DB [●] Customised Index

INDEX DESCRIPTION

DISCLAIMER

In the event of any inconsistency between the text below and any version which is translated into any other language, the text below shall prevail.

All determinations of the Index Administrator described herein shall be made according to the terms set out herein and, save for manifest error, shall be final and binding on all parties.

The Index is a Deutsche Bank AG proprietary index. No use or publication may be made of the Index, or any of its provisions or values, without the prior written consent of Deutsche Bank AG.

Deutsche Bank AG, London Branch acts as Index Sponsor and is not obliged to enter into, or promote transactions or investments, that are linked to the Index, the Underlying Index or constituents thereof.

The Index Administrator is under no obligation to maintain or calculate the Index and may cancel or cease to calculate the Index at any time without notice. Neither the Index Sponsor nor the Index Administrator assumes any obligation or duty to any party and under no circumstances does the Index Sponsor or Index Administrator assume any relationship of agency or trust or of a fiduciary nature for or with any party. Any calculations or determinations in respect of the Index or any part thereof shall be made by the Index Administrator acting in good faith and in a commercially reasonable manner and shall (save in the case of manifest error) be final, conclusive and binding. The term "manifest error" as used herein shall mean an error that is plain and obvious and can be identified from the results of the calculation or determination itself without: (i) recourse to any underlying data; or (ii) any application or re-application of any formulae.

Each of the Index Sponsor and the Index Administrator may delegate and/or transfer any of its obligations and/or functions to one or more third parties as it deems appropriate from time to time, but shall (a) ensure that appropriate legal documentation in relation to such delegation and/or transfer is put in place and (b) shall remain responsible for the actions and omissions of its delegates and transferees as if such actions and omissions were their own.

Neither the Index Sponsor nor the Index Administrator makes any express or implied representations or warranties as to (a) the advisability of purchasing or assuming any risk in connection with any transaction or investment linked to the Index, (b) the levels at which the Index stands at any particular time on any particular date, (c) the results to be obtained by any party from the use of the Index or any data included in it for the purposes of issuing securities or carrying out any financial transaction linked to the Index or (d) any other matter. Calculations may be based on information obtained from various publicly available sources. The Index Sponsor and the Index Administrator have relied on these sources and have not independently verified the information extracted from these sources and accept no responsibility or liability in respect thereof.

Without prejudice to the foregoing, in no event shall the Index Sponsor or the Index Administrator have any liability for any indirect, special, punitive or consequential damages (provided that any such damage is not reasonably foreseeable) even if notified of the possibility of such damages.

The Index is a proprietary index of Deutsche Bank AG. It is not sponsored, endorsed, sold, or promoted by the Underlying Index Sponsor or any Related Exchange (on which listed options or futures related to the Underlying Index are traded) and such sponsor(s) and exchange do not make any representation whatsoever, whether express or implied, either as to the results to be obtained from the use of the Underlying Index or any such options or the levels at which the Underlying Index or any options stand at any particular time on any particular date or otherwise.

The sponsor of the Underlying Index and any Related Exchange on which listed options or futures related to the Underlying Index are traded shall not be liable (whether in negligence or otherwise) to any person for any error in the Underlying Index or any such option and such sponsor and exchange is under no obligation to advise any person of any error therein or to correct any such error. The sponsor of the Underlying Index and the exchange on which options related to the Underlying Index are traded do not make any representation whatsoever, whether express or implied, as to the advisability of purchasing or assuming any risk in connection with entering into any transaction in relation to the Index.

The sponsor of the Underlying Index referenced by the Index and the exchange on which options related to the Underlying Index are traded will not have any liability in connection with the Index or any product related thereto.

The S&P 500 Index is a product of S&P Dow Jones Indices LLC or its affiliates ("SPDJI"), and has been licensed for use by Deutsche Bank AG. Standard & Poor's® and S&P® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P") and Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"). The trademarks have been licensed to SPDJI and have been sublicensed for use for certain purposes by Deutsche Bank AG. The Index is not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P or any of their respective affiliates (collectively, "S&P Dow Jones Indices"). S&P Dow Jones Indices does not make any representation or warranty, express or implied, in respect of the Index or to the owners of a financial product linked in whole or in part to the Index or any member of the public regarding the advisability of investing in the Index generally or to any owner of a financial product linked in whole or in part to the Index particularly or the ability of the S&P 500 to track general market performance. The only relationship of S&P Dow Jones Indices to Deutsche Bank AG with respect to the S&P 500 Index is the licensing of the S&P 500 and certain trademarks, service marks and/or trade names of S&P Dow Jones Indices and/or its licensors. The S&P 500 Index is determined, composed and calculated by S&P Dow Jones Indices without regard to Deutsche Bank AG, the Index or any financial product in whole or in part linked to the Index. S&P Dow Jones Indices has no obligation to take the needs of Deutsche Bank AG, the Index or any financial product in whole or in part linked to the Index into

consideration in determining, composing or calculating the S&P 500 Index. S&P Dow Jones Indices is not responsible for and has not participated in the determination of the Index. S&P Dow Jones Indices has no obligation or liability in connection with the administration, marketing or trading of the Index. There is no assurance that investment products based on the S&P 500 Index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice.

S&P DOW JONES INDICES DOES NOT GUARANTEE THE ADEQUACY, ACCURACY, TIMELINESS AND/OR THE COMPLETENESS OF THE S&P 500 INDEX OR ANY DATA RELATED THERETO OR ANY COMMUNICATION, INCLUDING BUT NOT LIMITED TO, ORAL OR WRITTEN COMMUNICATION (INCLUDING ELECTRONIC COMMUNICATIONS) WITH RESPECT THERETO. S&P DOW JONES INDICES SHALL NOT BE SUBJECT TO ANY DAMAGES OR LIABILITY FOR ANY ERRORS, OMISSIONS, OR DELAYS THEREIN. S&P DOW JONES INDICES MAKES NO EXPRESS OR IMPLIED WARRANTIES, AND EXPRESSLY DISCLAIMS ALL WARRANTIES, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE OR AS TO RESULTS TO BE OBTAINED BY DEUTSCHE BANK AG, OWNERS OF ANY FINANCIAL PRODUCT IN WHOLE OR IN PART LINKED TO THE INDEX, OR ANY OTHER PERSON OR ENTITY FROM THE USE OF THE S&P 500 INDEX OR WITH RESPECT TO ANY DATA RELATED THERETO. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT WHATSOEVER SHALL S&P DOW JONES INDICES BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS, TRADING LOSSES, LOST TIME OR GOODWILL, EVEN IF THEY HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, WHETHER IN CONTRACT, TORT, STRICT LIABILITY, OR OTHERWISE. THERE ARE NO THIRD PARTY BENEFICIARIES OF ANY AGREEMENTS OR ARRANGEMENTS BETWEEN S&P DOW JONES INDICES AND DEUTSCHE BANK AG, OTHER THAN THE LICENSORS OF S&P DOW JONES INDICES.

Part 1

General Description and Overview

The DB [●] Customised Index (the "**Index**") is a proprietary index of Deutsche Bank AG intended to track the performance of a rules-based option buying or selling strategy. The option buying or selling strategy aims to trade options in the S&P 500 Index (the "**Underlying Index**") with the characteristics set out in Table 1 of Annex 2.

The objective of the Index is to reflect the performance of notionally trading a systematic and quantitative [short call / long put] option strategy on the Underlying Index, including related transaction costs and financing.

On the expiration date of each option, which as of the Live Index Commencement Date, is the Friday of the relevant week of expiration for any Weekly Option (subject to such day being a Business Day), or the 3rd Friday of the relevant month of expiration of any Monthly Option (subject to such day being a Business Day), the notional position in the option will expire and settle. The Index will receive or pay a notional premium for each notional investment in the relevant options.

The performance of the Index will depend on the difference between (a) the premiums received from or paid for the options comprising the notional option portfolio and (b) the subsequent payout on the options at expiry of the option contracts. In the case of selling options, the level of the Index will rise if the sum of the premiums received from the notional option portfolio is greater than the subsequent settlement value for the options comprising the notional option portfolio which have expired, but will fall if the settlement value exceeds the sum of the premiums received. Conversely, in the case of buying options, the level of the Index will rise if the sum of the premiums paid for the notional option portfolio is lower than the subsequent settlement value for the options comprising the notional option portfolio which have expired, but will fall if the sum of the premiums paid exceeds the settlement value.

The Index is "notional" in nature. All transactions notionally entered into by the Index and the notional investment portfolio are hypothetical and none of the Index, the Index Calculation Agent, the Index Administrator or the Index Sponsor will be a party to actual transactions. The Index Sponsor may (but is not obliged to) enter into transactions to hedge any position in respect of the Index or to determine or calculate or determine values in respect of the Index but such transactions do not form part of the Index.

The Index is denominated in US Dollars ("**USD**").

Volatility, Realised Volatility and Implied Volatility

Volatility is a statistical measure of how much an asset's return varies from the mean of such returns; the more variable the asset's returns, the higher its volatility, and the higher the perceived risk of such asset (all other things being equal). Volatility is one of the market standards for assessing risk. There are two approaches to measuring volatility: (i) realised volatility and (ii) implied volatility.

The realised volatility of an underlying asset is a statistical measure of the fluctuation in the level of the actual prices of such underlying asset observed in the market over a period of time. Typically the realised volatility of the Underlying Index is calculated as being the standard deviation of the daily log-returns of the official closing level of the Underlying Index on each trading day in the relevant period (where the standard deviation is calculated assuming a mean log-return of zero). Realised volatility of an underlying asset is calculated by reference to such underlying asset's historical performance.

The implied volatility of an underlying asset is the anticipated volatility of such asset over a future period determined by reference to the market price of listed options relating to such underlying asset using a version of the Black-Scholes option pricing model.

Options

Options on the Underlying Index are traded on the Chicago Board Options Exchange (the "**CBOE**"). These options are cash-settled and are "European style", which means that they may only be exercised on the relevant expiration date. An option may be either a call option or a put option. A call option will entitle the purchaser of such option to receive a payout based on the excess (if any) of the level of the Underlying Index on the expiration date over the strike (and the seller is obliged to make such payment). A put option will entitle the purchaser to receive a payout based on the excess (if any) of the strike over the level of the Underlying Index on the option expiration date (and the seller is obliged to make such payment). The amount payable upon expiration of the option (if it is in-the-money) will be the product of (i) the difference between the level of the Underlying Index and the strike and (ii) USD 100. The expiration date for options on the Underlying Index is currently the Friday of the relevant expiration week for weekly options or the third Friday of the relevant expiration month for monthly options, subject to adjustment if such day is not a business day.

Both put and call options on the Underlying Index are generally quoted on the CBOE for a range of strikes around the current level of the Underlying Index, with options being quoted having expiration dates in each of the next five weeks and next three months and in three subsequent quarter-end months. For each strike, both "bid" and "ask" prices are quoted for both put and call options, with a bid representing the price which market participants are offering to buy the option, and an ask representing the price at which market participants are offering to sell the option. Premium quotes for options are stated in decimals, with each point equalling USD 100. In describing the price of an option, the "mid" price is also often referred to, which is the arithmetic mean of the bid and the ask prices for the option. For the range of options with different strikes but the same expiration date, the strike which is closest to the current Underlying Index level is referred to as the "at-the-money" (or "**ATM**") strike. A call is referred to as "out of the money" (or "**OTM**") if its strike is greater than the current Underlying Index level, and a put is out of the money if its strike is less than the current Underlying Index level.

Index Calculation

The Index has been calculated 10 August 2017 on a live basis from 1 August 2017 (being the Live Index Commencement Date).

The Index Calculation Agent will calculate the Index Level on each Index Calculation Date from, and including, the Live Index Commencement Date, subject as provided in the Index Rules. The Index Levels in respect of the Back-Fill Period (being the period starting on, and including, the Index Commencement Date, and finishing on, but excluding, the Live Index Commencement Date) have been retrospectively calculated by the Index Sponsor (see Section 4.16 (*Back-fill Period Calculations*) of Part 3 for further information relating to the calculation methodology) and provided to the Index Calculation Agent and the Index Administrator.

Past performance is not indicative of future performance.

All determinations of the Index Administrator described herein shall be made in accordance with the terms set out herein and, save for manifest error, shall be final and binding on all parties.

The Index Administrator has the right to make determinations, calculations and adjustments in relation to the Index which involve, in certain circumstances, a degree of discretion in order to ensure that the Index can, where reasonably practicable, continue to be calculated and determined notwithstanding the relevant circumstances or to allow a delay or a cancellation of the Index. The Index Administrator will exercise any such discretion with the aim of preserving the overall methodology and objective of the Index. In exercising its discretion in connection with the Index, the Index Administrator shall act in good faith and in a commercially reasonable manner.

The Index Administrator confirms that the Index is administered in compliance with the 'Principles for Financial Benchmarks' as published by the International Organization of Securities Commissions on July 17, 2013 (the "**IOSCO Principles**"), and other relevant standards.

The Index Administrator may at any time appoint a new entity to act as Index Calculation Agent.

If the Index Calculation Agent and the Index Administrator are not the same entity, the Index Calculation Agent shall be appointed by the Index Administrator to carry out the calculations and other related services as set out in the Index Rules provided that, in such case, any determination, calculation and/or adjustment made and/or any exercise of discretion by the Index Calculation Agent for the purposes of the Index shall, in each case, be subject to the prior consent of the Index Administrator (irrespective of whether or not it is expressly stated to be subject to such consent in the Index Rules) and, in the event such consent is withheld, the Index Administrator shall make such determination, calculation, adjustment and/or exercise of discretion in place of the Index Calculation Agent and in the event of any conflict the determination, calculation, adjustment and/or exercise of discretion of the Index Administrator shall prevail.

The Index is a Deutsche Bank AG proprietary index. No use or publication may be made of the Index or its name without the prior written approval of Deutsche Bank AG.

Part 2

Risk Considerations and Conflicts of Interest

Prior to making an investment decision in respect of any financial product the return on which is linked in whole or in part to the performance of the Index (each a "**Financial Product**"), prospective investors should carefully consider all of the information set out in this document, including these risk factors. This Part 2 (*Risk Considerations and Conflicts of Interest*) is intended to describe various risk factors which the Index Sponsor believes represent the principal risks associated with a Financial Product. There may be other risks that a prospective investor should consider that are relevant to its particular circumstances or generally, whether arising from market factors or otherwise.

General

When considering any Financial Product, prospective investors should be aware that the Index Level can go down as well as up and that the performance of the Index in any future period may not mirror its past performance.

The Index is a rules-based trading strategy which makes notional investments in exchange traded put and call options on the Underlying Index. Investors have no proprietary interest in the put and call options. Any investment linked or related to the Index will not be the same as an investment in the put and call options on the Underlying Index or in any other options or derivatives (whether listed on an exchange or OTC) on the Underlying Index nor will it be the same as an investment in the Underlying Index or the constituents of the Underlying Index at any time.

Investors considering the performance of the Index must carefully consider the methodology for calculation of relevant values for each put and call option and the calculation of the Index Level.

Calculations and Determinations by the Index Calculation Agent and/or Index Administrator

Prospective investors in Financial Products should note that the Index Calculation Agent's and/or the Index Administrator's calculations and determinations in relation to the Index will be final and binding on all parties in the absence of manifest error. The term "manifest error" as used herein shall mean an error that is plain and obvious and can be identified from results of the calculation or determination itself without (i) recourse to the underlying data, or (ii) any application or re-application of any formulae.

Discretion

The terms of the Index confer on the Index Administrator the right to make determinations, calculations, adjustments and modifications in relation to the Index and related matters, which involve, in certain circumstances as set out in this document, a degree of discretion in order to ensure that the Index can, where reasonably practicable, continue to be calculated and determined notwithstanding the relevant circumstances or, to allow a delay or a cancellation of the Index. The Index Administrator will exercise any such discretion with the

aim of preserving the overall methodology and objective of the Index. The Index Administrator is required to act in good faith and in a commercially reasonable manner in exercising its discretion, however, there can be no assurance that the exercise of any such discretion (or the absence of exercise, as the case may be) will not increase or decrease the Index Level and/or alter the volatility of the Index.

Reliance on publicly available sources

For so long as the Index Calculation Agent calculates the Index Level, calculations and determinations by the Index Calculation Agent and/or the Index Administrator in connection with the Index will be made in reliance upon the information of various publicly available sources that neither the Index Sponsor nor the Index Administrator has independently verified. Neither the Index Administrator nor the Index Sponsor accepts any liability for loss or damage of any kind arising from the use of such information in any such calculation or determination.

Past Performance

Past performance is not indicative of future returns.

The Index has been retrospectively calculated by the Index Sponsor on a hypothetical basis during the Back-fill Period, as more particularly described in Section 4.16 (*Back-fill Period Calculations*) of Part 3. The Index has been calculated by the Index Calculation Agent on a live basis from [●], using the methodology described in Part 3 (*Description of the Index and Index Calculation*). All prospective investors should be aware that a retrospective calculation means that no actual investment which allowed for tracking of the performance of the Index was notionally made at any time during the period of the retrospective calculation, and that as a result any comparison is purely hypothetical. The methodology and the model used for the calculation and retrospective calculation of the Index were developed with the advantage of hindsight. In reality it is not possible to invest with the advantage of hindsight and therefore this performance comparison is purely theoretical.***Disruption Events, Changes to the Index and Index Cancellation***

Investors should note carefully the provisions under Part 4 (*Disruptions and Change in Methodology*). If a Disruption Event occurs or is subsisting on an Index Calculation Date, the Index Administrator may pursuant to these provisions, (i) determine any relevant price, value, amount, rate or level required in order to calculate the Index Level, (ii) suspend the notional trading of Options and/or defer the determination and publication of the Index Level. (iii) make such determinations and/or adjustments in relation to the terms of the Index as it considers appropriate, (iv) (in the case of an Underlying Index Event) replace the Underlying Index and/or any Related Exchange and make adjustments to the Index to reflect this replacement.

In addition, the Index Administrator may, at any time and without notice, terminate the calculation and publication of the Index.

In certain circumstances, following a correction to the price or level published by the Underlying Index Sponsor for the Underlying Index or the Related Index which is used for

any calculation or determination in respect of the Index, the Index Administrator may (but is not obliged to do so) adjust or correct the terms or levels of the Index to account for such corrections.

In certain circumstances, the Underlying Index Sponsor may be replaced by a successor sponsor and the Underlying Index may be replaced by a successor index.

Change in Methodology

If any market, regulatory, juridical, financial, fiscal or other circumstances arise that would, in the view of the Index Administrator, necessitate a modification or change of the Index calculation methodology, the Index Administrator shall be entitled to make such modification or change in its sole discretion. The Index Administrator may also make modifications and/or changes to the terms of the Index as it in its sole discretion deems necessary or desirable including, without limitation, to correct any manifest error or proven error or to cure, correct or supplement any defective or ambiguous provision contained herein, to preserve the intended commercial purpose of the Index (where such modification or change is of a formal, minor or technical nature) and/or to take into account any change in the terms on which the relevant options contracts are traded. The Index Administrator will ensure that any such modifications or changes will result in a methodology that, in the Index Administrator's sole determination, is consistent with the overall methodology and objective of the Index.

Fiduciary Duties

Subject always to the regulatory obligations of Deutsche Bank AG in performing each of any of the roles of issuer, obligor, dealer, sponsor of an index or calculation agent of a Financial Product, Deutsche Bank entities do not act on behalf of, or accept any duty of care or any fiduciary duty to any investors in any Financial Product or any other person.

Conflicts of Interest

Deutsche Bank AG, London Branch acts as Index Sponsor. Conflicts of interest may exist or arise between the Index Sponsor and/or Deutsche Bank entities acting in other capacities, including as issuer, obligor, or dealer for one or more of the instruments linked to or underlying the Index, or counterparty to a transaction linked to the Index, or by engaging in direct or indirect hedging activities which may impact the Index Level. Subject always to its regulatory obligations, each relevant Deutsche Bank entity will pursue actions and take steps that it deems appropriate to manage its risks and protect its interests, and this may have adverse consequences for investors in any Financial Products. Deutsche Bank entities may be in possession at any time of information in relation to the Index or any futures, options or other financial instruments related thereto which may not be available to investors in any Financial Product. There is no obligation on any Deutsche Bank Entity to disclose to any investor in any Financial Product any such information.

Deutsche Bank entities may be entitled to receive fees or other payments pursuant to Financial Products or otherwise and to exercise all rights, including rights of termination or resignation, which they may have, even though so doing may have a detrimental effect on investors in any Financial Product.

The Index Sponsor and/or other Deutsche Bank entities may, in relation to the hedging of financial products linked to the Index, engage in hedging activities in the financial instruments underlying the Index or related financial instruments. In addition, as a global bank, Deutsche Bank entities engage in hedging, client order execution, and other trading activities in most financial markets. Further, hedging activities in relation to financial products linked to the Index are likely to involve the receipt of index selection data by the Index Sponsor and/or other Deutsche Bank entities from the Index Administrator or Index Calculation Agent in advance of the index reconstitution date, or the computation of index selection data by the Index Sponsor and/or other Deutsche Bank entities in advance of the index reconstitution date. Such hedging activities may commence in advance of the index reconstitution date and/or time.

These activities may affect the prices of the financial instruments underlying the Index, and may have a negative impact on the Index Level on an Index Calculation Date. Investors in Financial Products should note that the performance of an index prior to its live date does not account for the market impact (if any) caused by hedging activities, which may have an adverse effect on the performance of an index. With respect to any of these activities, neither Deutsche Bank AG nor any of its Affiliates has any obligation to take the level of the Index and/or an Underlying Index into consideration at any time.

Risks pertaining to the Underlying Index

The sponsor of the Underlying Index can add, delete or substitute the components of such Underlying Index or make methodological changes that could change the level of one or more constituents of the Underlying Index. The change of constituents of the Underlying Index may affect the level of such Underlying Index as a newly added constituent may perform significantly worse or better than the constituent it replaces, which may in turn affect the level of such Underlying Index. The sponsor of the Underlying Index can also alter, discontinue or suspend calculation or dissemination of the Underlying Index. Such changes could have an impact on the prices of the listed option contracts traded on CBOE and also therefore the Index Level.

Volatility and Strategy Risk

The investment strategy reflected in the Index aims to achieve performance in the Index when, in the case of selling options, the sum of the premiums received from the notional option portfolio is greater than the subsequent settlement value for the options comprising the notional option portfolio which have expired. Conversely in the case of buying options, the Index aims to achieve performance in the Index when the settlement value exceeds the sum of the premiums paid for the notional option portfolio. No assurance or representation (express or implied) is given by the Index Sponsor or the Index Administrator that the Index will achieve its aim.

Furthermore, there is more than one way to implement a given investment strategy. The methodology of the Index to determine the strikes, expiry date and option prices may not be optimal, and it is possible that an alternative methodology to implement the same investment strategy could perform better.

Trading and other transactions by Deutsche Bank AG or its Affiliates

Deutsche Bank AG and/or its Affiliates may hedge its obligations under any Financial Product by purchasing or selling equity securities underlying the Underlying Index or listed or over-the-counter options, futures, swaps or other derivative financial instruments linked to the Index, the Underlying Index (including the put and call options on the Underlying Index) and the equity securities underlying the Underlying Index, and they may adjust these hedges by, *inter alia*, purchasing or selling any of the foregoing. Although they are not expected to, any of these hedging activities may adversely affect the market price of those items and, therefore, the level of the Index or the value of any Financial Product. It is possible that Deutsche Bank AG and/or its Affiliates could receive substantial returns from these hedging activities while the Index Level declines.

Deutsche Bank AG and/or its Affiliates may also engage in trading in equity securities underlying the Underlying Index or listed or over-the-counter options, futures, swaps or other derivative financial instruments linked to the Index, the Underlying Index (including the put and call options on the Underlying Index) and the equity securities underlying the Underlying Index on a regular basis as part of their general broker-dealer and other businesses, for proprietary accounts, for other accounts under management or to facilitate transactions for customers. Any of these activities could adversely affect the market price of those items and, therefore, the level of the Index or the value of any Financial Products. Deutsche Bank AG and/or its Affiliates may also issue or underwrite other securities or financial or derivative instruments with returns linked or related to changes in the performance of any of the foregoing. By introducing competing products into the marketplace in this manner, Deutsche Bank AG and/or its Affiliates could adversely affect the level of the Index. With respect to any of the activities described above, neither Deutsche Bank AG nor any of its Affiliates has any obligation to take the Index Level into consideration. As at the Live Index Commencement Date, Deutsche Bank AG acts as a market maker in respect of options and futures traded on any Related Exchange. Conflicts of interest may exist or arise between Deutsche Bank AG acting as a market maker in so far as Deutsche Bank AG may directly affect the value of the relevant put and call options.

Each potential investor in any Financial Product should make their own investigations and form their own views as to the appropriateness or otherwise of the Index taking into account their own circumstances.

Part 3

Description of the Index and Index Calculation

1 INTRODUCTION

This description (the "**Index Description**") sets out the rules (the "**Index Rules**") applicable to the Index and the basis on which the Index will be calculated.

The Index Rules may be amended from time to time as provided in Part 4 (*Disruptions and Change in Methodology*). The Index Rules described in this document are subject to change at any time and will be superseded by any subsequent Index Rules. A copy of the current version of the Index Rules can be obtained as further described in Part 4 (*Disruptions and Change in Methodology*).

Terms used in this Description will have the meanings given to them in Section 5 (*Definitions*) of this Part 3 (*Description of the Index and Index Calculation*).

2 SUMMARY DESCRIPTION

Index Sponsor:	Deutsche Bank AG, London Branch, or any successor duly appointed by Deutsche Bank AG in its capacity as sponsor of the Index.
Index Administrator:	Solactive AG.
Index Calculation Agent:	Solactive AG.
Brief description:	The Index is a proprietary index of Deutsche Bank AG intended to track the performance of a rules-based delta-hedged option buying/selling strategy. The Index is "notional" in nature. All transactions notionally entered into by the Index and the notional investment portfolio are hypothetical and none of the Index Calculation Agent, the Index Administrator or the Index Sponsor will be obliged to enter into or be a party to actual transactions. The Index Sponsor may (but is not obliged to) enter into transactions to hedge any position in respect of the Index or to determine or calculate any value in respect of the Index but such transactions do not form part of the Index.
Underlying Index:	S&P 500 Index (*Bloomberg Code: SPX Index*).
Index Calculation:	The Index Level is calculated on each Index Calculation Date following the Index Commencement Date.
Index Commencement	1 August 2017

Date:

10 August 2017

Index Live Date:

Live Index Commencement Date: [●]

Further Information: See the remainder of this document, which qualifies and expands on the Summary Description.

Bloomberg® code: [●]

3 IMPORTANT INFORMATION

Calculation of Index

These Index Rules confer on the Index Calculation Agent a degree of discretion in making certain determinations, calculations and adjustments in relation to the Index in particular circumstances, provided that the Index Calculation Agent will act in good faith and in a commercially reasonable manner in exercising such discretion.

The Index Administrator may, in its sole discretion, at any time and without notice, terminate the calculation and publication of the Index.

Although the Index Calculation Agent will obtain information for inclusion in or for use in the calculation of the Index from sources which the Index Calculation Agent considers reliable, the Index Calculation Agent will not independently verify such information and does not guarantee the accuracy and/or the completeness of the Index or any data included therein.

Transactions linked to the Index

None of the Index Calculation Agent, the Index Administrator or the Index Sponsor is obliged to enter into or promote transactions or investments that are linked to the Index or any constituent of the Index and none of the Index Calculation Agent, the Index Administrator or the Index Sponsor makes any express or implied representations or warranties as to (i) the advisability of purchasing or assuming any risk in connection with any such transaction or investment, (ii) the levels at which the Index stands at any particular time on any particular date, (iii) the results to be obtained by the issuer of any securities or any counterparty or any such issuer's security holders or customers or any such counterparty's counterparties or customers or any other person or entity from the use of the Index or any data used or published in connection with the Index in connection with any licensed rights or for any other use, or (iv) any other matter. None of the Index Calculation Agent, the Index Administrator or the Index Sponsor makes any express or implied representations or warranties of merchantability or fitness for a particular purpose with respect to the Index or any data used or published in connection with the Index.

General

Without limiting any of the foregoing, in no event shall the Index Calculation Agent, Index

Administrator or Index Sponsor be liable (whether directly or indirectly, in contract, in 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 Calculation Agent of any part of its role as Index Calculation Agent under the Index Rules, provided that nothing shall relieve the Index Calculation Agent from any liability arising by reason of acts or omissions constituting bad faith, fraud or any breach of regulation or other law applicable to it acting in its role as Index Calculation Agent under the Index Rules.

Deutsche Bank AG, London Branch, owns intellectual property rights in the Index, the Index Rules and in this description. Any use of any such intellectual property rights must be with the prior written consent of Deutsche Bank AG, London Branch.

4 DESCRIPTION OF THE INDEX CALCULATION

4.1 Calculation of Index Level

(i) The level of the Index (the "**Index Level**") will be calculated in units of USD and will be calculated as provided in this Section 4 (*Description of the Index Calculation*) and published for each Index Calculation Date as provided in Section 6 (*Availability and Publication of Index Levels and Adjustments*) of Part 4 (*Disruptions and Change in Methodology*). For the purposes of publication, the Index Level shall be rounded to the nearest five decimal places with 0.000005 being rounded upwards. The methodology described in this Part 3 (*Description of the Index and Index Calculation*) is subject to the provisions set out in Part 4 (*Disruptions and Change in Methodology*).

(ii) The Index Level will be calculated from the period starting on, and including, the Index Commencement Date and finishing on, but excluding, the Live Index Commencement Date (the "**Back-fill Period**"), in accordance with Section 4.16 (*Back-fill Period Calculations*).

(iii) The Index Level for the Live Index Commencement Date is 100.

(iv) The Index Level in respect of each Index Calculation Date$_t$ after the Live Index Commencement Date will be determined by the Index Calculation Agent in accordance with the following formula:

$$\mathrm{IL}_t = \mathrm{IL}_0 + \mathrm{Cash}_t - \mathrm{PortfolioMarkToMarket}_t + \mathrm{SumInOut}_t$$

Where:

"**Cash $_t$**" means Cash in respect of Index Calculation Date$_t$, as determined in accordance with Section 4.5 (*Determination of Cash PnL*);

"**IL_t**" means the Index Level in respect of Index Calculation Date$_t$;

"**IL_0**" means the Index Level in respect of the Live Index Commencement Date;

"**$InOutCash_{t-1}$**" is as determined in accordance with Section 4.5 (*Determination of Cash*);

"**Portfolio MarkToMarket$_t$**" means the PortfolioMarkToMarket in respect of Index Calculation Date$_t$, as determined in accordance with Section 4.6 (*Determination of PortfolioMarktoMarket*)

"**SumInOut$_t$**" means, in respect of an Index Calculation Date t, an amount determined by the Index Calculation Agent in accordance with the following formula:

$$\mathrm{SumInOut_t} = \mathrm{SumInOut_{t-1}} + \mathrm{InOutCash_{t-1}}$$

"**SumInOut$_{t-1}$**" means SumInOut$_t$ in respect of Index Calculation Date (t-1), provided that if such Index Calculation Date (t-1) is the Live Index Commencement Date, SumInOut$_{t-1}$ is zero.

4.2 Notional trading of Options

The Index will notionally invest in Options. On the Live Index Commencement Date, the Index will notionally invest in the Options listed in Annex 1 (*Initial Portfolio*), the "Initial Portfolio".

eachequal to $U_{ATM,t}$ equal to U_{ATMt} equal to U_{ATMt} equal to U_{ATMt} equal to $U_{OTMpre,t}$ equal to $U_{OTMpost,t}$ $U_{ATM,t}$, $U_{OTMpre,t}$ and $U_{OTMpost,t}$ each 4.3 (*Determination of traded units*) andshall4.4 (*Determination of strike price*)Following the Live Index Commencement Date, the Index will notionally invest in each Option on each Index Option Trading Date for such Option (occurring at a frequency approximately equal to that specified in Table 1 of Annex 2 under the heading "Trade Frequency" for such Option). In each case, the notional trade shall represent the Index purchasing the Option where the Option Type is specified in Table 1 in Annex 2 as "Buy", and selling the Option where the Option Type is specified in Table 1 in Annex 2 as "Sell".

Each Option notionally sold or purchased by the Index shall be a "**Traded Option**" with effect from, and including, the Index Calculation Date upon which such Option is notionally sold or purchased by the Index for the first time.

4.3 Determination of traded units

Tnumber of units sold or purchased of each Option notionally sold or purchased in respect of eachshall be determined by the Index Calculation Agent as follows:$\mathrm{ATM,t\ t}$

$\mathrm{OTM,pre,t\ t}$

$\mathrm{OTM,post,t}$

PanyOptionsnumber of units sold or purchased of such Option in respect If Trade Type is "Sell" then $\mathrm{U_i} = \dfrac{\mathrm{IL_{t-1}}}{\mathrm{CashSnapSh\,ot_t} \times \mathrm{Ndays_t} \times \mathrm{NOptionSeries}}$;

If Trade Type is "Buy" then $\mathrm{U_i} = -\dfrac{\mathrm{IL_{t-1}}}{\mathrm{CashSnapSh\,ot_t} \times \mathrm{Ndays_t} \times \mathrm{NOptionSeries}}$

provided that U_i in respect of any $Option_i$ in the Initial Portfolio shall be as set out in the table in Annex 1 (*Initial Portfolio*) under the heading "U_i".

Where:

"**$CashSnapShot_t$**" is as defined in Section 5 (*Definitions*); $_t$; and

"**IL_{t-1}**" means the Index Level in respect of Index Calculation Date (t-1);

"**$Ndays_t$**" means, in respect of Index Calculation $Date_t$ and $Option_i$, the number of Index Option Trading Dates for such $Option_i$ falling in the period commencing on, but excluding, the Index Trading Period Date for such $Option_i$ immediately preceding Index Calculation $Date_t$ (the "**NDay Start Date**") and ending on, and including, the Index Trading Period Date for such $Option_i$ immediately following the NDay Start Date;

"**Index Option Trading Date**" means, in respect of $Option_i$, as specified for such $Option_i$ in Table 2 in Annex 2 under the heading "Index Option Trading Date";

"**Index Trading Period Date**" has the meaning specified for the relevant option in Table 2 in Annex 2 under the heading "Index Trading Period Date"; and

"**NOptionSeries**" has the meaning specified for the relevant option in Table 2 in Annex 2 under the heading "NOption Series".

4.4 Determination of sStrikeprice

Tstrike price of each Option notionally sold or purchased in respect of each shall be determined by the Index Calculation Agent as follows:(as defined in Annex 1 (*Strike Selection Methods*))Delta (as defined in Annex 1 (*Strike Selection Methods*)) In respect of $Option_i$ and an Index Calculation $Date_t$ the strike ("**K_i**") for such $Option_i$ will be equal to the listed strike on the Related Exchange which satisfies both (i) and (ii) below:

(i) is a whole number multiple of Strike Multiple index points; and

(ii) (a) if Strike Type is "Percent" for the relevant Option as indicated in Table 1 in Annex 2, is nearest to the Strike Parameter times CashSnapShot of the Index on such Index Calculation $Date_t$, provided that if Strike Parameter times CashSnapShot is equidistant to two listed strikes on the Related Exchange, then the greater of such two listed strikes shall be the Strike of the relevant Option; or

(b) if Strike Type is "Delta" for the relevant Option as indicated in Table 1 in Annex 2, is such that the Delta (as calculated by the methodology of Section 4.10 (*Determination of Delta*)) of an Option with such strike (which must be lower than or equal to the Strike Cap and greater than or equal to the Strike Floor) is closest to the Strike Parameter, provided that such Delta is not calculated when a Disruption Event occurs or is subsisting and that in the case where Strike Parameter is equidistant to the option Delta of two listed strikes, then the greater of such two listed strikes shall be the Strike of the relevant Option,

provided that K_i in respect of any $Option_i$ in the Initial Portfolio shall be as set out in the table in Annex 1 (*Initial Portfolio*) under the heading "K_i".

Where:

"**Strike Cap**" has the meaning specified for the relevant Option in Table 4 in Annex 2 under the heading "Strike Cap";

"**Strike Floor**" has the meaning specified for the relevant Option in Table 4 in Annex 2 under the heading "Strike Floor";

"**Strike Multiple**" has the meaning specified for the relevant Option in Table 2 in Annex 2 under the heading "Strike Multiple";

"**Strike Parameter**" has the meaning specified for the relevant Option in Table 1 in Annex 2 under the heading "Strike Parameter"; and

"**Strike Type**" has the meaning specified for the relevant Option in Table 1 in Annex 2 under the heading "Strike Type".

4.5 Determination of Cash

The notional cash position of the Index ("**Cash**") in respect of the Live Index Commencement Date is equal to the sum of all $Premium_i$ for all the Options comprising the Initial Portfolio as set out in the table in Annex 1 (*Initial Portfolio*) under the heading "Premium".

Cash in respect of each Index Calculation $Date_t$ following the Live Index Commencement Date ("**$Cash_t$**") is determined by the Index Calculation Agent in accordance with the following formula:

$$\text{Cash}_{\text{t}} = \quad [\text{Cash}_{\text{t}-1} - \text{InOutCash}_{\text{t}-1}] \times \frac{\text{Rate}_{\text{t}}}{\text{Rate}_{\text{t}-1}} + \text{CashFlow}_{\text{t}}$$

Where:

"**Cash $_t$**" means Cash in respect of Index Calculation $Date_t$;

"**Cash $_{t-1}$**" means Cash in respect of Index Calculation Date (t-1), as determined in accordance with Section 4.7 (*Determination of Cash Balance*); , as determined in accordance with Section 4.7 (*Determination of Delta Hedge PnL*);, as determined in accordance with Section 4.9 (*Determination of Accrued Interest*);6**6.1Portfolio Mark-to-Market**

each Ei,tOption icei,tWhere:

"**Portfolio MtM_t**" means Portfolio Mark-to-Market in respect of Index Calculation $Date_t$;

$E_{i,t}$ on Index Calculation $Date_t$ each in the ;

Option Price$_{i,t}$Option Price on Index Calculation Date$_t$ each in the and**i** is an integer 'counter' with a value from and including one to and including the number of Options in the Option Portfolio on Index Calculation Date$_t$, representing each Option in the Option Portfolio on Index Calculation Date$_t$.

6.2Option Price

The Option Price and an Index Calculation Date **Index Calculation Date$_t$** is

$\text{Option Price}_{i}, \text{Option TWAP}_{i,t} + \text{Delta}_{i,t} \times (\text{Cash Close}_t - \text{Cash TWAP}_t)$ **Option Price**$_{,t}$Option Price in respect of and Index Calculation Date$_t$;

Option TWAP$_{,t}$Option TWAP in respect of and Index Calculation Date$_t$;

Delta$_{,t}$Delta in respect of and Index Calculation Date$_t$;

Cash Close$_t$Cash Close in respect of Index Calculation Date$_t$; and

Cash TWAP$_t$Cash TWAP in respect of Index Calculation Date$_t$.

7

7.1each $,t\text{Option},tE,t$ **$_{,t}$**number of units notionally sold or purchased on Index Calculation Date$_t$ of each notionally sold or purchased by the Index**Option** **$_{,t}$**Option on Index Calculation Date$_t$ Onotionally sold or purchased by the Index on

E$_{,t}$on Index Calculation Date$_t$ O; Oon Index Calculation Date$_t$;

j is an integer 'counter' with a value from and including one to and including the number of Options notionally sold or purchased by the index on Index Calculation Date$_t$, representing each notionally sold or purchased by the index on Index Calculation Date$_t$; and

k is an integer 'counter' with a value from and including one to and including the number of Options on Index Calculation Date$_t$, representing each Option on Index Calculation Date$_t$.

7.2Option PremiumThe Option Premium and an Index Calculation Date **Index Calculation Date$_t$** is

$\text{Option Premium}_{i}, \text{Option TWAP}_{i,t} - \text{SIGN}(U_{i,t}) \times \text{Premium Spread}_{i,t}$ **Option Premium**$_{,t}$ns the Option Premium in respect of and Index Calculation Date$_t$;

Option TWAP$_{,t}$Option TWAP in respect of and Index Calculation Date$_t$;

SIGN(U$_{i,t}$)ns an amount equal to (i) +1 if the number of units of Option$_i$ notionally sold or purchased on Index Calculation Date$_t$ is greater than zero, (ii) -1 if the number of units of Option$_i$ notionally sold or purchased on Index Calculation Date$_t$ is less than zero or (iii) zero if the number of units of Option$_i$ notionally sold or purchased on Index Calculation Date$_t$ is

zero; and

Premium Spread$_{i,t}$an amount determined by the Index Calculation Agent in accordance with the following formula:

$$\text{Premium Spread}_{i,t} = \text{Option Vega}_{i,t} \times \text{Min}\left(\text{Max}\left(\text{Floor}; \text{Spread} \times \frac{\sigma_{i,t}}{\text{Base}}\right); \text{Cap}\right)$$

Capns 0.20;

Floorns 0.07;

Spreadns 0.12;

Basens 0.20;

"**Max**" followed by a series of amounts (or values) inside brackets, means the greater of the amounts (or values) separated by a semi-colon inside those brackets;

"**Min**" followed by a series of amounts (or values) inside brackets, means the lower of the amounts (or values) separated by a semi-colon inside those brackets;

Vega$_{,t}$ns the Vega in respect of and Index Calculation Date$_t$; and

σ$_{,t}$ns the Implied Volatility in respect of and Index Calculation Date$_t$.

8in accordance with the following formula Delta Hedge PnL **Delta Hedge PnL**Delta Hedge PnL **Delta Hedge PnL**$_{-1}$Delta Hedge PnL the Date immediately preceding

Delta Hedge Return Delta Hedge Return **Delta Hedge Cost**Delta Hedge Cost **Delta Hedge MtM**Delta Mark-to-Market 9 "**CashFlow$_t$**" means, in respect of Index Calculation Date$_t$, amount determined by the Index Calculation Agent in accordance with the formula appearing directly below which may be summarised in narrative form as an amount equal to:

(a) the sum of the Premiums, multiplied by the associated Unit Exposure, in respect of each Traded Option traded on Index Calculation Date$_t$, *minus*

(b) the sum of the Settlement Values, multiplied by the associated Unit Exposure, in respect of each Expired Option expiring on Index Calculation Date$_t$.

Expressed as a formula:

$$\text{CashFlow}_t = \sum_{j \in \text{TradedOptions}_t} \left(U_j \times \text{Premium}_j\right) - \sum_{k \in \text{ExpiredOptions}_t} \left(U_k \times \text{Settlement Value}_k\right)$$

"**ExpiredOptions$_t$**" means for Index Calculation Date$_t$, all Expired Options with Option

Expiry Date on the Index Calculation Date$_t$;

"$\mathbf{Ind_{t-1=t_s}}$" means, in respect of Index Calculation Date (t-1), the indicator function, which is equal to 1 if such Index Calculation Date (t-1) is a Notional Index Settlement Date and which is otherwise equal to 0.

"$\mathbf{IL_{t_s}}$" means the Index Level on the Notional Index Settlement Date immediately preceding Index Calculation Date$_t$;

"$\mathbf{IL_{t_{s-1}}}$" means the Index Level on the second Notional Index Settlement Date immediately preceding Index Calculation Date$_t$, provided that if there is no second Notional Index Settlement Date immediately preceding Index Calculation Date$_t$, $IL_{t_{s-1}}$ is IL_0.

"**InOutCash$_{t-1}$**" means, in respect of Index Calculation Date (t-1), an amount determined by the Index Calculation Agent in accordance with the following formula:

$$\mathrm{InOutCash}_{t-1} = \mathrm{Ind}_{t-1=t_s} \times \left(\mathrm{IL}_{t_s} - \mathrm{IL}_{t_{s-1}}\right)$$

"**j**" means an integer, which is used to refer to the jth notionally traded Option (Option$_j$), which is included in the TradedOptions$_t$ category;

"**k**" means an integer, which is used to refer to the kth notionally traded Option (Option$_k$), which is included in the ExpiredOptions$_t$ category;

"**Premium$_j$**" means the Premium in respect of the jth notionally traded option (Option$_j$), as determined in accordance with Section 4.6 (*Determination of Premium*);

"**Rate$_t$**" and "**Rate$_{t-1}$**" each has the meaning given in Section 5 (*Definitions*);

"**Settlement Value$_k$**" means the Settlement Value in respect of the kth notionally traded option (Option$_k$), as determined in accordance with Section 4.7 (*Determination of Settlement Value*);

"**TradedOptions$_t$**" means all Traded Options traded on Index Calculation Date$_t$;

"**U$_j$**" means the Unit Exposure in respect of the jth notionally traded option (Option$_j$) as determined in accordance with Section 4.3 (*Determination of Unit Exposure*) above; and

"**U$_k$**" means the Unit Exposure in respect of the kth notionally traded option (Option$_k$) as determined in accordance with Section 4.3 (*Determination of Unit Exposure*) above.

4.6 Determination of Premium

The Index will receive (if selling) or pay (if buying) a notional premium for notionally trading the ith Option (Option$_i$), on the Index Calculation Date$_t$ upon which Option$_i$ is notionally traded ("**Premium$_i$**"). On the Live Index Commencement Date, the Premium$_i$ for each of the Options in the Initial Portfolio is set out in the table in Annex 1 (*Initial Portfolio*) under the heading "Premium". On each Index Calculation Date$_t$ following the

Live Index Commencement Date, the formula for calculating this Premium is as follows:

$$\text{Premium}_i = \text{TWAPPrice}_{i,t} - \text{SIGN}(U_i) \times \text{CostSpread}_i + \text{Delta}_{i,t} \times (\text{CashClose}_t - \text{CashTWAP}_t)$$

Where:

"**CostSpread$_i$**" means an amount determined by the Index Calculation Agent in accordance with the following formula:

$$\text{CostSpread}_i = \text{OptionVega}_{i,t} \times Max\left(\text{Floor}; \text{Spread} \times \frac{\sigma_{i,t}}{20\%}\right);$$

"**Delta$_{i,t}$**" is defined in Section 4.10 (*Determination of Delta*);

"**Floor**" means the amount as specified in Table 3 in Annex 2 under the heading "Floor";

"**TWAPBasis$_t$**" is as defined in Section 4.14 (*Time-Weighted Average Price Process*);

"**CashClose$_t$**" is defined in Section 5 (*Definitions*);

"**CashTWAP$_t$**" is as defined in Section 4.14 (*Time-Weighted Average Price Process*);

"**OptionVega$_{i,t}$**" means, in respect of Option$_i$ and an Index Calculation Date$_t$, OptionVega$_{E,K,t}$ for such Option$_i$ and such Index Calculation Date$_t$ (for which purposes, expiry date E is equal to the Option Expiry Date of Option$_i$ and strike K is equal to the strike of Option$_i$);

"**$\sigma_{E,K,t}$**" is defined in Section 4.12 (*Determination of Volatility*);

"**$\sigma_{i,t}$**" means, in respect of Option$_i$ on an Index Calculation Date$_t$, $\sigma_{E,K,t}$ for such Option$_i$ and such Index Calculation Date$_t$ (for which purposes, expiry date E is equal to the Option Expiry Date of Option$_i$ and strike K is equal to the strike of Option$_i$);

"**SIGN(U_i)**" means an amount equal to:

(i) +1, where U_i is greater than zero; or

(ii) -1, where U_i is less than zero; or

(iii) zero, where U_i is equal to zero;

"**Spread**" means the amount as specified in Table 3 in Annex 2 under the heading "Spread";

"**TWAPPrice$_{i,t}$**" is as defined in Section 4.14 (*Time-Weighted Average Price Process*); and

"**U_i**" is defined in Section 4.3 (*Determination of Unit Exposure*).

4.7 Determination of Settlement Value

Once an $Option_i$ expires, it will no longer be part of the Option Portfolio and shall become an "**Expired Option**" with effect from, and including, the Option Expiry Date of such $Option_i$. The settlement value ("**Settlement Value**" or "**Settlement Value$_i$**") of $Option_i$ in respect of the Index Calculation $Date_t$ falling on the Option Expiry Date of such $Option_i$ shall be, in respect of an $Option_i$ which is:

(i) a Call Option, an amount determined by the Index Calculation Agent in accordance with the following formula:

$$\text{Settlement Value}_i = \text{Max}(0; \text{SettlePrice}_t - K_i)$$

(ii) a Put Option, an amount determined by the Index Calculation Agent in accordance with the following formula:

$$\text{Settlement Value}_i = \text{Max}(0; K_i - \text{SettlePrice}_t)$$

Where:

"**K_i**" means the strike of $Option_i$ as defined in Section 4.4 (*Determination of Strike*);

"**$SettlePrice_t$**" means:

(i) in respect of a Monthly Option, $CashEDSP_t$; or

(ii) in respect of an Option that is not a Monthly Option, $CashClose_t$.

"**$CashEDSP_t$**" means the Official Settlement Level (in index points) of the Underlying Index in respect of Index Calculation $Date_t$; and

"**$CashClose_t$**" is as defined in Section 5 (*Definitions*);

4.8 Determination of PortfolioMarktoMarket

In respect of each $Option_i$ in the Option Portfolio in respect of Index Calculation $Date_t$, the "**$PortfolioMarktoMarket_t$**" is the sum of the values calculated for all Options in the Option Portfolio in respect of Index Calculation $Date_t$ as the product of the Unit Exposure of such $Option_i$ multiplied by the $OptionPrice_{i,t}$ of such $Option_i$. The formula for calculating the $PortfolioMarktoMarket_t$ is as follows:

$$\text{PortfolioMarkToMarket}_t = \sum_{i \in \text{Option Portfolio}} U_i \times \text{OptionPrice}_{i,t}$$

Where:

"**$OptionPrice_{i,t}$**" means (i) in respect of the date $Option_i$ is notionally traded, an amount equal to $Premium_i$, or (ii) on any other Index Calculation $Date_t$, an amount equal to $OptionClosePrice_{i,t}$;

"**$OptionClosePrice_{i,t}$**" means an amount determined by the Index Calculation Agent in

accordance with the following formula:

$$\text{OptionClosePrice}_{i,t} = \text{TWAPPrice}_{i,t} + \text{Delta}_{i,t} \times (\text{CashClose}_t - \text{CashTWAP}_t);$$

"**CashClose$_t$**" is as defined in Section 5 (*Definitions*);

"**CashTWAP$_t$**" is as defined in Section 4.14 (*Time-Weighted Average Price Process*);

"**Delta$_{i,t}$**" is as defined in Section 4.10 (*Determination of Delta*); and

"**U$_i$**" is defined in Section 4.3 (*Determination of Unit Exposure*).

4.9 Determination of Option Expiry Date and Option Type

In respect of each Option$_i$, the expiry date ("**Option Expiry Date**" or "**E**") for such Option$_i$ is as determined by the Index Calculation Agent in accordance with the specification set out in Table 1 in Annex 2 under the heading "Option Expiry Date", save that for any Option$_i$ in the Initial Portfolio, the Option Expiry Date shall be as set out in the table in Annex 1 (*Initial Portfolio*) under the heading "Option Expiry Date".

In respect of each Option$_i$, the type of such Option$_i$ ("**Option Type**") is as specified in Table 1 in Annex 2 under the heading "Option Type" (being either Put or Call), save that for any Option$_i$ in the Initial Portfolio, the Option Type shall be as set out in the table in Annex 1 (*Initial Portfolio*) under the heading "Option Type".

4.10 Determination of Delta

The "**Delta$_{i,t}$**" in respect of an Option$_i$ and an Index Calculation Date$_t$ means the percentage Black-Scholes delta of Option$_i$ on such Index Calculation Date$_t$, which shall be, in respect of an Option$_i$ which is:

(i) a Call Option, determined by the Index Calculation Agent in accordance with the following formula:

$$\text{Delta}_{i,t} = N(\text{Snapd1}_{i,t}) \times \exp\left(-r_{i,t} \times T_{i,t}\right)$$

(ii) a Put Option, determined by the Index Calculation Agent in accordance with the following formula:

$$\text{Delta}_{i,t} = \left(N(\text{Snapd1}_{i,t}) - 1\right) \times \exp\left(-r_{i,t} \times T_{i,t}\right)$$

Where:

"**Snapd1$_{i,t}$**" means an amount determined by the Index Calculation Agent in accordance with the following formula:

;

$$\mathrm{Snapd1}_{i,t} = \frac{\ln\left(\frac{\mathrm{FwdSnapShot}_{i,t}}{K_i}\right) + \left[\frac{\left(\sigma_{i,t-1}\right)^2}{2}\right] \times B_{i,t}}{\sigma_{i,t-1} \times \mathrm{sqrt}\left(B_{i,t}\right)}$$

"**K_i**" means the strike of Option$_i$ as defined in Section 4.4 (*Determination of Strike*);

"***N*(X)**" means the standard normal cumulative distribution function, as defined by the following formula:

$$N(X) = \frac{1}{sqrt(2 \times \pi)} \int_{-\infty}^{X} \exp\left(\frac{-\varepsilon^2}{2}\right) d\varepsilon \ ;$$

"**$r_{i,t}$**" means the OIS Swap Rate in respect of Index Calculation Date$_t$ for Option$_i$;

"**$\sigma_{i,t-1}$**" means $\sigma_{i,t}$ in respect of Option$_i$ in respect of Index Calculation Date (t-1);

"**$B_{i,t}$**" means (a) the number of Business Days falling in the period commencing on, and including, Index Calculation Date$_t$ and ending on, but excluding, the Option Expiry Date of Option$_i$, divided by (b) 252; and

"**$T_{i,t}$**" means (a) the number of calendar days falling in the period commencing on, and including, Index Calculation Date$_t$ and ending on, but excluding, the Option Expiry Date of Option$_i$, divided by (b) 360.

4.11 Determination of FwdSnapShot

In respect of Index Calculation Date$_t$ and an Option$_i$, the "**FwdSnapShot$_{i,t}$**" means the forward price of the Underlying Index to the Option Expiry Date of Option$_i$ in respect of Index Calculation Date$_t$, calculated using prices observed during the TWAP Process on Index Calculation Date (t-1) and adjusted for changes in the level of the Underlying Index during the period from such TWAP Process to 30 minutes before the Scheduled Closing Time of the Exchange in respect of Index Calculation Date$_t$, and shall be determined by the Index Calculation Agent in accordance with the following mathematical expression:

$$\mathrm{FwdSnapSho\ t}_{i,t} = \mathrm{ForwardTWA\ P}_{i,t-1} \times \frac{\mathrm{CashSnapSh\ ot}_t}{\mathrm{CashTWAP}_{t-1}}$$

Where:

"**CashSnapShot$_t$**" is as defined in Section 5 (*Definitions*);

"**CashTWAP$_{t-1}$**" means the CashTWAP$_t$ in respect of Index Calculation Date (t-1), as defined in Section 4.14 (*Time-Weighted Average Price Process*); and

"**ForwardTWAP$_{i,t-1}$**" means the ForwardTWAP$_{i,t}$ in respect of Index Calculation Date (t-1), as defined in Section 4.14 (*Time-Weighted Average Price Process*).

4.12 Determination of Volatility

The implied volatility ("**Implied Volatility**" or "$\boldsymbol{\sigma_{E,K,t}}$") in respect of an Option ("$\textbf{Option}_{\textbf{E,K}}$") with strike "**K**" and expiry date "**E**" on an Index Calculation Date_t, means the Black-Scholes implied volatility of such $\text{Option}_{E,K}$ for such Index Calculation Date_t. The Implied Volatility is computed by inverting the Black-Scholes Pricing Formula using an iterative process. If the $\text{Option}_{E,K}$ is OTM, the Implied Volatility for $\text{Option}_{E,K}$ is computed by inverting (using an iterative methodology) the Black-Scholes Pricing Formula for the $\text{CallTWAP}_{E,K,t}$ (if $\text{Option}_{E,K}$ is a Call Option) or for the $\text{PutTWAP}_{E,K,t}$ (if $\text{Option}_{E,K}$ is a Put Option), the other inputs needed being $\text{ForwardTWAP}_{E,t}$, $B_{E,t}$, $T_{E,t}$ and $r_{E,t}$. If the $\text{Option}_{E,K}$ is not OTM, the Implied Volatility is computed by inverting (using an iterative methodology) the Black-Scholes Pricing Formula for the Matching Put $\text{PutTWAP}_{E,K,t}$ (if the $\text{Option}_{E,K}$ is a Call Option) or for the Matching Call $\text{CallTWAP}_{E,K,t}$ (if the $\text{Option}_{E,K}$ is a Put Option) and the other inputs needed being $\text{ForwardTWAP}_{E,t}$, $B_{E,t}$, $T_{E,t}$ and $r_{E,t}$.

Where:

"**Matching Call**" means, for a Put Option, the Call Option that has the same strike K and expiry date E as the Put Option; and

"**Matching Put**" means, for a Call Option, the Put Option that has the same strike K and expiry date E as the Call Option.

The $\text{Option}_{E,K}$ on an Index Calculation Date_t is "**OTM**" if:

(i) if $\text{Option}_{E,K}$ is a Call Option, the following inequality is true:

$$K \geq CashSnapShot_t$$

(ii) if $\text{Option}_{E,K}$ is a Put Option, the following inequality is true:

$$K < CashSnapShot_t$$

Where "$\textbf{CashSnapShot}_\textbf{t}$" is as defined in Section 5 (*Definitions*).

The "**Black-Scholes Pricing Formula**" used to calculate the price of $\text{Option}_{E,K}$ on an Index Calculation Date_t will be:

(i) if $\text{Option}_{E,K}$ is a Call Option:

$$CallTWAP_{E,K,t} = \exp(-r_{E,t} \times T_{E,t}) \times \left[ForwardTWAP_{E,t} \times N(d1_{E,K,t}) - K \times N(d2_{E,K,t})\right]$$

(ii) if $\text{Option}_{E,K}$ is a Put Option:

$$PutTWAP_{E,K,t} = \exp(-r_{E,t} \times T_{E,t}) \times \left[K \times N(-d2_{E,K,t}) - ForwardTWAP_{E,t} \times N(-d1_{E,K,t})\right]$$

Where:

"**$d1_{E,K,t}$**" means, for Index Calculation Date$_t$, an amount determined by the Index Calculation Agent in accordance with the following formula:

$$d1_{E,K,t} = \frac{\ln\left(\frac{\text{ForwardTWAP}_{E,t}}{K}\right) + \left[\frac{\left(\sigma_{E,K,t}\right)^2}{2}\right] \times B_{E,t}}{\sigma_{E,K,t} \times \text{sqrt}\left(B_{E,t}\right)}$$

"**$d2_{E,K,t}$**" means, for Index Calculation Date$_t$, an amount determined by the Index Calculation Agent in accordance with the following formula:

$$d2_{E,K,t} = d1_{E,K,t} - \sigma_{E,K,t} \times \text{sqrt}\left(B_{E,t}\right)$$

"**$\text{ForwardTWAP}_{E,t}$**" is as defined in Section 4.14 (*Time-Weighted Average Price Process*);

"***N*(X)**" is defined in Section 4.10 (*Determination of Delta*);

"**$r_{E,t}$**" means the OIS Swap Rate in respect of Index Calculation Date$_t$ and Option$_{E,K}$;

"**$B_{E,t}$**" means (i) the number of Business Days falling in the period commencing on, and including, Index Calculation Date$_t$ and ending on, but excluding, E, divided by (ii) 252; and

"**$T_{E,t}$**" means (i) the number of calendar days falling in the period commencing on, and including, Index Calculation Date$_t$ and ending on, but excluding, E, divided by (ii) 360.

4.13 Determination of OptionVega

The Black-Scholes vega ("**OptionVega**" or "**$\text{OptionVega}_{E,K,t}$**") in respect of Option$_{E,K}$ and an Index Calculation Date$_t$ shall be determined by the Index Calculation Agent in accordance with the following formula:

$$\text{OptionVega}_{E,K,t} = N'\left(d1_{E,K,t}\right) \times \text{ForwardTWAP}_{E,t} \times \text{sqrt}\left(B_{E,t}\right) \times \frac{\exp\left(-r_{E,t} \times T_{E,t}\right)}{100}$$

Where:

"**$d1_{E,K,t}$**" is as defined in Section 4.12 (*Determination of Volatility*);

"**N'(X)**" means, in respect of a variable X, the standard normal probability density distribution function of such variable X, as defined by the following formula:

$$N'(X) = \frac{1}{sqrt(2 \times \pi)} \exp\left(-\frac{X^2}{2}\right)$$

"**$\text{ForwardTWAP}_{E,t}$**" is as defined in Section 4.14 (*Time-Weighted Average Price Process*);

"**$r_{E,t}$**" is as defined in Section 4.12 (*Determination of Volatility*);

"**$B_{E,t}$**" is as defined in Section 4.12 (*Determination of Volatility*); and

"**$T_{E,t}$**" is as defined in Section 4.12 (*Determination of Volatility*).

4.14 Time-Weighted Average Price Process

In order to establish relevant prices and inputs to calculate the Index Level on any Index Calculation $Date_t$, a time-weighted average price observation process (the "**TWAP Process**") will be used. For the purpose of determining any price or level using the TWAP Process, the relevant price or level will be recorded at the end of every 15 second interval (each such 15 second interval being a "**TWAP Observation Interval**") falling in the relevant period, commencing on, and including, the "**TWAP Process Start Time**" and ending at, and including, the "**TWAP Process End Time**" (as specified below in each case).

In respect of each TWAP Observation Interval, the price or level to be recorded for such TWAP Observation Interval will be the most recent relevant price or level as published on the Price Source on or after the "Lookback Period Start Time" to, and including, the end of such TWAP Observation Interval, subject to the application of Section 1.1 (*Option TWAP Disruption Event*) of Part 4 below. The "**Lookback Period Start Time**" means, in respect of any relevant day, the time falling 300 minutes prior to the TWAP Process Start Time for such day. For the avoidance of doubt, the first time that a price or level is recorded (subject to there being a price or level to record) is at the end of the TWAP Observation Interval which starts at the TWAP Process Start Time.

The TWAP Process will return a price or level which is the arithmetic average of the recorded prices or levels for the TWAP Observation Interval, subject to the application of Section 1.1 (*Option TWAP Disruption Event*) of Part 4 below.

(i) CallTWAP Calculation

In respect of each Index Calculation $Date_t$, the "**$CallTWAP_{E,K,t}$**" shall be an amount calculated by the Index Calculation Agent as the arithmetic average of the returned prices from TWAP processes run on (i) the bid prices quoted for a size of 1 or more contracts; and (ii) the ask prices quoted for a size of 1 or more contracts of the Call Option with exercise date E and strike K (in index points) on such Index Calculation Date, both with a TWAP Process Start Time of 25 minutes before the Scheduled Closing Time of the Exchange and a TWAP Process End Time of 5 minutes before the Scheduled Closing Time of the Exchange.

(ii) PutTWAP Calculation

In respect of each Index Calculation $Date_t$, the "**$PutTWAP_{E,K,t}$**" shall be an amount calculated by the Index Calculation Agent as the arithmetic average of the returned prices from TWAP processes run on (i) the bid prices quoted for a size of 1 or more contracts; and (ii) the ask prices quoted for a size of 1 or more

contracts of the Put Option with exercise date E and strike K (in index points) on such Index Calculation Date, both with a TWAP Process Start Time of 25 minutes before the Scheduled Closing Time of the Exchange and a TWAP Process End Time of 5 minutes before the Scheduled Closing Time of the Exchange.

(iii) TWAPPrice Calculation

In respect of each Index Calculation $Date_t$ and each $Option_i$ in the Option Portfolio on such Index Calculation $Date_t$, the "**$TWAPPrice_{i,t}$**" shall be, in respect of $Option_i$, which is:

(i) a Call Option, $CallTWAP_{E,K,t}$; and

(ii) a Put Option, $PutTWAP_{E,K,t}$.

(iv) CashTWAP Calculation

In respect of an Index Calculation $Date_t$, the "**$CashTWAP_t$**" shall be an amount calculated by the Index Calculation Agent as the returned level from a TWAP process run on such Index Calculation Date on the Underlying Index level (in index points), with a TWAP Process Start Time of 25 minutes before the Scheduled Closing Time of the Exchange and a TWAP Process End Time of 5 minutes before the Scheduled Closing Time of the Exchange.

(v) ForwardTWAP

In respect of each Index Calculation $Date_t$ and an exercise date E, the "**$ForwardTWAP_{E,t}$**" is calculated from the Put-Call Parity Formula (set as $ForwardPrice_{E,t}$ in the formula), using $CallTWAP_{E,K,t}$ and $PutTWAP_{E,K,t}$ (set as $CallPrice_{E,K,t}$ and $PutPrice_{E,K,t}$ respectively in the formula) with the strike K equal to $K_{ATM',t}$, which is the listed strike which is both (i) an integral multiple of 25 index points of the Underlying Index, and (ii) nearest the $CashSnapShot_t$ (with the higher strike being taken in the event of a tie). The Put-Call Parity Formula is described in Section 4.15 (*Put-Call Parity Formula*).

In respect of each Index Calculation $Date_t$ and each $Option_i$ in the Option Portfolio on such Index Calculation $Date_t$, the "$ForwardTWAP_{i,t}$" is the forward price (in index points) during the TWAP process (with a TWAP Process Start Time of 25 minutes before the Scheduled Closing Time of the Exchange and a TWAP Process End Time of 5 minutes before the Scheduled Closing Time of the Exchange) on such Index Calculation Date of the Underlying Index to the Option Expiry Date of $Option_i$. $ForwardTWAP_{i,t}$ is calculated as $ForwardTWAP_{E,t}$ with exercise date E set as the Option Expiry Date of $Option_i$.

4.15 Put-Call Parity Formula

The forward price (the "**$ForwardPrice_{E,t}$**") of the Underlying Index to E on Index

Calculation $Date_t$ will be calculated by the Index Calculation Agent in accordance with the following formula (the "**Put-Call Parity Formula**"):

$$\text{ForwardPrice}_{E,t} = \frac{\text{CallPrice}_{E,K,t} - \text{PutPrice}_{E,K,t}}{\exp\left(-r_{E,t} \times T_{E,t}\right)} + K$$

Where:

"**$CallPrice_{E,K,t}$**" means, for Index Calculation $Date_t$, the price (as set out in paragraph 4.14(v) (*ForwardTWAP*) above) of a Call Option with expiry date E and strike K;

"**$PutPrice_{E,K,t}$**" means, for Index Calculation $Date_t$, the price (as set out in paragraph 4.14(v) (*ForwardTWAP*) above) of a Put Option with expiry date E and strike K;

"**$r_{E,t}$**" is defined in Section 4.12 (*Determination of Volatility*); and

"**$T_{E,t}$**" is defined in Section 4.12 (*Determination of Volatility*).

4.16 Back-fill Period Calculations

The Index Sponsor will calculate the Index Level in respect of all Index Calculation Dates during the Back-fill Period using a similar methodology to that described above for the Index Level calculation used from the Live Index Commencement Date. During these calculations, the Index Sponsor may make modifications to the methodology described elsewhere in this document and make assumptions and determinations, including but not limited to market data sources. In particular, such modifications include, but are not limited to, the following points:

- the use of internal market data sources, including but not limited to measures of volatility and interest rate as at a different time from that specified elsewhere in this document;
- the Index Level in respect of the start of the Back-fill Period (the Index Commencement Date) will initially be set at 100, but all Index Levels in respect of the Back-fill Period will subsequently be rebased such that the Index Level in respect of the Live Index Commencement Date is 100;
- the values of Delta and OptionVega are calculated numerically rather than analytically; and
- the determination of Implied Volatility by inverting the Black-Scholes Pricing Formula may use a different numerical method than as set out elsewhere in this document.

4.10 Index Calculation Agent

All determinations and calculations made by the Index Calculation Agent will be made in good faith and in a commercially reasonable manner by reference to such factors as the Index Calculation Agent deems appropriate and will be final, conclusive and binding in the absence of manifest error.

The Index Administrator may at any time appoint a new entity to act as Index Calculation Agent.

If the Index Calculation Agent and the Index Administrator are not the same entity, the Index Calculation Agent shall be appointed by the Index Administrator to carry out the calculations and other related services as set out in these Index Rules provided that, in such case, any determination, calculation and/or adjustment made and/or any exercise of discretion by the Index Calculation Agent for the purposes of the Index shall, in each case, be subject to the prior consent of the Index Administrator (irrespective of whether or not it is expressly stated to be subject to such consent in the Index Rules) and, in the event such consent is withheld, the Index Administrator shall make such determination, calculation, adjustment and/or exercise of discretion in place of the Index Calculation Agent and in the event of any conflict the determination, calculation, adjustment and/or exercise of discretion of the Index Administrator shall prevail.

4.11 Index Administrator

All determinations made by the Index Administrator will be made in good faith and in a commercially reasonable manner by reference to such factors as the Index Administrator deems appropriate and will be final, conclusive and binding in the absence of manifest error.

The Index Administrator has the right to make determinations, calculations and adjustments in relation to the Index which involve, in certain circumstances as set out in this document, a degree of discretion in order to ensure that the Index can, where reasonably practicable, continue to be calculated and determined notwithstanding the relevant circumstances or, to allow a delay or a cancellation of the Index. The Index Administrator will exercise any such discretion with the aim of preserving the overall methodology and objective of the Index. In exercising its discretion in connection with the Index, the Index Administrator shall act in good faith and in a commercially reasonable manner.

The Index Administrator may delegate and/or transfer any of its obligations or functions under the Index Rules to one or more third parties as it deems appropriate from time to time but shall (a) ensure that appropriate legal documentation in relation to such delegation and/or transfer is put in place and (b) shall remain responsible for the actions and omissions of its delegates and transferees as if such actions and omissions were its own.

5 DEFINITIONS

"**Affiliate**" means in relation to any entity (the "**First Entity**"), any entity controlled, directly or indirectly, by the First Entity, and entity that controls, directly or indirectly, the First Entity or any entity directly or indirectly under common control with the First Entity. For these purposes, "control" means ownership of a majority of the voting power of an entity.

Options "**Cash Balance**" has the meaning given in Section 4.7 (*Determination of Cash Balance*).

"**Cash Close**" means, in respect of an Index Calculation Date, the official closing level (in index points) of the Underlying Index on such day, as published on the Price Source.

"**Cash PnL**" has the meaning given in Section 4.5 (*Determination of Cash PnL*).

SCTevantSCTevant.**TWAP**, an amount determined by the Index Calculation Agent as the level returned by the TWAP Options Process (as defined in Annex 3 (*Time-Weighted Average Price Observation process*)) run on such Index Calculation Date on the level of the Underlying Index.

Deltahas the meaning given in Annex 2 (*Determination of Implied Volatility, Delta and Vega*).

Futuresthe Chicago Mercantile Exchange (the **CM**, or any successor to such exchange or quotation system or any substitute exchange or quotation system to which trading in futures contracts relating to the Underlying Index has temporarily relocated (provided that the Index Calculation Agent has determined that there is comparable liquidity relative to futures contracts relating to the Underlying Index on such temporary substitute exchange or quotation system as on the original Futures Exchange).

Implied Volatilityhas the meaning given in Annex 2 (*Determination of Implied Volatility, Delta and Vega*).

Index (i) are scheduled to Options and (ii) futures contracts on the Underlying Index are scheduled to Futures, in each case Index which is a day (i) and the Underlying Total Return Index (ii) the Relevant Exchange "**Index Commencement Date**" has the meaning given in Section 2 (*Summary Description*).

"**Index Live Date**" has the meaning given in Section 2 (*Summary Description*).

evant

n IndexIndex **Option Premium**has the meaning given to it in section 4.7.2 (*Option Premium*).

Option Pricehas the meaning given to it in section 4.6.2 (*Option Price*).

Option TWAPmeans, in respect of an Option and an Index Calculation Date, an amount calculated by the Index Calculation Agent as the arithmetic mean of the prices returned by the TWAP Options Process (as defined in Annex 3 (*Time-Weighted Average Price Observation process*)) run on such Index Calculation Date on (i) the bid prices quoted for a size of 1 or more contracts of such Option and (ii) the ask prices quoted for a size of 1 or more contracts of a such Option).

Options orOptions

"**Portfolio Mark-to-Market**" has the meaning given in Section 4.6.1 (*Portfolio Mark-to-Market)*.

Options

n IndexIndex s**Related**each of the Options Exchange and the Futures Exchange.

RelevantNew York Stock **NYSE**or any thereto, as determined by

"**Scheduled Closing Time**" means, in respect of the Relevant Exchange and any relevant day, the scheduled weekday closing time of the Relevant Exchange on such day, without regard to after hours or any other trading outside of its regular trading session hours.

Total Return means the S&P 500 Total Return 4 Jan 1988 Index (*Bloomberg Code: SPTR Index*).**Unit Exposure**in and an Index Calculation Date **Index Calculation Date$_t$**the aggregate of the number of units sold and purchased of such Option from (but excluding) the Index Commencement Date to (and including) such Index Calculation Date.

"**USD**" means United States dollars.

Vegahas the meaning given in Annex 2 (*Determination of Implied Volatility, Delta and Vega*).

Part 4

Disruptions and Change in Methodology

1 CONSEQUENCES OF DISRUPTIONS

1.1 Option TWAP Disruption Event

If an Option TWAP Disruption Event which the Index Administrator determines is material occurs or is subsisting on any relevant day with respect to an Option, the Index Administrator, acting in good faith and a commercially reasonable manner, will determine the relevant Option price using the Black-Scholes Pricing Formula and an implied volatility equal to:

(i) if the Implied Volatility for such Option on such day can be determined according to Section 4.12 (*Determination of Volatility*), such Implied Volatility; or

(ii) if the Implied Volatility for such Option cannot be determined according to Section 4.12 (*Determination of Volatility*), due to such Option being OTM or if such Option is not OTM and there is an Option TWAP Disruption Event occurring with respect to the Matching Option, a linear interpolation (or extrapolation) across the strike price of Implied Volatilities that can be determined according to Section 4.12 (*Determination of Volatility*) on such day.

Provided that an "**Unresolved Option TWAP Disruption Event**" shall occur if the application of both (i) and (ii) above does not allow the Index Administrator to determine the relevant price for such Option.

Where "**Matching Option**" means:

(i) for a Put Option, the Matching Call, as defined in Section 4.12 (*Determination of Volatility*); and

(ii) for a Call Option, the Matching Put, as defined in Section 4.12 (*Determination of Volatility*).

1.2 Disruption Event

If a Disruption Event which the Index Administrator determines is material occurs or is subsisting on any Index Calculation Date the Index Administrator may:

(i) determine any relevant price, value, amount, rate or level required in order to calculate the Index Level on such Index Calculation Date; and/or

(ii) (a) suspend the notional trading of Options and/or (b) alternatively defer the determination and publication of the Index Level until the next Index Calculation Date on which it determines that no Disruption Event exists, provided that where any such suspension of the notional trading of Options and/or deferral of determination and publication continues for a period of 10 consecutive Index Calculation Dates, then the Index

Administrator will:

(a) determine and (as applicable) publish the Index Level relating to each Index Calculation Date falling in such period in its sole discretion having regard to the then prevailing market conditions, the last reported price, value, rate, spread or level and such other factor(s) and condition(s) as the Index Administrator considers relevant for the purpose of determining such Index Level; and/or

(b) permanently cease determining and publishing the Index as of the later of (x) the date when such Disruption Event commenced or (y) the Index Calculation Date following the last Index Calculation Date for which the Index Administrator calculated and (if applicable) published the relevant Index Level in accordance with paragraph (a) above (if any); and/or

(iii) make such determinations and/or adjustments in relation to the Index Rules as it considers appropriate; and/or

(iv) in the case of an Underlying Index Event (a) select a successor exchange to replace the Related Exchange and/or a successor index to replace the Underlying Index, such successor exchange and/or successor index to be selected by the Index Administrator with regard to preserving the economic intention of the methodology of the Index and (b) in each case, make such adjustments to the Index to reflect such selection as it determines appropriate; and/or

(v) permanently cease to determine, calculate and make available the Index Level and/or cancel the Index.

2 DEFINITIONS

"**Change of Law or Rules**" means there is a change in, or amendment to, the laws, rules or regulations relating to any Option or any other options contract relating to the Underlying Index, and/or a change in any application or interpretation of such laws, rules or regulations.

"**De Minimis Trading**" means the number of any relevant Options or any other options contract relating to the Underlying Index traded on the Related Exchange on any relevant trading day is materially reduced or the liquidity in any relevant Option or any other options contract relating to the Underlying Index is otherwise reduced for any reason.

"**Disappearance of an Option Price**" means the failure of trading to commence, or the permanent discontinuation of trading in, a relevant Option or any other options contract relating to the Underlying Index on the Related Exchange.

"**Disruption Event**" means a Market Disruption Event, a Force Majeure Event, an Option Market Disruption Event, an Underlying Index Event, an Unresolved Option TWAP Disruption Event, an Implied Volatility Disruption Event or an Interest Rate Index Event.

"**Force Majeure Event**" means an event or circumstance other than an Underlying Index Event (including, without limitation, a systems failure, fire, building evacuation, natural or

man-made disaster, act of God, act of state, armed conflict, act of terrorism, riot or labour disruption or any similar intervening circumstance) that the Index Administrator determines affects the calculations or determinations in respect of the Index.

"**Hedging Disruption**" means the Index Administrator determines that Deutsche Bank AG and/or any of its Affiliates would be unable, after using reasonable efforts, to: (i) acquire, establish, re-establish, substitute, maintain, unwind or dispose of any transaction(s) or asset(s) it deems necessary to hedge its or any Affiliate's position in relation to the Index, or (ii) realise, recover or remit the proceeds of any such transaction(s) or asset(s).

"**Implied Volatility Disruption Event**" means, in respect of any relevant day, it is not possible or practicable, in the determination of the Index Administrator, to calculate a positive real number for an Implied Volatility, $\sigma_{E,K,t}$.

"**Interest Rate Index Event**" means (i) the failure of the sponsor of any Interest Rate Index to publish the level of such Interest Rate Index for any day on the day on which the level for such day is scheduled to be published (without taking into account any right of the sponsor of such Interest Rate Index to defer publication) or (ii) the sponsor of any Interest Rate Index permanently ceases to calculate and make available the level of such Interest Rate Index.

"**Lookback Period Start Time**" is as defined in Part 3 (*Description of the Index and Index Calculation*) Section 5 (*Definitions*).

"**Market Disruption Event**" means an event (other than a Force Majeure Event or an Underlying Index Event) that would require the Index Administrator to make any determination in respect of an Option or the Index on an alternative basis all as determined by the Index Administrator. Without limitation to the foregoing, each of the following events shall be a Market Disruption Event:

(i) a Trading Suspension;

(ii) a Disappearance of an Option Price;

(iii) a Material Change in Formula or Determination;

(iv) a Material Change in Content;

(v) a Tax Disruption;

(vi) a Trading Limitation;

(vii) De Minimis Trading;

(viii) a Change of Law or Rules;

(ix) a Hedging Disruption;

(x) a Material Change in Circumstances; or

(xi) a Relevant Exchange Event.

"**Material Change in Circumstance**" means the occurrence of any event which would make

it impossible or not reasonably practicable, for a market counterparty to enter into or maintain or fulfil its obligations under any relevant Option or any other options contract relating to the Underlying Index on the Related Exchange or any other relevant trading market, as determined by the Index Administrator.

"**Material Change in Content**" means the occurrence of a material change in the content, composition or constitution of the Underlying Index to which a relevant Option relates.

"**Material Change in Formula or Determination**" means the occurrence of a material change in the formula for or the method of calculating the price of a relevant Option or a relevant price of any other options contract relating to the Underlying Index by the Related Exchange or any other relevant party, or a material modification of the Related Exchange's method for dissemination of the price of any Option or any relevant price of any other options contract relating to the Underlying Index.

"**Option**" is as defined in Part 3 (*Description of the Index and Index Calculation*) Section 5 (*Definitions*).

"**Option Expiry Date**" is as defined in Part 3 (*Description of the Index and Index Calculation*) Section 4.9 (*Determination of Option Expiry Date and Option Type*).

"**Option Market Disruption Event**" means (and an Option Market Disruption Event shall be deemed to have occurred if):

(i) it is not possible or practicable for any reason to carry out a TWAP Process, or the TWAP Process does not return a price or a level, including, without limitation, owing to (a) the relevant bid or ask prices of the Option not being available or published, or (b) an official level of the Underlying Index not being published at any time in the period commencing at the relevant Lookback Period Start Time and ending at the TWAP Process End Time; or

(ii) it is not possible or practicable to calculate a positive real number for an implied volatility $\boldsymbol{\sigma}_{E,K,t}$.

"**Option Type**" is as defined in Part 3 (*Description of the Index and Index Calculation*) Section 4.9 (*Determination of Option Expiry Date and Option Type*).

"**Option TWAP Disruption Event**" means, in respect of an Option and any relevant day, an event or circumstance that makes it impossible or not practicable, in the determination of the Index Administrator, for any reason to carry out a TWAP Process for such day, or the TWAP Process does not return a price for such day, with respect to such Option including, without limitation, owing to the relevant bid or ask prices of the Option not being available or published.

"**Relevant Exchange Event**" means (and a Relevant Exchange Event shall be deemed to have occurred if):

(i) on any Option Expiry Date any Relevant Exchange is not scheduled to be open for trading for its regular full day trading session; or

(ii) on any Index Calculation Date on which a Relevant Exchange is scheduled to be open for trading for its regular full day trading session, such Relevant Exchange does not so open.

"**Tax Disruption**" means the imposition of, change in or removal of any tax (including, without limitation, any excise, severance, sales, use, value-added, transfer, stamp, documentary, recording, financial transaction or similar tax) on, or in relation to, any relevant Option or any other options contract relating to the Underlying Index or any constituents of the Underlying Index, by any government or taxation authority, (i) if the direct effect of such imposition, change or removal is to raise or lower the price of an Option on any relevant day from what it would have been without that imposition, change or removal; or (ii) if the Index Sponsor and/or any of its Affiliates would incur a materially increased cost (as compared with circumstances existing on the Index Commencement Date) due to the imposition, change or removal of such tax to (a) acquire, establish, re-establish, substitute, maintain, unwind, or dispose of any transaction(s) or asset(s) it deems necessary to hedge the price risk of entering into and performing its obligations with respect to any Financial Product; or (b) realise, recover or remit the proceeds of any such transaction(s) or asset(s).

"**Trade Type**" means, in respect of each $Option_i$, the type of such Option (being either Put or Call) as specified in Table 1 in Annex 2 under the heading "Strike Type", save that for any $Option_i$ in the Initial Portfolio, the Trade Type shall be as set out in the table in Annex 1 (*Initial Portfolio*) under the heading "Trade Type".

"**Trading Limitation**" means a limitation is imposed on trading in a relevant Option or on the Related Exchange or in any other options contract relating to the Underlying Index on any exchange, trading system or quotation system on which any such options contracts are traded.

"**Trading Suspension**" means the suspension of trading in an Option on the Related Exchange or in any other options contract relating to the Underlying Index on any exchange, trading system or quotation system on which any such options contracts are traded.

"**TWAP Process End Time**" means as defined in Part 3 (*Description of the Index and Index Calculation*) Section 5 (*Definitions*).

"**Underlying Index Event**" means any of the following:

(a) the Underlying Index Sponsor:

(I) makes or announces that it will make a material change in the formula for or the method of calculating the Underlying Index or in any other way materially modifies the Underlying Index;

(II) permanently cancels the Underlying Index and no Successor Underlying Index exists; and/or

(III) on any relevant day, fails to calculate and announce any relevant level of the Underlying Index;

(b) the failure of the Related Exchange to announce or publish any information necessary for determining the price of an Option or the price of any other options contract relating to the Underlying Index;

(c) any announcement or publication by the Related Exchange of information necessary for determining a price of an Option or the price of any other options contract relating to the Underlying Index that the Index Administrator and/or Index Calculation Agent determines is erroneous or insufficient for the determination of the price of such Option or the price of any additional options contract relating to the Underlying Index; or

(d) the temporary or permanent discontinuance or unavailability of the Related Exchange.

"**Weekday**" means any calendar day except a Saturday or a Sunday.

3 CORRECTIONS

In the event that any price or level published by the Underlying Index Sponsor for the Underlying Index, the Related Exchange or the sponsor of the Interest Rate Index on any date which is utilised for any calculation or determination in respect of the Index is subsequently corrected and the correction is published by the Underlying Index Sponsor, the Related Exchange or the sponsor of the Interest Rate Index after the date of original publication, the Index Administrator may, in its sole discretion adjust or correct any of the terms or levels of the Index to account for such correction(s) but is not obliged to do so. Details of any such adjustment or correction will be made available in the same manner as the Index Level is made available (as set out in Section 6 (*Availability and Publication of Index Levels and Adjustments*) of this Part 4 (*Disruptions and Change in Methodology*)).

4 CHANGE IN METHODOLOGY OF THE INDEX

In calculating and determining the value of the Index, the Index Administrator will, subject as provided below, employ the methodology described in this Index Description and its application of such methodology shall be conclusive and binding. While the Index Administrator currently employs the above described methodology to calculate the Index, no assurance can be given that market, regulatory, juridical, financial, fiscal or other circumstances (including, but not limited to, any changes to or any suspension or termination of any constituent of the Index or any other events affecting transactions on the same or similar terms to any constituent of the Index) will not arise that would, in the view of the Index Administrator, necessitate or make desirable a modification of or change to such methodology (including, but without limitation, a change in the frequency of calculation of any Index Level) in order for the Index to continue being calculated and determined notwithstanding the relevant circumstances and the Index Administrator shall be entitled to make any such modification or change in its sole discretion.

The Index Administrator shall be entitled to make such modifications and/or changes to the Index Rules as it in its sole discretion deems necessary or desirable, including (without limitation):

(i) to correct any manifest error or proven error or to cure, correct or supplement any ambiguity or defective provision contained in this Index Description; and/or

(ii) to preserve the overall methodology and objective of the Index, where such modification and/or change is of a formal, minor or technical nature; and/or

(iii) to take into account any change in the terms (whether in relation to settlement mechanics or otherwise) on which Options Contracts are traded.

In deciding what is necessary or desirable the Index Administrator will consider and/or take into account (i) the overall methodology and objective of the Index and/or (ii) any hedging transactions entered into by Deutsche Bank AG and/or any of its Affiliates in relation to any transaction linked to the Index.

In making any such modifications, however, the Index Administrator will (x) ensure that such modifications or changes pursuant to this Section 4 (*Change in Methodology of the Index*) will result in a methodology that, in the Index Administrator's determination, is consistent with the overall methodology and objective of the Index as set out in this description and (y) limit as far as possible any such modification or change to the Index Rules and/or method of calculating any Index Level(s).

The Index Administrator may, in its sole discretion, at any time and without notice, terminate the calculation and publication of the Index.

Subject to any applicable regulations and any contract between the Index Sponsor and the Index Administrator, the Index Administrator has no obligation to inform any person about such modification, change or termination. The Index Administrator will, however, following any modification or change, make a new set of Index Rules (and the effective date thereof) available in the same manner as the Index Level is made available (as set out in Section 6 (*Availability and Publication of Index Levels and Adjustments*) of this Part 4 (*Disruptions and Change in Methodology*)).

5 SUCCESSOR SPONSOR AND SUCCESSOR UNDERLYING INDEX

If at any relevant time, the Underlying Index is:

(i) not calculated or announced by the Underlying Index Sponsor but is calculated and announced by a successor sponsor (the "**Successor Sponsor**") acceptable to the Index Administrator; or

(ii) is replaced by a successor index (a "**Successor Underlying Index**") which, in the determination of the Index Administrator, uses the same or substantially similar formula for and method of calculation as used in the calculation of the Underlying Index,

then the Underlying Index will be deemed to be (a) such Underlying Index so calculated and (as applicable) published by that Successor Sponsor or (b) that Successor Underlying Index, as the case may be, following adjustments (if any) to any requisite value or level, relating to the Successor Underlying Index, that the Index Administrator determines to be appropriate to preserve the economic intention of the methodology of the Index.

6 AVAILABILITY AND PUBLICATION OF INDEX LEVELS AND ADJUSTMENTS

6.1 General

Under normal market conditions, the Index Calculation Agent will make available the Index Level in respect of each Index Calculation Date no later than 4:00 p.m. London time on the immediately following Index Calculation Date (the "**Index Publication Time**"). Details of any adjustments made to the Index shall be made available by the Index Administrator at the Index Administrator's principal office, for the time being at Guiollettstr. 54, 60325 Frankfurt am Main, Germany ("**Principal Office**").

6.2 Index Level

The Index Level shall be published at the following locations:

(i) at the Index Administrator's Principal Office;

(ii) on Bloomberg under the following index title ("**Index Title**"): [●];

In addition, the Index Level may be published at the following locations:

(i) on the relevant page of the website of the Index Calculation Agent: [●] relating to the Index ("**Index Publication Heading**");

(ii) on such other information sources as the Index Administrator may select from time to time at its sole discretion.

6.3 Miscellaneous

Any publication described in this Section 6 (*Availability and Publication of Index Levels and Adjustments*) may be restricted by means determined as appropriate for such purpose by the Index Administrator in its sole discretion including, but not limited to, password protection on the website of the Index Calculation Agent, restricting access to a limited set of persons in accordance with arrangements agreed between the Index Administrator and such persons.

The Index Administrator may, at any time, change with respect to the Index (i) the Index Title, (ii) the Index Publication Heading and/or (iii) the place of publication of any Index Closing Level, as the case may be, with adequate notice to the Index Sponsor.

The Index Administrator may, at any time, change the frequency of publication of any Index Level, with adequate notice to the Index Sponsor.

This Index Description is written and (as applicable) published by the Index Sponsor and Index Administrator. The Index Administrator is exclusively entitled to construe its provisions and determine or clarify their meaning. If there is any ambiguity in, or uncertainty or dispute about the meaning of, any of the provisions of this Index Description, the Index Administrator will, in its sole discretion but acting in good faith and in a commercially reasonable manner, construe the relevant provision(s) in order to determine the correct interpretation, and the decision of the Index Administrator shall be final.

Annex 1

Strike Selection Methods

1 Delta Strike Selection Method

In order to determine the strike price of an Option, a delta-based strike selection method (the "**Delta Strike Selection Method**") may be used.

For the purpose of determining a strike price using the Delta Strike Selection Method, the following inputs shall be required (the "**Delta Strike Selection Inputs**"):

(i) the "**Delta Strike Selection Date**";

(ii) the "**Target Expiry Date**";

(iii) the "**Option Type**";

(iv) the "**Strike Interval**";

(v) the "**Target Delta**";

(vi) the "**Low Delta Threshold**"; and

(vii) the "**High Delta Threshold**".

The Delta Strike Selection Method will return a strike price, based on the Delta Strike Selection Inputs, which shall be determined by Index the Calculation Agent to be the strike price of an Option whose type is the Option Type expiring on the Target Expiry Date which is:

(i) an integral multiple of Strike Interval;

(ii) such that the Delta of such Option in respect of the Delta Strike Selection Date is greater than or equal to the Low Delta Threshold;

(iii) such that the Delta of such Option in respect of the Delta Strike Selection Date is less than or equal to the High Delta Threshold; and

(iv) such that the Delta of such Option in respect of the Delta Strike Selection Date is closest to the Target Delta.

If there is no strike price in respect of the relevant option as specified by the Delta Strike Selection Inputs that satisfies a) to d) above, then the Delta Strike Selection Method will not return a strike price.

2 Strike Spreading Method

In order to determine the strike price of an Option, a strike spreading method (the "**Strike Spreading Method**") may be used.

For the purpose of determining a strike price using the Strike Spreading Method, the following inputs shall be required (the "**Strike Spreading Inputs**"):

(i) the "**Strike Spreading Selection Date**";

(ii) the "**Target Strike**";

(iii) the "**Number of Strikes**";

(iv) the "**Strike Interva**l";

(v) the "**Included Option Types**";

(vi) the "**Outstanding Traded Option Expiry**"; and

(vii) the "**Tied Strike Direction Preference**".

The Strike Spreading Method will return a strike price, based on the Strike Spreading Inputs, which shall be determined by the Calculation Agent as follows:

(i) In respect of the Strike Spreading Selection Date, the Calculation Agent will determine a range of potential strike prices (the "**Potential Strike Range**"), for a number of pairs of Call Options and Put Options equal to Number of Strikes each having a strike price which is (a) an integral multiple of Strike Interval; and (b) nearest to Target Strike, provided that if two such strike prices are equally close to Target Strike (a "**Tied Pair of Strike Prices**") and there are Number of Strikes minus one such strike prices nearer than the Tied Pair of Strike Prices to the Target Strike, then the strike from the Tied Pair of Strike Prices in the direction of the Tied Strike Direction Preference shall be included in the Potential Strike Range

(ii) For each strike price in the Potential Strike Range, (each a "**Potential Strike Price**"), the Calculation Agent will determine the Unit Exposure of each of the Options of type equal to the Included Option Types in the Option Portfolio as of the Strike Spreading Selection Date and which expire on the Outstanding Traded Option Expiry (such amount being, for such strike, the "**Outstanding Traded Option Expiry Units**").

(iii) The Strike Spreading Method will return a strike price equal to the Potential Strike Price in respect of which the Outstanding Traded Option Expiry Units is the lowest of the Outstanding Trading Option Expiry Units in respect of each Potential Strike Price, provided that if two or more of the Potential Strike Prices have the same Outstanding Traded Option Expiry Units on such Strike Spreading Selection Date, (each a "**Tied Potential Strike Price**"), then the Tied Potential Strike Price that is nearest to the Target Strike will be returned, unless such Target Strike is equidistant to two Tied Potential Strike Prices, in which case the Tied Potential Strike that is in the direction of the Tied Strike Direction Preference will be returned.

Annex 2

Determination of Implied Volatility, Delta and Vega

1 Implied Volatility

The Implied Volatility in respect of an Option and an Index Calculation Date shall be determined by the Index calculation Agent as follows:

(i) If such Option is an Out-of-the-Money Option in respect of such Index Calculation Date, the Implied Volatility in respect of such Option and such Index Calculation Date shall be the Black-Scholes Volatility (as defined below) in respect of such Option and such Index Calculation Date; or

(ii) If such Option is not an Out-of-the-Money Option in respect of such Index Calculation Date, the Implied Volatility in respect of such Option and such Index Calculation Date shall be the Black-Scholes Volatility (as defined below) in respect of the Matching Option (in respect of such Option) and such Index Calculation Date.

The Black-Scholes Volatility in respect of an Option ("**Option$_i$**") and an Index Calculation Date ("**Index Calculation Date$_t$**") shall be determined the Index calculation using an iterative trial and error methodology such that it satisfies the following formula:

(i) If such Option is a Call Option:

$$\text{Option TWAP}_{i,t} = \exp\left(-r_{i,t} \times T_{i,t}\right) \times \left(\text{Forward TWAP}_{i,t} \times N\left(d1_{i,t}\right) - K_i \times N\left(d2_{i,t}\right)\right)$$

; or

(ii) If such Option is a Put Option:

$$\text{Option TWAP}_{i,t} = \exp\left(-r_{i,t} \times T_{i,t}\right) \times \left(K_i \times N\left(-d2_{i,t}\right) - \text{Forward TWAP}_{i,t} \times N\left(-d1_{i,t}\right)\right)$$

Option TWAP$_{,t}$Option TWAP in respect of and Index Calculation Date$_t$;

r$_{,t}$OIS Swap Rate in respect of and Index Calculation Date$_t$;

T$_{,t}$ the quotient of (i) the number of calendar days in the period commencing on, and including, Index Calculation Date$_t$, and ending on, but excluding, the expiry date of Option$_i$ and (as numerator) and (ii) 360 (as denominator).

Forward TWAP$_{,t}$Forward TWAP in respect of and Index Calculation Date$_t$;

Kstrike price of ;

Nstandard normal cumulative distribution function;

d1$_{,t}$an amount determined by the Calculation Agent in accordance with the following formula:

$$d1_{i,t} = \frac{\ln\left(\frac{\text{Forward TWAP}_{i,t}}{K_i}\right) + \left[\frac{\sigma_{i,t}^2}{2}\right] \times T'_{i,t}}{\sigma_{i,t} \times \sqrt{T'_{i,t}}}$$

where:

$\boldsymbol{\sigma_{i,t}}$ means the Black-Scholes Volatility in respect of Option$_i$ and Index Calculation Date$_t$; and

T'$_{,t}$ means the quotient of (i) the number of calendar days in the period commencing on, and including, Index Calculation Date$_t$, and ending on, but excluding, the expiry date of Option$_i$ (as numerator) and (ii) 252 (as denominator). and

d2$_{,t}$an amount determined by the Calculation Agent in accordance with the following formula:

$$d2_{i,t} = \frac{\ln\left(\frac{\text{Forward TWAP}_{i,t}}{K_i}\right) + \left[\frac{\sigma_{i,t}^2}{2}\right] \times T'_{i,t}}{\sigma_{i,t} \times \sqrt{T'_{i,t}}}$$

where:

$\boldsymbol{\sigma_{i,t}}$ means the Black-Scholes Volatility in respect of Option$_i$ and Index Calculation Date$_t$; and

T'$_{,t}$ means the quotient of (i) the number of calendar days in the period commencing on, and including, Index Calculation Date$_t$, and ending on, but excluding, the expiry date of Option$_i$ (as numerator) and (ii) 252 (as denominator).

2 Delta

The Delta in respect of an Option ("**Option$_i$**") and an Index Calculation Date ("**Index Calculation Date$_t$**") shall be determined by the Index calculation Agent as follows:

(i) If such Option is a Call Option:

$$\text{Delta}_{i,t} = N(d1_{i,t}) \times \exp(-r_{i,t} \times T_{i,t})$$

(ii) If such Option is a Put Option:

$$\text{Delta}_{i,t} = (N(d1_{i,t}) - 1) \times \exp(-r_{i,t} \times T_{i,t})$$

Delta$_{,t}$Delta in respect of and Index Calculation Date$_t$;

r$_{,t}$(i) if is notionally traded on Index Calculation Date$_t$ or the calculation of Delta$_{i,t}$ is for the purpose of the Delta Strike Selection Method (as defined in Annex 1), OIS Snap Swap Rate in respect of and Index Calculation Date$_t$, (ii) otherwise the OIS Swap Rate in respect of and Index Calculation Date$_t$;

T$_{,t}$ the quotient of (i) the number of calendar days in the period commencing on, and including, Index Calculation Date$_t$, and ending on, but excluding, the expiry date of Option$_i$ and (as numerator) and (ii) 360 (as denominator); and

d1$_{,t}$an amount determined by the Calculation Agent in accordance with the following formula:

$$d1_{i,t} = \frac{\ln\left(\frac{\text{Forward}_{i,t}}{K_i}\right) + \left[\frac{\sigma_{i,t-1}{}^2}{2}\right] \times T'_{i,t}}{\sigma_{i,t-1} \times \sqrt{T'_{i,t}}}$$

where:

$\boldsymbol{\sigma_{i,t-1}}$ means the Implied Volatility in respect of Option$_i$ and the Index calculation Date immediately preceding Index Calculation Date$_t$;

T'$_{,t}$ means the quotient of (i) the number of calendar days in the period commencing on, and including, Index Calculation Date$_t$, and ending on, but excluding, the expiry date of Option$_i$ (as numerator) and (ii) 252 (as denominator); and

Forward$_{,t}$ means (i) if is notionally traded on Index Calculation Date$_t$ or the calculation of Delta$_{i,t}$ is for the purpose of the Delta Strike Selection Method (as defined in Annex 1), Forward Snap in respect of and Index Calculation Date$_t$, (ii) otherwise the Forward Intraday Snap in respect of and Index Calculation Date$_t$;

3 Vega

The Vega in respect of an Option ("**Option$_i$**") and an Index Calculation Date ("**Index Calculation Date$_t$**") shall be determined by the Index calculation Agent as follows:

$$\text{Vega}_{i,t} = N'\left(d1_{i,t}\right) \times \text{Forward TWAP}_{i,t} \times \sqrt{T'_{i,t}} \times \frac{\exp\left(-r_{i,t} \times T_{i,t}\right)}{100}$$

Vega$_{,t}$Vega in respect of and Index Calculation Date$_t$;

r$_{,t}$OIS Swap Rate in respect of and Index Calculation Date$_t$;

T$_{,t}$ the quotient of (i) the number of calendar days in the period commencing on, and including, Index Calculation Date$_t$, and ending on, but excluding, the expiry date of Option$_i$ and (as numerator) and (ii) 360 (as denominator);

T'$_{,t}$ means the quotient of (i) the number of calendar days in the period commencing on, and including, Index Calculation Date$_t$, and ending on, but excluding, the expiry date of Option$_i$ (as numerator) and (ii) 252 (as denominator);

Forward TWAP$_{,t}$Forward TWAP in respect of and Index Calculation Date$_t$;

N'standard normal probability density function;

d1$_{,t}$an amount determined by the Calculation Agent in accordance with the following formula:

$$d1_{i,t} = \frac{\ln\left(\frac{\text{Forward TWAP}_{i,t}}{K_i}\right) + \left[\frac{\sigma_{i,t}{}^2}{2}\right] \times T'_{i,t}}{\sigma_{i,t} \times \sqrt{T'_{i,t}}}$$

where:

$\boldsymbol{\sigma_{i,t}}$ means the Implied Volatility in respect of Option$_i$ and Index Calculation Date$_t$; and

4 Definitions

Intraday Snap, an amount determined by the Index Calculation Agent as the level returned by the TWAP Intraday Snap Process (as defined in Annex 3 (*Time-Weighted Average Price Observation process*)) run on such Index Calculation Date on the level of the Underlying Index.

Forward Intraday Snap means, in respect of an Option ("**Option$_i$**") and an Index Calculation Date ("**Index Calculation Date$_t$**"), an amount calculated by the Calculation Agent in accordance with the following formula:

$$\text{Forward Intraday Snap}_{i,t} = \text{Forward TWAP}_{i,t-1} \times \frac{\text{Cash Intraday Snap}_t}{\text{Cash TWAP}_{t-1}}$$

Where:

Forward Intraday Snap$_{,t}$Forward Intraday Snap in respect of and Index Calculation Date$_t$;**Forward TWAP$_{,t-1}$**Forward TWAP in respect of and the Index Calculation Date immediately preceding Index Calculation Date$_t$;

Cash Intraday Snap$_t$the Intraday ; and

Cash TWAP$_{t-1}$the Cash TWAP the Index Calculation Date immediately preceding .

Forward Snap means, in respect of an Option ("**Option$_i$**") and an Index Calculation Date ("**Index Calculation Date$_t$**"), an amount calculated by the Calculation Agent in accordance with the following formula:

$$\text{Forward Snap}_{i,t} = \text{Forward TWAP}_{i,t-1} \times \frac{\text{Cash Snap}_t}{\text{Cash TWAP}_{t-1}}$$

Where:

Forward Snap$_{,t}$Forward Snap in respect of and Index Calculation Date$_t$;**Forward TWAP$_{,t-1}$**Forward TWAP in respect of and the Index Calculation Date immediately preceding Index Calculation Date$_t$;

Cash Snap$_t$the ; and

Cash TWAP$_{t-1}$the Cash TWAP the Index Calculation Date immediately preceding .

Forward TWAP means, in respect of an Option ("**Option$_i$**") and an Index Calculation Date ("**Index Calculation Date$_t$**"), an amount determined by the Index Calculation Agent in accordance with the following formula:

$$\text{Forward TWAP}_{i,t} = \frac{\text{Call TWAP}'_{i,t} - \text{Put TWAP}'_{i,t}}{\exp(-r_{i,t} \times T_{i,t})} + K'_{i,t}$$

Where:

Forward TWAP$_{i,t}$ means the Forward TWAP in respect of Option$_i$ and Index Calculation Date$_t$;

K'$_{i,t}$ means the strike price of an Option with the same expiry date as Option$_i$, and a strike price which is both (i) an integral multiple of 25 points and (ii) nearest to the Cash Snap in respect of Index Calculation Date$_t$;

Call TWAP'$_{i,t}$ means the Option TWAP in respect of a Call Option with the same expiry date as Option$_i$, and a strike price equal to K'$_{i,t}$;

Put TWAP'$_{i,t}$ means the Option TWAP in respect of a Put Option with the same expiry date as Option$_i$, and a strike price equal to K'$_{i,t}$;

r$_{,t}$OIS Swap Rate in respect of and Index Calculation Date$_t$;

T$_{,t}$ the quotient of (i) the number of calendar days in the period commencing on, and including, Index Calculation Date$_t$, and ending on, but excluding, the expiry date of Option$_i$ and (as numerator) and (ii) 360 (as denominator);

Matching Option, in respect of an Option, if such Option is (i) a Call Option, the Put Option with the same strike price and expiry date as such Call Option or (ii) a Put Option, the Call Option with the same strike price and expiry date as such Put Option.

Out-of-the-Money Option, in respect of an Index Calculation Date, an Option whose strike price is, if such Option is (i) a Call Option, greater than the Cash Snap in respect of such Index Calculation Date or (ii) a Put Option, less than the Cash Snap in respect of such Index Calculation Date.

OIS Snap Swap Rate means, in respect of an and Index Calculation Date, a percentage rate of interest determined by the Index Calculation Agent by reference to the mid USD OIS swap rate as published by the OIS Price Source at 11:50 am New York time on such Index Calculation Date, with a maturity equal to the expiry date of such Option, determined, if applicable, using linear interpolation (and linear extrapolation), provided that if such rate is not published at or around such time for such Index Calculation Date, then the OIS Swap Rate will be determined by the Index Calculation Agent.

OIS Swap Rate means, in respect of an and Index Calculation Date, a percentage rate of interest determined by the Index Calculation Agent by reference to the mid USD OIS swap rate as published by the OIS Price Source 60 minutes prior to the Scheduled Closing Time of the Relevant Exchange on such Index Calculation Date, with a maturity equal to the expiry date of such Option, determined, if applicable, using linear interpolation (and linear extrapolation), provided that if such rate is not published at or around such time for such Index Calculation Date, then the OIS Swap Rate will be determined by the Index Calculation Agent.

Annex 3

Time-Weighted Average Price Observation process

1 TWAP Processes

1.1 TWAP Process

In order to establish relevant inputs to calculate the Strategy Value, a time-weighted average price observation process (the "**TWAP Process**") will be used.

For the purpose of determining any input using the TWAP Process in respect of any relevant day, the relevant price or level will be recorded at the end of every 15 second interval (each such 15 second interval being a "**TWAP Observation Interval**") in the period commencing at and including the "**TWAP Process Start Time**" on such day and ending at and including the "**TWAP Process End Time**" on such day.

In respect of each TWAP Observation Interval, the price or level to be recorded for such TWAP Observation Interval will be the most recent relevant price published by the relevant Related Exchange or level as published by the relevant Index Sponsor on the Price Source on or after the Lookback Period Start Time to, and including, the end of such TWAP Observation Interval. If no such price or level exists, then no price or level will be recorded from such TWAP Observation Interval.

The "**Lookback Period Start Time**" means, for any relevant day, the time falling 300 minutes prior to the TWAP Process Start Time on such day. For the avoidance of doubt, the first time at which a price or level will be recorded (subject to there being a price or level to record) is the TWAP Process Start Time plus the TWAP Observation Interval.

The TWAP Process will return a price or level which is the arithmetic average of the recorded prices or levels. If there are no recorded prices or levels, then the TWAP Process will not return a price or a level.

1.2 TWAP Option Process

The "**TWAP Options Process**" is defined, in respect of any relevant day, as the TWAP Process parameterised as follows:

(i) TWAP Process Start Time: 25 minutes before the Scheduled Closing Time of the Relevant Exchange on such day; and

(ii) TWAP Process End Time: 5 minutes before the Scheduled Closing Time of the Relevant Exchange on such day.

1.3 TWAP Basis Process

The "**TWAP Basis Process**" is defined, in respect of any relevant day, as the TWAP Process parameterised as follows:

(i) TWAP Process Start Time: 15 minutes before the Scheduled Closing Time of the Relevant Exchange on such day; and

(ii) TWAP Process End Time: the Scheduled Closing Time of the Relevant Exchange on such day.

1.4 TWAP Intraday Snap Process

The "**TWAP Intraday Snap Process**" is defined, in respect of any relevant day, as the TWAP Process parameterised as follows:

(i) TWAP Process Start Time: 11:45, New York Time on such day; and

(ii) TWAP Process End Time: 11:45, New York Time on such day.

1.5 TWAP Delta Process

The "**TWAP Delta Process**" is defined, in respect of any relevant day, as the TWAP Process parameterised as follows:

(i) TWAP Process Start Time: the Window Start Time in respect of such day (as defined in section [TBD] of this Annex); and

(ii) TWAP Process End Time: the Window Start Time in respect of such day.

2 Determination of Window Start Time and Window End Time

2.1 Window Start Time

The "**Window Start Time**" in respect of any relevant day shall be 12:00, New York Time.

2.1 Window End Time

The "**Window Start Time**" shall be [TBD]