GOLDMAN SACHS MOTIF AGING OF AMERICA DYNAMIC BALANCE INDEX

METHODOLOGY

AUGUST 15, 2018

GOLDMAN SACHS MOTIF AGING OF AMERICA DYNAMIC BALANCE INDEX

Overview

The following overview of the Goldman Sachs Motif Aging of America Dynamic Balance 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 Goldman Sachs Motif Aging of America Dynamic Balance Index and its operation that follows in this document.

The Goldman Sachs Motif Aging of America Dynamic Balance Index (the "**Index**") is comprised of two underlying indices, an equity index (the "**Underlying Equity Index**") and a fixed income index (the "**Underlying Fixed Income Index**") (each an "**Underlying Index"** and together the "**Underlying Indices**"), 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 as described below:

- *US Equity*, through the Motif Capital Aging of America Index
- *US Fixed Income*, through an index comprised of futures contracts on U.S. Treasuries
- *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 the Federal Funds Rate, which is determined as specified in the Annex) *plus* 0.75% 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 cash investment determined as described under "*Calculation of the Money Market Position and Deleverage Position*" below.

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 targets an equal risk allocation to the Underlying Indices (as described under "*Calculation of the Underlying Asset Target Weight*" below), subject to a momentum signal applicable to the Underlying Fixed Income Index (as described under "*Calculation of the Underlying Fixed Income Momentum Signal*" below), with any residual value allocated to the Money Market

Position and any cost of leverage charged at the rate of the Money Market Position. 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 Asset Weight*" below) over a period of 22 Index Business Days, as further described below (the "**Weight Averaging Period**"). The sum of the weights of the two Underlying Indices, and each Underlying Index individually, in the Base Index will be less than or equal to the maximum weight of 150% and the weights for the Money Market Position will be as low as -50% and as high as 100%, subject to rounding conventions. The sum of the weights of all Underlying Assets in the Base Index is equal to 100%, subject to rounding conventions.

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 and as high as 150% for the Underlying Indices and as low as -50% and as high as 100% for the Money Market Position, subject to rounding conventions, are rebalanced daily on each Base Index Rebalancing Day by applying the Methodology algorithm. The sum of the weights of all Underlying Assets in the Base Index is equal to 100%, subject to rounding conventions. 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. 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, intends to target an equal risk allocation to each of the Underlying Indices (as described under "*Calculation of the Underlying Asset Target Weight*" below) subject to a momentum signal applicable to the Underlying Fixed Income Index (as described under "*Calculation of the Underlying Fixed Income Momentum Signal*" 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 Asset Weight*" below). The sum of the weights of all Underlying Indices in the Base Index will be less than or equal to the maximum weight of 150%, subject to rounding conventions.

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 consequently 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), by looking at the Underlying Asset Weights of the Underlying Assets on the given Total Return Index Rebalancing Day.

Notional Interest Rate

The Index is calculated on an excess return basis over the sum of 0.75% per annum (accruing daily) and the return that could be earned on a notional cash deposit at the Notional Interest Rate, compounded daily.

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 Calculation Agent or, in certain cases, 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 non-revenue generating 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:

- the Underlying Index Sponsor of an Underlying Index announces that it will make a material change in the formula for or the method of calculating such Underlying Index (or the selection of the components thereof) or otherwise materially modifies such Underlying Index (or the selection of the components thereof) for the purpose of maintaining such Underlying Index;

- an Underlying Index is no longer published by its Underlying Index Sponsor or is no longer tradable (as determined by the Calculation Agent in consultation with the Index Committee) in light of regulatory or similar requirements;

- any third-party Underlying Index Sponsor of an Underlying Index terminates its license with the Index Sponsor and its affiliates such that neither the Index Sponsor nor any of its affiliates may use the Underlying Index or any related index in connection with any financial product or index;

- the Notional Interest Rate ceases to exist,

then such Underlying Asset or Notional Interest Rate will be replaced by a successor index or rate that, in the determination of the Index Committee in its sole discretion, most closely replicates, in the case of an Underlying Index, the constituents and method of calculation of the Underlying Index, provided that the Index Sponsor has rights to use such index as an Underlying Index, and in other cases, the relevant rate.

The Index Sponsor anticipates that if any of the foregoing events were to occur with respect to the Underlying Equity Index, and subject to judgment of the Index Committee at the time of the event, any such successor index would be constructed using a basket of sector exchange traded funds ("ETFs") and a cash investment denominated in U.S. dollars. Solely by way of illustration, if any of the foregoing events were to happen as of the date of this Methodology document, the sector ETFs selected for the successor index would be a fixed basked of 86% Health Care Select Sector SPDR® Fun (XLV US Equity), 11% iShares U.S. Real Estate ETF (IYR US Equity) and 3% cash investment. This illustration is no indication of how a successor index may be constructed in the future and is not binding on the Index Sponsor or the Index Committee.

Such 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 Fixed Income Momentum Signal

Overview

The momentum signal of the Underlying Fixed Income Index (the "**Underlying Fixed Income Momentum Signal**") is determined on each Base Index Rebalancing Day by applying the Methodology algorithm.

The Underlying Fixed Income Momentum Signal attributed to the Underlying Fixed Income Index pursuant to the Methodology on each Index Business Day is intended to determine the exposure to the Underlying Fixed Income Index based on a momentum signal (as described under "*Calculation of the Underlying Fixed Income Momentum Signal*" below).

Calculation of the Underlying Fixed Income Momentum Signal

For the Underlying Fixed Income Index and for each Look-Back Period (as specified below), the Underlying Fixed Income Momentum Signal of the Underlying Fixed Income Index as of Index Business $\text{Day}_{(t)}$, is calculated according to the following formula:

(a) If $Fixed\_Income\_Return_t > 0$, then $Fixed\_Income\_Momentum\_Signal_t = 1$
(b) If $Fixed\_Income\_Return_t \leq 0$, then $Fixed\_Income\_Momentum\_Signal_t = 0$

Where:
Subscript $_{(t)}$ refers to the relevant Index Business Day;
Fixed_Income_Return$_t$ is the Annualized Fixed Income Return, during the relevant Look-Back Period, of the Underlying Fixed Income Index on calendar date$_{(t)}$;
$Fixed\_Income\_Momentum\_Signal_t$ is the Underlying Fixed Income Momentum Signal of the Underlying Fixed Income Index on calendar date$_{(t)}$, for the relevant Look-Back Period.

Calculation of the Annualized Fixed Income Return

The Annualized Fixed Income Return of the Underlying Fixed Income Index as of Index Business Day$_{(t)}$, during the relevant Look-Back Period, is calculated according to the following formula:

$$Fixed\_Income\_Return_t = \frac{252}{N_t} \times \sum_s \ln\left(\frac{A_{s+1}}{A_s}\right)$$

Where:
Subscript $_{(t)}$ refers to the relevant Index Business Day;
Subscript $_{(s)}$ refers to each Index Business Day within the relevant Look-Back Period;
Fixed_Income_Return$_t$ is the Annualized Fixed Income Return, during the relevant Look-Back Period, of the Underlying Fixed Income Index on Index Business Day$_{(t)}$;
N_t is the actual number of Index Business Days within the relevant Look-Back Period;
A_s is the Underlying Asset Value for the Underlying Fixed Income Index on Index Business Day$_{(s)}$; and
A_{s+1} is the Underlying Asset Value for the Underlying Fixed Income Index on the Index Business Day immediately following Index Business Day$_{(s)}$.

Underlying Asset Weight, Base Index Rebalancing and Total Return Index Rebalancing

Overview

The respective target weights of the Underlying Assets (each an "**Underlying Asset Target Weight**"), which can be as low as zero and as high as 150% for the Underlying Indices and as low as -50% and as high as 100% for the Money Market Position, subject to rounding conventions, are determined on each Index Business Day, by applying the Methodology algorithm. The sum of the target weights of all Underlying Assets in the Base Index is equal to 100. The weights of the Underlying Assets (each an "**Underlying Asset Weight**") 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 each Underlying Asset Target Weight over the Weight Averaging Period. The sum of the weights of all Underlying Indices in the Base Index will be less than or equal to the maximum weight of 150% (the "**Maximum Weight**"), subject to rounding conventions.

The target weight attributed to each Underlying Asset pursuant to the Methodology on each Index Business Day is intended to target an equal risk allocation to the Underlying Indices, subject to the constraints included in the Methodology.

For each Look-Back Period (as specified below), the Methodology algorithm seeks to target an equal risk allocation to the Underlying Indices by targeting a volatility target of 5% (the "**Volatility Target**") for the Underlying Indices. The Methodology sets for each Underlying Index a minimum Underlying Asset Target Weight of 0% and a maximum Underlying Asset Target Weight of 150% (the "**Maximum Target Weight**") and sets for the Money Market Position a minimum Underlying Asset Target Weight of -50% and a maximum Underlying Asset Target Weight of 100%, subject to rounding conventions. The sum of the Underlying Asset Target Weights of all Underlying Assets in the Base Index is always equal to 100%Among other things, this requires the Calculation Agent to calculate the Underlying Index Unscaled Target Weight and the Annualized Index Realized Volatility for each relevant Look-Back Period.

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.

Calculation of the Underlying Index Unscaled Target Weight

For each Underlying Index, and for each Look-Back Period (as specified below), the Underlying Index Unscaled Target Weight of the Underlying Index$_{(i)}$ as of Index Business Day$_{(t)}$, is calculated according to the following formula:

(i) For the Underlying Equity Index

$$w_{i,t}^{Unscaled\_Target} = \min\left(Maximum\_Target\_Weight, \frac{Volatility\_Target}{Index\_Realized\_Volatility_{i,t}}\right)$$

(ii) For the Underlying Fixed Income Index

$$w_{i,t}^{Unscaled\_Target} = \min\left(Maximum\_Target\_Weight, \frac{Volatility\_Target}{Index\_Realized\_Volatility_{i,t}}\right) \times Fixed\_Income\_Momentum\_Signal_{i,t}$$

Where:
Subscript $_{(t)}$ refers to the relevant Index Business Day;
Subscript $_{(i)}$ refers to the relevant Underlying Index;
$w_{i,t}^{Unscaled\_Target}$ is the Underlying Index Unscaled Target Weight$_{(i)}$ of the Underlying Index$_{(i)}$ on calendar date$_{(t)}$;
$Maximum\_Target\_Weight$ is the Maximum Target Weight;

$Volatility\_Target$ is the Volatility Target;
$Index\_Realized\_Volatility_{i,t}$ is the Annualized Index Realized Volatility of the Underlying Index$_{(i)}$ as the Index Business Day$_{(t)}$, during the relevant Look-Back Period;
$Fixed\_Income\_Momentum\_Signal_{i,t}$ is the Underlying Fixed Income Momentum Signal$_{(i)}$ on calendar date$_{(t)}$, during the relevant Look-Back Period.

Calculation of the Underlying Asset Target Weight for the Underlying Indices

For each Look-Back Period (as specified below), the Underlying Asset Target Weight of the Underlying Index$_{(i)}$ as of Index Business Day$_{(t)}$, is calculated according to the following formula:

$$w_{i,t}^{Target} = w_{i,t}^{Unscaled\_Target} \times \frac{\min\left(MaximumWeight, \sum_{j=1}^{n} w_{j,t}^{Unscaled\_Target}\right)}{\sum_{j=1}^{n} w_{j,t}^{Unscaled\_Target}}$$

Where:
Subscript (t) refers to the relevant Index Business Day;
Subscript (i) refers to the relevant Underlying Index;
Subscript (j) refers to the relevant Underlying Index;
$w_{i,t}^{Target}$ is the Underlying Asset Target Weight$_{(i)}$ on calendar date$_{(t)}$;
$w_{i,t}^{Unscaled\_Target}$ is the Underlying Index Unscaled Target Weight$_{(i)}$ of Underlying Index$_{(i)}$ on calendar date$_{(t)}$;
$w_{j,t}^{Unscaled\_Target}$ is the Underlying Index Unscaled Target Weight$_{(j)}$ of Underlying Index$_{(j)}$ on calendar date$_{(t)}$;
n is the number of Underlying Indices (2);
$MaximumWeight$ is the Maximum Weight.

Note that there are three Look-Back Periods:

(i) a long-term period defined using the longest Look-Back Period (i.e. approximately nine months and as further specified below)

(ii) a medium-term period defined using the intermediate Look-Back Period (i.e. approximately six months and as further specified below)

(iii) a short-term period defined using the shortest Look-Back Period (i.e. approximately three month and as further specified below)

The Underlying Asset Target Weight for an Underlying Index will be equal to the average of the target weights for that Underlying Index determined in respect of each of the Look-Back Periods.

The "**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 second 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 (and including) the third Index Business Day prior to the given Index Business Day.

Calculation of the Annualized Index Realized Volatility

The Annualized Index Realized Volatility of the Underlying Index$_{(i)}$ as of Index Business Day$_{(t)}$, during the relevant Look-Back Period, is calculated according to the following formula:

$$Index\_Realized\_Volatility_{i,t} = \sqrt{\frac{252}{N_t} \times \sum_{s} \left[\ln\left(\frac{A_{i,s+1}}{A_{i,s}}\right)\right]^2}$$

Where:

$Index\_Realized\_Volatility_{i,t}$ is the Annualized Index Realized Volatility of the Underlying Index$_{(i)}$ on Index Business Day$_{(s)}$;

Subscript $_{(i)}$ refers to the relevant Underlying Index;

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

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

N_t is the actual number of Index Business Days within the relevant Look-Back Period;

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

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

Calculation of the Underlying Asset Target Weight for the Money Market Position

The Underlying Asset Target Weight of the Money Market Position as of Index Business Day$_{(t)}$, is calculated according to the following formula:

$$w_{MoneyMarket,t}^{Target} = 1 - w_{FixedIncome,t}^{Target} - w_{Equity,t}^{Target}$$

Where:

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

$w_{MoneyMarket,t}^{Target}$ refers to the Underlying Asset Target Weight of the Money Market Position as of Index Business Day$_{(t)}$;

$w_{FixedIncome,t}^{Target}$ is the Underlying Asset Target Weight for the Underlying Fixed Income Index on calendar date$_{(t)}$;

$w_{Equity,t}^{Target}$ is the Underlying Asset Target Weight for the Underlying Equity Index on calendar date$_{(t)}$.

Calculation of the Underlying Asset Weight

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 (i) refers to the relevant Underlying Asset;
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 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$_{(t)}$;
$w_{i,s}^{Target}$ 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 prior to the given Base Index Rebalancing Day to (and including) the given Base Index Rebalancing Day.

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:

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

Where:

Subscript (i) refers to the relevant Underlying Asset;
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$_{(t)}$;
$I_{i,t}$ 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 $Day_{(t)}$.

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 consequently 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 5% (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 by looking at the Underlying Asset Weights of the Underlying Assets on the given 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:

$$Base\_Index\_Realized\_Volatility_{TRRt} = \sqrt{\sum_{i,j=1}^{n} w_{i,TRRt} \times w_{j,TRRt} \times AssetCovariance_{i,j,TRRt}}$$

Where:

Subscript (i) refers to the relevant Underlying Asset$_{(i)}$;
Subscript (j) refers to the relevant Underlying Asset$_{(j)}$;
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;
n is the number of Underlying Assets (3);
$w_{i,TRRt}$ is the Underlying Asset Weight of the Underlying Asset$_{(i)}$ on calendar date$_{(TRRt)}$;
$w_{j,TRRt}$ is the Underlying Asset Weight of the Underlying Asset$_{(j)}$ on calendar date$_{(TRRt)}$;

AssetCovariance$_{i,j,TRRt}$ is the Annualized Asset Co-Variance between Underlying Asset$_{(i)}$ and Underlying Asset$_{(j)}$ during the relevant Volatility Cap Period, and is calculated according to the following formula:

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

Where:

Subscript (i) refers to the relevant Underlying Asset$_{(i)}$;
Subscript (j) refers to the relevant Underlying Asset$_{(j)}$;
Subscript$_{(s)}$ refers to each Index Business Day within the relevant Volatility Cap Period;
Subscript$_{(TRRt)}$ refers to the given Total Return Index Rebalancing Day;
N_{TRRt} is the actual number of Index Business Days within the relevant Volatility Cap 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$_{(s)}$; and
$A_{j,s+1}$ is the Underlying Asset Value$_{(j)}$ on the Index Business Day immediately following Index Business Day$_{(s)}$.

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 Index Business Day 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 0.75% per annum (accruing daily);
DCF$_{IRt,t}$ is the day count fraction for the period from (but excluding) date$_{(IRt)}$ 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.

If the Index Value falls to or below zero on any given Index Business Day, then the Index Value shall be zero on all following Index Business Days.

Calculation of the Total Return Index Value

The Total Return Index Value on the Total Return Index Base Date is equal to 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:

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

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^B_{TRRt} means the Base Index Weight as of date$_{(TTRt)}$ and calculated according to the following formula:

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

Where:

$VolatilityCap$ means 5%; and
$Base\_Index\_Realized\_Volatility_{TRRt}$ means the Annualized Base Index Realized Volatility as of date$_{(TRRt)}$.

Calculation of the Base Index Value

The Base Index Value on the Base Index Base Date is equal to 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 $_{(i)}$ refers to the relevant Underlying Asset$_{(i)}$;
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$_{(BRt)}$;
n is the number of Underlying Assets (3);
$A_{i,t}$ 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 Money Market Position and Deleverage Position

Overview

Both the Money Market Position (for purposes of the Base Index) and the Deleverage Position (for purposes of any incremental cash position reflected in the Total Return Index after applying the volatility control) are 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 (Federal Funds Rate, determined as specified in the Annex). The Money Market Position and Deleverage Position will have a positive notional return if the Notional Interest Rate is positive.

Calculation of the Money Market Position Value and Deleverage Position Value

The value of each of the Money Market Position (the "**Money Market Position Value**") and the Deleverage Position (the "**Deleverage 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, each of the Money Market Position Value and Deleverage Position will be calculated according to the following formula:

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

Where:

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$_{(t)}$;
DP_t means the Deleverage 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 (including cases where a member of the Goldman Sachs Group is the Underlying Index Sponsor of an Underlying Index);

(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) upon the occurrence or existence of an Index Dislocation;

(v) upon the occurrence or existence of a Force Majeure Event;

(vi) 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, and whether by reason of movements in price exceeding limits permitted by the relevant reference exchange or otherwise, relating to any component of such Underlying 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, materially increases the costs of transacting in, or obtain market values for, any Underlying Index or its underlying constituents on the relevant Exchange.

"**Exchange**" means the relevant exchanges on which the components of the Underlying Index are traded as set forth in the Annex.

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 the sixth Nominal 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.

Revision to Index Values in the Event of Data Error

If the Calculation Agent determines that the price made available for an Underlying Index 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 Index (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 Index, 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 Index 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 email listed under "Contact Information" below.

Contact Information

STS Group

gs-sts-ss@gs.com

Calculation Agent Website

http://www.solactive.com/

Disclaimers

Trademarks: The "Goldman Sachs Motif Aging of America Dynamic Balance Index" is a trademark of Goldman, Sachs & Co.

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.

The value of the Index at any given 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.

Past performance of the Index and the Underlying Assets is no guide to future performance of the Index. Even in an environment where the Underlying Assets achieve overall returns comparable to their historical returns, the actual performance of the Index will be highly path-dependent and may bear little relation to the historical performance of the Index due to, among other factors, the Index's volatility control and momentum signal features. Furthermore, due to the Index's volatility control feature, investments linked to the Index may not benefit from increases in an Underlying Index to the extent such increases were preceded by increased volatility in, and consequent lower weightings assigned to, the Underlying Index.

The volatility control strategy underlying the Index may differ fundamentally from other volatility control strategies. In particular, the Index does not directly seek to maximize returns subject to a volatility constraint, but instead uses volatility as the primary determinant of weightings among the Underlying Assets without regard to Underlying Asset returns (other than to the limited and incidental extent reflected in the momentum signal adjustment). The weightings for the Equity Index and, subject to a momentum signal adjustment, the Fixed Income Index independently seek to achieve the same target volatility, and are ratably reduced to achieve overall target volatility levels. This may result in a lower-volatility (and possibly lower-yielding) asset being significantly more heavily weighted than a higher-volatility (and possibly higher-yielding) asset, even if the overall volatility targets could be achieved by weighting the Index allocation entirely to the higher-volatility (and possibly higher-yielding) asset.

The Index may fail to achieve its volatility target. The Index's volatility control feature relies on historical realized volatility, and not on implied market volatility, active management or any other mechanism. The volatility control feature is subject to various limitations, including an extended look-back period that may limit the Index's responsiveness to changing volatility conditions and minimum and maximum weight constraints among the Underlying Assets. As a result, if there is a rapid decline or increase in the Underlying Assets, the Index may not rebalance into the Deleverage Position quickly enough, or with sufficient weighting, to achieve its Volatility Target. Similarly, if there is an elevated level of volatility that does not persist over time, the Index may over-allocate to the Deleverage Position and fail to achieve its volatility target, which may also reduce returns on an investment linked to the Index.

The Index measures the performance of the Total Return Index, which includes the Base Index and, in certain circumstances, the Deleverage Position, less the sum of the return on the Notional Interest Rate plus 0.75% per annum (accruing daily). Increases in the level of the Notional Interest Rate may offset in whole or in part increases in the levels of the Total Return Index. As a result, any return on the Index — and thus on an investment linked to the Index — may be reduced or eliminated.

The Index includes only three potential Underlying Assets (the Underlying Equity Index, the Underlying Fixed Income Index and the Money Market Position), and potential exposure to the Deleverage Position, and may be subject to significant concentration risk. As a result of the Index's target volatility control mechanism, the exposure of the Index at any time could be concentrated in only one Underlying Asset. Furthermore, an investment linked to the Index may be subject to concentration risk within a particular Underlying Index, such as industry concentration in healthcare for the Underlying Equity Index. Index concentration could occur because of the limited number of Underlying Assets, the inherent industry concentrations associated with thematic investment in aging (which may

disproportionately focus on healthcare, real estate, pharmaceuticals, assisted-living facilities, etc.) or the geographic focus of the Index (exclusively U.S. equities, fixed income and money markets). In addition, the components of the Underlying Assets may exhibit correlated performance characteristics and offer limited diversification benefits within any Underlying Asset or the Index itself.

The Underlying Equity Index may not successfully capture exposure to products and services used by senior citizens or benefit from the long-term demographic shift towards an older population in the United States.

The respective weights of the Underlying Assets are rebalanced periodically within the Index by applying an algorithm operating within pre-determined rules.

The Index is subject to leverage as the weighting of each Underlying Index may be as much as 150% (subject to a maximum combined weighting of the Underlying Indices of 150%). This means that the Index may have increased exposure to changes, which may be positive or negative, in the value of the Underlying Equity Index, the Underlying Fixed Income Index or both, potentially magnifying the volatility and risk of loss should the level of the Underlying Indices change. In addition, the Index will reflect a cost of funds at the Notional Interest Rate to the extent the weights assigned to the Underlying Indices reflect a leveraged position in excess of 100%.

The Index has only been calculated since the Launch Date and as such there is no historical performance data available in respect of it prior to that time. Additionally, there may be only limited historical performance data with respect to certain Underlying Assets. As a result, any investment the return of which is linked to the Index or such Underlying Assets may involve greater risk than an exposure linked to indices or strategies with a longer term track record.

The Index, including the Base Index and the Total Return Index, launched on the Launch Date. Each of the Underlying Assets also has a launch date that is different from the Asset Inception Date shown below. 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 Indices 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.

Goldman Sachs International, an affiliate of the Index Sponsor, is the sponsor of the Underlying Fixed Income Index. In that capacity, it has the power to make determinations that could materially affect the value of the Underlying Fixed Income Index and, in turn, the Index Value.

The Goldman Sachs Group, Inc., the Index Sponsor's parent company, owns a non-controlling interest in Motif Investing Inc., the ultimate parent company of the Underlying Equity Index sponsor.

Goldman Sachs Group is a full service financial services firm engaged in a range of market activities. Goldman Sachs 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, or any of the Underlying Indices 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.

With respect to the Underlying Equity Index (which is not sponsored by any controlled member of the Goldman Sachs Group), the Index methodology relies on information from the third-party sponsor of the Underlying Equity Index or its calculation agents and other public sources.

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 the Underlying Assets, which can be found using the links indicated therefor under Additional Information of the "Overview of Underlying Assets." However, Goldman Sachs 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 the Index.

The Underlying Fixed Income Index is composed of futures contracts rather than securities. Futures markets occasionally experience disruptions in trading (including temporary distortions or other disruptions due to various factors, such as the participation of speculators and governmental regulation and intervention). 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 Fixed Income Index or the manner in which it is calculated.

Futures contracts normally specify a certain date for settlement of a financial future (such as a futures contract on a securities index). As the exchange-traded futures contracts that comprise the Underlying Fixed Income Index 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 the Underlying Fixed Income Index to decrease significantly over time even when the relevant securities are stable or increasing. It is also possible, when the relevant securities prices are decreasing, for the value of the Underlying Fixed Income Index to decrease significantly over time.

No Advice or Recommendation: Neither Goldman, Sachs & Co. nor any of its affiliates makes any representation or warranty, express or implied, or accept any liability or responsibility (except in the case of fraud) to the owner of any products linked to the Index or any member of the public regarding (i) the advisability of investing in securities generally, in the Index or in the Underlying Indices or (ii) the ability of the Index to generate positive results. If you consider acquiring any product linked to the Index you should consult your own accounting, tax, investment and legal advisors before doing so. Goldman, Sachs & Co. does not act as an advisor or fiduciary.

Calculation of the Underlying Indices: The level of certain Underlying Indices is calculated and published by third parties and not Goldman, Sachs & Co. or any of its affiliates. Goldman, Sachs & Co. and its affiliates disclaim all liability for any errors committed by, or omissions or delays on the part of, any third party in calculating or publishing the level of any Underlying Indices.

Strategies Not Designed by Reference to Individual Needs: The Index is structured by Goldman, Sachs & Co. and determined and calculated by the Calculation Agent without regard to any products linked to it. Goldman, Sachs & Co. does not have any obligation to take the needs of any person into consideration in structuring the Index or revising its methodology, and the Calculation Agent does not have any obligation to take the needs of any person into consideration in determining and calculating the Index.

Disclaimer and Exclusion of Liability: Neither Goldman, Sachs & Co. nor any of its affiliates guarantees the quality, accuracy and/or the completeness of the Index or any data included therein or on which the Index is based, and neither Goldman, Sachs & Co. nor any of its affiliates shall be liable to any third party for any loss or damage, direct, indirect or consequential, arising from (i) any inaccuracy or incompleteness in, or delays, interruptions, errors or omissions in the Index or any data included therein or on which the Index is based or (ii) any decision made or action taken by any third party in reliance upon the Index or any data included therein or on which the Index is based.

Neither Goldman, Sachs & Co. nor any of its affiliates makes any recommendation, representation or warranty, express or implied, as to the results to be obtained by the holders of any products linked to the Index or by any other person or entity from the use of the Index or any data on which it is based.

Neither Goldman, Sachs & Co. nor any of its affiliates makes any express or implied representation or warranty, and Goldman, Sachs & Co. and its affiliates hereby expressly disclaim all representations and warranties, of merchantability or fitness for a particular purpose or use with respect to the Index or any data included therein or on which the Index is based.

Without limiting any of the foregoing, in no event shall Goldman, Sachs & Co. or any of its affiliates have any liability for any special, punitive, indirect, or consequential damages (including lost profits), even if notified of the possibility of such damages.

Nothing in this document excludes any liability for, or remedy in respect of, fraudulent misrepresentation.

Brands referred to herein which are not owned by Goldman Sachs are brands of their respective owners.

ANNEX

Index Base Date	31 July 2017
Total Return Index Base Date	31 July 2017
Base Index Base Date	31 May 2017
Launch Date	15 August 2018
Index Bloomberg Ticker	GSMOAADB Index
Index Reuters Ticker	.GSMOAADB
Asset Inception Date	See asset table below.
Nominal Index Business Day	Each day on which the New York Stock Exchange and the Chicago Board of Trade are open for their regular trading session and such day is not denoted as "Recommended Close" or as "Recommended Early Close" for the U.S. by the Securities Industry and Financial Markets Association on http://www.sifma.org/Services/Holiday-Schedule/ (or any successor page)
Index Business Day	Each day which is a Nominal Index Business Day and on which no Market Disruption Event occurs or is continuing with respect to any Underlying Asset.
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 which is not a scheduled publication day for the Notional Interest Rate, the Calculation Agent will use for such calendar day the Notional Interest Rate for the scheduled publication day immediately preceding such calendar day. If the Index Committee determines that USD-FEDERAL-FUNDS-H15 has been discontinued, then the Index Committee shall replace USD-FEDERAL-FUNDS-H15 with a substitute or successor rate that it has determined in its sole discretion is most comparable to USD-FEDERAL-FUNDS-H15, provided that if the Index Committee determines there is an industry accepted successor rate,

	then the Index Committee shall use such successor rate. If the Index Committee has determined a substitute or successor rate in accordance with the foregoing, the Index Committee in its sole discretion may determine an alternative to New York business day, USD Federal Funds interest determination date and Notional Interest Rate Reset Date to be used and any other relevant methodology for calculating such substitute or successor rate, including any adjustment factor needed to make such substitute or successor rate comparable to USD-FEDERAL-FUNDS-H15, in a manner that is consistent with industry-accepted practices for such substitute or successor rate.
Notional Interest Rate Reset Date	Each day which is a New York business day
Day Count Convention	Actual/360, meaning the number of calendar days in the relevant period divided by 360.

OVERVIEW OF UNDERLYING ASSETS

Underlying Asset	Underlying Asset Name	Asset Inception Date	Bloomberg Ticker	Exchange(s)	Reference Level	Underlying Index Sponsor	Additional Information
Underlying Equity Index	Motif Capital Aging of America Index	01 June 2016	MCAOI Index	As defined in the methodology documentation for the Motif Capital Aging of America Index	The closing level as published by Solactive, the index's calculation agent, or as reported by a third party vendor	Motif Capital Management, Inc.	https://www.solactive.com/wp-content/uploads/2018/08/guideline.docx
Underlying Fixed Income Index	US Government Bond Futures Rolling Strategy Index	01 June 2016	FRSIUSB Index	Chicago Board of Trade	The closing level as published by S&P, the index's calculation agent, or as reported by a third party vendor	Goldman Sachs International	http://www.goldmansachs.com/index-methodologies
Money Market Position	Money Market Position	01 June 2016	N/A	N/A	Money Market Position Value (as defined in the Methodology)	N/A	N/A