**GOLDMAN SACHS MOMENTUM BUILDER
MULTI-ASSET ETF 5% USD ER INDEX**

METHODOLOGY

November 20, 2023

GS MOMENTUM BUILDER MULTI-ASSET ETF 5% USD ER INDEX

1. Overview

The following overview of the GS Momentum Builder Multi-Asset ETF 5% USD ER Index is a summary and, as such, is necessarily incomplete. This overview should be read in conjunction with, and is qualified in its entirety by, the more detailed description of the GS Momentum Builder Multi-Asset ETF 5% USD ER Index and its operation that follows in this document.

The GS Momentum Builder Multi-Asset ETF 5% USD ER Index (the "**Index**") is comprised of shares of exchange-traded funds (each an "**Underlying ETF**" and together the "**Underlying ETFs**") and a hypothetical overnight cash investment (the **"Money Market Position"**), which constitute the underlying assets (each an **"Underlying Asset"** and together the **"Underlying Assets"**). The weighted return of such Underlying Assets (prior to the application of a volatility control feature) is tracked by the "**Base Index**" (as more specifically described under "Calculation of the Index" below).

The Underlying Assets provide exposure to several asset classes (each an "**Asset Class**" and together the "**Asset Classes**") as described below:
- *Equities* including U.S., European and international developed equity markets
- *Fixed Income* including U.S. Treasuries, and investment grade and high yield corporate and government bonds
- *Emerging Markets* including emerging market equities and emerging market fixed income
- *Commodities* including exposure to a diversified set of commodity contracts and physical gold
- *Alternatives* including master limited partnerships focused on energy and a senior leveraged loan portfolio
- *Inflation* with U.S. Government inflation-linked securities
- *Cash Equivalent* with the Money Market Position

The Index is calculated on an excess return basis and the value of the Index (the "**Index Value**") is calculated on each Index Business Day (as defined in the attached annex) in U.S. dollars (the "**Index Currency**").

The Index Value is calculated by reference to the *excess* of the Total Return Index Value (as more specifically described under "Calculation of the Index" below) *over* the sum of the return on the "**Notional Interest Rate**" (which is the federal funds rate, determined as specified in the Annex) *plus* the "**Index Deduction Rate**" of 0.50% per annum (as specified in the Annex). For the avoidance of doubt, the effect of such Index Deduction Rate is to reduce the overall level of the Index, which will have a negative impact on the performance of the Index.

On any given Index Business Day following the Index Inception Date (any such day, a "**Total Return Index Rebalancing Day**"), the Total Return Index may be partially rebalanced from the Base Index into the Deleverage Position as a result of the volatility control feature. The value of the Total Return Index (the "**Total Return Index Value**") is calculated on each Index Business Day by reference to the weighted performance (after rebalancing) of:
    (i) the Base Index (as more specifically described below) and
    (ii) the Deleverage Position.
The "**Deleverage Position**" means a hypothetical investment in the Money Market Position.

The initial composition of the Base Index is described in the Annex and the value of the Base Index (the "**Base Index Value**") is calculated on each Index Business Day. The Base Index seeks to provide exposure to price momentum of the Underlying Assets by seeking to reflect the combination of Underlying Asset weightings that would have provided the highest historical return (determined as described under "*Calculation of the Underlying Assets Target Weights*" below) on the first Index Business Day of each calendar month (the "**Base Index Observation Day**"), subject to constraints on maximum and minimum weights for each Underlying Asset and Asset Class along with volatility controls further described below. The Base Index is rebalanced monthly over the first five Index Business Days of each calendar month (the "**Base Index Rebalancing Period**"). Each Index Business Day in a Base Index Rebalancing Period will be deemed a "**Base Index Rebalancing Day**".

Goldman Sachs International (the "**Index Sponsor**") has initially retained Solactive AG to serve as calculation agent for the Index (the "**Calculation Agent**"). The Index Sponsor may at any time appoint one or more replacement Calculation Agents, (such replacement Calculation Agent may be Goldman Sachs International itself or an affiliate). In the event the Index Sponsor appoints a replacement Calculation Agent a public announcement will be made. The Calculation Agent may discontinue the publication of the Index Value at any time. The Index Sponsor does not have any obligation to ensure that the Calculation Agent continues to publish the level of the Index and may, acting in good faith, instruct the Calculation Agent to terminate the calculation and publication of the Index Value. In such event of termination, a public announcement will be made as promptly as it is reasonably practicable.

Unless otherwise indicated, any public announcement contemplated by this Methodology shall be made on the website of the Calculation Agent.

Investors in any product or transaction linked to the Index (together, "**Linked Products**") should read and understand this Methodology in full. In particular, investors should read the sections of this Methodology entitled "Disclaimers", "Additional Information About the Index, Including Risks" and "Conflicts of Interest" prior to making any investment decision.

The Index Sponsor and/or any affiliate in its capacity as issuer of, or counterparty to, Linked Products (a "**Hedging Party**") may hedge its exposure or potential or expected exposure to the Index, Linked Products and the Index Components with an affiliate or a third party. A Hedging Party may make significant returns on this hedging activity independently of the performance of the Index or any Index Component, including in scenarios where the levels at which it executes its hedges are different from the levels specified in the methodology for determining the value of the Index (or otherwise where such Hedging Party does not hedge all of its exposure to the Index).

Any returns on a Hedging Party's hedging activity will not be passed on to investors in Linked Products, and such investors will not have any rights in respect of a Hedging Party's hedge positions including but not limited to any shares, ETFs, futures, options, commodities, currencies or other financial instruments. Where a Hedging Party, in accordance with its internal policies, executes hedging activity by trading in components of the Index (or other similar strategies) on or before the related rebalancing day, such trading may have an adverse impact on the level at which the Index Components are rebalanced (which may result in an adverse impact on the performance of the Index). Such hedging activity, and the size of such impact, will be linked to the amount of

new and outstanding Linked Products at the relevant time.

Additionally, members of the Goldman Sachs Group (hereinafter the "**Group**) may generate revenues if they execute their hedging activity at different levels from those used to determine the value of the Index or used for the rebalancing of the Index. Such hedging activity could generate significant returns to members of the Group that will not be passed on to investors in any Linked Product.

2.   The Methodology

Overview

At any given time, the Base Index tracks the weighted return of the Underlying Assets. The respective weights of the Underlying Assets, which can be as low as zero, are rebalanced monthly over the relevant Base Index Rebalancing Period within a set of pre-determined investment and volatility constraints by applying the calculation algorithm as described in this Methodology. On any Total Return Index Rebalancing Day, the Base Index may also be ratably rebalanced into the Deleverage Position as a result of the volatility control feature of the Methodology. Under certain limited circumstances described under "Rebalancing; Impact of Disruptions", the Calculation Agent may delay any Base Index Rebalancing Day or Total Return Index Rebalancing Day in its sole discretion. In addition, the Index Committee may make changes to the Methodology from time to time if it determines, in its sole discretion, that such changes are necessary or desirable in light of the goals of the Index. Any such changes to the Methodology will be publicly announced at least 60 Index Business Days prior to their effective date. The Index is designed to be an investable index.

Base Index Rebalancing

On each Base Index Observation Day, the Calculation Agent, pursuant to the Methodology and subject to the applicable constraints, seeks to select the combination of permitted Underlying Asset weights with the highest historical total return (as described under "*Calculation of the Underlying Assets Target Weights*" below). The Base Index will then be reweighted over the Base Index Rebalancing Period from the previous Underlying Asset Weights to the newly determined Underlying Asset Weights.

Total Return Index Rebalancing and Volatility Control Feature

The Methodology has a volatility control feature applied on any Total Return Index Rebalancing Day. This has the effect of reducing the exposure of the Total Return Index to the performance of the Base Index (and subsequently the Underlying Assets) by rebalancing a portion of the Base Index into the Deleverage Position if the realized volatility of the Base Index exceeds the Volatility Cap (as defined under "*Total Return Index Rebalancing and Volatility Control*" below) on any Total Return Index Rebalancing Day.

Notional Interest Rate and Index Deduction Rate

The Index is calculated by reference to the *excess* of the Total Return Index Value (defined in the "Calculation of the Index" below) over the sum of the return that could be earned on a notional cash deposit at the Notional Interest Rate (which is the federal funds rate, determined as specified in the Annex) *plus* the Index Deduction Rate (which is 0.50% per annum as specified in the Annex).

Internal Currency Hedge

In respect of any Underlying Asset denominated in currencies other than U.S. dollars, the Index has an internal simulated currency hedge, which, through a series of hypothetical currency hedging transactions entered into in respect of each Valuation Period (as further described below), seeks to mitigate the exposure to exchange rate fluctuations in such currencies on the values of the non-U.S. dollar denominated Underlying Assets. See "*Additional Information About the Index, Including Risks*" below.

In respect of a non-U.S. dollar denominated Underlying Asset, on each Index Business Day, the performance of the given non-U.S. dollar-denominated Underlying Asset for the period from the Index Rebalancing Day (as specified in the Annex) immediately preceding such given Asset Business Day to such given Asset Business Day (the "Valuation Period") is determined. The performance of each non-U.S. dollar-denominated Underlying Asset for the relevant Valuation Period consists of two types of components: the foreign "Currency Borrowing Amount" *plus* the adjusted change in the Underlying Asset level as a result of the hedging transactions. The foreign Currency Borrowing Amount for the relevant Valuation Period is equal to the performance of a notional cash deposit in U.S. dollars accruing interest at the Notional Interest Rate *minus* the product of (i) the performance of such notional cash deposit accruing interest at the interest rate for such non-U.S. currency designated in the annex *times* (ii) the performance of the applicable Currency Exchange Rate (defined below). The Currency Borrowing Amount may be positive or negative. The change in the Underlying Asset level for each non-U.S. dollar denominated Underlying Asset is equal to the *product* of (a) the performance over such Valuation Period of an investment in the non-U.S. dollar-denominated Underlying Asset *times* (b) the performance of the applicable currency exchange rate (the "Currency Exchange Rate", as specified in the Annex). The internal currency hedge is further described in *"Calculation of the Underlying Asset Value"* below.

3.   Publication of the Index

The Calculation Agent calculates and publishes the value of the Index on each Index Business Day and publishes it on both Bloomberg and Reuters. The relevant tickers are specified in the Annex. The Calculation Agent may discontinue publication of the Index Value at any time. The Index Sponsor does not have any obligation to ensure that the Calculation Agent continues to publish the level of the Index and may, acting in good faith, instruct the Calculation Agent to terminate the calculation and publication of the Index Value. In such event of termination, a public announcement will be made as promptly as it is reasonably practicable.

4. Publication of Changes to the Index and to the Methodology

Changes to the components of the Index made by the Index Committee will be publicly announced as promptly as is reasonably practicable. Notwithstanding the foregoing, such announcement is expected to be made at least five Index Business Days prior to the effective date of the changes. Changes to the Methodology made by the Index Committee will be publicly announced at least 60 Index Business Days prior to their effective date. Adjustments made by the Calculation Agent in response to market disruption events and potential adjustment events (in accordance with this Methodology) will be publicly announced as promptly as is reasonably practicable.

5. Index Committee

An Index Committee is responsible for overseeing the Index and the Methodology, while the Calculation Agent is responsible for the day to day implementation of the Methodology and for the calculation of the Index, including responding to certain Market Disruption Events (as determined by the Index Committee in accordance to section "Market Disruption Events" further below) and potential adjustment events. The Index Committee is committed to maintaining the Index as a liquid, tradable index. The Index Committee consists of representatives from Goldman Sachs' front office who may be involved in the design and/or hedging of indices and control functions but does not include representation from external stakeholders

The Index Committee may exercise limited discretion with respect to the Index, as contemplated by the Methodology, including in the situations described under "Changes to the Index Components". Any such changes or actions are publicly announced as promptly as is reasonably practicable. Notwithstanding the foregoing, such announcement is expected to be made at least five Index Business Days prior to their effective date. The

Calculation Agent may from time to time consult the Index Committee on matters of interpretation with respect to the Methodology. Where the Index Committee is required or entitled to make a determination in relation to the Index pursuant to this Methodology and that determination involves the exercise of expert judgement or discretion (other than those are that are purely mechanical and, where relevant, implemented in accordance with the relevant methodology), then that expert judgement or discretion will be exercised in good faith and in a commercially reasonable manner and will be subject to the Goldman International's policies and procedures.

Because the Index Committee considers information about changes to the Index and related matters may be potentially market moving and material, all Index Committee discussions, including those with the Calculation Agent, are confidential. The Index Committee will determine the successor of any of its members.

6. Changes to the Index Components

The Underlying Assets, Currency Exchange Rates, Notional Interest Rate, and Currency Borrowing Amount Rates (collectively, the "**Index Components**" and each an "**Index Component**") are not expected to change. However, if the Index Committee determines that any of the following events has occurred:

- an Underlying ETF ceases to exist, is delisted, terminated, wound up, liquidated or files for

bankruptcy, is combined with another ETF that has a different investment objective, or changes its currency of denomination,

- an Underlying ETF suspends creations or redemptions for five consecutive Index Business Days or announces a suspension of unlimited duration for such creations or redemptions,

- the net asset value of an Underlying ETF is not calculated or is not announced by either the Underlying ETF or its sponsor for five consecutive Index Business Days, or a Market Disruption Event occurs and is continuing for five consecutive Index Business Days,

- the average daily trading volume in the preceding three calendar months of an Underlying ETF is less than $1 million (where average daily trading volume is measured by summing the value of all reported transactions in such Underlying ETF for each trading day during the preceding three full calendar months, and dividing this sum by the total number of such trading days) or the net asset value of such Underlying ETF is below $250 million (where net asset value is measured as the value of an entity's assets less the value of its liabilities as publicly disclosed by the Underlying ETF or its sponsor),

- the sponsor or investment adviser of an Underlying ETF files for bankruptcy and there is no solvent immediate successor,

- limitations on ownership are imposed on an Underlying ETF due to a change in law or regulation, loss of regulatory exemptive relief or otherwise, and the Index Committee, in its sole discretion, determines that such limitations materially adversely affect the ability of holders of such Underlying ETF to hold, acquire or dispose of shares of such Underlying ETF,

- the tax treatment of an Underlying ETF changes in a way that would have an adverse effect on holders of shares of such Underlying ETF,

- the Index Committee, in its sole discretion, determines that an Underlying ETF has changed the index underlying or otherwise referenced by such Underlying ETF (the "**Reference Index**" for such Underlying ETF) to an index that is materially different, or the methodology for the Reference Index is materially modified (other than a modification in the ordinary course of administration of the Reference Index),

- the Reference Index of an Underlying ETF is no longer compiled, or the closing level of such Reference Index is not calculated or published for five consecutive Index Business Days,

- the Index Sponsor determines in good faith and commercially reasonable manner that it is not practicable for an Underlying ETF to continue to be included in the Index for any reason, including due to

    a) a dispute as to whether a license is required to use the Underlying ETF or the related Reference Index, or

    b) to the extent there is an agreement in place governing such use, changes in the terms upon which an Underlying ETF or related Reference Index is made available to the Index Sponsor for inclusion in the Index that the Index Sponsor, in its sole discretion, determines to be materially adverse to it,

- the Notional Interest Rate ceases to exist, or

- the applicable Currency Exchange Rate, related currency or Currency Borrowing Amount Rate ceases to exist,

then the Index Committee may replace the affected Index Component, that in the determination of the Index Committee in good faith and in a commercially reasonable manner, and in its sole discretion, most closely replicates, in the case of an ETF, the constituents and method of calculation of the ETF, or, with respect to a successor interest rate or exchange rate, most closely captures the relevant market measure and satisfies any other criteria of an effective benchmark identified by the Index Committee, and the Index Sponsor may use such constituents as a successor Index Component. If the Index Committee determines in its sole discretion that no successor constituent exists, such Index Component will be removed from the Index.

Such deletions and additions may be undertaken during a rebalancing or in between rebalancing dates. Any such changes or actions taken with respect to the Index by the Index Committee are publicly announced as promptly as is reasonably practicable. Notwithstanding the foregoing, such announcement is expected to be made at least five Index Business Days prior to the effective date of the changes or actions.

7. Underlying Assets Weights, Base Index Rebalancing and Total Return Index Rebalancing

Overview

The respective target weights of the Underlying Assets (each an "**Underlying Asset Target Weight**" and together the "**Underlying Asset Target Weights**"), which can be as low as zero, are determined on each Base Index Observation Day, within the investment and volatility maximum constraints described in the attached Constraints Schedule and below, by applying the Methodology algorithm. The weights of the Underlying Assets (each an "**Underlying Asset Weight**" and together the "**Underlying Assets Weights**") in the Base Index will then be adjusted gradually over the Base Index Rebalancing Period to meet the Underlying Assets Target Weights. The Calculation Agent is required to delay a Base Index Rebalancing Day under certain circumstances described below under "Rebalancing; Impact of Disruptions".

Calculation of the Underlying Assets Target Weights

The target weight attributed to each Underlying Asset pursuant to the Methodology on each Base Index Observation Day (regardless of whether a Market Disruption Event occurs or is occurring on that day) is intended to optimize the total return performance of the Underlying Assets based on an analysis of the historical returns of the Underlying Assets, subject to the constraints included in the Methodology.

For each Return Look-Back Period (as specified below) and Volatility Look-Back Period (as specified below) pair, the Methodology algorithm seeks to select — out of all the combinations of admissible Underlying Assets Target Weights within a set of investment constraints and volatility constraints described below — the combination with the highest Annualized Assets Combination Return (for the avoidance of doubt, the number of *{Return Look-Back Period , Volatility Look-*

Back Period} pairs considered on any Base Index Observation Day will be equal to the product of the number of Return Look-Back Periods and the number of Volatility Look- Back Periods). Among other things, this requires the Calculation Agent to calculate the Annualized Assets Combination Return for the relevant Return Look-Back Period and the Annualized Assets Combination Realized Volatility for each relevant Volatility Look-Back Period.

Note that there is one Return Look-Back Period and three Volatility Look-Back Periods, which results in three *{Return Look-Back Period , Volatility Look-Back Period}* pairs per asset. The Underlying Asset Target Weight for an Underlying Asset will be equal to the average of the target weights for that Underlying Asset determined in respect of each of the *{Return Look-Back Period , Volatility Look-Back Period}* pairs (with rounding effects treated as described below under "Rounding Convention"). For the avoidance of doubt, rounding will be applied only when calculating the average of the target weights but not at the level of each individual *{Return Look-Back Period , Volatility Look-Back Period}* pair.

If on an Base Index Observation Day, for any *{Return Look-Back Period , Volatility Look-Back Period} pair,* no combination of Underlying Assets Target Weights complies with the pre- defined investment and volatility constraints, then the Methodology algorithm will successively relax the volatility constraints by increments of 0.50%, up until two times the initial volatility constraints, until a combination of Underlying Asset Target Weights can be found that complies with the pre-defined investment constraints and updated volatility constraint. If, after such relaxation, no combination of Underlying Asset Target Weights can be found, the Methodology algorithm will select from all combinations of Underlying Assets Target Weights that comply with the investment constraints, the combination with the lowest Annualized Assets Combination Realized Volatility, regardless of that combination's Annualized Assets Combination Return. The particular combination so selected will therefore exceed the volatility constraint.

The "**Return Look-Back Period**" on any given Base Index Observation Day is the period from (and including) the day which is six (6) calendar months (or, if any such date is not an Index Business Day, the preceding Index Business Day) before the third Index Business Day prior to the given Base Index Observation Day to (but excluding) the third Index Business Day prior to the given Base Index Day.

The "**Volatility Look-Back Period**" on any given Index Business Day is the period from (and including) the day which is respectively six (6), three (3) or one (1) calendar months before the third Index Business Day prior to the given Index Business Day (or, if any such date is not an Index Business Day, the preceding Index Business Day) to (but excluding) the third Index Business Day prior to the given Index Business Day.

- Investment Constraints: Investment constraints set a minimum weight of 0% and maximum weight for each Underlying Asset as well as a minimum weight of 0% and maximum weight for each Asset Class (for the avoidance of doubt the sum of the weights for each Underlying Asset within an Asset Class has to be greater than or equal to 0% for that Asset Class and less than or equal to the maximum weight for that Asset Class). Negative weights (that is, short positions) are not permitted by the Methodology, but weights can be as low as zero so that the performance of zero-weighted Underlying Assets would not be reflected in the performance of the Base

Index for the relevant periods. The sum of the weights of all Underlying Assets in the Base Index is always equal to 1.0 (with rounding effects treated as described below under "Rounding Convention").

Where, among other situations described under "Changes to the Index Components", an Underlying ETF ceases to exist, is delisted or is no longer tradable and is not replaced by the Index Committee in the manner described above, it will be deemed to have been assigned a zero weight in the Base Index and will be replaced with a hypothetical position in the Money Market Position. At the next Base Index Observation Day, the target weights of the remaining Underlying Assets will be calculated pursuant to the Methodology except that any Underlying ETF that ceases to exist, is delisted or is no longer tradable will be assigned a zero weight.

The maximum weight per Underlying ETF and Asset Class investment constraints applicable to the Index are set out in the attached Constraints Schedule.

- <u>Volatility Constraint</u>: The volatility constraint of the Methodology sets a limit of 5% on the Annualized Assets Combination Realized Volatility within a Volatility Look-Back Period of any selected combination of Underlying Asset Target Weights.

Realized volatility is a historical calculation of the degree of movement based on prices or values of an asset observed periodically in the market over a specified period. The realized volatility of an asset is characterized by the frequency of the observations of the asset price used in the calculation and the period over which observations are made.

<u>Rounding Convention</u>: The target weight of each Underlying Asset computed at each Base Index Observation Day is rounded to the nearest three decimal places with 0.05% (0.0005) being rounded upward. For example, if the optimal weight is 12.36% (0.1236), it would be rounded up to 12.4% (0.124). The effect of rounding is that the sum of the rounded weights may not add up to 100%. For this reason, at each Base Index Observation Day, the sum of the rounded target weights is deducted from 1. If the resulting excess weight is positive, it is added to the Underlying Asset with the highest historical return in respect of the Return Look-Back Period regardless of whether this might cause the target weight of that Underlying Asset to exceed any of the constraints specified above. If the resulting excess weight is negative, its absolute value is subtracted from the target weight of the Underlying Asset that had the lowest historical return in respect of the Return Look-Back Period and a target weight higher than the absolute value of the excess amount being deducted regardless of whether this might cause the target weight of the Underlying Asset to exceed any of the constraints specified above.

Calculation of the Underlying Assets Weights

On each Base Index Rebalancing Day(t), the Underlying Asset Weight(i) of an Underlying Asset(i) is calculated according to the following formula:

$$w_{i,t} = w_{i,BRt} + \frac{w_{i,BOt}^{Target} - w_{i,BRt}}{p}$$

Where:

Subscript $_{(t)}$ refers to the relevant Base Index Rebalancing Day;

Subscript $_{(BRt)}$ refers to the Base Index Rebalancing Day immediately preceding Base Index Rebalancing Day$_{(t)}$;

$w_{i,t}$ is the Underlying Asset Weight$_{(i)}$ on calendar date$_{(t)}$;

$w_{i,BOt}^{Target}$ is the Underlying Asset Target Weight$_{(i)}$ that was determined on the Base Index Observation Day on or immediately preceding Base Index Rebalancing Day$_{(t)}$;

p is the number of remaining Base Index Rebalancing Days (and including such Base Index Rebalancing Day$_{(t)}$) in the related Base Index Rebalancing Period;

Calculation of the Annualized Assets Combination Return

The Annualized Assets Combination Return, during the relevant Return Look-Back Period, of each admissible combination of Underlying Assets Target Weights, with respect to any given Base Index Observation Day, is calculated according to the following formula:

$$AAC\_Return_{BOt} = \sum_{i=1}^{n} a_i \times AssetReturn_{i,BOt}$$

Where:

AAC_Return$_{BOt}$ is the Annualized Assets Combination Return, during the relevant Return Look-Back Period, of the given combination of Underlying Assets Target Weights;
n is the number of Underlying Assets (16);
a_i is the Underlying Asset Target Weight$_{(i)}$ in the given combination of Underlying Assets Target Weights;
Subscript $_{BOt}$ refers to the relevant Base Index Observation Day; and
AssetReturn$_{i,BOt}$ is the Annualized Asset Return of the Underlying Asset$_{(i)}$ as of the Base Index Observation Day$_{(BOt)}$, and is calculated according to the following formula:

$$AssetReturn_{i,BOt} = \frac{252}{N_{BOt}} \times \sum_{s} \ln\left(\frac{A_{i,s+1}}{A_{i,s}}\right)$$

Where:

AssetReturn$_{i,BOt}$ is the Annualized Asset Return, during the relevant Return Look-Back Period, of the Underlying Asset$_{(i)}$;
N$_{BOt}$ is the actual number of Index Business Days within the relevant Return Look-Back Period;
Subscript $_{(BOt)}$ refers to the relevant Base Index Observation Day;
Subscript $_{(s)}$ refers to each Index Business Day within the relevant Return Look-Back Period;
$A_{i,s}$ is the Underlying Asset Value$_{(i)}$ on Index Business Day$_{(s)}$; and
$A_{i,s+1}$ is the Underlying Asset Value$_{(i)}$ on the Index Business Day immediately following Index Business Day$_{(s)}$.

Calculation of the Annualized Assets Combination Realized Volatility

The Annualized Assets Combination Realized Volatility, during the relevant Volatility Look-Back Period, of each admissible combination of Underlying Assets Target Weights, with respect to any Base Index Observation Day, is calculated according to the following formula:

$$AAC\_Realized\_Volatility_{BOt} = \sqrt{\sum_{i,j=1}^{n} a_i \times a_j \times AssetCovariance_{i,j,BOt}}$$

Where:

AAC_Realized_Volatility_{BOt} is the Annualized Assets Combination Realized Volatility, during the relevant Volatility Look-Back Period, of the given combination of Underlying Assets Target Weights;

n is the number of Underlying Assets (16);

a_i is the Underlying Asset Target Weight$_{(i)}$ in the given combination of Underlying Assets Target Weights;

a_j is the Underlying Asset Target Weight$_{(j)}$ in the given combination of Underlying Assets Target Weights;

Subscript _{BOt} refers to the relevant Base Index Observation Day; and

AssetCovariance_{i,j,BOt} is the annualized asset co-variance between Underlying Asset$_i$ and Underlying Asset$_j$ during the relevant Volatility Look-Back Period, and is calculated according to the following formula:

$$AssetCovariance_{i,j,BOt} = \frac{252}{N_{BOt}} \times \sum_{s} \left[\ln\left(\frac{A_{i,s+1}}{A_{i,s}}\right) \times \ln\left(\frac{A_{j,s+1}}{A_{j,s}}\right) \right]$$

Where:

N_{BOt} is the actual number of Index Business Days within the relevant Volatility Look-Back Period;

Subscript _(s) refers to each Index Business Day within the relevant Volatility Look-Back Period;

$A_{i,s}$ is the Underlying Asset Value$_{(i)}$ on Index Business Day$_{(s)}$;

$A_{i,s+1}$ is the Underlying Asset Value$_{(i)}$ on the Index Business Day immediately following Index Business Day$_{(s)}$;

$A_{j,s}$ is the Underlying Asset Value$_{(j)}$ on Index Business Day$_{(s)}$;

$A_{j,s+1}$ is the Underlying Asset Value$_{(j)}$ on the Index Business Day immediately following Index Business Day$_s$; and

Subscript _{BOt} refers to the relevant Base Index Observation Day.

Calculation of the Underlying Asset Value

The Underlying Asset Value of the Money Market Position is equal to the Money Market Position Value, which is calculated as set forth under "*The Money Market Position – Calculation of the Money Market Position Value*" below.

For Underlying Assets other than the Money Market Position, the Underlying Asset Value$_{(i)}$ of an Underlying Asset$_{(i)}$ on the Asset Inception Date (as specified in the Annex) is equal to 100. On any Asset Business Day$_{(t)}$ following the Asset Inception Date, the Underlying Asset Value$_{(i)}$ of an Underlying Asset$_{(i)}$ is calculated according to the following formula:

(i) If the Underlying Asset Currency (as specified in the section "*Overview of the Underlying Assets*" in the Annex) of such Underlying Asset is in the Index Currency:

$$A_{i,t} = A_{i,t-1} \times \frac{RL_{i,t}}{RL_{i,t-1}}$$

(ii) Otherwise:

$$A_{i,t} = A_{i,ARt} \times \left[\frac{DEA_{i,t}^{USD}}{DEA_{i,t-1}^{USD}} - \left(\frac{CBA_{i,t}^{CCY}}{CBA_{i,t-1}^{CCY}} \times \frac{FX_{i,t}}{FX_{i,t-1}}\right) + \left(\frac{RL_{i,t}}{RL_{i,t-1}} \times \frac{FX_{i,t}}{FX_{i,t-1}}\right)\right]$$

Where:

Subscript $_{(t)}$ refers to the given Asset Business Day;

Subscript $_{(t-1)}$ refers to the Asset Business Day immediately preceding Asset Business Day$_{(t)}$;

Superscript $_{(CCY)}$ refers to the relevant currency;

$A_{i,t-1}$ means the Underlying Asset Value$_{(i)}$ as of the Asset Business Day immediately preceding Asset Business Day$_{(t)}$;

$FX_{i,t}$ means the applicable Currency Exchange Rate for Underlying Asset$_{(i)}$ as of Asset Business Day$_{(t)}$;

$FX_{i,t-1}$ means the applicable Currency Exchange Rate for Underlying Asset$_{(i)}$ as of the Asset Business Day immediately preceding Asset Business Day$_{(t)}$;

$DEA_{i,t}^{USD}$ means the U.S. dollar Earning Amount Level (determined as described under "*Calculation of the U.S. dollar Earning Amount Level*") as of date$_{(t)}$;

DEA_{t-1}^{USD} means the U.S. dollar Earning Amount Level (determined as described under "*Calculation of the U.S. dollar Earning Amount Level*") as of date$_{(t-1)}$;

$CBA_{i,t}^{CCY}$ means the Currency Borrowing Amount Level (determined as described under "*Calculation of the Currency Borrowing Amount Levels*") for the currency in which the non-U.S. dollar denominated Underlying Asset$_{(i)}$ is denominated as of date$_{(t)}$;

$CBA_{i,t-1}^{CCY}$ means the Currency Borrowing Amount Level determined as described under "*Calculation of the Currency Borrowing Amount Levels*") for the currency in which the non-U.S. dollar denominated Underlying Asset$_{(i)}$ is denominated as of date$_{(t-1)}$;

$RL_{i,t}$ means the "**Reinvested Level**" of Underlying Asset$_{(i)}$ as of the given Asset Business Day$_{(t)}$, calculated according to the below:

The Reinvested Level of Underlying Asset$_{(i)}$ on the Asset Inception Date is equal to 100. On any

Asset Business Day$_{(t)}$ following the Asset Inception Date, the Reinvested Level of Underlying Asset$_{(i)}$ is calculated according to the following formula:

$$RL_{i,t} = RL_{i,t-1} \times \left(\frac{I_{i,t} + D_{i,t} \times DivMult_{i,t-1}}{I_{i,t-1}} \right)$$

Where:

Subscript $_{(t)}$ refers to the given Asset Business Day;

Subscript $_{(t-1)}$ refers to the Asset Business Day immediately preceding Asset Business Day$_{(t)}$;

$RL_{i,t-1}$ means the Reinvested Level of Underlying Asset$_{(i)}$ as of the Asset Business Day immediately preceding Asset Business Day$_{(t)}$;

$I_{i,t}$ means the Reference Level of Underlying Asset$_{(i)}$ (determined as specified in the Annex) as of Asset Business Day$_{(t)}$;

$I_{i,t-1}$ means the Reference Level of Underlying Asset$_{(i)}$ as of the Asset Business Day immediately preceding Asset Business Day$_{(t)}$;

$D_{i,t}$ means, for each Underlying Asset$_{(i)}$, the aggregate amount of cash dividends with an ex- dividend date during the period from but excluding Asset Business Day$_{(t-1)}$ to and including Index Business Day$_{(t)}$; and

$DivMult_{i,date}$ is the Dividend Multiplier of Underlying Asset$_{(i)}$ as of the Asset Business Day immediately preceding Asset Business Day$_{(t)}$.

Calculation of the U.S. dollar Earning Amount Level

The U.S. dollar Earning Amount Level has an initial value of 100 as of the U.S. dollar Earning Amount Base Date (as specified in the Annex).

On any calendar day$_{(t)}$ following the U.S. dollar Earning Amount Base Date, the U.S. dollar Earning Amount Level will be calculated according to the following formula:

$$DEA_t^{USD} = DEA_{NRt}^{USD} \times \left(1 + NIR_{NRt} \times DCF_{NRt,t} \right)$$

Where:

Subscript $_{(t)}$ refers to the given calendar day;

Subscript $_{(NRt)}$ refers to the Notional Interest Rate Reset Day (as specified in the Annex) immediately preceding calendar day$_{(t)}$

DEA_t^{USD} means the U.S. dollar Earning Amount Level as of date$_{(t)}$

DEA_{NRt}^{USD} means the U.S. dollar Earning Amount Level as of date$_{(NRt)}$

NIR_{NRt} means the Notional Interest Rate as of date$_{(NRt)}$

$DCF_{NRt,t}$ is the day count fraction for the period from (but excluding) date$_{(NRt)}$ to (and including) date$_{(t)}$, determined by using the Day Count Convention (as specified in the Annex)

Calculation of the Currency Borrowing Amount Levels

The Currency Borrowing Amount Level of each of the relevant currencies has an initial value of 100 as of the Currency Borrowing Amount Base Date (as specified in the Annex).

On any calendar day$_{(t)}$ following the Currency Borrowing Amount Base Date, the Currency Borrowing Amount Level for each of the relevant currencies will be calculated according to the following formula:

$$CBA_t^{CCY} = CBA_{CRt}^{CCY} \times \left(1 + R_{CRt}^{CCY} \times DCF_{CRt,t}^{CCY}\right)$$

Where:

Subscript $_{(t)}$ refers to the given calendar day

Subscript $_{(CRt)}$ refers to the Currency Borrowing Amount Rate Reset Day (as specified in the Annex) immediately preceding calendar day$_{(t)}$

Superscript $_{(CCY)}$ refers to the relevant currency

CBA_t^{CCY} means the Currency Borrowing Amount Level of the relevant currency as of the date$_{(t)}$

CBA_{CRt}^{CCY} means the Currency Borrowing Amount Level of the relevant currency as of date$_{(CRt)}$

R_{CRt}^{CCY} means the Currency Borrowing Amount Rate of the relevant currency as of date$_{(CRt)}$

$DCF_{CRt,t}^{CCY}$ is the day count fraction for the period from (but excluding) date$_{(CRt)}$ to (and including) date$_{(t)}$, determined by using the Currency Borrowing Amount Rate Day Count Convention of the relevant currency (as specified in the Annex)

Total Return Index Rebalancing and Volatility Control

The Methodology has a volatility control feature applied on any Total Return Index Rebalancing Day. This has the effect of reducing the exposure of the Total Return Index to the performance of the Base Index (and subsequently the Underlying Assets) by rebalancing a portion of the Base Index into the Deleverage Position if the realized volatility of the Base Index exceeds the Volatility Cap of 6% (the "**Volatility Cap**") on any Total Return Index Rebalancing Day.

To operate the volatility control, the annualized historical realized volatility of the Base Index (the "**Annualized Base Index Realized Volatility**") is calculated over the relevant Volatility Cap Period (as described below) on each Total Return Index Rebalancing Day. As long as on any given Total Return Index Rebalancing Day such calculated volatility is equal to or less than the Volatility Cap, the weight of the Base Index in the Total Return Index will be set to 100% on that Total Return Index Rebalancing Day. However, if on any given Total Return Index Rebalancing Day such calculated volatility exceeds the Volatility Cap, the exposure of the Total Return Index to the Base Index will be partially rebalanced into the Deleverage Position for that Total Return Index Rebalancing Day, effected through a reduction of the Base Index weight to the percentage that is equal to the Volatility Cap divided by such calculated volatility. As a result, the respective Underlying Assets weights within the Index will be ratably reduced.

With respect to any given Total Return Index Rebalancing Day, the "**Volatility Cap Period**" is the period from (and including) the day which is one (1) calendar month (or, if any such date is

not an Index Business Day, the preceding Index Business Day) before the second Index Business Day prior to the given Total Return Index Rebalancing Day to (and including) the third Index Business Day prior to the given Total Return Index Rebalancing Day.

The Volatility Cap Period, with respect to any given Total Return Index Rebalancing Day will not be affected by any postponement of such Total Return Index Rebalancing Day by the Calculation Agent, and the Base Index Weight (determined as described under *"Calculation of the Total Return Index Value"*) will be calculated on the postponed Total Return Index Rebalancing Day as though such Total Return Index Rebalancing Day had not been postponed.

Calculation of the Annualized Base Index Realized Volatility

The Annualized Base Index Realized Volatility over the relevant Volatility Cap Period with respect to a given Total Return Index Rebalancing Day$_{(t)}$ is calculated as according to the following formula:

$$Base\_Index\_Realized\_Volatility_{TRRt} = \sqrt{\frac{252}{N_{TRRt}} \times \sum_s \left[\ln\left(\frac{B_{s+1}}{B_s}\right)\right]^2}$$

Where:

Subscript $_{(TRRt)}$ refers to the given Total Return Index Rebalancing Day;

$Base\_Index\_Realized\_Volatility_{TRRt}$ is the Annualized Base Index Realized Volatility during the Volatility Cap Period as of the given Total Return Index Rebalancing Day;

Subscript $_{(s)}$ refers to each Index Business Day within the relevant Volatility Cap Period;

Subscript $_{(s+1)}$ refers to the Index Business Day immediately following each Index Business Day $_{(s)}$;

N_{TRRt} is the actual number of Index Business Days within the relevant Volatility Cap Period;

B_s is the Base Index Value on the date *s*; and

B_{s+1} is the Base Index Value on the date *s+1*

Rebalancing; Impact of Disruptions

If a Base Index Rebalancing Day or a Total Return Index Rebalancing Day must be effected on an Index Business Day on which a Market Disruption Event (as defined in "Market Disruption Events") occurs and is continuing with respect to any Index Components included in the Index, the Calculation Agent shall postpone such Base Index Rebalancing Day or Total Return Index Rebalancing Day, as applicable, to the next Index Business Day on which no Market Disruption Event occurs or is continuing with respect to any Underlying Asset.

The Calculation Agent shall then rebalance the Index as if (i) for each Underlying Asset that had not been affected by such Market Disruption Event, the Base Index Rebalancing Day (if applicable) and Total Return Index Rebalancing Day, respectively, occurred on the first day on which such Market Disruption Event occurred and (ii) for each Underlying Asset that had been affected by such Market Disruption Event, the Base Index Rebalancing Day (if applicable) and Total Return Index Rebalancing Day, respectively, occurred on the first day on which there was no Market Disruption Event occurring or continuing.

On the sixth Index Business Day following the occurrence of a Market Disruption Event with respect to any Index Component, if such Market Disruption Event is continuing, the Index Committee may determine in its sole discretion to instruct the Calculation Agent to rebalance the Index using a specified price determined by the Index Sponsor in good faith and commercially reasonable manner. In the event the Index Committee determines on such sixth Business Day, in its sole discretion, that no such instructions should be given to the Calculation Agent, the Index Committee may revisit such determination on any Index Business Day thereafter on which the Market Disruption Event is continuing.

8. Calculation of the Index

The Index Value on the Index Inception Date is equal to 100. On any given Index Business Day$_{(t)}$ following the Index Inception Date, the Index Value is calculated according to the following formula:

$$Index_t = Index_{IRt} \times \left[\frac{TRV_t}{TRV_{IRt}} - Interest\_Rate_{IRt} \times DCF_{IRt,t} \right] \times e^{(-Deduction\_Rate \times DCF_{IRt,t})}$$

Where:

Subscript $_{(t)}$ refers to the given Index Business Day$_{(t)}$;
Subscript $_{(IRt)}$ refers to the Index Business Day immediately preceding (but not including) Index Business Day$_{(t)}$;
Index$_t$ means the Index Value as of the date t;
Index$_{IRt}$ means the Index Value as of the date IR_t;
TRV$_t$ means the Total Return Index Value as of the date *t*;
TRV$_{IRt}$ means the Total Return Index Value as of the date IR_t;
Interest_Rate$_{IRt}$ means the Notional Interest Rate as of date IR_t;
Deduction_Rate means the Index Deduction Rate of 0.50% per annum;
DCF$_{IRt,t}$ is the day count fraction for the period from (but excluding) the date IR_t to (and including) the given Index Business Day$_{(t)}$, determined by using the Day Count Convention (as specified in the Annex); and
e means the exponential function.

Calculation of the Total Return Index Value

The Total Return Index Value on the Total Return Index Inception Date 100. On any given Index Business Day$_{(t)}$ following the Total Return Index Inception Date, the Total Return Index Value is calculated according to the following formula:

$$TRV_t = TRV_{TRRt} * \left[\frac{B_t}{B_{TRRt}} \times w_{TRRt}^B + \frac{DP_t}{DP_{TRRt}} \times (1 - w_{TRRt}^B) \right]$$

Where:

Subscript $_{(t)}$ refers to the given Index Business Day$_{(t)}$;
Subscript $_{(TRRt)}$ refers to the Total Return Index Rebalancing Day immediately preceding (but not including) Index Business Day$_{(t)}$;
TRV_t means the Total Return Index Value as of the date t;
TRV_{TRRt} means the Total Return Index Value as of the date $TRRt$;
B_t means the Base Index Value as of the date t;
B_{TRRt} means the Base Index Value as of the date $TRRt$;
DP_t means the Deleverage Position Value as of the date t;
DP_{TRRt} means the Deleverage Position Value as of the date $TRRt$;
w_{TRRt}^B means the Base Index Weight as of date $TTRt$ and calculated according to the following formula:

$$w_{TRRt}^B = \min\left(100\%, \frac{VolatilityCap}{Base\_Index\_Realized\_Volatility_{TRRt}} \right)$$

Where:

$VolatilityCap$ means the Volatility Cap (as defined under "*Total Return Index Rebalancing and Volatility Control*" above); and

$Base\_Index\_Realized\_Volatility_{TRRt}$ means the Annualized Base Index Realized as of date *TRRt*.

Calculation of the Base Index Value

The Base Index Value on the Base Index Inception Date 100. On any given Index Business Day$_{(t)}$ following the Base Index Inception Date, the Base Index Value is calculated according to the following formula:

$$B_t = B_{BRt} \times \left[1 + \sum_{i=1}^{n} w_{i,BRt} \times \left(\frac{A_{i,t}}{A_{i,BRt}} - 1 \right) \right]$$

Where:

Subscript $_{(t)}$ refers to the given Index Business Day$_{(t)}$;
Subscript $_{(BRt)}$ refers to the Base Index Rebalancing Day immediately preceding (but not including) Index Business Day$_{(t)}$;
B_t means the Base Index Value as of the date t;
B_{BRt} means the Base Index Value as of the date BR_t;
$w_{i,BRt}$ is the Underlying Asset Weight$_{(i)}$ of Underlying Asset$_{(i)}$ as of the date BRt;
$A_{i,t}$ means the Underlying Asset Value$_{(i)}$ of Underlying Asset$_{(i)}$ as of the date t; and
$A_{i,BRt}$ means the Underlying Asset Value(i) of Underlying Asset(i) as of the date *BRt*.

Calculation of the Deleverage Position Value

On any Index Business Day$_{(t)}$ following the Total Return Index Inception Date the Deleverage Position Value is equal to the Money Market Position Value (defined below) on that Index Business Day$_{(t)}$.

9. Calculation of the Money Market Position

Overview

The Money Market Position is intended to express the notional returns accruing to a hypothetical investor from an investment in a notional overnight money account denominated in U.S. dollars that accrues interest at a rate determined by reference to the Notional Interest Rate (which is the Federal Funds Rate, determined as specified in the Annex). The Money Market Position will have a positive notional return if the Notional Interest Rate is positive.

Calculation of the Money Market Position Value

The value of the Money Market Position (the "**Money Market Position Value**") is equal to 100 on the Money Market Position's Asset Inception Date. On any calendar date$_{(t)}$ following the Index Inception Date, the Money Market Position Value will be calculated according to the following formula:

$$MM_t = MM_{t-1} \times (1 + R_{t-1} \times DCF_{t-1,t})$$

Where:

Subscript $_{(t)}$ refers to the given calendar date;
Subscript $_{(t-1)}$ refers to the Notional Interest Rate Reset Day (as specified in the Annex) immediately preceding calendar date$_{(t)}$;
MM_t means the Money Market Position Value as of the date$_{(t)}$;
MM_{t-1} means the Money Market Position Value as of the date$_{(t-1)}$;
R_{t-1} means the Notional Interest Rate as of the date$_{(t-1)}$;
$DCF_{t-1,t}$ is the day count fraction for the period from (but excluding) the date$_{(t-1)}$ to (and including) the date$_{(t)}$, determined by using the Day Count Convention.

10. Historical Data

The "**Launch Date**" for the Index, which is the date the Calculation Agent began calculating the Index, is specified in the Annex. Therefore, historical information provided for the period from the Index Inception Date until the Launch Date, is hypothetical and is provided as an illustration of how the Index would have performed during the period had the Calculation Agent begun calculating the Index on the Index Inception Date using the Methodology. This data does not reflect actual performance, nor was a contemporaneous investment model run of the Index. Historical information for the period from and after the Launch Date is based on the actual performance of the Index.

Historical levels of the Index are calculated with reference to the Reference Levels of the Underlying Assets determined based on the latest available data published by the relevant exchanges.

11. Market Disruption Events

A "**Market Disruption Event**" may be deemed by the Index Committee to have occurred (A) with respect to an Underlying ETF in any of the following situations: (i) upon the occurrence or existence of a Trading Disruption or an Exchange Disruption, in either case, for more than two hours of trading, or at any time during the one-hour period that ends at the scheduled closing time of the relevant Exchange, and which the Calculation Agent determines is material, (ii) upon the occurrence or existence of an Early Closure, (iii) the net asset value per share of such Underlying ETF is not calculated or is not announced by the Underlying ETF or the sponsor of such Underlying ETF, (iv) the ETF or the relevant sponsor of any Underlying ETF suspends creations or redemptions of shares of such Underlying ETF, (v) upon the occurrence or existence of an Index Dislocation, (vi) upon the occurrence or existence of a Force Majeure Event; (B) with respect to a Currency Exchange Rate, upon the occurrence or existence of a Currency Exchange Rate Disruption Event; or (C) with respect of a Notional Interest Rate, upon the occurrence or existence of an Interest Rate Disruption Event.

A "**Trading Disruption**" means any suspension of or limitation imposed on trading by the relevant Exchange or Related Exchange, and whether by reason of movements in price exceeding limits permitted by the relevant Exchange or otherwise, relating to the Underlying ETF shares, related Reference Index or futures or options on the Underlying ETF shares or Reference Index.

An "**Exchange Disruption**" means any event that disrupts or impairs (as determined by the Calculation Agent in its sole discretion) the ability of market participants in general to effect transactions in, or obtain market values for, the shares of the Underlying ETF on the relevant Exchange or futures or options on the Underlying ETF shares or Reference Index, in each case on the relevant Related Exchange.

"**Early Closure**" means the closure of the relevant Exchange or relevant Related Exchange on any business day of that exchange prior to its scheduled closing time unless such earlier closing time is announced by such exchange prior to the close of trading on the first Index Business Day immediately preceding such date.

"**Exchange**" means the primary exchange on which shares of an Underlying ETF are listed.

"**Related Exchange**" means, in respect of an Underlying ETF or Reference Index, as the case may be, the primary exchange (or exchanges) or quotation system (or quotation systems) on which futures or options contracts relating to such Underlying ETF or Reference Index, as the case may be, are traded, if any.

An "**Index Dislocation**" means the Calculation Agent determines that a market participant, as a result of a market-wide condition relating to the Index or any Underlying ETF would (i) be unable, after using commercially reasonable efforts, to acquire, establish, re-establish, substitute, maintain, unwind, or dispose of all or a material portion of any hedge position relating to the Index or an Underlying ETF, or (ii) there is a temporary or prolonged suspension of trading of an Underlying

ETF or Reference Index (or its relevant hedging instrument), as the case may be, and such suspension or disruption has a material impact on the ability of market participants to enter into hedging transactions in respect of such Underlying ETF or Reference Index (in each case a "**Material Trading Disruption**").

A "**Force Majeure Event**" means the Calculation Agent determines that there has been the occurrence of a systems failure, natural or man-made disaster, act of God, armed conflict, act of terrorism, riot or labor disruption or any similar intervening circumstance that is beyond the reasonable control of the Index Sponsor, Calculation Agent or any of their respective affiliates that Calculation Agent determines is likely to have a material effect on an Index component, or on its ability to perform its role in respect of the Index.

"**Currency Exchange Rate Disruption Event**" means (and a Currency Exchange Rate Disruption Event shall be deemed to have occurred if in respect of a Currency Exchange Rate and a relevant day: (i) such currency exchange rate splits into dual or multiple currency exchange rates, (ii) the currency exchange rate specified in the Annex is not published on a date on which it is scheduled for publication and the Calculation Agent is unable to determine (after consultation with the Index Committee) any commercially reasonable substitute, (iii) an event has occurred in or affecting any relevant jurisdiction that generally makes it impossible to deliver (1) a relevant currency (as specified in the Annex) from accounts inside such jurisdiction to accounts outside such jurisdiction, or (2) a relevant currency (as specified in the Annex) between accounts inside such jurisdiction for the applicable reference currency or to a party that is a non-resident of such jurisdiction, or (iv) the applicable reference currency ceases to exist and has not been replaced by a new currency.

"**Interest Rate Disruption Event**" means (and an Interest Rate Disruption Event shall be deemed to have occurred if), in respect of the Notional Interest Rate and a relevant day: (i) such Notional Interest Rate is not published on a date on which it is scheduled for publication, or (ii) such Notional Interest Rate is no longer published.

On any Index Business Day on which a Market Disruption Event occurs or is continuing with respect to any non-zero weighted Underlying ETFs or any other Index Component, the Calculation Agent shall postpone calculation of the Index Value to the next Index Business Day on which no such Market Disruption Event occurs or is continuing, and an indicative level for the Index will be published. Such level will be identified as a "disrupted indicative level". The Calculation Agent shall resume calculating the Index Value on the first Index Business Day on which no Market Disruption Event is occurring or continuing as determined by the Index Committee.

On the sixth Index Business Day following the occurrence of a Market Disruption Event with respect to any Index Component included in the Index, if such Market Disruption Event is continuing and such Index Component have not been removed from the Index, the Index Committee may determine in its sole discretion to instruct the Calculation Agent to calculate the Index, using a price, interest rate, or exchange rate for such Index Component (as the case may be) as determined by the Index Committee in its sole discretion. In the event the Index Committee determines on such sixth Business Day, in its sole discretion, that no such instructions should be given to the Calculation Agent, the Index Committee may revisit such determination on any Index Business Day thereafter on which the Market Disruption Event is continuing.

Notwithstanding the foregoing, in the event of a Force Majeure Event the calculation and

publication of the Index will be postponed until, in the determination of the Calculation Agent, such Force Majeure Event has been resolved.

12.   Potential Adjustment Events

In the event that an Underlying ETF is affected by a "**Potential Adjustment Event**", the Calculation Agent may (in consultation with the Index Committee as required) make adjustments to the level of such Underlying ETF and/or the weighting of the Underlying ETF if it determines that the event could have a diluting or concentrative effect on the theoretical value of the Underlying ETF shares and would not otherwise be accounted for in the Index. Table 1 below describes the potential adjustment events for which adjustments may be made by the Calculation Agent.

13.   Table 1. Potential Adjustment Events.

Potential Adjustment Event	Adjustment	Adjustment Description
Cash Dividends	Yes	The Dividend is reinvested in that Underlying ETF.
Special / Extraordinary Dividends	Yes	The Dividend is reinvested in that Underlying ETF.
Return on Capital	Yes	The Dividend is reinvested in that Underlying ETF.
Stock Dividend	Yes	Where shareholders receive "B" new shares for every "A" share held, the number of shares is adjusted by multiplying the original number of shares by the quotient of (a) the sum of A and B divided by (b) A.
Stock Split	Yes	Where shareholders receive "B" new shares for every "A" share held, the number of shares is adjusted by multiplying the original number of shares by the quotient of B divided by A.

The Underlying Asset Value of each Underlying Asset will be determined based on the aggregate amount of dividends and the rate of the applicable Dividend Multiplier. This is described further under *Section – Calculation of the Underlying Asset Value.*

For potential adjustment events not listed in the table above, the Calculation Agent may make adjustments if it determines that the event could have a diluting or concentrative effect on the theoretical value of the Underlying ETF shares and would not otherwise be accounted for in the Index. Any such adjustments are publicly announced in advance wherever practicable.

14.   Amendment of Dividend Multiplier

The Calculation Agent, acting in a commercially reasonable manner, reserves the rights to amend the Dividend Multiplier for any Underlying Asset to reflect the amount of applicable withholding tax for such Underlying Assets if it determines that any withholding or deduction of taxes by or on behalf of any applicable authority having power to tax in the relevant market with respect to the Underlying Asset, is at least five percent (5%) higher than the original cost, which original cost is equal to the difference between (a) 100% and (b) the Dividend Multiplier. In the event that such cost for any Underlying Asset is determined to have increased by at least five percent (5%), then the Calculation Agent may decrease accordingly the Dividend Multiplier used in the calculation of Underlying Asset Values. Any change to the Dividend Multiplier would be effective at the immediately next Index Business Day.

15.   Revision to Index Values in the Event of Data Error

The Calculation Agent may recalculate or republish the Index in limited circumstances. Information on the policies and procedures of the Calculation Agent in relation to the handling of errors, incidents and restatements in respect of the Index (and other indices calculated by it) can be found on the Calculation Agent Website.

16.   Licensing Information

Goldman Sachs International is the sole licensing agent for the Index.

Calculation Agent Website

http://www.solactive.com/ (or any successor page)

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ANNEX

Index Inception Date	November 2nd, 2015
Total Return Index Inception Date	November 2nd, 2015
Base Index Inception Date	June 1st, 2015
Launch Date	November 20th, 2023
Index Bloomberg Ticker	GSMBETF5 Index
Index Reuters Ticker	.GSMBETF5
Asset Inception Date	See asset table below.
Index Deduction Rate	0.50% per annum
Index Business Day	Means a day on which the New York Stock Exchange and Deutsche Boerse (Xetra) is open for its regular trading session on such day.
Asset Business Day	In respect of (i) the Money Market Position, a calendar day that is not a Saturday or Sunday; (ii) any other Underlying Asset: each day which is a business day for the associated Index Component according to the holiday calendar of such associated Index Component (see "Reference Exchange" as specified in "Overview of Underlying Assets" in the Annex)
Reference Level	The Reference Level of Underlying Asset$_{(i)}$ is the closing price as reported on the relevant "Reference Exchange" as specified in "Overview of Underlying Assets" in the Annex, or its successor. If the closing price on any Asset Business Day is not available on the relevant "Reference Exchange", the Calculation Agent will use the last available closing price as published on the relevant Reference Exchange.
Notional Interest Rate	USD-FEDERAL-FUNDS-H15 (as provided by Reuters on page FEDFUNDS1 or by another recognized source used for the purpose of displaying such rate). For any given calendar day on which a Notional Interest Rate is not available, the Calculation Agent will use for such day the latest available level of the Notional Interest Rate.

Notional Interest Rate Reset Day	Each day which is a New York business day.
Day Count Convention	Actual/360, meaning the number of days in the relevant period divided by 360.
Currency Exchange Rate	**One EUR into USD:** The 4 p.m. London time closing spot mid rate for converting one unit of Euro into US dollar as published by WM Performance Services or any successor company. The days on which the Currency Exchange Rates are usually fixed and published, as determined by the Calculation Agent, by WM Performance Services or any successor company are referred to herein as "**Fixing Days**". If any calendar day is not a Fixing Day, the Calculation Agent will use the level of the relevant Currency Exchange Rate published for the applicable Fixing Day immediately preceding such calendar day. If any calendar day is a Fixing Day but the applicable Currency Exchange Rate is not available on such day at the applicable time indicated above, the Calculation Agent (after consultation with the Index Committee) shall determine the Currency Exchange Rate in a commercially reasonable manner.

Currency Borrowing Amount Rates and Business Days	Currency	Currency Borrowing Amount Rate	Currency Borrowing Amount Rate Business Days	Currency Borrowing Amount Rate Day Count Convention
	EUR	On or before December 31, 2021, EUR-EONIA (as provided by Reuters on EONIA RSF.REC.EONIA=.NaE or another recognized source, as determined by the Calculation Agent, used for the purpose of displaying such rate). On or after January 3, 2022, 8.5bps + €STR (as provided by Reuters on EUROSTR= or another recognized source, as determined by the Calculation Agent, used for the purpose of displaying such rate).	Business days as per TARGET system	Actual/360, meaning the number of days in the relevant period divided by 360

	For any given calendar day which is not Currency Borrowing Amount Rate Business Day, the Calculation Agent will use the level of such Currency Borrowing Amount Rate published for the Currency Borrowing Amount Rate Business Day immediately preceding such calendar day.
Currency Borrowing Amount Rate Reset Day	In respect of a Currency Borrowing Amount Rate, each day which is a Currency Borrowing Amount Rate Business Day
U.S. dollar Earning Amount Base Date:	November 1st, 2000

OVERVIEW OF UNDERLYING ASSETS

Underlying Asset	Asset Inception Date	Bloomberg Ticker	Reference Exchange	Dividend Multiplier	Underlying Asset Currency	Additional Information
SPDR S&P 500 ETF Trust	October 31st, 2014	SPY UP Equity	NYSE Arca	70%	USD	www.ssga.com
iShares MSCI Japan ETF	October 31st, 2014	EWJ UP Equity	NYSE Arca	70%	USD	www.ishares.com
iShares MSCI EAFE ETF	October 31st, 2014	EFA UP Equity	NYSE Arca	70%	USD	www.ishares.com
Invesco QQQ Trust Series	October 31st, 2014	QQQ UQ Equity	NASDAQ GM *	70%	USD	www.invescopowershares.com
iShares STOXX Europe 600 UCITS ETF	October 31st, 2014	SXXPIEX GY Equity	Xetra	73.625%	EUR	www.ishares.com
ARK Innovation ETF	October 31st, 2014	ARKK UP Equity	NYSE Arca	70%	USD	www.ark-funds.com
iShares 20+ Year Treasury Bond ETF	October 31st, 2014	TLT UQ Equity*	NASDAQ GM *	70%	USD	www.ishares.com
iShares iBoxx $ Investment Grade Corporate Bond ETF	October 31st, 2014	LQD UP Equity	NYSE Arca	70%	USD	www.ishares.com
iShares iBoxx $ High Yield Corporate Bond ETF	October 31st, 2014	HYG UP Equity	NYSE Arca	70%	USD	www.ishares.com
iShares MSCI Emerging Markets ETF	October 31st, 2014	EEM UP Equity	NYSE Arca	70%	USD	www.ishares.com
iShares J.P. Morgan USD Emerging Markets Bond ETF	October 31st, 2014	EMB UQ Equity	NASDAQ GM **	70%	USD	www.ishares.com
Alerian MLP ETF	October 31st, 2014	AMLP UP Equity	NYSE Arca	70%	USD	www.alpsfunds.com
PowerShares Senior Loan Portfolio	October 31st, 2014	BKLN UP Equity	NYSE Arca	70%	USD	www.invesco.com/etfs

Underlying Asset	Asset Inception Date	Bloomberg Ticker	Reference Level	Dividend Multiplier	Underlying Asset Currency	Additional Information
SPDR Gold Shares	October 31st, 2014	GLD UP Equity	NYSE Arca	70%	USD	www.spdrgoldshares.com
iShares S&P GSCI Commodity Indexed Trust	October 31st, 2014	GSG UP Equity	NYSE Arca	70%	USD	www.ishares.com
iShares TIPS ETF	October 31st, 2014	TIP UP Equity	NYSE Arca	70%	USD	www.ishares.com
Money Market Position	January 3rd, 2012	Not applicable	Determined as described in methodology	Not applicable	Not applicable	

* With respect to the iShares 20+ Year Treasury Bond ETF, prior to 03 February 2016, the Bloomberg Ticker was TLT UP Equity and the Reference Level was the Closing price as reported on NYSE Arca or its successor

** With respect to the iShares J.P. Morgan USD Emerging Markets Bond ETF, prior to 02 August 2017, the Bloomberg Ticker was EMB UP Equity and the Reference Level was the Closing price as reported on NYSE Arca or its successor

CONSTRAINTS SCHEDULE

Investment Constraints*

Asset Class	Asset Class Maximum Weight	Underlying Asset	Underlying Asset Maximum Weight
Equities	60%	SPDR S&P 500 ETF Trust	25%
		Invesco QQQ Trust Series	25%
		iShares STOXX Europe 600 UCITS ETF	25%
		ARK Innovation ETF	25%
		iShares MSCI Japan ETF	10%
		iShares MSCI EAFE ETF	20%
Fixed Income	50%	iShares 20+ Year Treasury Bond ETF	20%
		iShares iBoxx $ Investment Grade Corporate Bond ETF	20%
		iShares iBoxx $ High Yield Corporate Bond ETF	20%
Emerging Markets	30%	iShares MSCI Emerging Markets ETF	20%
		iShares J.P. Morgan USD Emerging Markets Bond ETF	20%
Alternatives	30%	Alerian MLP ETF	10%
		PowerShares Senior Loan Portfolio	10%
Commodities	30%	iShares S&P GSCI Commodity Indexed Trust	25%
		SPDR Gold Shares	20%
Inflation	25%	iShares TIPS ETF	25%
Cash Equivalent	50%	Money Market Position**	50%

*Minimum Asset Class Weight is 0%. Underlying Asset Minimum Weight is 0%.
**As described in the Methodology.

ADDITIONAL INFORMATION ABOUT THE INDEX, INCLUDING RISKS

Please note: Capitalized terms used but not defined in this Additional Information section have the meanings given to them in the methodology.

General Risk Factors related to the Index:

The value of the Index depends on the values of the Underlying Assets, each of which may increase or decrease in value over time

The value of the Index from time to time depends on the values of the Underlying Assets, each of which may increase or decrease in value over time. Neither the Index nor any of the Underlying Assets includes any element of downside protection or guaranteed return. The value of any Underlying Asset, or the Index itself, may fall substantially below its value at the Launch Date or on any particular day and may fall to or below zero. If the value of the Index should fall to or below zero in respect of an Index Business Day, then the Index Value in respect of such Index Business Day and all following Index Business Days shall be zero.

Historical levels of the Index may not be indicative of future performance

Past performance of the Index is no guide to future performance. The Index was designed based on historical performance of certain assets and aims to capture trends in the market by using historical data over a pre-defined period. However, the actual performance of the Index in the future may bear little relation to the historical performance of the Index. In a market environment in which the price of a given Underlying Asset moves in the opposite direction to its past performance or a market environment in which the movement of an Underlying Asset is otherwise not consistent with its past performance, the Index may under-perform a static or managed allocation into the relevant Underlying Assets. Among other things, this is because the Index could be over-weighted in an Underlying Asset that suffers a significant decline in performance or be under-weighted in an Underlying Asset that experiences a major rise in performance as compared to its historical performance.

Volatility controls and volatility risk

The Index applies two layers of volatility control. Firstly, the Methodology algorithm seeks to select – out of all the combinations of admissible Underlying Asset Target Weights – the combination with the highest Annualized Asset Combination Return, subject to a set of investment and volatility constraints (as further described above). In the event that no combination of Underlying Asset Target Weights complies with the pre-defined investment and volatility constraints, the Methodology algorithm will successively relax the volatility constraint (in increments of 0.50%, up to 10%) to select a combination of Underlying Asset Target Weights. As a result, such particular combination will exceed the volatility constraint of 5%, and, therefore, the realized volatility of the Base Index (and in turn the Index) may exceed 5%.

Secondly, the Index applies a daily volatility control feature, which aims to provide a notional volatility-controlled exposure to the Base Index. This is achieved by periodically increasing or decreasing the exposure of the Total Return Index to the performance of the Base Index (and subsequently the Underlying Assets) by rebalancing a portion of the Base Index into the Deleverage Position if the realized volatility of the Base Index exceeds the Volatility Cap of 6%.

No assurance can be given that the volatility control adjustment feature will achieve its objective to limit realized volatility at 6%. The actual realized volatility of the Index may be greater than the Volatility Cap of 6%.

The Index uses an optimization computer software package that may not determine the mathematically optimal result

The Calculation Agent employs commercially available computer software that determines mathematical solutions to predefined mathematical problems (a "solver") which uses a pre-defined set of optimization formulae to select the relevant asset weights for each Look-Back Period. If the Calculation Agent employed a different "solver", the final set of weights selected might be different and possibly materially so. As such, the performance of the Index could be materially different. References in this Index description to the algorithm selecting a combination of Underlying Assets with "the highest historical return over the relevant Look-Back Period" should be understood to mean the highest return that can be computed using the "solver" employed by the Calculation Agent in administering the Index algorithm. There is no guarantee that this solver will determine the optimal set of weights and it is possible that there exists on any Base Index Observation Day a combination of weights with a higher return over the relevant Look-Back Period.

The weight attributed to each Underlying Asset at each Base Index Observation Day is intended to optimize the total return performance of the Underlying Assets based on an analysis of the historical returns of various combinations of exposures to the Underlying Assets, subject to certain constraints. As the possible weights are a continuous function, there is no simple function to test the various combinations of exposures and achieve the optimal set of weights. As a result, it is necessary to use approximations contained in computation routines.

The index is not actively managed

The respective weights of the Underlying Assets are rebalanced periodically within the Index by applying an algorithm operating within pre-determined rules. There will be no active management of the Index so as to enhance returns beyond those embedded in the Index. Active market participants often may adjust their investment promptly in view of market, political, financial or other factors. While the Index is subject to volatility constraints, these constraints are based on an assessment of historical volatility over a period of time and are rule-based. An actively managed product may potentially respond more directly and appropriately to immediate market, political, financial or other factors than a nonactively managed product.

An investor in the Index or any Linked Product will have no rights in respect of any Index Component

The investment exposure provided by the Index is synthetic. An investment referenced to the Index will therefore not make an investor a holder of, or give an investor a direct investment position in, any Underlying Asset or the Deleverage Position.

The Index applies an Internal Currency Hedge

The Index has an internal currency hedge described further under *"Internal Currency Hedge*". Underlying Assets that are denominated in U.S. dollars are not exposed to currency risks. Through a series of synthetic transactions, the internal currency hedge feature seeks to offset a substantial

portion of the positive or negative effects of currency exchange rate fluctuations in such other currency on the value of an Underlying Asset. Underlying Assets that are denominated in currencies other than U.S. dollars are fully exposed to currency risks to the extent of any gain or loss in the level of such Underlying Asset on each Index Business Day. In addition, the Index's currency hedge will decrease the Index level if and to the extent that the performance of the relevant currencies and of the non-U.S. dollar denominated Underlying Assets move in opposite directions or move in the same direction but to a different extent. As a result of such movements, you will still be subject to the risk of currency fluctuations affecting the value of the Index on a daily basis. In addition, the Currency Borrowing Amounts included as part of the internal currency hedge will decrease the level of the Index.

An investment in the Index may be subject to dilution, which may limit the gains in such investment

The Index may be subject to dilution, such that you may not benefit fully from increases in the value of the Basket Index or of any Underlying Asset. Dilution means that the return or loss on an investment is subject to a multiplier decreasing exposure to that investment and reducing the volatility and risk of loss should the value of that investment decline, but reducing the potential gain should the value of that investment increase. You should be aware that if the Basket Index or any Underlying Asset increases or decreases, an Index-linked investment may not have the same magnitude of increased or decreased value as the Basket Index or the Underlying Asset.

The Index may be subject to disruption events

If an Index Component is subject to a Market Disruption Event, Trading Disruption, Exchange Disruption, Index Dislocation, Currency Exchange Rate Disruption Event Interest Rate Disruption Event or there is a Force Majeure Event, the Calculation Agent is allowed to postpone any rebalancing and if a rebalancing is delayed to the sixth Index Business Day following the originally scheduled rebalancing, the Calculation Agent may adopt an alternative method to determine the level or rate of an Index Component affected by a market disruption event, acting in good faith and commercially reasonable manner. Alternative methods of valuation of an Underlying Asset are generally intended to produce a level similar to the level resulting from references to the relevant Underlying Asset. However, it is unlikely that any alternative method of valuation will produce a level identical to the level that the actual Underlying Asset would produce. If the Calculation Agent uses an alternative method of valuation, the level of the Underlying Asset and, in turn, the Index Value may therefore be lower than it otherwise would be.

Changes in the Components may affect the value of the Index

Where a given Index Component ceases to exist or is no longer tradable (as further described above in the *Section 6 – Changes to the Components*) the Index Committee may (but is not obliged to) substitute another Index Component for the original one where it considers (acting in good faith and commercially reasonable manner) that a similar alternative is available. If the Index Committee does not select any substitute Index Component, the Index Component in question may be removed from the Index. Any such substitution or assignment could alter the exposure provided by the Index and materially affect the performance and value of the Index.

The Index Value is reduced by an Index Deduction Rate

The value of the Index will be adjusted by an index deduction rate of 0.50% per annum. The effect

of such deduction is to reduce the overall level of the Index, which will have a negative impact on the performance of the Index.

Launch Date and Back-testing

The Index has only been calculated since the relevant Launch Date and, therefore, there is no historical performance data available prior to such date. Additionally, there may only be limited historical performance data with respect to the Index Components referenced by such Index and the Index itself, any investment in respect of which returns are linked to the performance of the Index or its Index Components may involve greater risk than an investment linked to returns generated by an investment strategy with a proven track record. While a longer history of actual performance could provide more reliable information on which to assess the validity of the Index and on which to base an investment decision, the fact that the Index and the Index Components are relatively new would not allow this. There can be no guarantee or assurance that the Index or its Index Components will operate in a manner consistent with the data available.

The Index, including the Base Index and the Total Return Index, launched on the Launch Date. Each of the Underlying Assets also had a launch date that is different from the Asset Base Date shown above. Performance indicated before the relevant launch date is hypothetical and has been calculated back to the relevant base date using the methodology and assumptions about certain of the components and decisions the Index Committee or Calculation Agent of the Index or the Underlying Assets may have made. Index values calculated for periods in which the Index or any Underlying Index did not yet exist may not reflect the actual Index Value or Underlying Index level that would have been calculated on that date if, in fact, such index had existed at that point in time.

The Index has limited operating history and may perform in unanticipated ways

The absence of a long term track record with respect to certain Underlying Assets is particularly significant because the algorithm underlying the Index is based on historical trends in returns that may or may not be repeated in the future.

As Index Sponsor, Goldman Sachs has the authority to make determinations that could materially affect the Index and create conflicts of interest

As Index Sponsor, Goldman Sachs International does not generally exercise any discretion and owes no fiduciary duties in respect of the Index. Goldman Sachs International may, however, exercise discretion in certain limited situations including, but not limited to, those situations described in Section *6 – Changes to the Index Components*). Determinations made by Goldman Sachs International could adversely affect the Index Value and the exercise by Goldman Sachs of its discretion could present it with a conflict of interest.

Trading and other transactions by the Goldman Sachs Group could materially affect the value of any Linked Product

The Group is a full service financial services firm engaged in a range of market activities. The Group may issue, arrange for the issue of, or enter into financial instruments or derivatives linked to, the Index, other indices that are based on some or all of the Underlying Assets and arrange for the distribution of these financial instruments or derivatives, including the payment of distribution fees and commissions to any intermediaries. These activities could adversely affect the Index

Value and any of the Underlying Assets.

The Index may not be a fully diversified portfolio

In any given month, the Index is expected to have exposure to only a limited subset of the 16 eligible Underlying Assets (which, including the Money Market Position, initially could be as few as three Underlying Assets (i.e., as few as two eligible ETFs)) and you may not have any exposure to some of the 16 eligible Underlying Assets or Asset Classes. As a result, you should not expect the index to provide a balanced exposure to all of the eligible Underlying Assets. Further, if, on any Index Business Day, the realized volatility of the Underlying Assets exceeds the volatility cap of 6% for the applicable Volatility Cap Period, the Index will ratably rebalance a portion of the exposure to the index ETFs into the Money Market Position to reduce such realized volatility level. This may limit the exposure to the Underling Assets.

The assets underlying an Underlying Asset may represent a particular market or commodity sector, a particular geographic region or some other sector or Asset Class. As a result, the Index may be concentrated in a single sector or Asset Class even though there are maximum weights for each Underlying Asset and each Asset Class. This concentration could occur because of concentration in the investment goals of one or more eligible ETFs. Other than in connection with a monthly Base Index Rebalancing, the exposure of the Index at any time could be limited to the money market position. In connection with a monthly Base Index Rebalancing, the Index may include exposure to as few as three eligible ETFs. Although an investment in any products linked to the Index will not result in the ownership or other direct interest in the assets held by the eligible ETFs, the return on an investment linked to the Index will be subject to certain risks similar to those associated with direct investments in the market or commodity sector, geographic region, other sector or class represented by the relevant assets. In addition, in connection with a monthly Base Index Rebalancing, the Index may rebalance to include only Underlying Assets that represent a limited number of markets or commodity sectors, geographic regions, other sectors or Asset Classes. If this were to occur, you will be subject to risks similar to those associated with direct investments in these markets or commodity sectors, geographic regions, other sectors or Asset Classes. These markets, geographic regions, sectors or Asset Classes may not be diversified.

The Index attempts to track the positive price momentum in the Underlying Assets and may underperform any alternative index that might be constructed from such Underlying Assets

The Index attempts to track the positive price momentum in the Underlying Assets. As such, each month the Index is rebalanced by calculating the portfolio of Underlying Assets that would have provided the highest historical return during a return Look-Back Period comprised of the prior six months subject to the limitations on volatility and the maximum weights for each Underlying Asset and each Asset Class. However, there is no guarantee that trends existing in the preceding six months or during the realized volatility Look-Back Periods over which volatility is evaluated will continue in the future. The trend of an Underlying Asset may change at the end of any measurement period and such change may not be reflected in the return of the Underlying Asset calculated over the return Look-Back Period.

In addition, the volatility controls and maximum weightings may limit the index's ability to track price momentum. The Index is different from an investment that seeks long-term exposure to a constant set of Underlying Assets. The Index may fail to realize gains that could occur as a result

of holding assets that have experienced price declines, but after which experience a sudden price spike. As a result, if market conditions do not represent a continuation of prior observed trends, the level of the Index, which is rebalanced based on prior trends, may decline. No assurance can be given that the investment methodology used to construct the Index will outperform any alternative index that might be constructed from the eligible Underlying Assets. Furthermore, no assurance can be given that the Index will achieve its target volatility of 5%. The actual realized volatility of the Index may be greater or less than 5%.

In times of whipsawing market in respect of an underlying asset of any Index Component, the Index may be unsuccessful in generating positive returns based upon any momentum risk premium

The Index aims to capture positive returns arising from notional exposure to the momentum risk premium in respect of the underlying assets of an Index Component and shall rely on a degree of momentum in any trend identified in respect of such underlying assets (i.e. that a trend that is identified will be sustained for a period). In a whipsawing market for any underlying asset, being a market characterised by high volatility and large and/or frequent swings, there may be the rapid and frequent appearance of trends that do not subsequently develop and/or are swiftly reversed. In such circumstances, and where the methodology of the relevant Index Component is unable to adjust the notional exposure to the relevant underlying asset in sufficient time to limit any adverse effects of such a swing, the methodology of the Index may be unsuccessful in generating any positive returns and may perform less well than a strategy intended to capture alternative risk premia.

Changes in market structure and/or increase investment in similar products may negatively affect the value of the Index

As a result of changes in market structure and/or due to increased investment in products using the same or similar investment rationale to that of the Index or any Index Component, the underlying market or economic characteristics that the Index or Index attempts to capture, measure or replicate may change, cease to exist, and/or lead to negative expected returns over any time period. This may have a negative impact on the value of the Index and the Index will not be adjusted to take account of any such changes.

The actual weights of Index Components may vary following each rebalancing

The actual weight of each of the Index Components following each rebalancing may be different than the initially assigned weights of each of the Index Components, and therefore the relative contribution of each Index Component to the overall value of the Index may vary from time to time, depending on the performance of each of the Index Components relative to the other Index Components since such immediately preceding rebalancing. The longer the period between each rebalancing, the greater the likelihood that there will be a significant variance between the absolute values of the weights of the Index Components, and the Index may therefore have an exposure to an Index Component further below or in greater excess of its previously assigned weight than it would if the period were shorter, which may result in a greater skewing of the absolute nature of the investment positions with respect to the Index Components and increase the overall risk profile of the Index.

An excess return indexes will often underperform a total return index

An Index which is calculated on an "excess return" basis is the excess return version of one or more total return indexes. To determine the value of an excess return index, the performance of the total return index is reduced by the return that could be earned on a synthetic cash deposit at a notional interest rate. Thus, the performance of an excess return index will often be less than the performance of the equivalent total return index.

Correlation of performances among the Index Components may reduce the performance of the Index

Performances of the Index Components of the Index may become highly correlated from time to time, including, but not limited to, periods in which there is a substantial decline in a particular sector or asset type represented by the Index Components. High correlation during periods of negative returns among the Index Components may have an adverse effect on the level of the Index.

The negative performance of one or more Index Components in the Index may outweigh the positive performance of other Index Components

The value of the Index will go up or down depending on the overall performance of each of Index Component in the Index. The negative performance of one or more positively weighted Index Components in the Index (and/or the positive performance of one or more negatively weighted Index Components in the Index) may outweigh the positive performance of other positively weighted Index Components in the Index (and/or the negative performance of one or more negatively weighted Index Components in the Index). Even in the case of a positive performance of one or more Index Components in the Index, the value of the Index as a whole may go down if the performance of the other Index Components is negative to a greater extent.

Index Components assigned a weight or quantity of zero will not contribute to the value of the Index

Some Index Components may be assigned a weight or quantity of zero in respect of a rebalancing day and, in such case, the Index shall not have any exposure to such Index Component until the next rebalancing day (if any) on which such Index Components are assigned a non-zero weight or quantity. As a result, any changes in the performance of such Index Components will not affect the value of the Index for the relevant period following such rebalancing day.

Prices in relevant underlying indices, financial instruments or assets constituted in an Index Component may be volatile

The value of an Index Component may be derived in whole or in part from the value of certain underlying indices, financial instruments or assets. The prices or levels of such underlying indices, financial instruments or assets may be volatile, with price movements being influenced by a multitude of factors, including, but not limited to, supply and demand, applicable market conditions, government policies and programmes, political and economic events and rates of inflation, currency devaluations and revaluations, and sentiment in the relevant market. This may make the value of an Index Component volatile, which may in turn make the value of a Index volatile.

Changes in the Index Components may affect the value of the Index

Where an Index Component ceases to exist or is no longer tradable, the Index Sponsor may (but is not obliged to) substitute another Index Component for the original one where it considers in its sole discretion that a similar alternative is available. Any such substitution or assignment could alter the exposure provided by the Index and materially affect the performance and value of the Index.

The Index may be changed or become unavailable which may result in the adjustment or termination of Linked Products

The Index Sponsor shall have the right to alter the methodology used to calculate the Index or to discontinue the publication of the value of the Index in certain circumstances . A permanent cancellation of the Index or a failure by the Calculation Agent to calculate or announce the value of the Index may constitute a Market Disruption Event in respect of, and, therefore, may result in a decrease in the value of or return on any Linked Product (or result in the termination or early redemption of a Linked Product). Any changes may be made without regard to the interests of a holder of any Linked Product.

Furthermore, the decisions and policies of the Index Sponsor and Calculation Agent concerning the calculation of the value of the Index could affect its value and, therefore, the amount payable over the term of any Linked Product and the market value of such Linked Product. The amount payable on any Linked Product and its market value could also be affected if the Index Sponsor changes these policies.

The Index relies on the use of third-party information

With respect to the Index Components, the Index methodology relies on information from third-party sponsors of such data and other external sources to obtain certain inputs necessary to compute the value of the Index. The inability of the Index Sponsor and/or the Calculation Agent to source such necessary data to calculate the relevant formulae of the Index may affect the value of such Index. Investors considering acquiring or making an investment in a Linked Product should carefully read and understand the information about such Index Components. If you are considering acquiring or making an investment in a product linked to the Index, you should carefully read and understand the information about those Underlying Assets, which can be found using the links indicated under Additional Information of the "Overview of Underlying Assets". However, the Group makes no warranty as to the correctness of that information and takes no responsibility for the accuracy of such data or the impact of any inaccuracy of such data on such Index.

Linked Products may be exposed to more or less risk, or perform better or worse, based upon the inputs received from the above suppliers or sources, than an actual investment in or linked to one or more of the Index Components.

The reference level of Index Components may be adjusted to take account of net dividend payments and or other potential adjustment events

On the date on which an Index Component which is an ETF commences trading without the rights to receive a dividend, the reference level of such component will be adjusted by the Calculation Agent with the aim of increasing the level to a value as if the relevant dividend amount, net of tax,

had not been declared. When making such adjustment, the Calculation Agent will assume a notional tax rate in respect of the dividend (herein such assumed notional tax rate is expressed as and equal to 100% minus the relevant Dividend Multiplier), which will reduce the increase in the reference level for such Index Component. Such tax rates may vary according to changes in tax laws and procedures.

Any announced dividend in respect of an Index Component will be reduced by an assumed tax rate (which may be zero), which is intended to reflect the withholding tax rate levied, or the potential tax rate that may be levied, by the country of incorporation or residence of the issuer of such Index Component. The assumed tax rate (which may be zero) will be determined by the Index Sponsor using the relevant Index methodology based on its view of applicable law and/or regulations, observable sources and/or market practice. The assumed tax rates may be amended from time to time by the Index Sponsor. If the assumed tax rate in respect of one or more Index Components is increased, then the value of the Index may be affected.

The Index Sponsor and/or any affiliate that has hedged its exposure to any Index Component will benefit if the effective rate of withholding tax that it incurs through its hedging activity is less than the synthetic tax withholding applied in respect of the Index and such benefit will not be passed on to the investors in Linked Products.

Following the determination by the Index Committee that an event has occurred that would have a diluting or concentrative effect in respect of an Index Component or following any adjustment to the settlement terms of listed options or futures contracts on such Index Component traded on an options or futures exchange, the Index Committee may make an adjustment to account for such effect. The Index Committee may determine the appropriate adjustment (exercised in good faith and in commercially reasonable manner) by reference (amongst other things) to the adjustment in respect of such event made by the other equity market dealers and/or exchanges (including but not limited to the reference exchange for such Index Component, and options and futures exchanges related to such Index Component) or quoting services. Such adjustment may have an adverse effect on the performance of the Index.

Risks related to Index Components that are foreign currency exchange rates:

The Index is exposed to currency exchange rate risk

The Index is calculated in the Index Currency. While some of the Index Components may be denominated in the Index Currency, the Index may also comprise Index Components denominated in other currencies. The Index may therefore be exposed to currency exchange rate risks. The impact on the value of the Index will depend on the extent to which these other currencies, if any, strengthen or weaken against the Index Currency and the relative weight of each such other currency represented in the Index. Currency exchange rates vary over time. Changes in a particular currency exchange rate result from the interaction of many factors directly or indirectly affecting economic or political conditions, including rates of inflation, interest rate levels, balances of payment among countries, the extent of governmental surpluses or deficits and other financial, economic, military and political factors, among others.

Changes in foreign currency exchange rates can be volatile and unpredictable

Generally, rates of exchange between foreign currencies are volatile, and this volatility may continue in the future, in particular with regard to emerging market currencies. Fluctuations in currency exchange rates could adversely affect the performance of the Index. Some markets, especially emerging markets, carry significant risks for investors.

Government policy can adversely affect foreign currency exchange rates

Foreign currency exchange rates can either float or be fixed by sovereign governments. From time to time, governments use a variety of techniques, such as intervention by a country's central bank or imposition of regulatory controls or taxes, to affect the exchange rate of their currencies. Governments may also issue a new currency to replace an existing currency or alter the exchange rate or exchange characteristics by devaluation or revaluation of a currency. Therefore, the level of an Index Component (and therefore the Index referencing such Index Component) which references foreign currency exchange rates could be significantly and unpredictably affected by governmental actions. Even in the absence of governmental action directly affecting foreign currency exchange rates, political, military or economic developments in a country issuing either currency of a relevant currency pair or elsewhere could lead to significant and sudden changes in the foreign currency exchange rate between currency pairs as well as the level of any Index Component referencing such foreign currency exchange rate taken into account for the purposes of the calculation of the value of the Index.

The government or central bank that issues either currency of a relevant currency pair will have no involvement in the offer and sale of the Index and no obligations to the Index Sponsor. Each such government or central bank may take actions that could adversely affect the value of the Index.

Foreign exchange rates are influenced by unpredictable factors

Generally, foreign exchange rates are a result of the supply of, and demand for, a given currency both domestically and internationally. Changes in exchange rates may result from the interactions of many factors including economic, financial, social and political conditions in Europe, the United States, any other jurisdiction whose currency is either currency of a relevant currency pair. These conditions include, for example, the overall growth and performance of the economies of the United States, the European Monetary Union (and the constituent nations thereof), any other jurisdiction whose currency is either currency of the relevant currency pair, the trade and current account balance between such countries, inflation, interest rate levels, the performance of global stock markets, the stability of the United States, European or other relevant jurisdictions' governments and banking systems, wars in which such nations or regions are directly or indirectly involved or that occur anywhere in the world, major natural disasters, and other foreseeable and unforeseeable events.

Certain relevant information relating to relevant jurisdictions (in respect of any currency pair) may not be as well-known or as rapidly or thoroughly reported in the United States as compared to US developments. It is possible that there would be a lack of availability of important information that can affect the value of the one currency against another in respect of the Index, and special efforts may be required to obtain such information on a timely basis. See also the risk factor entitled "*Government policy can adversely affect foreign currency exchange rates*" above.

Foreign exchange rates information may not be readily available

There is no systematic reporting of last-sale information for foreign currencies. Reasonable current bid and offer information is available in certain brokers' offices, in bank foreign currency trading offices, and to others who wish to subscribe for this information, but this information will not necessarily reflect the currency exchange rates relevant for determining the value of the Index. The absence of last-sale information and the limited availability of quotations to individual investors may make it difficult for many investors to obtain timely, accurate data about the state of the underlying foreign exchange markets.

Risks related to Index Components that reference Commodities:

Some Underlying Assets may be composed of futures contracts on commodities

Some of the Underlying Assets may be composed of futures contracts rather than securities or physical commodities. Futures contracts normally specify a certain date for settlement of a financial future (such as a futures contract on a securities index) or delivery of the underlying physical commodity. As the exchange-traded futures contracts that comprise each Underlying Asset approach expiration, they are replaced by similar contracts that have a later expiration. Thus, for example, a futures contract purchased and held in August may specify an October expiration. As time passes, the contract expiring in October may be replaced by a contract for delivery in December. This process is referred to as "rolling". Because of the potential effects of negative roll yields, it is possible for the value of an Underlying Asset to decrease significantly over time even when the relevant securities indices or near-term or spot prices of underlying commodities are stable or increasing. It is also possible, when the relevant securities indices or the near-term or spot prices of the underlying commodities are decreasing, for the value of the Underlying Asset to decrease significantly over time.

Some of the Underlying Assets consist of futures contracts on commodities. The Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank"), which effected substantial changes to the regulation of the futures and over-the-counter (OTC) derivative markets, was enacted in July 2010. Dodd-Frank requires regulators, including the Commodity Futures Trading Commission (the "CFTC"), to adopt regulations to implement many of the requirements of the legislation. While the CFTC has adopted many of the required regulations, a number of them have only recently become effective, and certain requirements remain to be finalized. The ultimate impact of the regulatory scheme, therefore, cannot yet be fully determined. Under Dodd-Frank, the CFTC approved a final rule to impose limits on the size of positions that can be held by market participants in futures and OTC derivatives on physical commodities. Those rules were challenged in federal court by industry groups and were vacated by a decision of the court in September 2012. While the CFTC subsequently proposed a new rule on position limits, its ultimate scope and impact, as well as the content, scope or impact of other CFTC rules, cannot be conclusively determined at present, and these limits will likely restrict the ability of certain market participants to participate in the commodity, future and swap markets and markets for other OTC derivatives on physical commodities to the extent and at the levels that they have in the past. These factors may also have the effect of reducing liquidity and increasing costs in these markets as well as affecting the structure of the markets in other ways. In addition, these legislative and regulatory changes have increased, and will continue to increase, the level of regulation of markets and market

participants, and therefore the costs of participating in the commodities, futures and OTC derivative markets. Without limitation, these changes require many OTC derivative transactions to be executed on regulated exchanges or trading platforms and cleared through regulated clearing houses. Swap dealers (as defined by the CFTC) are also required to be registered and are or will be subject to various regulatory requirements, including, but not limited to, proposed capital and margin requirements, record keeping and reporting requirements and various business conduct requirements. These legislative and regulatory changes, and the resulting increased costs and regulatory oversight requirements, could result in market participants being required to, or deciding to, limit their trading activities, which could cause reductions in market liquidity and increases in market volatility. In addition, transaction costs incurred by market participants are likely to be higher than in the past, reflecting the costs of compliance with the new regulations. These consequences could adversely affect the level of the Underlying Assets, which could in turn adversely affect the level of the Index.

In addition, other regulatory bodies have proposed or may propose in the future legislation similar to that proposed by Dodd-Frank or other legislation containing other restrictions that could adversely impact the liquidity of and increase costs of participating in the commodities markets. For example, in October 2011 the European Commission published a proposal to replace the Markets in Financial Instruments Directive (2004/39/EC) with a new Markets in Financial Instruments Regulation and an amended Markets in Financial Instruments Directive (together, "MiFID II"), which was adopted in April 2014. MiFID II provides for the establishment of position limits on the size of positions in commodity derivatives which a person may hold over a specified period of time. By way of further example, the European Market Infrastructure Regulation (Regulation (EU) No 648/2012) ("EMIR") will require mandatory clearing of certain OTC derivative contracts, reporting of derivatives and risk mitigation techniques (including margin requirements) for uncleared OTC derivative contracts. EMIR will likely impact a number of market participants and is expected to increase the cost of transacting derivatives.

The futures markets occasionally experience disruptions in trading (including temporary distortions or other disruptions due to various factors, such as the lack of liquidity in markets, the participation of speculators and governmental regulation and intervention). These disruptions include the cessation, for a material time, of trading in the futures contracts underlying an Underlying Asset or the imposition by the futures exchange on which one or more such futures contracts are traded of a "limit price," a range outside of which these futures contracts are not permitted to trade. In addition, a futures exchange may replace or delist a futures contract included in the Underlying Asset. There can be no assurance that a disruption, replacement or delisting of a futures contract, or any other event, will not have an adverse or distortive effect on the value of an Underlying Asset or the manner in which it is calculated.

An investment in the Index is subject to risks associated with foreign commodities markets

Certain Index Components may be linked to commodity futures contracts on physical commodities on trading facilities located outside the United States. The regulations of the CFTC do not apply to trading on foreign trading facilities, and trading on foreign trading facilities may involve different and greater risks than trading on United States trading facilities. Certain foreign markets may be more susceptible to disruption than United States trading facilities due to the lack of a government-regulated clearinghouse system. Trading on foreign trading facilities also involves certain other risks that are not applicable to trading on United States trading facilities. Those risks

may include exchange rate risk relative to the United States dollars, exchange controls, expropriation, burdensome or confiscatory taxation, and moratoriums, and political or diplomatic events. It will also likely be more costly and difficult for the Index Sponsor to enforce the laws or regulations of a foreign country or trading facility, and it is possible that the foreign country or trading facility may not have laws or regulations which adequately protect the rights and interests of investors in the commodity futures contracts included in the Index. In addition, because foreign trading facilities may be open on days when the value of the Index is not published, the value of the commodity futures contracts included in the Index may change on days when the value of the Index is unavailable.

Suspension or disruptions of market trading in the commodity and related options futures market may adversely affect the value of the Index

The commodity markets are subject to temporary distortions or other market disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators and government regulation and intervention. In addition, U.S. futures exchanges and some foreign exchanges have regulations that limit the amount of fluctuation in futures contract prices that may occur during a single business day. These limits are generally referred to as "daily price fluctuation limits" and the maximum or minimum price of a contract on any given day as a result of these limits is referred to as a "limit price." Once the limit price has been reached in a particular contract, no trades may be made at a different price. Limit prices have the effect of precluding trading in a particular contract or forcing the liquidation of contracts at disadvantageous times or prices. These circumstances could adversely affect the level of the components in the Index and, therefore, the value of the Index and, therefore, any Linked Products.

Commodity prices are characterized by high and unpredictable volatility, which could lead to high and unpredictable volatility of the Index

Commodity prices, and, consequently, the prices of corresponding commodity futures contracts, are affected by various factors, including, but not limited to, supply and demand, liquidity, weather conditions and natural disasters, government programs and policies, political, military, terrorist and economic events as set out in more detail below.

—   *Supply and demand -* The planning and management of commodities supplies is very time-consuming. This means that the scope for action on the supply side is limited and it is not always possible to adjust production swiftly to take account of demand. Demand can also vary on a regional basis. Transport costs for commodities in regions where these are needed also affect their prices. The fact that some commodities take a cyclical pattern, such as agricultural products which are only produced at certain times of the year, can also result in major price fluctuations.

—   *Liquidity -* Not all commodities markets are liquid and able to quickly and adequately react to changes in supply and demand. The fact that there are only a few market participants in the commodities markets means that speculative investments can have negative consequences and may distort prices.

—   *Weather conditions and natural disasters -* Unfavourable weather conditions can influence the supply of certain commodities for the entire year. This kind of supply crisis can lead to severe and unpredictable price fluctuations. Diseases and epidemics can also

influence the prices of agricultural commodities.

— ***Governmental programs and policies, national and international political, military and economic events and trading activities in commodities and related contracts -*** Commodities are often produced in emerging market countries, with demand coming principally from industrialised nations. The political and economic situation is however far less stable in many emerging market countries than in the developed world. They are generally much more susceptible to the risks of rapid political change and economic setbacks. Political crises can affect purchaser confidence, which can as a consequence affect commodity prices. Armed conflicts can also impact on the supply and demand for certain commodities. It is also possible for industrialised nations to impose embargos on imports and exports of goods and services. This can directly and indirectly impact commodity prices. Furthermore, numerous commodity producers have joined forces to establish organisations or cartels in order to regulate supply and influence prices.

These factors may adversely affect the Index Components, and in turn the value of the Index and any Linked Product in varying ways, and different factors may cause the value and volatility of different commodities to move in inconsistent directions and at inconsistent rates.

CONFLICTS OF INTEREST

The following list of conflicts does not purport to be a complete list or explanation of all the conflicts of interests associated with the Index.

Overview of the Roles of the Goldman Sachs Group (the "Group")

The Group may have multiple roles in connection with the Index:

(i) If Goldman Sachs International is the Calculation Agent, Goldman Sachs International is responsible for calculating and publishing the value of the Index in its capacity as Calculation Agent and for making certain determinations in respect of the Index from time to time in its capacity as Index Sponsor.

(ii) The Index is designed by, and are operated in accordance with, a methodology developed by Goldman Sachs International. Among other things, Goldman Sachs International created the parameters within which the Index operates. The Index Sponsor does not have any obligation to ensure that the Calculation Agent continues to calculate and publish the value of the Index. Except in the limited circumstances set out in this methodology, Goldman Sachs International does not generally exercise any discretion in relation to the operation of the Index. Goldman Sachs International owes no fiduciary duties in respect of the Index.

(iii) The Group is a full-service financial services group and, consequently, is engaged in a range of activities that could affect the value of the Index, as the case may be, and any Index Component positively or negatively as further described below.

(iv) The Group may from time to time have a direct or indirect ownership interest in any Calculation Agent and any third party data providers with respect to any Index Component.

Potential Conflicts of Interest

Potential conflicts of interest may arise in relation to Goldman Sachs' multiple roles in connection with the Index. Although the Group will perform its obligations in a manner that it considers commercially reasonable, it may face conflicts between the roles it performs in respect of the Index and its own interests. In particular, the Group may have, or enter into transactions to create, a physical, economic or other interest (including an adverse and/or short interest, as the case may be) in the Index, Linked Products and any Index Component, and may exercise remedies or take other action with respect to its interests as it deems appropriate. These actions could adversely affect the value of the Index and may include the following:

(i) The Group actively trades Linked Products, any Index Component, investments referenced by or linked to an Index Component and numerous related investments. These activities could adversely affect the value of the Index, which could in turn affect the return on, and the value of, Linked Products.

(ii) The Group may have access to information relating to the Index, Linked Products, an Index Component or investments referenced by or linked to an Index Component. The

Group is not obliged to use that information for the benefit of any person acquiring or entering into any Linked Products.

(iii) Certain activities conducted by the Group may conflict with the interests of those acquiring any Linked Products. It is possible that the Group could receive substantial returns in respect of these activities while the value of any investment referenced to the Index may decline. For example:

(a) The Group and other parties may issue or underwrite additional securities or trade other financial or derivative instruments or investments referenced to the Index or other similar strategies or any Index Component. An increased level of investment and trading in these securities, instruments or investments may negatively affect the performance of the Index and could affect the value of the Index and, therefore, the amount payable at maturity (or on any other payment date) on any Linked Products and the value of such Linked Products before such date. Such securities, instruments or investments may also compete with any Linked Products. By introducing competing products into the marketplace in this manner, the Group could adversely affect the market value of any Linked Products and the amount paid by it on such products at maturity (or on any other payment date). To the extent that the Group serves as issuer, agent, underwriter or counterparty in respect of those securities or other similar instruments or investments, its interests in respect of those securities, instruments or investments may be adverse to the interests of a holder or counterparty in respect of any Linked Products.

(b) Although the Group is not obliged to do so, it may elect to hedge its exposure to the Index, any Linked Products, an Index Component or any investment referenced by or linked to an Index Component with an affiliate or a third party. That affiliate or third party, in turn, is likely to directly or indirectly hedge some or all of its exposure, including through transactions taking place on the futures and options markets. Where the Group chooses to hedge its exposure, it may adjust or unwind such hedges by purchasing or selling any Linked Products, an Index Component, any investments referenced by or linked to an Index Component or any other product on or before the date the Index is valued for purposes of any investments referenced to the Index. The Group may also enter into, adjust or unwind hedging transactions relating to other instruments linked to the Index or an Index Component including at times and/or levels which are different from those used to determine the value of the Index. Any of this hedging activity may adversely affect the value of the Index and the value of any products linked to the Index. In addition, and without limitation:

(I) The Group could receive substantial returns with respect to these hedging activities while the value of the Index and/or the value of any Linked Product may decline.

(II) If the Group has hedged its exposure to an Index Component and incurs an effective rate of withholding tax that is less than the synthetic tax withholding applied in respect of the Index, the Group could receive substantial returns.

(III) The Group could receive substantial returns if it trades in an Index

Component on or before the rebalancing of the Index and/or at levels which are different from the levels specified in the methodology for determining the value of the Index. Such trading may have an adverse impact on the level at which a rebalancing occurs, which may result in an adverse impact on the performance of the Index. In addition, such trading could generate significant returns to the Group that will not be passed on to the investors in any Linked Products.

(c)   Certain activities conducted by the Group may conflict with the interests of those acquiring any Linked Products. For example, as described above, the Group may elect to hedge its obligations, if any, with an affiliate or a third party. It is possible that the Group could receive substantial returns with respect to these activities irrespective of the performance of the Index and including while the value of any investment referenced to the Index may decline.

(d)   The Group may also engage in trading for its proprietary accounts, for other accounts under its management or to facilitate transactions, including block transactions, on behalf of customers relating to one or more Linked Products, an Index Component (or any constituent thereof) and/or any investment referenced by or linked to an Index Component (or any constituent thereof). In the course of these transactions, the Group's customers may receive information about the Index before it is made available to other investors. Any of these activities could also adversely affect the value of the Index directly or indirectly by affecting the level of an Index Component (or any constituent thereof) or the investments referenced by or linked to an Index Component (or any constituent thereof) and, therefore, the market value of any Linked Products and the amount paid on any such product at maturity.

(iv)   As operator or sponsor of the Index, under certain circumstances Goldman Sachs International will have discretion in making various determinations that affect the Index and any Linked Products including, but not limited to, those situations described in this Methodology. Goldman Sachs International may use these determinations to calculate how much cash it must pay at maturity, or, as the case may be, upon any early redemption or on any other payment date, of any Linked Product, including products issued by the Group members. The exercise by Goldman Sachs International of this discretion could adversely affect the value of the Index and the value of any Linked Product. It is possible that the exercise by the Index Sponsor of its discretion to change the Methodology may result in substantial returns in respect of the Group's trading activities for its proprietary accounts, for other accounts under its management or to facilitate transactions on behalf of customers relating to one or more Linked Products, the Index Components or any investment referenced by or linked to such Index Components.

(v)   The Group may in the future create and publish other indices or strategies, the concepts of which are similar, or identical, to that of the Index or one or more of the Index Components. The Index Components as specified in the Methodology, however, are the only components that will be used for the calculation of the Index. Accordingly, no other published indices should be treated by any investor as the level of any Index Component (except as the Index Sponsor or the Calculation Agent may so determine, as described above).

(vi)   The Group may publish research, express opinions or provide recommendations (for example, with respect to an Index Component) that are inconsistent with investing in products linked to the Index, and which may be revised at any time. Any such research, opinions or recommendations may or may not recommend that investors buy or hold the relevant Index Component and could affect the value and or performance of the Index or of products linked to the Index.

(vii)   The Group may have ownership interests in sponsors of Index Components and as such may be able to influence the methodology and other features of such Index Components. In addition, members of the Group may provide pricing or other data that is directly used in the calculation of the level, value, coupon and/or components of Index Components (or the components thereof). The activities of the Group members as contributor to any Index Components may be adverse to the interests of investors and/or counterparties to products linked to any such Index Components and may have an impact on the performance of such Index Components.

(viii) The Group may have ownership interests in the Calculation Agent (or any other calculation agent with respect to the Index) and any third party data providers with respect to the Index or any Index Component and as such may be able to influence the determinations of such Calculation Agent or other calculation agent.