIBLE LISTED OPTION in respect of CALCULATION DAY t and EXPIRATION DATE T_i that is less than or equal to STRIKE PRICE K , and (ii) K_2 is the lowest STRIKE PRICE of ELIGIBLE LISTED OPTION in respect of CALCULATION DAY t and EXPIRATION DATE T_i that is higher than or equal to STRIKE PRICE K

The four selected ELIGIBLE LISTED OPTIONS are set to be of OPTION TYPE Put.

Once the DISCOUNT FACTOR, FORWARD, EXPIRATION DATE and STRIKE PRICE are determined for the four selected ELIGIBLE LISTED OPTIONS, the **IMPLIED VOLATILITY** of each such OPTION is determined in accordance with Section 4.2.3, namely:

$$\sigma_{t,K_1,T_1}, \sigma_{t,K_2,T_1}, \sigma_{t,K_1,T_2}, \sigma_{t,K_2,T_2}.$$

The **IMPLIED VOLATILITY** for the ELIGIBLE LISTED OPTION with STRIKE PRICE K and for the two selected ELIGIBLE LISTED EXPIRATION DATE T_1, T_2 is thus interpolated as follows:

$$\sigma_{t,K,T_1} = \begin{cases} \sigma_{t,K_1,T_1} + \frac{(K - K_1) \times (\sigma_{t,K_2,T_1} - \sigma_{t,K_1,T_1})}{(K_2 - K_1)} & \text{if } K_1 \neq K_2 \\ \sigma_{t,K_1,T_1} & \text{otherwise} \end{cases}$$

$$\sigma_{t,K,T_2} = \begin{cases} \sigma_{t,K_1,T_2} + \frac{(K - K_1) \times (\sigma_{t,K_2,T_2} - \sigma_{t,K_1,T_2})}{(K_2 - K_1)} & \text{if } K_1 \neq K_2 \\ \sigma_{t,K_1,T_2} & \text{otherwise} \end{cases}$$

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

$$\sigma_{t,K,TE} = \sqrt{\frac{1}{DC_{t,TE}} \times \max \left(0, (\sigma_{t,K,T_1})^2 \times DC_{t,T_1} + \frac{DC_{T_1,TE} \times [(\sigma_{t,K,T_2})^2 \times DC_{t,T_2} - (\sigma_{t,K,T_1})^2 \times DC_{t,T_1}]}{DC_{T_1,T_2}} \right)} \quad \begin{matrix} \text{if } T_1 \neq T_2 \\ \text{otherwise} \end{matrix}$$

With:

σ_{t,K,T_1} : means the **IMPLIED VOLATILITY** in respect of Calculation Day t with EXPIRATION DATE T_1 being an ELIGIBLE LISTED EXPIRATION DATE

σ_{t,K,T_2} : means the **IMPLIED VOLATILITY** in respect of CALCULATION DAY t with EXPIRATION DATE T_2 being an ELIGIBLE LISTED 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 LISTED EXPIRATION DATE T_1

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 LISTED EXPIRATION DATE T_2

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

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

4.3. ACCURACY

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

4.4. 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 the 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/>.

4.5. 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 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, their 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. OVERSIGHT COMMITTEE

An oversight committee composed of staff from the INDEX ADMINISTRATOR and its subsidiaries (the "**OVERSIGHT 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 OVERSIGHT 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” in relation to a **CALCULATION DAY** t and **OPTION** O , shall mean (i) the **LISTED ASK PRICE**, if the **OPTION** O is an **ELIGIBLE LISTED OPTION** calculated in accordance with Section 2.2.2; or (ii) otherwise, the price estimated in accordance with Section Error! Reference source not found..

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

“BID PRICE” in relation to a **CALCULATION DAY** t and **OPTION** O , shall mean (i) the **LISTED BID PRICE**, if the **OPTION** O is an **ELIGIBLE LISTED OPTION** calculated in accordance with Section 2.2.2; or (ii) otherwise, the price estimated in accordance with Section Error! Reference source not found..

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

“CALCULATION DAY” means a weekday on which the **UNDERLYING STOCK EXCHANGE** is open for business, including any **HALF TRADING DAY**.

“CASH AMOUNT” shall have the meaning as defined in Section 4.1.4.

“CUMULATIVE DISTRIBUTION FUNCTION” defines the standard normal distribution.

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

“DAY COUNT FRACTION” has the meaning given to it in Section 0

“DELTA” shall have the meaning given to it in Section 4.2.4

“DISCOUNT FACTOR” has the meaning given to it in Section 4.2.8

“ELIGIBLE LISTED EXPIRATION DATE” shall have the meaning given to it in Section 2.2.1

“ELIGIBLE LISTED OPTION” has the meaning given to it in Section 2.2.1.

“ELIGIBLE LISTED STRIKE” has the meaning given to it in Section 2.2.1.

“ELIGIBLE TRADING DATE” means each **CALCULATION DAY** following the **START DATE** that is not a **HALF TRADING DAY**.

“EOD” has the meaning given to it in Section 2.4.2.

“EXCHANGE” means any of the **UNDERLYING STOCK EXCHANGE** or the **Chicago Board Options Exchange**.

“EXCHANGE ASK PRICE” of an **OPTION** or **HEDGE INSTRUMENT** means the ask price sourced from the relevant exchange.

“EXCHANGE BID PRICE” of an **OPTION** or **HEDGE INSTRUMENT** means the bid price sourced from the relevant exchange.

“EXCHANGE LAST PRICE” of an index means the last price sourced from the relevant exchange.

“EXPIRATION DATE” is defined in relation to an **OPTION**, **FUTURE CONTRACT** or **FORWARD** and is the date on which such instrument expires.

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

“FORWARD” has the meaning given to it in Section 4.2.10.

“FRICTION” is defined in relation to an **OPTION** and has the meaning given to it in Section 2.1.

“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.

“HEDGE INSTRUMENT” has the meaning given to it in Section 2.3

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

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

“INDEX COMPONENTS” means, with respect to the **INDEX** and a Calculation Day, all the **OPTIONS** in the **CONTINUING OPTION PORTFOLIO** on such day.

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

“IMPLIED VOLATILITY” has the meaning given to it in Section 4.2.12

“LISTED OPTION” means an **OPTION** that is listed on an **EXCHANGE**.

“LIVE DATE” means 13th March 2024.

“MAXIMUM FUNCTION” means, when followed by a series of amounts inside brackets, whichever is the larger of the amounts separated by a comma inside those brackets.

“MID PRICE” in relation to a **CALCULATION DAY** t and **OPTION** O , shall mean (i) the **LISTED MID PRICE**, if the **OPTION** O is an **ELIGIBLE LISTED OPTION** calculated in accordance with Section 2.2.2; or (ii) otherwise, the price estimated in accordance with Section Error! Reference source not found..

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

“NUMBER OF UNITS” is defined in relation to an **OPTION** and is the quantity or number of **OPTIONS**.

“OPTION” means a derivative that securitizes the right but not the obligation to buy (being **OPTION TYPE** Call or a “**CALL OPTION**”) or sell (being **OPTION TYPE** Put or a “**PUT OPTION**”) a pre-defined reference instrument relating to a position in respect of the **UNDERLYING STOCK**, on a pre-defined day (being **EXPIRATION DATE** TE), for a pre-defined price (being **STRIKE PRICE** K).

“OPTION TYPE” shall mean the type of **OPTION** O , which can be either “Call” or “Put”.

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

“PAYOUT” has the meaning given to it in Section 4.2.1.

“PORTFOLIO MARK-TO-MARKET” has the meaning given to it in Section Error! Reference source not found..

“PREMIUM” has the meaning given to it in Section Error! Reference source not found..

“PREMIUM PAID” has the meaning given to it in Section 4.1.5.

“REFINITIV” is a data provider being a subsidiary of London Stock Exchange.

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

“**SELECTION DAY**” means, with respect to a given **CALCULATION DAY** *t* that constitutes an **ELIGIBLE TRADING DAY**, the **CALCULATION DAY** immediately preceding such **CALCULATION DAY** *t*.

“**START DATE**” means 3rd January 2017.

“**STRIKE PRICE**” is defined in relation to an **OPTION** and is the strike price specified in respect of such **OPTION**.

“**TRADE DATE**” means, in relation to an **OPTION** *O*, the **CALCULATION DAY** *t* on which the position in respect of such **OPTION** is notionally traded.

“**UNDERLYING STOCK**” means the NVDA US Equity (ISIN: US67066G1040 / CUSIP: 67066G104).

“**UNDERLYING STOCK CLOSING PRICE**” means, in relation to the **UNDERLYING STOCK** and a **CALCULATION DAY** *t*, the official closing price of such **UNDERLYING STOCK** on such day, as published by the **UNDERLYING STOCK EXCHANGE**.

“**UNDERLYING STOCK EXCHANGE**” means Nasdaq Stock Market LLC.

“**UNWIND DATE**” is defined in relation to an **OPTION** and is the date on which such **OPTION** unwinds.

“**UNWIND VALUES**” has the meaning given to it in Section 4.1.6.

“**USD**” means United States Dollars.

“**VEGA**” has the meaning given to it in Section 4.2.4.

7. VERSIONING

VERSION	DATE	DESCRIPTION
1.0	November 11th, 2025	Initial Guideline creation (<i>initial version</i>)

Table 3 Versioning

CONTACT

Solactive AG

German Index Engineering

Platz der Einheit 1

60327 Frankfurt am Main

Germany

Tel.: +49 (0) 69 719 160 00

Fax: +49 (0) 69 719 160 25

Email: info@solactive.com

Website: www.solactive.com

© Solactive AG