

**GS MOMENTUM BUILDER
MULTI-ASSET 5S ER INDEX**

METHODOLOGY

February 4, 2022

GS MOMENTUM BUILDER MULTI-ASSET 5S ER INDEX

Overview

The following overview of the GS Momentum Builder Multi-Asset 5S 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 5S ER Index and its operation that follows in this document.

The GS Momentum Builder Multi-Asset 5S ER Index (the “**Index**”) is comprised of shares of exchange-traded funds and other exchange traded products (each an “**Underlying ETF**” and together the “**Underlying ETFs**”) and a hypothetical cash investment (the “**Money Market Position**”), which constitute the underlying assets (each an “**Underlying Asset**” and together the “**Underlying Assets**”).

The Underlying Assets provide exposure to several asset classes (each an “**Asset Class**” and together the “**Asset Classes**”) as described below:

- *Broad-Based Equities* including U.S. 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
- *Commodities* including exposure to physical gold and oil & gas exploration & production companies
- *Alternatives* including real estate securities, biotechnology equities and preferred stocks
- *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 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 SOFR *plus* 0.26161%, which is determined as specified in the Annex) *plus* 0.65% per annum (accruing daily).

On any given Index Business Day following the Index Base 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 on each Index Business Day 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), 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 daily on each Index Business Day (each a “**Base Index Rebalancing Day**”) by taking for the weight of each Underlying Asset an average of the Underlying Asset Target Weights (determined as described under “*Calculation of the Underlying Assets Weights*” below) over a period of 22 Index Business Days, as further described below (the “**Weight Averaging Period**”)

Goldman Sachs & Co. (the “**Index Sponsor**”) has retained Solactive AG to serve as Calculation Agent for the Index. In the event the Index Sponsor appoints a replacement Calculation Agent a public announcement will be made via press release.

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

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 daily on each Base Index Rebalancing Day within a set of pre-determined investment and volatility constraints by applying the Methodology algorithm. 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. Rebalancings during Market Disruption Events are described under “*Rebalancing; Impact of Disruptions*”. In addition, the Index Committee intends to review the Methodology at least once a year, and may make changes to the Methodology from time to time (including after any such annual review) 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.

Base Index Rebalancing

On each Index Business 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 on each Base Index Rebalancing Day from the previous Underlying Asset Weights to the newly determined Underlying Asset Weights. The Underlying Asset Weight for each Underlying Asset in respect of a Base Index Rebalancing Day will be determined by taking the average of the Underlying Asset Target Weights over the Weight Averaging Period (determined as described under “*Calculation of the Underlying Assets Weights*” below)

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

The Index is calculated on an excess return basis over the sum of 0.65% per annum (accruing daily) and the return that could be earned on a notional cash deposit at the Notional Interest Rate, compounded daily. The Notional Interest Rate will be reset daily on each Index Business Day starting from and including the Money Market Position’s Asset Inception Date (as specified in the Annex). Each such date is referred to herein as a “**Notional Interest Rate Reset Date**”.

Publication of the Index

Solactive AG (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.

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 and normally 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 adjustment events and potential adjustment events will be publicly announced as promptly as is reasonably practicable.

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, for the calculation of the Index, including responding to Market Disruption Events (as defined under “*Market Disruption Events*” below) and potential adjustment events, and for publication of the Index values and the Methodology. The Index Committee is comprised (as of the date hereof) of employees of The Goldman Sachs Group, Inc. or one or more of its affiliates. At least 40 percent of the committee is comprised of employees of control side functions, with at least 2 members from the compliance department and 2 members from the legal department. Other members consist of employees of The Goldman Sachs Group, Inc.’s securities division, which includes employees who regularly trade the Underlying Assets. If the Index Committee exercises any discretion related to the Index, as described in this Methodology, it must be approved by 100% of the control side employees present at the relevant Index Committee meeting.

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 (other than changes to the Methodology itself, which would be publicly announced at least 60 Index Business Days prior to their effectiveness, as described above) are publicly announced as promptly as is reasonably practicable and normally 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.

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

Changes to the Index Components

Except as otherwise contemplated herein, the designated Underlying Assets of the Index as well as the Notional Interest Rate are not expected to be changed or replaced. However, if, for any reason any of the following events occur in the determination of the Index Committee in its sole discretion:

- 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 or unspecified 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;
- there has been a material diminution in the daily trading volume of an Underlying ETF or the net asset value of such Underlying ETF (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, amongst others, 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 a material adverse effect on holders of shares of such Underlying ETF;
- there has been a material change to the expense ratio or fee structure of such Underlying ETF that is adverse to holders of shares of such Underlying ETF;
- 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 its sole discretion 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 has been discontinued; or
- it is not practicable or commercially reasonable for the Notional Interest Rate to continue to be included in the Index for reasons including, but not limited to, requirements, guidance or recommendations by the relevant regulators, relevant industry associations or the Index Sponsor or changes in industry practice,

then such Underlying ETF or Notional Interest Rate may, in the sole discretion of the Index Committee, be replaced by a successor ETF or rate that in the determination of the Index Committee in its sole discretion, with respect to a successor ETF, most closely replicates the relevant ETF or, with respect to the successor rate, most closely satisfies any criteria of an effective benchmark identified by the Index Committee. If the Index Committee determines in its sole discretion that no successor ETF exists, such Underlying ETF will be removed from the Index. No successor ETF or rate may fail to satisfy any of the conditions described above for replacing or removing an Underlying ETF or the Notional Interest Rate at the time the Index Committee decides to appoint such successor ETF or rate.

Such deletions and substitutions may be undertaken on any date. Any such changes or actions taken with respect to the Index by the Index Committee are publicly announced as promptly as is reasonably practicable and normally at least five Index Business Days prior to the effective date of the changes or actions, and will be reflected in an updated version of this Methodology

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 Assets Target Weights**”), which can be as low as zero, are determined on each Index Business 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 daily on each Base Index Rebalancing Day such that the weight of each Underlying Asset is equal to the average of the Underlying Asset Target Weights over the Weight Averaging Period.

Calculation of the Underlying Assets Target Weights

The target weight attributed to each Underlying Asset pursuant to the Methodology on each Index Business Day (regardless of whether a Market Disruption Event occurs 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 Index Business Day will be equal to three). 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 are three Return Look-Back Periods and three Volatility Look-Back Periods, which results in three *{Return Look-Back Period , Volatility Look-Back Period}* pairs.

- (i) a long-term pair defined using the longest Return Look-Back Period (i.e approximately nine months and as further specified below) and the longest Volatility Look-Back Period (i.e approximately six months and as further specified below)
- (ii) a medium-term pair defined using the intermediate Return Look-Back Period (i.e approximately six months and as further specified below) and the intermediate Volatility Look-Back Period (i.e approximately three months and as further specified below)
- (iii) a short-term pair defined using the shortest Return Look-Back Period (i.e approximately three months and as further specified below) and the shortest Volatility Look-Back Period (i.e approximately one month and as further specified below)

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. Rounding will be applied when calculating the target weights at the level of each individual *{Return Look-Back Period , Volatility Look-Back Period}* pair (as described below under “Rounding Convention”) and the Underlying Asset Target Weight for an Underlying Asset will be rounded to twelve decimals with 0.0000000000005 rounded upwards.

If on an Index Business 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 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 Index Business Day is the period from (and including) the day which is respectively nine (9), six (6) or three (3) 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.

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 (specified in the “Constraints Schedule” below) for each Underlying Asset as well as a minimum weight of 0% and maximum weight (specified in the “Constraints Schedule” below) 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. On the next Index Business Day, the 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.

- Volatility Constraint: 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.

Rounding Convention: In respect of each of the *{Return Look-Back Period, Volatility Look-Back Period}* pairs, the target weight of each Underlying Asset computed on each Base Index Rebalancing 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, on each Base Index Rebalancing Day, in respect of each of the *{Return Look-Back Period, Volatility Look-Back Period}* pairs, the sum of the rounded underlying assets 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 for that Base Index Rebalancing Day 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 weight of the Underlying Asset that had the lowest historical return in respect of the Return Look-Back Period for that Base Index Rebalancing Day and a weight higher than the absolute value of the excess amount being deducted regardless of whether this might cause the 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:

$$w_{i,t} = \frac{1}{22} \times \sum_s w_{i,s}^{Target}$$

Where:

Subscript (t) refers to the relevant Base Index Rebalancing Day;

Subscript (s) refers to the relevant Base Index Rebalancing Day and each Index Business Day (on which no Market Disruption Event occurs or is continuing with respect to any Underlying Asset) prior to such Base Index Rebalancing Day within the relevant Weight Averaging Period;

$w_{i,t}$ is the Underlying Asset Weight_(i) on calendar date_(t);

w_i^{Target} is the Underlying Asset Target Weight_(i) on calendar date_(s);

The “**Weight Averaging Period**” on any given Base Index Rebalancing Day is the period from (but excluding) the day which is 22 Index Business Days (on which no Market Disruption Event occurs or is continuing with respect to any Underlying Asset) prior to the given Base Index Rebalancing Day to (and including) the given Base Index Rebalancing Day.

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 Index Business Day, is calculated according to the following formula:

$$AAC_Return_t = \sum_{i=1}^n a_i \times AssetReturn_{i,t}$$

Where:

Subscript (i) refers to the relevant Index Business Day;

AAC_Return_t 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 (15);

a_i is the Underlying Asset Target Weight_(i) in the given combination of Underlying Assets Target Weights; and

$AssetReturn_{i,t}$ is the Annualized Asset Return of the Underlying Asset_(i) as of the Index Business Day_(t), and is calculated according to the following formula:

$$AssetReturn_{i,t} = \frac{252}{N_t} \times \sum_s \ln \left(\frac{A_{i,s+1}}{A_{i,s}} \right)$$

Where:

Subscript (i) refers to the relevant Index Business Day;

Subscript (s) refers to each Index Business Day (on which no Market Disruption Event occurs or is continuing with respect to any Underlying Asset) within the relevant Return Look-Back Period;

$AssetReturn_{i,t}$ is the Annualized Asset Return, during the relevant Return Look-Back Period, of the Underlying Asset_(i);

N_t is the actual number of Index Business Days (on which no Market Disruption Event occurs or is continuing with respect to any Underlying Asset) 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) and on which no Market Disruption Event occurs or is continuing with respect to any Underlying Asset

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 Index Business Day, is calculated according to the following formula:

$$AAC_Realized_Volatility_t = \sqrt{\sum_{i,j=1}^n a_i \times a_j \times AssetCovariance_{i,j,t}}$$

Where:

Subscript (t) refers to the relevant Index Business Day;

$AAC_Realized_Volatility_t$ 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 (15);

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; and

$AssetCovariance_{i,j,t}$ 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:

$$AssetCovariance_{i,j,t} = \frac{252}{N_t} \times \sum_s \left[\ln \left(\frac{A_{i,s+1}}{A_{i,s}} \right) \times \ln \left(\frac{A_{j,s+1}}{A_{j,s}} \right) \right]$$

Where:

Subscript (s) refers to each Index Business Day (on which no Market Disruption Event occurs or is continuing with respect to any Underlying Asset) within the relevant Volatility Look-Back Period;

Subscript (t) refers to the relevant Index Business Day;

N_t is the actual number of Index Business Days (on which no Market Disruption Event occurs or is continuing with respect to any Underlying Asset) 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) and on which no Market Disruption Event occurs or is continuing with respect to any Underlying Asset;

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

$A_{j,s+1}$ is the Underlying Asset Value_(j) on the Index Business Day immediately following Index Business Day(s) and on which no Market Disruption Event occurs or is continuing with respect to any Underlying Asset.

Calculation of the Underlying Asset Value

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 Index 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:

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

Where:

Subscript (t) refers to the given Index Business Day;

Subscript (t-1) refers to the Index Business Day immediately preceding Index Business Day_(t);

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

$RL_{i,t}$ means the “**Reinvested Level**” of Underlying Asset_(i) as of the given Index 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 Index Business Day_(t) following the Asset Inception Date, the Reinvested Level of Underlying Asset_(i) is calculated according to the following formula:

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

Subscript (t) refers to the given Index Business Day;

Subscript (t-1) refers to the Index Business Day immediately preceding Index Business Day_(t);

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

$I_{i,t}$ means the Reference Level of Underlying Asset_(i) (determined as specified in the Annex) as of Index Business Day_(t);

$I_{i,t-1}$ means the Reference Level of Underlying Asset_(i) as of the Index Business Day immediately preceding Index Business Day_(t); and

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

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 VolatilityCap 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;

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);

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;

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

B_s is the Base Index Value on date_(s)

B_{s+1} is the Base Index Value on date_(s+1)

Rebalancing; Impact of Disruptions

If a Base Index Rebalancing Day must be effected on an Index Business Day which corresponds to the first day of a given Market Disruption Event (as defined in “Market Disruption Events”) with respect to any Underlying Asset included in the Index, 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 occurred on such day and (ii) for each Underlying Asset that had been affected by such Market Disruption Event, the Base Index Rebalancing Day did not occur on such day (i.e., each Underlying Asset that was affected by such Market Disruption Event is disregarded for purposes of Base Index Rebalancing). A Base Index Rebalancing Day will be deemed not to occur on an Index Business Day if a Market Disruption Event is continuing (as opposed to occurring for the first time).

If a Total Return Index Rebalancing Day must be effected on an Index Business Day which corresponds to the first day of a given Market Disruption Event or on which a Market Disruption Event is continuing from the prior Index Business Day with respect to any Underlying Asset, the Index Calculation Agent shall then rebalance the Index as if (i) for each Underlying Asset that had not been affected by a Market Disruption Event, the Total Return Index Rebalancing Day occurred on such day and (ii) for each Underlying Asset that had been affected by such Market Disruption Event, the Total Return Index Rebalancing Day did not occur on such day, provided that for the purposes of calculating the Annualized Base Index Realized Volatility the alternative calculations set forth in the next paragraph apply (i.e., other than for purposes of calculating the Annualized Base Index Realized Volatility in the manner set forth in the next paragraph, each Underlying Asset that was affected by such Market Disruption Event is disregarded for purposes of Total Return Index Rebalancing).

Solely for purposes of calculating the Annualized Base Index Realized Volatility which includes an Index Business Day, on which a Market Disruption Event has occurred or is continuing with

respect to any Underlying Asset (except if such Market Disruption Event affects all the Underlying ETFs), the Base Index Value will include any Underlying Asset that has been affected by a Market Disruption Event and will (i) be calculated, in the event of a Trading Disruption related to movements in price that exceed limits established by the relevant exchange, by assuming the Reference Level of the affected Underlying Asset is equal to such price limit on such Index Business Day or (ii) be calculated, in the event of a Market Disruption Event which is not a Trading Disruption related to movements in price that exceed limits established by the relevant exchange, by multiplying the Reference Level of the affected Underlying Asset on the immediately preceding relevant Index Business Day by the percentage change (whether positive or negative) of the Underlying Asset having the largest absolute change in Underlying Asset Value from the immediately preceding relevant Index Business Day to the relevant Index Business Day; *provided*, that if a Market Disruption Event has occurred and is continuing with respect to more than one Underlying Asset on an Index Business Day, then the Calculation Agent shall consult with the Index Committee to determine the values to be used for such disrupted Underlying Assets for purposes of calculating the Annualized Base Index Realized Volatility, such determination to be made by the Index Committee in its sole discretion based on its review of such market and other information as it believes relevant to such determination.

On the sixth Index Business Day following the occurrence of a Market Disruption Event with respect to any Underlying ETF included in the Index, 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. 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.

Calculation of the Index

The Index Value on the Index Base Date is equal to 100. On any given Index Business Day_(t) following the Index Base Date, the Index Value is calculated according to the following formula:

$$Index_t = Index_{IRt} \times \left[\frac{TRV_t}{TRV_{IRt}} - Interest_Rate_{IRt} \times DCF_{IRt,t} \right] \times e^{(-Deduction_Rate * DCF_{IRt,t})}$$

Where:

Subscript (t) refers to the given Index Business Day_(t);

Subscript (IRt) refers to the Notional Interest Rate Reset Date immediately preceding (but not including) Index Business Day_(t);

Index_t means the Index Value as of date_(t);

Index_{IRt} means the Index Value as of the date_(IRt);

TRV_t means the Total Return Index Value as of date_(t);

TRV_{IRt} means the Total Return Index Value as of date_(IRt);

Interest_Rate_{IRt} means the Notional Interest Rate as of date_(IRt);

Deduction_Rate means 0.65% per annum (accruing daily);

$DCF_{IR,t}$ is the day count fraction for the period from (but excluding) $date_{(IR)}$ 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 Base Date 100. On any given Index Business Day $_{(t)}$ following the Total Return Index Base Date, the Total Return Index Value is calculated according to the following formula:

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

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 date $_{(t)}$;

TRV_{TRRt} means the Total Return Index Value as of date $_{(TRRt)}$;

B_t means the Base Index Value as of the date $_{(t)}$;

B_{TRRt} means the Base Index Value as of date $_{(TRRt)}$;

DP_t means the Deleverage Position Value as of date $_{(t)}$;

DP_{TRRt} means the Deleverage Position Value as of date $_{(TRRt)}$;

w_{TRRt}^B means the Base Index Weight as of date $_{(TRRt)}$ 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 Base Date 100. On any given Index Business Day $_{(t)}$ following the Base Index Base 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 date_(t);

B_{BRt} means the Base Index Value as of date_(BRt);

$w_{i,BRt}$ is the Underlying Asset Weight_(i) of Underlying Asset_(i) as of date_(BRt);

$A_{i,t}$ means the Underlying Asset Value_(i) of Underlying Asset_(i) as of date_(t); and

$A_{i,BRt}$ means the Underlying Asset Value_(i) of Underlying Asset_(i) as of date_(BRt).

Calculation of the Deleverage Position Value

On any Index Business Day_(t) following the Total Return Index Base Date the Deleverage Position Value is equal to the Money Market Position Value (defined below) on that Index Business Day_(t)

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 money account denominated in U.S. dollars that accrues interest at a rate determined by reference to the Notional Interest Rate (SOFR *plus* 0.26161%, which is 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 Money Market Position’s Asset Inception Date, the Money Market Position Value will be calculated according to the following formula:

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

Subscript (t) refers to the given calendar date;

Subscript (IRt) refers to the Notional Interest Rate Reset Date immediately preceding calendar date_(t);

MM_t means the Money Market Position Value as of date_(t);

MM_{IRt} means the Money Market Position Value as of date_(IRt);

R_{IRt} means the Notional Interest Rate as of date_(IRt); and

$DCF_{IRt,t}$ is the day count fraction for the period from (but excluding) date_(IRt) to (and including) date_(t), determined by using the Day Count Convention.

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 Base 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 Base 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.

Market Disruption Events

A “**Market Disruption Event**” will have occurred in any of the following situations:

- (i) The official closing price, level, rate or other measure of any Underlying Asset is unavailable on any relevant day on which such measure is scheduled to be published;
- (ii) a relevant Exchange is not open for trading during its regular trading session, or closes prior to its scheduled closing time, on any relevant day or there is a material Exchange Disruption (as determined by the Calculation Agent);
- (iii) upon the occurrence or existence of a Trading Disruption, 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;
- (iv) the net asset value per share of an Underlying ETF is not calculated or is not announced by the Underlying ETF or the sponsor of such Underlying ETF and such event has a material impact on the Index as determined by the Index Sponsor;
- (v) the ETF or the relevant sponsor of any Underlying ETF suspends creations or redemptions of shares of such Underlying ETF and such event has a material impact on the Index as determined by the Index Sponsor;
- (vi) upon the occurrence or existence of an Index Dislocation;
- (vii) upon the occurrence or existence of a Force Majeure Event;
- (viii) 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 consultation with the Index Committee) 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.

“**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 (in consultation with the Index Committee) determines that a market participant, as a result of a market-wide condition relating to the Index or any Underlying Asset 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 Asset, or (ii) incur a materially increased cost in doing so, including due to any capital requirements or other law or regulation.

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 Underlying Asset, or on its ability to perform its role in respect of the Index.

“**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:

- (a) such Notional Interest Rate is not published on a date on which it is scheduled for publication; or
- (b) 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 Assets included in the Index, the Calculation Agent shall postpone calculation of the Index Value to the next Index Business Day on which no Market Disruption Event occurs or is continuing with respect to any Underlying Assets, 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 with respect to any Underlying Asset by using (i) for the weight(s) of each Underlying Asset that had not been affected by such Market Disruption Event, the weight(s) that would have been used as if the Base Index Rebalancing Day occurred on the first Index Business Day on which such Market Disruption Event occurred and the Total Return Index Rebalancing Day and subsequent Total Return Index Rebalancing Day(s) (as applicable) occurred on each Index Business Day on which such Market Disruption Event occurred or was continuing and (ii) for the weight of each Underlying Asset that had been affected by such Market Disruption Event, the weight on the Index Business Day immediately preceding the first day of such Market Disruption Event.

On the sixth Index Business Day following the occurrence of a Market Disruption Event with respect to any Underlying Assets included in the Index, if such Market Disruption Event is continuing and such Underlying Assets 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 for such Underlying Assets 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 in which all Underlying Assets are affected, 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.

Potential Adjustment Events

In the event that an Underlying ETF is affected by a “**potential adjustment event**”, the Calculation Agent may make adjustments to the level of such Underlying ETF and/or the quantities 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.

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.

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.

Revision to Index Values in the Event of Data Error

If the Calculation Agent determines that the price made available for an Underlying ETF with a non-zero weighting in the Index (or the published level of a Notional Interest Rate) reflects a manifest error, the calculation of the Index shall be delayed until such time as a corrected price or level is made available. In the event a corrected price or level is not made available on a timely basis or in the event that the price made available for an Underlying ETF (or the published level of a Notional Interest Rate) is subsequently corrected and such correction is published, then the Calculation Agent may, if practicable and if the Calculation Agent determines acting in good faith that such error is material, adjust or correct the relevant calculation or determination, including the level of the Underlying ETF, as of any Index Business Day to take into account such correction.

On any Index Business Day, or Total Return Index Rebalancing Day, respectively, during which the price for an Underlying ETF reflects such an error (and such error has not been corrected), the Underlying Assets Target Weights, or the Base Index Weight, respectively, will be calculated using the price made available by the relevant Exchange (notwithstanding any manifest error). If the Calculation Agent determines that any such error is material (as described above) and if the relevant Exchange subsequently corrects such price it has made available, the Index Value may be calculated using such corrected price, but the quantities of the Underlying Assets implied by the Underlying Assets Target Weights and the Base Index Weight (prior to the error being corrected) will not be adjusted.

Licensing Information

Goldman, Sachs & Co. is the sole licensing agent for the Index. Questions about licensing the Index can be directed to the individuals listed under “Contact Information” below.

Contact Information

STS Group

gs-sts-all@gs.com

Calculation Agent Website

<http://www.solactive.com/>

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ANNEX

Index Base Date	31 July 2015
Total Return Index Base Date	31 July 2015
Base Index Base Date	29 May 2015
Launch Date	16 May 2016
Index Bloomberg Ticker	GSMBMA5S Index
Index Reuters Ticker	.GSMBMA5S
Asset Inception Date	See asset table below.
Index Business Day	Means a day on which the New York Stock Exchange is open for its regular trading session
Notional Interest Rate	<p>With respect to Notional Interest Rate Reset Dates falling strictly before February 4, 2022, 3-Month USD LIBOR.</p> <p>With respect to Notional Interest Rate Reset Dates falling on or after February 4, 2022, SOFR plus 0.26161%.</p> <p>SOFR will be the Secured Overnight Financing Rate published on the Federal Reserve Bank of New York’s Website at 3:00 p.m. (New York time), as observed two U.S. Government Securities Business Days prior to the relevant Notional Interest Rate Reset Date. A “U.S. Government Securities Business Day” means any day other than a Saturday, a Sunday or a day on which the Securities Industry and Financial Markets Association recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in U.S. government securities.</p> <p>If the rate described above does not so appear, SOFR will be the Secured Overnight Financing Rate as published on the first preceding U.S. Government Securities Business Day on which the Secured Overnight Financing Rate was published on the Federal Reserve Bank of New York’s Website.</p> <p>Notwithstanding the foregoing, if the Calculation Agent determines that a Benchmark Transition Event and its related Benchmark Replacement Date have occurred prior to the Reference Time in respect of any determination of the Benchmark on any date, the</p>

Benchmark Replacement will replace the then-current Benchmark for all purposes in respect of such determination on such date and all determinations on all subsequent dates.

In connection with the implementation of a Benchmark Replacement, the Calculation Agent will have the right to make Benchmark Replacement Conforming Changes from time to time.

Any determination, decision or election that may be made by the Calculation Agent, including any determination with respect to a tenor, rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take or refrain from taking any action or any selection, will be conclusive and binding absent manifest error, may be made in the Calculation Agent's sole discretion, and, notwithstanding anything to the contrary in this Methodology, shall become effective without consent from any other party.

As used herein:

The term "**Benchmark**" means, initially, SOFR; provided that if a Benchmark Transition Event and its related Benchmark Replacement Date have occurred with respect to SOFR or the then-current Benchmark, then "Benchmark" means the applicable Benchmark Replacement.

The term "**Benchmark Replacement**" means the first alternative set forth in the order below that can be determined by the Calculation Agent as of the Benchmark Replacement Date:

- (1) the sum of: (a) the alternate rate of interest that has been selected or recommended by the Relevant Governmental Body as the replacement for the then-current Benchmark and (b) the Benchmark Replacement Adjustment;
- (2) the sum of: (a) the ISDA Fallback Rate and (b) the Benchmark Replacement Adjustment;
- (3) provided that if (i) the Benchmark Replacement cannot be determined in accordance with clause (3) or (4) above as of the Benchmark Replacement Date or (ii) the Calculation Agent shall have determined that the ISDA Fallback Rate determined in accordance with clause (4) above is not an industry-accepted rate of interest as a replacement for the then-current Benchmark for U.S. dollar denominated floating rate debt securities at such time, then the Benchmark Replacement shall be the sum of: (a) the alternate rate of interest that has been selected by the Calculation Agent as the replacement for the then current Benchmark giving

due consideration to any industry accepted rate of interest as a replacement for the then-current Benchmark for U.S. dollar denominated floating rate fixed income instruments at such time and (b) the Benchmark Replacement Adjustment.

The term “**Benchmark Replacement Adjustment**” means the first alternative set forth in the order below that can be determined by the Calculation Agent as of the Benchmark Replacement Date:

- (1) the spread adjustment (which may be a positive or negative value or zero), or method for calculating or determining such spread adjustment, that has been selected or recommended by the Relevant Governmental Body for the applicable Unadjusted Benchmark Replacement;
- (2) if the applicable Unadjusted Benchmark Replacement is equivalent to the ISDA Fallback Rate, then the ISDA Fallback Adjustment;
- (3) the spread adjustment (which may be a positive or negative value or zero) that has been selected by the Calculation Agent giving due consideration to any industry-accepted spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the then-current Benchmark with the applicable Unadjusted Benchmark Replacement for U.S. dollar denominated floating rate fixed income instruments at such time.

The term “**Benchmark Replacement Conforming Changes**” means, with respect to any Benchmark Replacement, any technical, administrative or operational changes (including changes to the definitions of “business day”, timing and frequency of determining rates and other administrative matters) that the Calculation Agent decides may be appropriate to reflect the adoption of such Benchmark Replacement in a manner substantially consistent with market practice (or, if the Calculation Agent decides that adoption of any portion of such market practice is not administratively feasible or if the Calculation Agent determines that no market practice for use of the Benchmark Replacement exists, in such other manner as the Calculation Agent determines is reasonably necessary).

The term “**Benchmark Replacement Date**” means the earliest to occur of the following events with respect to the then-current Benchmark:

- (1) in the case of clause (1) or (2) of the definition of “Benchmark Transition Event,” the later of (a) the date of the public statement or publication of information referenced therein and (b) the date

	<p>on which the administrator of the Benchmark permanently or indefinitely ceases to provide the Benchmark; or</p> <p>(2) in the case of clause (3) of the definition of “Benchmark Transition Event,” the date of the public statement or publication of information referenced therein.</p> <p>For the avoidance of doubt, if the event giving rise to the Benchmark Replacement Date occurs on the same day as, but earlier than, the Reference Time in respect of any determination, the Benchmark Replacement Date will be deemed to have occurred prior to the Reference Time for such determination.</p> <p>For the avoidance of doubt, for purposes of the definitions of Benchmark Replacement Date and Benchmark Transition Event, references to “Benchmark” also include any reference rate underlying such Benchmark.</p> <p>The term “Benchmark Transition Event” means the occurrence of one or more of the following events with respect to the then-current Benchmark:</p> <p>(1) a public statement or publication of information by or on behalf of the administrator of the Benchmark announcing that such administrator has ceased or will cease to provide the Benchmark, permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark;</p> <p>(2) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark, the central bank for the currency of the Benchmark, an insolvency official with jurisdiction over the administrator for the Benchmark, a resolution authority with jurisdiction over the administrator for the Benchmark or a court or an entity with similar insolvency or resolution authority over the administrator for the Benchmark, which states that the administrator of the Benchmark has ceased or will cease to provide the Benchmark permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark; or</p> <p>(3) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark announcing that the Benchmark is no longer representative.</p> <p>The term “Federal Reserve Bank of New York’s Website” means the website of the Federal Reserve Bank of New York at</p>
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<http://www.newyorkfed.org>, or any successor source. We are not incorporating by reference the website or any material it includes in this prospectus.

The term “**ISDA Definitions**” means the 2006 ISDA definitions published by the International Swaps and Derivatives Association, Inc. or any successor thereto, as amended or supplemented from time to time, or any successor definitional booklet for interest rate derivatives published from time to time.

The term “**ISDA Fallback Adjustment**” means the spread adjustment (which may be a positive or negative value or zero) that would apply for derivatives transactions referencing the ISDA Definitions to be determined upon the occurrence of an index cessation event with respect to the Benchmark for the applicable tenor.

The term “**ISDA Fallback Rate**” means the rate that would apply for derivatives transactions referencing the ISDA Definitions to be effective upon the occurrence of an index cessation date with respect to the Benchmark for the applicable tenor excluding the applicable ISDA Fallback Adjustment.

The term “**Reference Time**” with respect to any determination of the Benchmark means (1) if the Benchmark is SOFR, 3:00 p.m. (New York time) on the day that is two U.S. Government Securities Business Days preceding the date of such determination, and (2) if the Benchmark is not SOFR, the time determined by the Calculation Agent in accordance with the Benchmark Replacement Conforming Changes.

The term “**Relevant Governmental Body**” means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York or any successor thereto.

The term “**SOFR**” means the secured overnight financing rate published by the Federal Reserve Bank of New York, as the administrator of the Benchmark (or a successor administrator) on the Federal Reserve Bank of New York’s Website.

The term “**Unadjusted Benchmark Replacement**” means the Benchmark Replacement excluding the Benchmark Replacement Adjustment.

Day Count Convention	Actual/360, meaning the number of days in the relevant period divided by 360.
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OVERVIEW OF UNDERLYING ASSETS

Underlying Asset	Asset Inception Date	Bloomberg Ticker	Reference Level
SPDR S&P 500 ETF Trust	4 September 2007	SPY UP Equity	Closing price as reported on NYSE Arca, or its successor
iShares MSCI Japan ETF	4 September 2007	EWJ UP Equity	Closing price as reported on NYSE Arca, or its successor
iShares MSCI EAFE ETF	4 September 2007	EFA UP Equity	Closing price as reported on NYSE Arca, or its successor
iShares 7-10 Year Treasury Bond ETF	4 September 2007	IEF UQ Equity****	Closing price as reported on NASDAQ GM, or its successor
iShares 20+ Year Treasury Bond ETF	4 September 2007	TLT UQ Equity*	Closing price as reported on NASDAQ GM, or its successor*
iShares iBoxx \$ Investment Grade Corporate Bond ETF	4 September 2007	LQD UP Equity	Closing price as reported on NYSE Arca, or its successor
iShares iBoxx \$ High Yield Corporate Bond ETF	4 September 2007	HYG UP Equity	Closing price as reported on NYSE Arca, or its successor
iShares MSCI Emerging Markets ETF	4 September 2007	EEM UP Equity	Closing price as reported on NYSE Arca, or its successor
iShares Nasdaq Biotechnology ETF	4 September 2007	IBB UQ Equity**	Closing price as reported on NASDAQ GM**, or its successor

Underlying Asset	Asset Inception Date	Bloomberg Ticker	Reference Level
iShares U.S. Real Estate ETF	4 September 2007	IYR UP Equity	Closing price as reported on NYSE Arca, or its successor
iShares US Preferred Stock ETF	4 September 2007	PFF UQ Equity****	Closing price as reported on NASDAQ GM, or its successor
SPDR S&P Oil & Gas Exploration & Production ETF	4 September 2007	XOP UP Equity	Closing price as reported on NYSE Arca, or its successor
SPDR Gold Shares	4 September 2007	GLD UP Equity	Closing price as reported on NYSE Arca, or its successor
iShares TIPS ETF	4 September 2007	TIP UP Equity	Closing price as reported on NYSE Arca, or its successor
Money Market Position	4 September 2007	Not applicable	Determined as described in methodology

* With respect to the iShares 20+ Year Treasury Bond ETF, prior to 3 February 2016, the Bloomberg Ticker was TLT UP Equity and the Reference Level used for the calculation of the Reinvested Level was the closing price as reported on NYSE Arca or its successor.

** With respect to the iShares Nasdaq Biotechnology ETF, prior to 24 September 2008, the Bloomberg Ticker was IBB UP Equity and the Reference Level used for the calculation of the Reinvested Level was the closing price as reported on NYSE Arca or its successor.

*** With respect to the iShares US Preferred Stock ETF, the closing price for the ETF is missing on Bloomberg for 18 September 2007, 2 October 2007, 3 October 2007, 11 October 2007, 12 October 2007, 18 October 2007, 1 November 2007 and 28 November 2007. On these days, the closing price for the ETF will be assumed to be the closing price for that ETF on the immediately preceding Index Business Day. Prior to 2 August 2017, the Bloomberg Ticker was PFF UP Equity and the Reference Level used for the calculation of the Reinvested Level was the closing price as reported on NYSE Arca or its successor.

**** With respect to the iShares 7-10 Year Treasury Bond ETF, prior to 2 August 2017, the Bloomberg Ticker was IEF UP Equity and the Reference Level used for the calculation of the Reinvested 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
Broad-Based Equities	50%	SPDR S&P 500 ETF Trust	20%
		iShares MSCI Japan ETF	10%
		iShares MSCI EAFE ETF	20%
Fixed Income	50%	iShares 7-10 Year Treasury Bond ETF	20%
		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	20%	iShares MSCI Emerging Markets ETF	20%
Alternatives	25%	iShares Nasdaq Biotechnology ETF	10%
		iShares U.S. Real Estate ETF	20%
		iShares US Preferred Stock ETF	10%
Commodities	25%	SPDR S&P Oil & Gas Exploration & Production ETF	20%
		SPDR Gold Shares	20%
Inflation	10%	iShares TIPS ETF	10%
Cash Equivalent	50%	Money Market Position**	50%

*Minimum Asset Class Weight is 0%. Underlying Asset Minimum Weight is 0%.

**As described in the Methodology.