GOLDMAN SACHS GROUP INC
Form 424B2
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Registration Statement No. 333-219206

GS Finance Corp.
$264,000
Autocallable Motif Capital Aging of America 7 ER Index-Linked Notes due 2026
guaranteed by
The Goldman Sachs Group, Inc.

The notes do not bear interest. Unless your notes are automatically called on any annual call observation date, the amount that you will be paid on your notes on the stated maturity date (January 28, 2026) will be based on the performance of the Motif Capital Aging of America 7 ER Index as measured from the trade date (January 11, 2019) to and including the determination date (January 13, 2026). If the final level on the determination date is greater than the initial level of 116.12, the return on your notes will be the index return (the percentage increase or decrease in the final level from the initial level) times 2. If the final level is equal to or less than the initial level, you will receive the face amount of your notes at maturity.

Your notes will be automatically called if the closing level of the index on any call observation date (specified on page S-3) is greater than or equal to the applicable call level (specified on page S-3), resulting in a payment on the corresponding call payment date (the tenth business day after the call observation date) equal to the face amount of your notes plus the product of $1,000 times the applicable call return (specified on page S-3).

The index tracks the U.S. exchange-listed common equity securities of companies that may benefit from the long-term demographic shift towards an older population in the U.S. because they have revenues from developing therapies for medical conditions that disproportionately affect senior citizens (i.e., cancer, heart disease, diabetes, arthritis, kidney disease, chronic obstructive pulmonary disease and hearing loss) or providing senior housing facilities or Medicare insurance. To be included in the index, a company must have a specific sector classification and must meet certain minimum market capitalization, revenue, price, average daily trading volume and historical information thresholds.

The index measures the extent to which (a) the stocks and any money market position outperform (b) 3-month USD LIBOR plus 0.75% per annum (accruing daily). If the index fails to outperform 3-month USD LIBOR plus 0.75% per annum (accruing daily) you will receive no return on your investment. LIBOR is being modified, see page S-18.

The index rebalances annually and the weights of the stocks are based on the percentage of each stock's revenue derived from the above-referenced therapies and services, subject to a minimum weight constraint (0.1% of the index) and a maximum weight constraint (10% or less of the index).

However, with respect to each index business day the realized volatility of the stocks for a 20 index business day look-back period is calculated and, if it exceeds 7%, the index will be rebalanced for that day by ratably reallocating all or a portion of the exposure to the stocks in the index to the money market position sufficient to reduce the realized volatility for such period to 7%. Realized volatility is the degree of variation in the daily closing prices of the aggregate of the stocks included in the index during the applicable 20 index business day look-back period.

The money market position reflects the returns accruing on a hypothetical cash investment in a notional money market account denominated in U.S. dollars that accrues interest at the notional interest rate, which is equal to 3-month USD LIBOR. The index may allocate its entire exposure to the money market position, the return on which will always be less than the sum of the return on 3-month USD LIBOR plus 0.75% per annum (accruing daily).

The greater the percentage of the index allocated to the money market position, the higher the return that will be required on the stocks in order to have a return on your investment. Historically, a very significant portion (up to approximately 90%) of the index consistently has been allocated to the money market position.

If your notes are not automatically called, at maturity, for each $1,000 face amount of your notes you will receive an amount in cash equal to:

if the index return is positive (the final level is greater than the initial level), the sum of (i) $1,000 plus (ii) the product of (a) $1,000 times (b) 2 times (c) the index return; or

· if the index return is zero or negative (the final level is equal to or less than the initial level), $1,000.

You should read the disclosure herein to better understand the terms and risks of your investment, including the credit risk of GS Finance Corp. and The Goldman Sachs Group, Inc. See page S-10.

The estimated value of your notes at the time the terms of your notes are set on the trade date is equal to approximately $906 per $1,000 face amount. For a discussion of the estimated value and the price at which Goldman Sachs & Co. LLC would initially buy or sell your notes, if it makes a market in the notes, see the following page.

Original issue date:	January 16, 2019	Original issue price:	100% of the face amount
Underwriting discount:	4.8% of the face amount	Net proceeds to the issuer:	95.2% of the face amount

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense. The notes are not bank deposits and are not insured by the Federal Deposit Insurance Corporation or any other governmental agency, nor are they obligations of, or guaranteed by, a bank.

Goldman Sachs & Co. LLC

Prospectus Supplement No. 4,911 dated January 11, 2019.

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The issue price, underwriting discount and net proceeds listed above relate to the notes we sell initially. We may decide to sell additional notes after the date of this prospectus supplement, at issue prices and with underwriting discounts and net proceeds that differ from the amounts set forth above. The return (whether positive or negative) on your investment in notes will depend in part on the issue price you pay for such notes.

GS Finance Corp. may use this prospectus in the initial sale of the notes. In addition, Goldman Sachs & Co. LLC or any other affiliate of GS Finance Corp. may use this prospectus in a market-making transaction in a note after its initial sale. Unless GS Finance Corp. or its agent informs the purchaser otherwise in the confirmation of sale, this prospectus is being used in a market-making transaction.

Estimated Value of Your Notes

The estimated value of your notes at the time the terms of your notes are set on the trade date (as determined by reference to pricing models used by Goldman Sachs & Co. LLC (GS&Co.) and taking into account our credit spreads) is equal to approximately $906 per $1,000 face amount, which is less than the original issue price. The value of your notes at any time will reflect many factors and cannot be predicted; however, the price (not including GS&Co.'s customary bid and ask spreads) at which GS&Co. would initially buy or sell notes (if it makes a market, which it is not obligated to do) and the value that GS&Co. will initially use for account statements and otherwise is equal to approximately the estimated value of your notes at the time of pricing, plus an additional amount (initially equal to $50 per $1,000 face amount).

Prior to January 28, 2020, the price (not including GS&Co.'s customary bid and ask spreads) at which GS&Co. would buy or sell your notes (if it makes a market, which it is not obligated to do) will equal approximately the sum of (a) the then-current estimated value of your notes (as determined by reference to GS&Co.'s pricing models) plus (b) any remaining additional amount (the additional amount will decline to zero on a straight-line basis from the time of pricing through January 27, 2020). On and after January 28, 2020, the price (not including GS&Co.'s customary bid and ask spreads) at which GS&Co. would buy or sell your notes (if it makes a market) will equal approximately the then-current estimated value of your notes determined by reference to such pricing models.

About Your Prospectus

The notes are part of the Medium-Term Notes, Series E program of GS Finance Corp. and are fully and unconditionally guaranteed by The Goldman Sachs Group, Inc. This prospectus includes this prospectus supplement and the accompanying documents listed below. This prospectus supplement constitutes a supplement to the documents listed below, does not set forth all the terms of your notes and therefore should be read in conjunction with such documents:

- Prospectus supplement dated July 10, 2017
- Prospectus dated July 10, 2017

The information in this prospectus supplement supersedes any conflicting information in the documents listed above. In addition, some of the terms or features described in the listed documents may not apply to your notes.

We refer to the notes we are offering by this prospectus supplement as the "offered notes" or the "notes". Each of the offered notes has the terms described below. Please note that in this prospectus supplement, references to "GS Finance Corp.", "we", "our" and "us" mean only GS Finance Corp. and do not include its subsidiaries or affiliates, references to "The Goldman Sachs Group, Inc.", our parent company, mean only The Goldman Sachs Group, Inc. and do not include its subsidiaries or affiliates and references to "Goldman Sachs" mean The Goldman Sachs Group, Inc. together with its consolidated subsidiaries and affiliates, including us. The notes will be issued under the senior debt indenture, dated as of October 10, 2008, as supplemented by the First Supplemental Indenture, dated as of February 20, 2015, each among us, as issuer, The Goldman Sachs Group, Inc., as guarantor, and The Bank of New York Mellon, as trustee. This indenture, as so supplemented and as further supplemented thereafter, is referred to as the "GSFC 2008 indenture" in the accompanying prospectus supplement. The notes will be issued in book-entry form and represented by a master global note.

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TERMS AND CONDITIONS

(Terms From Prospectus Supplement No. 4,911 Incorporated Into Master Note No. 2)

These terms and conditions relate to prospectus supplement no. 4,911 dated January 11, 2019 of GS Finance Corp. and The Goldman Sachs Group, Inc. with respect to the issuance by GS Finance Corp. of its Autocallable Motif Capital Aging of America 7 ER Index-Linked Notes due 2026 and the guarantee thereof by The Goldman Sachs Group, Inc.

The provisions below are hereby incorporated into master note no. 2, dated August 22, 2018. References herein to "this note" shall be deemed to refer to "this security" in such master note no. 2, dated August 22, 2018. Certain defined terms may not be capitalized in these terms and conditions even if they are capitalized in master note no. 2, dated August 22, 2018. Defined terms that are not defined in these terms and conditions shall have the meanings indicated in such master note no. 2, dated August 22, 2018, unless the context otherwise requires.

CUSIP / ISIN: 40056ENP9 / US40056ENP96

Company (Issuer): GS Finance Corp.

Guarantor: The Goldman Sachs Group, Inc.

Index: Motif Capital Aging of America 7 ER Index (current Bloomberg symbol: "MCAER Index"), or any successor index, as it may be modified, replaced or adjusted from time to time as provided herein

Face amount: $264,000 in the aggregate on the original issue date; the aggregate face amount may be increased if the company, at its sole option, decides to sell an additional amount on a date subsequent to the trade date.

Authorized denominations: $1,000 or any integral multiple of $1,000 in excess thereof

Principal amount: Subject to redemption by the company as provided under "— Company's redemption right (automatic call feature)" below, on the stated maturity date, the company will pay, for each $1,000 of the outstanding face amount, an amount in cash equal to the cash settlement amount

Cash settlement amount:

- if the index return is positive, the sum of (i) $1,000 plus (ii) the product of (a) $1,000 times (b) the upside participation rate times (c) the index return; or
- if the index return is zero or negative, $1,000.

Initial index level: 116.12

Final index level: the closing level of the index on the determination date, subject to adjustment as provided in "— Consequences of a non-trading day" and "— Discontinuance or modification of the index" below

Index return: the quotient of (i) the final index level minus the initial index level divided by (ii) the initial index level, expressed as a positive or negative percentage

Upside participation rate: 200%

Company's redemption right (automatic call feature): If a redemption event occurs, then the outstanding face amount will be automatically redeemed in whole and the company will pay an amount in cash on the following call payment date for each $1,000 of the outstanding face amount equal to the sum of (i) $1,000 plus (ii) the product of $1,000 times the applicable call return specified under "Call observation dates" below.

Redemption event: a redemption event will occur if, as measured on any call observation date, the closing level of the index is greater than or equal to the applicable call level set forth below under "— Call observation dates"

Call level: with respect to any call observation date, the applicable call level specified in the table set forth under "Call observation dates" below; as shown in such table, the call level increases the longer the notes are outstanding

Call return: with respect to any call payment date, the applicable call return specified in the table set forth under "Call observation dates" below; as shown in such table, the call return increases the longer the notes are outstanding

Call payment dates: the call payment dates are the tenth business day after each call observation date. If a call observation date is postponed as described under "— Call observation dates" below, such postponement of the call observation date will not postpone the related call payment date.

Call observation dates: the dates specified as such in the table below, commencing January 2020 and ending January 2025, unless the note calculation agent determines that such day is not a trading day. In that event, the applicable call observation date will be the first following trading day. In no event, however, will the applicable call observation date be postponed more than five scheduled trading days. If a call observation date is postponed to the last possible day for that period, but that day is not a trading day, that day will nevertheless be the applicable call observation date.

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Call Observation Date	Call Level (Expressed as a Percentage of the Initial Index Level)	Call Return
January 13, 2020	101.75%	7%
January 13, 2021	103.5%	14%
January 13, 2022	105.25%	21%
January 13, 2023	107%	28%
January 16, 2024	108.75%	35%
January 13, 2025	110.5%	42%

Trade date: January 11, 2019

Original issue date: January 16, 2019

Determination date: January 13, 2026, unless the note calculation agent determines that such day is not a trading day. In that event, the determination date will be the first following trading day. In no event, however, will the determination date be postponed by more than five scheduled trading days. If the determination date is postponed to the last possible day, but such day is not a trading day, that day will nevertheless be the determination date.

Stated maturity date: January 28, 2026, unless that day is not a business day, in which case the stated maturity date will be the next following business day. If the determination date is postponed as described under "— Determination date" above, such postponement of the determination date will not postpone the stated maturity date.

Closing level of the index: the official closing level of the index or any successor index published by the index sponsor (including any index calculation agent acting on the index sponsor's behalf) on any trading day for the index

Level of the index: at any time on any trading day, the official level of the index or any successor index published by the index sponsor (including any index calculation agent acting on the index sponsor's behalf) at such time on such trading day

Business day: each Monday, Tuesday, Wednesday, Thursday and Friday that is not a day on which banking institutions in New York City generally are authorized or obligated by law, regulation or executive order to close

Trading day: a day on which the index is calculated and published by the index sponsor (including any index calculation agent acting on the index sponsor's behalf). For the avoidance of doubt, if the index calculation agent determines that an index market disruption event occurs or is continuing on any day, such day will not be a trading day. A day is a scheduled trading day with respect to the index if, as of the trade date, the index is expected to be calculated and published by the index sponsor (including any index calculation agent acting on the index sponsor's behalf) on such day.

Index calculation agent: Solactive AG or any replacement index calculation agent

Index sponsor: at any time, the person or entity, including any successor sponsor, that determines and publishes the underlier as then in effect (current index sponsor: Motif Capital Management, Inc.). The notes are not sponsored, endorsed, sold or promoted by the index sponsor or any of its affiliates and the index sponsor and its affiliates make no representation regarding the advisability of investing in the notes.

Successor index: any substitute index approved by the note calculation agent as a successor index as provided under "— Discontinuance or modification of the index" below

Underlying stocks: with respect to the index, at any time, the stocks (and, if applicable, the exchange-traded fund) that comprise the index as then in effect, after giving effect to any additions, deletions or substitutions.

Consequences of a non-trading day: If a day that would otherwise be the applicable originally scheduled call observation date or the originally scheduled determination date, as applicable, is not a trading day, then such call observation date or the determination date, as applicable, will be postponed as described under "— Call observation dates" or "— Determination date" above.

If the note calculation agent determines that the closing level of the index is not available on the last possible applicable call observation date or the final index level is not available on the last possible determination date because of a non-trading day or for any other reason (other than as described under "— Discontinuance or modification of the index" below), then the note calculation agent will nevertheless determine the level of the index based on its assessment, made in its sole discretion, of the level of the index on that day.

Discontinuance or modification of the index: If the index sponsor discontinues publication of the index and the index sponsor or anyone else publishes a substitute index that the note calculation agent determines is comparable to the index, or if the note calculation agent designates a substitute index, then the note calculation agent will determine the cash settlement amount payable on the stated maturity date or the amount payable on a call payment date, as applicable, by reference to the substitute index. We refer to any substitute index approved by the note calculation agent as a successor index.

If the note calculation agent determines that the publication of the index is discontinued and there is no successor index, the note calculation agent will determine the amount payable on the applicable call payment date or on the stated maturity

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date, as applicable, by a computation methodology that the note calculation agent determines will as closely as reasonably possible replicate the index.

If the note calculation agent determines that the index, the underlying stocks or the method of calculating the index is changed at any time in any respect — including any split or reverse split and any addition, deletion or substitution and any reweighting or rebalancing of the index or of the underlying stocks and whether the change is made by the index sponsor under its existing policies or following a modification of those policies, is due to the publication of a successor index, is due to events affecting one or more of the underlying stocks or their issuers, or is due to any other reason — and is not otherwise reflected in the level of the index by the index sponsor pursuant to the then-current index methodology of the index, then the note calculation agent will be permitted (but not required) to make such adjustments in the index or the method of its calculation as it believes are appropriate to ensure that the level of the index used to determine the amount payable on a call payment date or the stated maturity date, as applicable, is equitable.

All determinations and adjustments to be made by the note calculation agent with respect to the index may be made by the note calculation agent in its sole discretion. The note calculation agent is not obligated to make any such adjustments.

Note calculation agent (calculation agent): Goldman Sachs & Co, LLC (GS&Co.)

Default amount: If an event of default occurs and the maturity of your notes is accelerated, the company will pay the default amount in respect of the principal of your notes at the maturity, instead of the amount payable on the stated maturity date as described earlier. The default amount for your notes on any day (except as provided in the last sentence under "— Default quotation period" below) will be an amount, in the specified currency for the face amount of your notes, equal to the cost of having a qualified financial institution, of the kind and selected as described below, expressly assume all of our payment and other obligations with respect to your notes as of that day and as if no default or acceleration had occurred, or to undertake other obligations providing substantially equivalent economic value to you with respect to your notes. That cost will equal:

- the lowest amount that a qualified financial institution would charge to effect this assumption or undertaking, plus
- the reasonable expenses, including reasonable attorneys' fees, incurred by the holder of your notes in preparing any documentation necessary for this assumption or undertaking.

During the default quotation period for your notes, which is described below, the holder of the notes and/or the company may request a qualified financial institution to provide a quotation of the amount it would charge to effect this assumption or undertaking. If either party obtains a quotation, it must notify the other party in writing of the quotation. The amount referred to in the first bullet point above will equal the lowest — or, if there is only one, the only — quotation obtained, and as to which notice is so given, during the default quotation period. With respect to any quotation, however, the party not obtaining the quotation may object, on reasonable and significant grounds, to the assumption or undertaking by the qualified financial institution providing the quotation and notify the other party in writing of those grounds within two business days after the last day of the default quotation period, in which case that quotation will be disregarded in determining the default amount.

Default quotation period: The default quotation period is the period beginning on the day the default amount first becomes due and ending on the third business day after that day, unless:

- no quotation of the kind referred to above is obtained, or
- every quotation of that kind obtained is objected to within five business days after the day the default amount first becomes due.

If either of these two events occurs, the default quotation period will continue until the third business day after the first business day on which prompt notice of a quotation is given as described above. If that quotation is objected to as described above within five business days after that first business day, however, the default quotation period will continue as described in the prior sentence and this sentence.

In any event, if the default quotation period and the subsequent two business day objection period have not ended before the determination date, then the default amount will equal the principal amount of your notes.

Qualified financial institutions: For the purpose of determining the default amount at any time, a qualified financial institution must be a financial institution organized under the laws of any jurisdiction in the United States of America, Europe or Japan, which at that time has outstanding debt obligations with a stated maturity of one year or less from the date of issue and that is, or whose securities are, rated either:

- A-1 or higher by Standard & Poor's Ratings Services or any successor, or any other comparable rating then used by that rating agency, or
- P-1 or higher by Moody's Investors Service, Inc. or any successor, or any other comparable rating then used by that rating agency.

Overdue principal rate: the effective Federal Funds rate

Defeasance: not applicable

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HYPOTHETICAL EXAMPLES

The following examples are provided for purposes of illustration only. They should not be taken as an indication or prediction of future investment results and are intended merely to illustrate the impact that the various hypothetical closing levels of the index on a call observation date and on the determination date could have on the amount of cash payable on a call payment date or on the stated maturity date, as the case may be, assuming all other variables remain constant.

The examples below are based on a range of index levels that are entirely hypothetical; no one can predict what the index level will be on any day throughout the life of your notes, and no one can predict what the closing level of the index will be on any call observation date or what the final index level will be on the determination date. The index has been highly volatile in the past — meaning that the index level has changed considerably in relatively short periods — and its performance cannot be predicted for any future period.

The information in the following examples assumes that the offered notes are purchased on the original issue date at the face amount and held to a call payment date or the stated maturity date, as the case may be. If you sell your notes in a secondary market prior to the stated maturity date, your return will depend upon the market value of your notes at the time of sale, which may be affected by a number of factors that are not reflected in the examples below such as the volatility of the index, the creditworthiness of GS Finance Corp., as issuer, and the creditworthiness of The Goldman Sachs Group, Inc., as guarantor. In addition, the estimated value of your notes at the time the terms of your notes are set on the trade date (as determined by reference to pricing models used by GS&Co.) is less than the original issue price of your notes. For more information on the estimated value of your notes, see "Additional Risk Factors Specific to Your Notes — The Estimated Value of Your Notes At the Time the Terms of Your Notes Are Set On the Trade Date (as Determined By Reference to Pricing Models Used By GS&Co.) Is Less Than the Original Issue Price Of Your Notes" on page S-10 of this prospectus supplement. The information in the examples also reflects the key terms and assumptions in the box below.

Key Terms and Assumptions

Face amount	$1,000
Upside participation rate	200%
No non-trading day occurs on any originally scheduled call observation date or the originally scheduled determination date	
No change in or affecting any of the underlying stocks or the method by which the index sponsor calculates the index	
Notes purchased on original issue date and held to a call payment date or the stated maturity date	

For these reasons, the actual performance of the index over the life of your notes, particularly on each call observation date and the determination date, as well as the amount payable on a call payment date or at maturity, may bear little relation to the hypothetical examples shown below or to the historical index performance information or hypothetical performance data shown elsewhere in this prospectus supplement. For historical index performance information and hypothetical performance data of the index during recent periods, see "The Index —Closing Levels of the Index" on page S-45. Before investing in the offered notes, you should consult publicly available information to determine the level of the index between the date of this prospectus supplement and the date of your purchase of the offered notes.

Any rate of return you may earn on an investment in the notes may be lower than that which you could earn on a comparable investment in the underlying stocks.

Also, the hypothetical examples shown below do not take into account the effects of applicable taxes. Because of the U.S. tax treatment applicable to your notes, tax liabilities could affect the after-tax rate of return on your notes to a comparatively greater extent than the after-tax return on the underlying stocks.

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Hypothetical Amount In Cash Payable on a Call Payment Date

The following examples reflect hypothetical amounts that you could receive on the applicable call payment dates. While there are six potential call payment dates with respect to your notes, the examples below only illustrate the amount you will receive, if any, on the first and second call payment date.

If, for example, your notes are automatically called on the first call observation date (i.e., on the first call observation date the closing level of the index is greater than or equal to 101.75% of the initial index level), the amount in cash that we would deliver for each $1,000 face amount of your notes on the applicable call payment date would be the sum of $1,000 plus the product of the applicable call return times $1,000. Therefore, for example, if the closing level of the index on the first call observation date were determined to be 120% of the initial index level, your notes would be automatically called and the amount in cash that we would deliver on your notes on the corresponding call payment date would be 107% of the face amount of your notes or $1,070 for each $1,000 face amount of your notes. Even if the closing level of the index on a call observation date exceeds the applicable call level, causing the notes to be automatically called, the amount in cash payable on the call payment date will be limited due to the applicable call return.

If, for example, the notes are not automatically called on the first call observation date and are automatically called on the second call observation date (i.e., on the first call observation date the closing level of the index is less than 101.75% of the initial index level and on the second call observation date the closing level of the index is greater than or equal to 103.5% of the initial index level), the amount in cash that we would deliver for each $1,000 face amount of your notes on the applicable call payment date would be the sum of $1,000 plus the product of the applicable call return times $1,000. Therefore, for example, if the closing level of the index on the second call observation date were determined to be 140% of the initial index level, your notes would be automatically called and the amount in cash that we would deliver on your notes on the corresponding call payment date would be 114% of the face amount of your notes or $1,140 for each $1,000 face amount of your notes. Even if the closing level of the index on a call observation date exceeds the applicable call level, causing the notes to be automatically called, the amount in cash payable on the call payment date will be limited due to the applicable call return.

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Hypothetical Cash Settlement Amount at Maturity

If the notes are not automatically called on any call observation date (i.e., on each call observation date the closing level of the index is less than the applicable call level), the cash settlement amount we would deliver for each $1,000 face amount of your notes on the stated maturity date will depend on the performance of the index on the determination date, as shown in the table below. The table below shows the hypothetical cash settlement amounts that we would deliver on the stated maturity date in exchange for each $1,000 face amount of the notes if the final index level (expressed as a percentage of the initial index level) were any of the hypothetical levels shown in the left column.

The levels in the left column of the table below represent hypothetical final index levels and are expressed as percentages of the initial index level. The amounts in the right column represent the hypothetical cash settlement amounts, based on the corresponding hypothetical final index level (expressed as a percentage of the initial index level), and are expressed as percentages of the face amount of a note (rounded to the nearest one-hundredth of a percent). Thus, a hypothetical cash settlement amount of 100.00% means that the value of the cash payment that we would deliver for each $1,000 of the outstanding face amount of the offered notes on the stated maturity date would equal 100.00% of the face amount of a note, based on the corresponding hypothetical final index level (expressed as a percentage of the initial index level) and the assumptions noted above.

The Notes Have Not Been Automatically Called

Hypothetical Final Index Level (as Percentage of Initial Index Level)	Hypothetical Cash Settlement Amount (as Percentage of Face Amount)
175.00%	250.00%
150.00%	200.00%
140.00%	180.00%
130.00%	160.00%
120.00%	140.00%
110.00%	120.00%
100.00%	100.00%
90.00%	100.00%
75.00%	100.00%
50.00%	100.00%
25.00%	100.00%
0.00%	100.00%

If, for example, the notes have not been automatically called on a call observation date and the final index level were determined to be 25.00% of the initial index level, the cash settlement amount that we would deliver on your notes at maturity would be 100.00% of the face amount of your notes, as shown in the table above. As a result, if you purchased your notes on the original issue date and held them to the stated maturity date, you would receive no return on your investment.

The following chart also shows a graphical illustration of the hypothetical cash settlement amounts (expressed as a percentage of the face amount of your notes) that we would pay on your notes on the stated maturity date, if the final index level (expressed as a percentage of the initial index level) were any of the hypothetical levels shown on the horizontal axis. The chart shows that any hypothetical final index level (expressed as a percentage of the initial index level) of less than 100.00% (the section left of the 100.00% marker on the horizontal axis) would result in a hypothetical cash settlement amount of 100.00% of the face amount of your notes.

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The amounts shown above are entirely hypothetical; they are based on closing levels of the index that may not be achieved on a call observation date or the determination date, as the case may be, and on assumptions that may prove to be erroneous. The actual market value of your notes on a call payment date, the stated maturity date or at any other time, including any time you may wish to sell your notes, may bear little relation to the hypothetical amounts shown above, and these amounts should not be viewed as an indication of the financial return on an investment in the offered notes. The hypothetical amounts on notes held to a call payment date or the stated maturity date, as the case may be, in the examples above assume you purchased your notes at their face amount and have not been adjusted to reflect the actual issue price you pay for your notes. The return on your investment (whether positive or negative) in your notes will be affected by the amount you pay for your notes. If you purchase your notes for a price other than the face amount, the return on your investment will differ from, and may be significantly lower than, the hypothetical returns suggested by the above examples. Please read "Additional Risk Factors Specific to Your Notes — The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors" on page S-19.

Payments on the notes are economically equivalent to the amounts that would be paid on a combination of other instruments. For example, payments on the notes are economically equivalent to a combination of a zero coupon bond bought by the holder and one or more options entered into between the holder and us (with one or more implicit option premiums paid over time). The discussion in this paragraph does not modify or affect the terms of the notes or the U.S. federal income tax treatment of the notes, as described elsewhere in this prospectus supplement.

We cannot predict the actual closing levels of the index on each of the call observation dates or final index level on the determination date or what the market value of your notes will be on any particular trading day, nor can we predict the relationship between the index level and the market value of your notes at any time prior to the stated maturity date. The actual amount in cash that you will receive and the rate of return on the offered notes will depend on whether or not the notes are automatically called, the actual closing level of the index on each call observation date and the actual final index level on the determination date, each as determined by the note calculation agent as described above. Moreover, the assumptions on which the hypothetical examples are based may turn out to be inaccurate. Consequently, the amount in cash to be paid in respect of your notes on a call payment date or the stated maturity date, as the case may be, may be very different from the information reflected in the examples above.

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ADDITIONAL RISK FACTORS SPECIFIC TO YOUR NOTES

An investment in your notes is subject to the risks described below, as well as the risks and considerations described in the accompanying prospectus and in the accompanying prospectus supplement. You should carefully review these risks and considerations as well as the terms of the notes described herein and in the accompanying prospectus and the accompanying prospectus supplement. Your notes are a riskier investment than ordinary debt securities. Also, your notes are not equivalent to investing directly in any underlying stocks, i.e., the stocks comprising the index to which your notes are linked. You should carefully consider whether the offered notes are suited to your particular circumstances.

The Estimated Value of Your Notes At the Time the Terms of Your Notes Are Set On the Trade Date (as Determined By Reference to Pricing Models Used By GS&Co.) Is Less Than the Original Issue Price Of Your Notes

The original issue price for your notes exceeds the estimated value of your notes as of the time the terms of your notes are set on the trade date, as determined by reference to GS&Co.'s pricing models and taking into account our credit spreads. Such estimated value on the trade date is set forth above under "Estimated Value of Your Notes"; after the trade date, the estimated value as determined by reference to these models will be affected by changes in market conditions, the creditworthiness of GS Finance Corp., as issuer, the creditworthiness of The Goldman Sachs Group, Inc., as guarantor, and other relevant factors. The price at which GS&Co. would initially buy or sell your notes (if GS&Co. makes a market, which it is not obligated to do), and the value that GS&Co. will initially use for account statements and otherwise, also exceeds the estimated value of your notes as determined by reference to these models. As agreed by GS&Co. and the distribution participants, this excess (i.e., the additional amount described under "Estimated Value of Your Notes") will decline to zero on a straight line basis over the period from the date hereof through the applicable date set forth above under "Estimated Value of Your Notes". Thereafter, if GS&Co. buys or sells your notes it will do so at prices that reflect the estimated value determined by reference to such pricing models at that time. The price at which GS&Co. will buy or sell your notes at any time also will reflect its then current bid and ask spread for similar sized trades of structured notes.

In estimating the value of your notes as of the time the terms of your notes are set on the trade date, as disclosed above under "Estimated Value of Your Notes", GS&Co.'s pricing models consider certain variables, including principally our credit spreads, interest rates (forecasted, current and historical rates), volatility, price-sensitivity analysis and the time to maturity of the notes. These pricing models are proprietary and rely in part on certain assumptions about future events, which may prove to be incorrect. As a result, the actual value you would receive if you sold your notes in the secondary market, if any, to others may differ, perhaps materially, from the estimated value of your notes determined by reference to our models due to, among other things, any differences in pricing models or assumptions used by others. See "— The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors" below.

The difference between the estimated value of your notes as of the time the terms of your notes are set on the trade date and the original issue price is a result of certain factors, including principally the underwriting discount and commissions, the expenses incurred in creating, documenting and marketing the notes, and an estimate of the difference between the amounts we pay to GS&Co. and the amounts GS&Co. pays to us in connection with your notes. We pay to GS&Co. amounts based on what we would pay to holders of a non-structured note with a similar maturity. In return for such payment, GS&Co. pays to us the amounts we owe under your notes.

In addition to the factors discussed above, the value and quoted price of your notes at any time will reflect many factors and cannot be predicted. If GS&Co. makes a market in the notes, the price quoted by GS&Co. would reflect any changes in market conditions and other relevant factors, including any deterioration in our creditworthiness or perceived creditworthiness or the creditworthiness or perceived creditworthiness of The Goldman Sachs Group, Inc. These changes may adversely affect the value of your notes, including the price you may receive for your notes in any market making transaction. To the extent that GS&Co. makes a market in the notes, the quoted price will reflect the estimated value determined by reference to GS&Co.'s pricing models at that time, plus or minus its then current bid and ask spread for similar sized trades of structured notes (and subject to the declining excess amount described above).

Furthermore, if you sell your notes, you will likely be charged a commission for secondary market transactions, or the price will likely reflect a dealer discount. This commission or discount will further reduce the proceeds you would receive for your notes in a secondary market sale.

There is no assurance that GS&Co. or any other party will be willing to purchase your notes at any price and, in this regard, GS&Co. is not obligated to make a market in the notes. See "— Your Notes May Not Have an Active Trading Market" below.

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The Notes Are Subject to the Credit Risk of the Issuer and the Guarantor

Although the return on the notes will be based on the performance of the index, the payment of any amount due on the notes is subject to the credit risk of GS Finance Corp., as issuer of the notes, and the credit risk of The Goldman Sachs Group, Inc., as guarantor of the notes. The notes are our unsecured obligations. Investors are dependent on our ability to pay all amounts due on the notes, and therefore investors are subject to our credit risk and to changes in the market's view of our creditworthiness. Similarly, investors are dependent on the ability of The Goldman Sachs Group, Inc., as guarantor of the notes, to pay all amounts due on the notes, and therefore are also subject to its credit risk and to changes in the market's view of its creditworthiness. See "Description of the Notes We May Offer — Information About Our Medium-Term Notes, Series E Program — How the Notes Rank Against Other Debt" on page S-4 of the accompanying prospectus supplement and "Description of Debt Securities We May Offer — Guarantee by The Goldman Sachs Group, Inc." on page 42 of the accompanying prospectus.

You May Receive Only the Face Amount of Your Notes at Maturity

If the index return is zero or negative on the determination date, the return on your notes will be limited to the face amount.

Even if the amount paid on your notes at maturity exceeds the face amount of your notes, the overall return you earn on your notes may be less than you would have earned by investing in a note with the same stated maturity that bears interest at the prevailing market rate.

Your Notes Do Not Bear Interest

You will not receive any interest payments on your notes. As a result, even if the cash settlement amount payable for your notes on the stated maturity date exceeds the face amount of your notes, the overall return you earn on your notes may be less than you would have earned by investing in a non-indexed debt security of comparable maturity that bears interest at a prevailing market rate.

The Amount In Cash That You Will Receive on a Call Payment Date or on the Stated Maturity Date is Not Linked to the Closing Level of the Index at Any Time Other Than on the Applicable Call Observation Date or the Determination Date, as the Case May Be

The amount in cash that you will receive on a call payment date, if any, will be paid only if the closing level of the index on the applicable call observation date is greater than or equal to the applicable call level. Therefore, the closing level of the index on dates other than the call observation dates will have no effect on any amount paid in respect of your notes on the call payment date. In addition, the cash settlement amount you will receive on the stated maturity date (if the notes were not previously automatically called) will be based on the closing level of the index on the determination date and, therefore, the closing level of the index on dates other than the determination date will have no effect on any cash settlement amount paid in respect of your notes on the stated maturity date. Therefore, for example, if the closing level of the index dropped precipitously on the determination date, the cash settlement amount for the notes may be significantly less than it otherwise would have been had the cash settlement amount been linked to the closing level of the index prior to such drop. Although the actual closing level of the index on the applicable call payment dates, the stated maturity date or at other times during the life of the notes may be higher than the closing level of the index on the call observation dates or the final index level on the determination date, you will not benefit from the closing level of the index at any time other than on the call observation dates or on the determination date.

The Amount You Will Receive on a Call Payment Date Will Be Limited

Regardless of the closing level of the index on each of the call observation dates, the amount in cash that you may receive on a call payment date is limited. Even if the closing level of the index on a call observation date exceeds the applicable call level, causing the notes to be automatically called, the amount in cash payable on the call payment date will be limited due to the applicable call return. If your notes are automatically called on a call observation date, the maximum payment you will receive for each $1,000 face amount of your notes will depend on the applicable call return.

Your Notes Are Subject to Automatic Redemption

We will automatically call and redeem all, but not part, of your notes on a call payment date, if, as measured on any call observation date, the closing level of the index is greater than or equal to the applicable call level. Therefore, the term for your notes may be reduced and you will not receive any further payments on the notes since your notes will no longer be outstanding. You may not be able to reinvest the proceeds from an investment in the notes at a comparable return for a similar level of risk in the event the notes are called prior to maturity.

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The Index Measures the Performance of the Total Return Index Less the Sum of the Return on the Notional Interest Rate Plus 0.75% Per Annum (Accruing Daily)

Your notes are linked to the index. The index measures the performance of the total return index, which includes the underlying stocks and, in certain circumstances, the money market 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 underlying stocks. As a result, any return on the index — and thus on your notes — may be reduced or eliminated, which will have the effect of reducing the amount payable in respect of your notes. The total return index must produce positive returns at least as great as the sum of the return on the notional interest rate plus 0.75% per annum (accruing daily) before the index will have a positive return. If the index fails to outperform 3-month USD LIBOR plus 0.75% per annum (accruing daily) you will receive no return on your investment.

The index, through the total return index, may allocate its entire exposure to the money market position, the return on which will always be less than the sum of the return on 3-month USD LIBOR plus 0.75% per annum (accruing daily). The greater the percentage of the index allocated to the money market position, the higher the return that will be required on the underlying stocks in order to have a return on your investment. Historically, a very significant portion (up to approximately 90%) of the index exposure consistently has been to the money market position.

The Underlying Stocks are Concentrated in the Health Care and Real Estate Sectors, With Exposure to Products and Services Used by Senior Citizens

The index is comprised of U.S. exchange-listed stocks of companies in the health care and real estate sectors that derive at least 10% of their revenue (and in some cases up to 100% of their revenue) from products and services that may benefit from the long-term demographic shift towards an older population in the United States. Because these companies are concentrated in the health care and real estate sectors, the index is more likely to be adversely affected by the negative performance of either of these sectors (particularly the health care sector) than an index that has more diversified holdings across a larger number of sectors. Beyond that, the exposure of the index at any time could be limited to the money market position.

Although your investment in the notes will not result in the ownership or other direct interest in the underlying stocks that comprise the index, the return on your investment in the notes will be subject to certain risks and other factors similar to those associated with direct investments in the sectors represented by the underlying stocks and also will be subject to reduction by the sum of the return on the notional interest rate plus 0.75% per annum (accruing daily). For example, factors affecting companies in the health care sector include government regulation, restrictions on government reimbursement for medical expenses, rising costs of medical products and services, pricing pressure (including price discounting), limited product lines, the ability to obtain and defend patents, litigation based on product liability and similar claims, industry innovation and changes in technologies or other market developments. Factors affecting companies in the real estate sector include general economic and political conditions, the availability of financing for real estate, governmental actions that affect real estate, liquidity in the real estate market and interest rates.

The 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 index attempts to track U.S. exchange-listed stocks of companies in the health care and real estate sectors that derive revenue from products and services that may benefit from the long-term demographic shift towards an older population in the United States, subject to a limitation on volatility. As such, each year the index is rebalanced by calculating a company's exposure to such products and services. However, there is no guarantee that the methodology the index sponsor has implemented in order to determine a company's exposure will accurately capture (i) all such companies that provide such products and services or (ii) the percentage of revenue derived from such products and services, which in turn determines a company's initial weight in the base index.

Also, the volatility control may limit the index's ability to track the performance of such companies. The index may fail to realize gains that could occur as a result of reducing the exposure of the total return index to stocks that have experienced price volatility. As a result, if market conditions do not represent a continuation of prior observed trends, the level of the index, which is rebalanced into the money market position based on prior volatility trends, may decline. No assurance can be given that the investment methodology used to construct the index will outperform any alternative index that might be constructed from the underlying stocks. The index is different from an investment that seeks long-term exposure to a constant set of underlying stocks.

In addition, pursuant to its methodology and among other rules, the index excludes companies that derive less than 10% of their revenue from products or services that may benefit from the demographic shift towards an older population in the United States. Thus, large companies that derive significant revenue from such sources will be excluded from the

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index if such revenue does not satisfy the 10% test, even if the products or services provided are critical to an older population and even if the revenue, on a dollar basis, is equal to or greater than revenue from such products or services provided by smaller companies.

Further, index market disruption events, particularly during the implementation of annual base index rebalancing, may cause the underlying stocks to be overweighted or underweighted relative to what their weight otherwise would have been and this overweighting or underweighting of underlying stocks will inform an underlying stock's weight in the index until the next annual base index rebalancing. This may further prevent the index from successfully capturing exposure to products and services used by senior citizens and also may have an adverse impact on the level of the index. See " Index Market Disruption Events Could Affect the Level of the Index on Any Date" and "The Index Index Market Disruptions" below.

In addition, while the index attempts to track U.S. exchange-listed stocks of companies that derive revenue from products and services that may benefit from the long-term demographic shift towards an older population in the United States, any such effect may not occur during the term of the notes. Therefore, even if the products and services provided by such companies do ultimately benefit from the long-term demographic shift towards an older population in the United States, this benefit may not be realized fully, or at all, during the term of the notes.

The Index May Not Include Companies That Provide Therapies for Health Conditions that Would be Considered to Disproportionately Affect Senior Citizens According to Data Other Than That In the Centers for Disease Control and Prevention's Table of Summary Health Statistics

Only those diseases contained in the Tables of Summary Health Statistics (the "CDC report") from the Centers for Disease Control and Prevention (the "CDC") are eligible to be considered to disproportionately affect senior citizens for purposes of the index. A company that provides therapies solely for a health condition that might be considered to disproportionately affect senior citizens according to data other than that in the CDC report, but that is not included in the CDC report, will not be included in the index. Further, revenue earned by a company included in the index that is derived from providing therapies for a health condition that might be considered to disproportionately affect senior citizens according to data other than that in the CDC report, but that is not included in the CDC report, will not be included in the calculation of such company's weighting in the index.

The Index Will Include, and May Heavily Weight, Companies That Provide Therapies for Health Conditions That Do Not Disproportionately Affect Senior Citizens

The index sponsor, referencing the most recent CDC report, identifies health conditions that disproportionately affect senior citizens. However, the index sponsor does not analyze the specific sub-types of such health conditions for their affect on senior citizens. Therefore, a company may be included in the index even though such company focuses its products on a sub-type of an identified health condition that does not disproportionally affect senior citizens. For example, assuming that approximately 18% of new cases of cervical cancer are attributable to senior citizens and that approximately 51% of new cases of cancer generally are attributable to senior citizens, a company that derives all of its revenue from a cervical cancer treatment generally would be included in the index, as it provides a cancer treatment, even though only approximately 18% of new cases of cervical cancer are attributable to senior citizens. If no appropriate data exists from such company on the percentage of use of such treatment by senior citizens, such company's weight in the index would be based, in part, on the percentage of new cases of cancer attributable to senior citizens, and not the significantly smaller percentage of new cervical cancer cases attributable to senior citizens.

The CDC and Government Data Used to Determine the Incidence of Health Conditions and the Use of Products and Services by Senior Citizens Is Not Expected to Be From the Same Time Period as that Used for a Company's Revenue

The index sponsor reviews a company's most recent annual regulatory filing filed with the Securities and Exchange Commission in order to determine such company's index eligibility and weight in the index. Data from the most recent CDC report is used to identify health conditions that are eligible for the index and the percentage of new cases of such conditions that are attributed to senior citizens. Additional government data, where available and appropriate, may also be used as a proxy to estimate the revenue from a product or service that is attributable to senior citizens.

The CDC and government data used for purposes of a base index rebalancing generally have not been, and are not expected to be, from the same period as the revenue period covered by a company's annual regulatory filing. For example, for the June 2016 base index rebalancing day, the CDC report used by the index sponsor analyzed data from 2014, whereas, generally, the company annual regulatory filings were for the 2015 fiscal year. Further, if a new CDC report is released 14 or fewer index business days before an annual base index rebalancing day, such data would not be used for purposes of such base index rebalancing day and instead would be expected to be used on the next following annual base index rebalancing day (i.e., more than a year later). Similarly, if a new CDC report is released shortly after an

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annual base index rebalancing day, such data would be expected to be used on the next following annual base index rebalancing day (i.e., almost a year later). While it is expected that CDC and certain other government data will be updated from time to time as more recent data becomes available, it is likely that the CDC and government data referenced will always be from a different time period than the revenue information of the companies being analyzed for index inclusion and weighting.

A Company's Weight in the Index May be Derived from Revenue Not Attributable to the Aging of America

A company's weight in the index is based, in part, on its exposure to the aging of America (the percentage of revenue such company derives from providing therapy for a health condition disproportionately affecting senior citizens or an age-restricted service used by senior citizens). Once a product or service is identified by the index sponsor as being used by the senior population, all revenue derived from such product or service, as adjusted by, as applicable, the percentage of senior use of such product as provided in appropriate company or government data (in each case, as determined by the index sponsor) will be used to calculate such company's target weight in the index, regardless of whether all of such revenue is actually derived from the senior population. The determination as to whether to seek company or government data, as applicable, for this purpose and, if sought and located, the determination as to whether such data is appropriate and therefore will be used, including as a proxy, is a determination by the index sponsor in its sole discretion.

For example, if a company discloses the revenue amount it earns from producing a drug that can be used to treat arthritis (which has been identified as a health condition disproportionally affecting senior citizens) and migraines (which has not been identified as a health condition disproportionally affecting senior citizens) but does not disclose the percentage of such revenue derived from use by senior citizens, the full revenue derived from such drug, as adjusted by the percentage of new cases of arthritis attributable to seniors identified by CDC data, would be included in the company's weight calculation, not only the amount of revenue derived from the drug as used to treat arthritis. Similarly, if a company discloses the revenue amount it earns from providing senior housing facilities with an age restriction that is younger than 65 and does not disclose the percentage of such revenue derived from use by senior citizens, but the index sponsor determines that government data on the incidence of senior use of senior housing facilities exists and is appropriate to be applied as a proxy, the full revenue derived from such service, as adjusted by the percentage of senior citizen use of senior housing facilities identified by such government data, would be included in the company's weight calculation, not only the amount of revenue derived from those 65 or older using such senior housing facility.

If a Company Does Not Allocate Specific Revenue Amounts to Products or Services Used by Senior Citizens, Such Company May Have a Lower Weight in the Index

A company's weight in the index is based in part on its exposure to the aging of America, which is based on such company's revenue earned from products and services used by senior citizens. In order to determine a company's exposure to the aging of America, the index sponsor adjusts a company's revenue earned from such products and services by the percentage of use of such products and services by senior citizens. For example, if revenue is earned by a company for a cancer treatment drug, and the company does not disclose the percentage of revenue from such drug derived from use by senior citizens, such revenue would be adjusted by the percentage of new cases of cancer attributed to seniors identified by CDC data, and the resulting number would be included in such company's exposure to the aging of America. In instances where a revenue number disclosed by a company in its annual regulatory filing includes revenue from more than one product or service, and the index sponsor determines that it is unable to attribute a specific revenue amount to each included product or service by referencing company data, the index sponsor will either (i) if the revenue is derived only in part from products and services related to seniors, include up to 10% of the revenue number in such company's exposure to the aging of America, or (ii) if the revenue is derived entirely from products and services related to seniors, include such revenue as adjusted by the lowest percentage of use by senior citizens of such included products or services as identified by government data. Therefore, a lower percentage of revenue may (or, in the case of clause (ii), will) be included in such company's exposure to the aging of America than would have been the case if the revenue had been allocated to specific products and services, which in turn could lead to a lower weight of the company's stock in the index.

The Index Weightings May Be Ratably Rebalanced into the Money Market Position on Any or All Days During the Term of the Notes and Historically, a Very Significant Portion of the Index's Exposure Consistently Has Been

Allocated to the Money Market Position
The index has a daily volatility control feature which can result in a rebalancing between the underlying stocks and the money market position. This has the effect of reducing the exposure of the index to the performance of the underlying stocks by rebalancing a portion of the exposure into the money market position if the annualized historical realized volatility of the underlying stocks for the applicable 20 index business day volatility cap period would otherwise exceed the volatility cap of 7%.

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On any index business day, there is no guarantee that the weight of the underlying stocks in the total return index will not be rebalanced into the money market position. Any rebalancing into the money market position will limit your return on the notes. Historically, a very significant portion (up to approximately 90%) of the index's exposure consistently has been allocated to the money market position. See "The Index – Average Allocation Between the Base Index and the Money Market Position for Each Month" below for hypothetical and historical data regarding the index's exposure to the money market position.

In addition, there is no guarantee that the volatility cap will successfully reduce the volatility of the index or avoid any volatile movements of any underlying stock. If there is a rapid and severe decline in the market prices of the underlying stocks, the index may not rebalance into the money market position until the index has declined by a substantial amount.

The Index Has a Limited Operating History

The notes are linked to the performance of the index, which was launched on June 1, 2016. Because the index has no index level history prior to that date, limited historical index level information will be available for you to consider in making an independent investigation of the index performance, which may make it difficult for you to make an informed decision with respect to the notes.

The hypothetical performance data prior to the launch of the index on June 1, 2016 refers to simulated performance data. The index sponsor advises that such hypothetical performance data was derived using the index rules as of June 1, 2016, but applied retroactively using historical underlying stock and notional interest rate levels. No future performance of the index can be predicted based on the hypothetical performance data or the historical index performance information described herein.

Each Underlying Stock's Weight Is Limited by the Weight Constraint and the Daily Volatility Constraint

Each year, the index sponsor sets the target weights for the underlying stocks based on such stock's exposure to the aging of America, subject to constraints on the minimum and maximum weight of each underlying stock. The weight constraints could lower your return versus an investment that was not subject to the minimum and maximum weighting allotted to any one underlying stock.

In addition, the index's daily volatility target may result in a very significant portion of the index's exposure being allocated to the money market position. Historically, a very significant portion (up to approximately 90%) of the index's exposure consistently has been allocated to the money market position. The volatility target represents an intended trade-off, in which some potential upside is given up in exchange for attempting to limit downside exposure in volatile markets. However, because the notes provide for the repayment of principal at maturity, the incremental benefit to holders of the notes from the index's volatility target may be limited. In other words, the notes themselves limit exposure to decreases in the level of the index by providing for a cash settlement amount that will be no less than the face amount of the notes. Due to this feature of the notes, the index's volatility target, which attempts to reduce downside exposure to the underlying stocks, may not be as beneficial as it otherwise may be (including, for example, when used with securities that provide for a cash settlement amount that could be less than the face amount) and the cost of the index's volatility target, which is reflected in part in the above referenced trade-off, may not be desirable to you.

Correlation of Performances Among the Underlying Stocks May Reduce the Performance of the Index

Performances of the underlying stocks may become highly correlated from time to time during the term of the notes, including, but not limited to, periods in which there is a substantial decline in a particular sector containing such correlated underlying stocks. High correlation among underlying stocks representing either the health care or real estate sector during periods of negative returns could have an adverse effect on the level of the index.

The Selection Criteria Used to Select the Underlying Stocks May Result in Larger Declines in the Value of the Index Than Those Experienced by Other Stock Indices

The index sponsor determines the U.S. exchange listed securities included in the index and their weightings based, in part, on a methodology for identifying those companies that have at least a 10% exposure to the aging of America (at least 10% of the company's revenue must come from products and services that the index sponsor has identified as potentially benefiting from the long-term demographic shift towards an aging population in the United States). This means that a company can be included in the index even if it derives a majority of its revenue, up to almost 90%, from products and services that do not relate to the aging of America. Therefore, even if the performance of a company's products and services relating to the aging of America is positive, the performance of the company as a whole may be negative due to the performance of products and services not related to the aging of America. The metrics used to select the companies may lead to a company being included in the index that ultimately does not have sustainable growth - due to factors relating to the long-term demographic shift towards an aging population in the United States or changes thereto, due to factors relating to a company's products and services that do not relate to the aging of America or due to other factors - which could negatively affect the level of the index and, therefore, the cash settlement amount on your notes on a call payment date or the stated maturity date and the market value of your notes before that date.

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The index may not perform as well as a broad-based stock index or a stock index selected using different criteria, and as a result the cash settlement may be less than it would have been if your notes were linked to a different index. For example, see "The Index – Comparative Performance of the Index and Two Broad-Based Stock Indices" below for hypothetical and historical data regarding the index's performance relative to the Russell 3000® Index and the S&P 500® Index.

While the Weight of Each Underlying Stock for Each Annual Rebalancing Will Be Determined on a Single Day (the Base Index Observation Day), the Rebalancing Based on Such Revised Weights Will Be Implemented Over a Base Index Rebalancing Period

For purposes of each annual base index rebalancing, the target weight of each underlying stock will be determined on a related base index observation day. While the target weight of each underlying stock for each annual base index rebalancing will be determined on a single day (i.e., such base index observation day), the rebalancing of the number of shares of each underlying stock based on such revised target weights will be implemented over a base index rebalancing period comprised of five base index rebalancing days, which consist of the day that is three index business days after the applicable base index observation day and the four following index business days, subject to adjustment. As a result, for the first four days of the base index rebalancing period, the composition of the index will contain a mix of underlying stocks, share numbers and weights that is different than the underlying stocks and their respective share numbers and weights at the end of such base index rebalancing period. Therefore, the levels of the index on such days may be lower than such levels would have been if the annual base index rebalancing had been implemented in full in one day, which could have an adverse impact on any payments on, and the value of, your notes and the trading market for your notes. For a discussion of how the index is rebalanced, see "The Index" below.

Index Market Disruption Events Could Affect the Level of the Index on Any Date

If a base index rebalancing day or a total return index rebalancing day must be effected on an index business day on which an index market disruption event occurs with respect to any underlying stock, the index calculation agent shall then rebalance the index as described in "The Index — Index Market Disruptions" herein.

In particular, if an index market disruption event occurs with respect to an underlying stock on a base index rebalancing day, such affected underlying stock will not be rebalanced based on its target weight during the applicable base index rebalancing period. Instead, the number of shares of such underlying stock will remain the same as the number of shares of such underlying stock on the index business day prior to the base index rebalancing day on which it was first affected by such index market disruption event. The weights of all other underlying stocks not affected by an index market disruption event will be updated such that each underlying stock not affected by an index market disruption event will have a weight within the remaining weight of the base index not allocated to the weight of the underlying stock(s) affected by an index market disruption event that is proportional to its original target weight relative to the original target weights of all other underlying stocks not affected by an index market disruption event. Further, the target weights of the underlying stocks will not be recalculated until the next base index observation day (i.e., a year later).

Thus, an underlying stock that was to have its target weight increased relative to the prior year may not realize an increase to such degree or at all. Similarly, an underlying stock that was to have its target weight decreased relative to the prior year may not realize a decrease to such degree or at all. In all cases, an index market disruption event will affect the weights of all of the underlying stocks (due to the update made to the weights of all underlying stocks not affected by an index market disruption event through a proportional reallocation of the remaining weight of the base index not allocated to the weight of the underlying stock or underlying stocks affected by an index market disruption event), and may have an adverse impact on the level of the index, potentially for a year until the next annual base index rebalancing.

Further, if on a base index observation day, a stock that was not included in the index on the previous index business day is affected by an index market disruption event, such stock will be excluded from the index, regardless of its exposure to the aging of America. Therefore, if a stock would have been included in the base index except for the fact that it was affected by an index market disruption event on the base index observation date, the underlying stocks included in the index would have a higher target weight in the index than if such excluded stock had not been affected by an index market disruption event on the base index observation date and was therefore included in the index.

An Investment in the Offered Notes Is Subject to Risks Associated with Foreign Securities

The value of your notes is linked to an index that includes or may include American Depositary Receipts ("ADRs") representing interests in shares of companies from one or more foreign securities markets. Investments linked to the value of foreign equity securities involve particular risks. Any foreign securities market may be less liquid, more volatile and affected by global or domestic market developments in a different way than are the U.S. securities market or other foreign securities markets. Both government intervention in a foreign securities market, either directly or indirectly, and cross-shareholdings in foreign companies, may affect trading prices and volumes in that market.

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The prices of securities in a foreign country are subject to political, economic, financial and social factors that are unique to such foreign country's geographical region. These factors include: recent changes, or the possibility of future changes, in the applicable foreign government's economic and fiscal policies; the possible implementation of, or changes in, currency exchange laws or other laws or restrictions applicable to foreign companies or investments in foreign equity securities; fluctuations, or the possibility of fluctuations, in currency exchange rates; and the possibility of outbreaks of hostility, political instability, natural disaster or adverse public health developments. The United Kingdom has voted to leave the European Union (popularly known as "Brexit"). The effect of Brexit is uncertain, and Brexit has and may continue to contribute to volatility in the prices of securities of companies located in Europe and currency exchange rates, including the valuation of the euro and British pound in particular. Any one of these factors, or the combination of more than one of these factors, could negatively affect such foreign securities market and the price of securities therein. Further, geographical regions may react to global factors in different ways, which may cause the prices of securities in a foreign securities market to fluctuate in a way that differs from those of securities in the U.S. securities market or other foreign securities markets. Foreign economies may also differ from the U.S. economy in important respects, including growth of gross national product, rate of inflation, capital reinvestment, resources and self-sufficiency, which may have a positive or negative effect on foreign securities prices.

There are Important Differences Between ADRs and the Shares the ADRs Represent

There are important differences between the rights of holders of ADRs and the rights of holders of the shares the ADRs represent. ADRs are typically issued pursuant to a deposit agreement, which sets forth the rights and responsibilities of the ADR depositary, the company issuing the shares the ADRs represent, and the holders of the ADRs. The rights of the holders of the ADRs may be different from the rights of the holders of the shares the ADRs represent. For example, a company may make distributions in respect of its shares that are not passed on to the holders of its ADRs. Any such differences between the rights of holders of the ADRs and the rights of holders of the shares the ADRs represent may be significant and may materially and adversely affect the value of the ADRs, the performance of the index and, as a result, the notes.

The Level of the Index is Subject to Foreign Currency Exchange Rate Risk

ADRs that may be included in the index are quoted and traded in U.S. dollars on a U.S. stock exchange, while the shares represented thereby are quoted and traded in the relevant foreign currency on other stock exchanges. Therefore, fluctuations in the exchange rate between currencies in which the relevant shares are quoted and traded and the U.S. dollar will likely affect the relative value of the ADRs. As a result, the market price of the ADRs, which trade on a U.S. stock exchange, will likely be affected. These trading differences and currency exchange rates may affect the closing prices of the ADRs and, as a result, the level of the index and the value of the notes. Foreign currency exchange rates vary over time, and may vary considerably during the life of your notes. Changes in a particular exchange rate result from the interaction of many factors directly or indirectly affecting economic and political conditions. Of particular importance are:

- rates of inflation;
- interest rate levels;
- the balance of payments among countries;
- the extent of government surpluses or deficits in the relevant foreign country and the United States; and
- other financial, economic, military and political factors.

All of these factors are, in turn, sensitive to the monetary, fiscal and trade policies pursued by the governments of the relevant foreign countries and the United States and other countries important to international trade and finance.

The level of the index and any payment on the notes could also be adversely affected by delays in, or refusals to grant, any required governmental approval for conversions of a local currency and remittances abroad with respect to the ADRs or other de facto restrictions on the repatriation of U.S. dollars.

The Index May Include Exposure to the Short-Term Treasury Bond ETF Position

If, on a base index observation day, the sum of the target weights for the underlying stocks is less than 1, the base index will include the short-term treasury bond ETF position at a target weight equal to the difference between 1 and the target weights of all underlying stocks included in the base index. The short-term treasury bond ETF position is intended to express the notional returns accruing to a hypothetical investor from an investment in the iShares Short Treasury Bond ETF (the "underlying ETF"), which is comprised of publicly-issued U.S. Treasury securities that have a remaining maturity of greater than one month and less than or equal to one year. If the index includes the short-term treasury bond ETF

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position, the notes will be subject to certain risks similar to those associated with a direct investment in U.S. Treasury bonds, including, among others, risks associated with a downgrade of the credit rating of the U.S. government, risks associated with an increase in possibility that the U.S. Treasury may default on its obligations (whether for credit or legislative process reasons) and risks associated with any market events that create a decrease in demand for U.S. Treasury bonds. Any of these risks would significantly adversely affect the underlying ETF, especially if the risks are concentrated in U.S. Treasury bonds with short-term maturities. Further, the value of a share of the underlying ETF may reflect transaction costs and fees incurred or imposed by the investment advisor of the underlying ETF as well as the costs to the underlying ETF to buy and sell its assets. These costs and fees are not included in the calculation of the index.

The Index Calculation Agent Will Have Authority to Make Determinations that Could Affect the Value of Your Notes and the Amount You Receive at Maturity. The Goldman Sachs Group, Inc. Owns a Non-Controlling Interest in the Index Calculation Agent

The index sponsor has appointed Solactive AG as the index calculation agent. As index calculation agent, Solactive AG calculates the value of the index and, as further described under the "The Index" in this prospectus supplement, has discretion with respect to determining index market disruption events and with respect to making certain adjustments to the underlying stocks upon corporate events. The exercise of this discretion by the index calculation agent could adversely affect the value of your notes.

The Goldman Sachs Group, Inc., our parent company, owns a non-controlling interest in the index calculation agent.

The Policies of the Index Sponsor and Changes That Affect the Index or the Underlying Stocks Could Affect the Cash Settlement Amount on Your Notes and Their Market Value. The Goldman Sachs Group, Inc. Owns a Non-Controlling Interest in the Index Sponsor

The policies of the index sponsor concerning the calculation of the level of the index, additions, deletions or substitutions of underlying stocks and the timing and manner in which changes affecting the underlying stocks or their issuers, such as stock dividends, reorganizations or mergers, are reflected in the level of the index could affect the level of the index and, therefore, the cash settlement amount on your notes on a call payment date or the stated maturity date and the market value of your notes before that date. For example, the index sponsor will not make an adjustment as a result of a dividend on an underlying stock until the ex-date. Therefore, if a dividend is declared on an underlying stock and, due to an annual rebalancing, such underlying stock is subsequently removed from the index before the applicable ex-date, the declared dividend will never be reinvested in the underlying stock, and therefore the level of the index will not benefit from such dividend.

The cash settlement amount on your notes and their market value could also be affected if the index sponsor changes these policies, for example, by changing the manner in which it calculates the level of the index or the method by which it constructs the index, or if the index sponsor discontinues or suspends calculation or publication of the level of the index, in which case it may become difficult to determine the market value of your notes.

If events such as these occur, or if the closing level of the index is not available on the determination date because of an index market disruption event or for any other reason, the note calculation agent — which initially will be GS&Co., our affiliate — may determine the closing level of the index on the determination date — and thus the cash settlement on the stated maturity date — in a manner it considers appropriate, in its sole discretion. We describe the discretion that the note calculation agent will have in determining the closing level of the index on the determination date and the cash settlement on your notes more fully under "Specific Terms of Your Notes — Discontinuance or Modification of the Index" and "— Role of Note Calculation Agent" below.

The Goldman Sachs Group, Inc., our parent company, owns a non-controlling interest in Motif Investing Inc., the index sponsor's ultimate parent company.

U.K. Regulators Will No Longer Persuade or Compel Banks to Submit Rates for Calculation of LIBOR After 2021; Interest Rate Benchmark May Be Discontinued

On July 27, 2017, the Chief Executive of the U.K. Financial Conduct Authority (FCA), which regulates LIBOR, announced that the FCA will no longer persuade or compel banks to submit rates for the calculation of LIBOR (which includes the 3-month USD LIBOR rate) after 2021. Such announcement indicates that the continuation of LIBOR on the current basis cannot and will not be guaranteed after 2021. Notwithstanding the foregoing, it appears highly likely that LIBOR will be discontinued or modified by 2021. It is not possible to predict the effect that this announcement or any such discontinuance or modification will have on the 3-month USD LIBOR rate, the index or your notes.

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Regulation and Reform of "Benchmarks", Including LIBOR and Other Types of Benchmarks, May Cause such "Benchmarks" to Perform Differently Than in the Past, or to Disappear Entirely, or Have Other Consequences Which Cannot be Predicted

LIBOR and other interest rate, equity, foreign exchange rate and other types of indices which are deemed to be "benchmarks" are the subject of recent national, international and other regulatory guidance and proposals for reform. Some of these reforms are already effective while others are still to be implemented. These reforms may cause such "benchmarks" to perform differently than in the past, or to disappear entirely, or have other consequences which cannot be predicted. Any such consequence could have a material adverse effect on your notes.

Any of the international, national or other proposals for reform or the general increased regulatory scrutiny of "benchmarks" could increase the costs and risks of administering or otherwise participating in the setting of a "benchmark" and complying with any such regulations or requirements. Such factors may have the effect of discouraging market participants from continuing to administer or contribute to certain "benchmarks", trigger changes in the rules or methodologies used in certain "benchmarks" or lead to the disappearance of certain "benchmarks". The disappearance of a "benchmark" or changes in the manner of administration of a "benchmark" could result in discretionary valuation by the index sponsor (including any index calculation agent acting on the index sponsor's behalf) or the note calculation agent or other consequence in relation to your notes. Any such consequence could have a material adverse effect on the value of and return on your notes.

The Historical Levels of the Notional Interest Rate Are Not an Indication of the Future Levels of the Notional Interest Rate

In the past, the level of the notional interest rate (3-month USD LIBOR) has experienced significant fluctuations. You should note that historical levels, fluctuations and trends of the notional interest rate are not necessarily indicative of future levels. Any historical upward or downward trend in the notional interest rate is not an indication that the notional interest rate is more or less likely to increase or decrease at any time, and you should not take the historical levels of the notional interest rate as an indication of its future performance.

The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors

The following factors, among others, many of which are beyond our control, may influence the market value of your notes:

- the volatility – i.e., the frequency and magnitude of changes – in the level of the index;
- the level of the index, including the initial index level;
- dividend rates of the underlying stocks;
- 3-month USD LIBOR;
- economic, financial, regulatory, political, military and other events that affect stock markets generally, or the healthcare and real estate sectors and the underlying stocks in particular, and which may affect the closing levels of the index;
- interest rates and yield rates in the market;
- the time remaining until your notes mature; and
- our creditworthiness and the creditworthiness of The Goldman Sachs Group, Inc., whether actual or perceived, including actual or anticipated upgrades or downgrades in our credit ratings or the credit ratings of The Goldman Sachs Group, Inc., or changes in other credit measures.

These factors, and many other factors, will influence the price you will receive if you sell your notes before maturity, including the price you may receive for your notes in any market making transaction. If you sell your notes before maturity, you may receive less than the face amount of your notes.

You cannot predict the future performance of the index based on its historical performance or on any hypothetical performance data. The actual performance of the index over the life of the notes, as well as the cash settlement amount payable on the stated maturity date, may bear little or no relation to the historical index performance information, hypothetical performance data or hypothetical return examples shown elsewhere in this prospectus supplement.

If You Purchase Your Notes at a Premium to Face Amount, the Return on Your Investment Will Be Lower Than the Return on Notes Purchased at Face Amount and the Impact of Certain Key Terms of the Notes Will Be Negatively Affected

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The amount in cash that you will be paid for your notes on a call payment date or the stated maturity date will not be adjusted based on the issue price you pay for the notes. If you purchase notes at a price that differs from the face amount of the notes, then the return on your investment in such notes held to a call payment date or the stated maturity date will differ from, and may be substantially less than, the return on notes purchased at face amount. If you purchase your notes at a premium to face amount and hold them to a call payment date or the stated maturity date, the return on your investment in the notes will be lower than it would have been had you purchased the notes at face amount or a discount to face amount.

If the Level of the Index Changes, the Market Value of Your Notes May Not Change in the Same Manner

Your notes may trade quite differently from the performance of the index. Changes in the level of the index may not result in a comparable change in the market value of your notes. Even if the level of the index increases above the initial index level during the life of the notes, the market value of your notes may not increase by the same amount. We discuss some of the reasons for this disparity under "— The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors" above.

Past Index Performance is No Guide to Future Performance

The actual performance of the index over the life of the notes, as well as the amount payable on a call payment date or the stated maturity date, as the case may be, may bear little relation to the historical index performance information, hypothetical performance data or hypothetical return examples set forth elsewhere in this prospectus supplement. We cannot predict the future performance of the index.

Anticipated Hedging Activities by Goldman Sachs or Our Distributors May Negatively Impact Investors in the Notes and Cause Our Interests and Those of Our Clients and Counterparties to be Contrary to Those of Investors in the Notes

Goldman Sachs expects to hedge our obligations under the notes by purchasing listed or over-the-counter options, futures and/or other instruments linked to the index, the underlying stocks and 3-month USD LIBOR. Goldman Sachs also expects to adjust the hedge by, among other things, purchasing or selling any of the foregoing, and perhaps other instruments linked to the index, the underlying stocks or 3-month USD LIBOR, at any time and from time to time, and to unwind the hedge by selling any of the foregoing on or before the determination date for your notes. Alternatively, Goldman Sachs may hedge all or part of our obligations under the notes with unaffiliated distributors of the notes which we expect will undertake similar market activity. Goldman Sachs may also enter into, adjust and unwind hedging transactions relating to other index-linked notes whose returns are linked to the index, the underlying stocks or 3-month USD LIBOR.

In addition to entering into such transactions itself, or distributors entering into such transactions, Goldman Sachs may structure such transactions for its clients or counterparties, or otherwise advise or assist clients or counterparties in entering into such transactions. These activities may be undertaken to achieve a variety of objectives, including: permitting other purchasers of the notes or other securities to hedge their investment in whole or in part; facilitating transactions for other clients or counterparties that may have business objectives or investment strategies that are inconsistent with or contrary to those of investors in the notes; hedging the exposure of Goldman Sachs to the notes including any interest in the notes that it reacquires or retains as part of the offering process, through its market-making activities or otherwise; enabling Goldman Sachs to comply with its internal risk limits or otherwise manage firmwide, business unit or product risk; and/or enabling Goldman Sachs to take directional views as to relevant markets on behalf of itself or its clients or counterparties that are inconsistent with or contrary to the views and objectives of the investors in the notes.

Any of these hedging or other activities may adversely affect the levels of the index — directly or indirectly by affecting the price of the underlying stocks — and therefore the market value of your notes and the amount we will pay on your notes, if any. In addition, you should expect that these transactions will cause Goldman Sachs or its clients, counterparties or distributors to have economic interests and incentives that do not align with, and that may be directly contrary to, those of an investor in the notes. Neither Goldman Sachs nor any distributor will have any obligation to take, refrain from taking or cease taking any action with respect to these transactions based on the potential effect on an investor in the notes, and may receive substantial returns on hedging or other activities while the value of your notes declines. In addition, if the distributor from which you purchase notes is to conduct hedging activities in connection with the notes, that distributor may otherwise profit in connection with such hedging activities and such profit, if any, will be in addition to the compensation that the distributor receives for the sale of the notes to you. You should be aware that the potential to earn fees in connection with hedging activities may create a further incentive for the distributor to sell the notes to you in addition to the compensation they would receive for the sale of the notes.

Goldman Sachs' Trading and Investment Activities for its Own Account or for its Clients, Could Negatively Impact Investors in the Notes

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Goldman Sachs is a global investment banking, securities and investment management firm that provides a wide range of financial services to a substantial and diversified client base that includes corporations, financial institutions, governments and individuals. As such, it acts as an investor, investment banker, research provider, investment manager, investment advisor, market maker, trader, prime broker and lender. In those and other capacities, Goldman Sachs purchases, sells or holds a broad array of investments, actively trades securities, derivatives, loans, commodities, currencies, credit default swaps, indices, baskets and other financial instruments and products for its own account or for the accounts of its customers, and will have other direct or indirect interests, in the global fixed income, currency, commodity, equity, bank loan and other markets. Any of Goldman Sachs' financial market activities may, individually or in the aggregate, have an adverse effect on the market for your notes, and you should expect that the interests of Goldman Sachs or its clients or counterparties will at times be adverse to those of investors in the notes.

Goldman Sachs regularly offers a wide array of securities, financial instruments and other products into the marketplace, including existing or new products that are similar to your notes, or similar or linked to the index, the underlying stocks or 3-month USD LIBOR. Investors in the notes should expect that Goldman Sachs will offer securities, financial instruments, and other products that will compete with the notes for liquidity, research coverage or otherwise.

Goldman Sachs' Market-Making Activities Could Negatively Impact Investors in the Notes

Goldman Sachs actively makes markets in and trades financial instruments for its own account (primarily as a market maker) and for the accounts of customers. These financial instruments include debt and equity securities, currencies, commodities, bank loans, indices, baskets and other products. Goldman Sachs' activities include, among other things, executing large block trades and taking long and short positions directly and indirectly, through derivative instruments or otherwise. The securities and instruments in which Goldman Sachs takes positions, or expects to take positions, include securities and instruments of the index, the underlying stocks or 3-month USD LIBOR, securities and instruments similar to or linked to the foregoing or the currencies in which they are denominated. Market making is an activity where Goldman Sachs buys and sells on behalf of customers, or for its own account, to satisfy the expected demand of customers. By its nature, market making involves facilitating transactions among market participants that have differing views of securities and instruments. As a result, you should expect that Goldman Sachs will take positions that are inconsistent with, or adverse to, the investment objectives of investors in the notes.

If Goldman Sachs becomes a holder of any underlying stock in its capacity as a market-maker or otherwise, any actions that it takes in its capacity as securityholder, including voting or provision of consents, will not necessarily be aligned with, and may be inconsistent with, the interests of investors in the notes.

You Should Expect That Goldman Sachs Personnel Will Take Research Positions, or Otherwise Make Recommendations, Provide Investment Advice or Market Color or Encourage Trading Strategies That Might Negatively Impact Investors in the Notes

Goldman Sachs and its personnel, including its sales and trading, investment research and investment management personnel, regularly make investment recommendations, provide market color or trading ideas, or publish or express independent views in respect of a wide range of markets, issuers, securities and instruments. They regularly implement, or recommend to clients that they implement, various investment strategies relating to these markets, issuers, securities and instruments. These strategies include, for example, buying or selling credit protection against a default or other event involving an issuer or financial instrument. Any of these recommendations and views may be negative with respect to the index , the underlying stocks or 3-month USD LIBOR, or other securities or instruments similar to or linked to the foregoing or result in trading strategies that have a negative impact on the market for any such securities or instruments, particularly in illiquid markets. In addition, you should expect that personnel in the trading and investing businesses of Goldman Sachs will have or develop independent views of the index, the underlying stocks or 3-month USD LIBOR, the relevant industry or other market trends, which may not be aligned with the views and objectives of investors in the notes.

Goldman Sachs Regularly Provides Services to, or Otherwise Has Business Relationships with, a Broad Client Base, Which May Include the Sponsors of the Index or Underlying Stock Issuers or Other Entities That Are Involved in the Transaction

Goldman Sachs regularly provides financial advisory, investment advisory and transactional services to a substantial and diversified client base, and you should assume that Goldman Sachs will, at present or in the future, provide such services or otherwise engage in transactions with, among others, the sponsors of the index or the underlying stock issuers, or transact in securities or instruments or with parties that are directly or indirectly related to the foregoing. These services could include making loans to or equity investments in those companies, providing financial advisory or other investment banking services, or issuing research reports. You should expect that Goldman Sachs, in providing such services, engaging in such transactions, or acting for its own account, may take actions that have direct or indirect effects on the index or the underlying stocks, as applicable, and that such actions could be adverse to the interests of investors in the notes. In addition, in connection with these activities, certain Goldman Sachs personnel may have access to confidential material non-public information about these parties that would not be disclosed to Goldman Sachs employees

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that were not working on such transactions as Goldman Sachs has established internal information barriers that are designed to preserve the confidentiality of non-public information. Therefore, any such confidential material non-public information would not be shared with Goldman Sachs employees involved in structuring, selling or making markets in the notes or with investors in the notes.

In this offering, as well as in all other circumstances in which Goldman Sachs receives any fees or other compensation in any form relating to services provided to or transactions with any other party, no accounting, offset or payment in respect of the notes will be required or made; Goldman Sachs will be entitled to retain all such fees and other amounts, and no fees or other compensation payable by any party or indirectly by holders of the notes will be reduced by reason of receipt by Goldman Sachs of any such other fees or other amounts.

The Offering of the Notes May Reduce an Existing Exposure of Goldman Sachs or Facilitate a Transaction or Position That Serves the Objectives of Goldman Sachs or Other Parties

A completed offering may reduce Goldman Sachs' existing exposure to the index, the underlying stocks or 3-month USD LIBOR, securities and instruments similar to or linked to the foregoing or the currencies in which they are denominated, including exposure gained through hedging transactions in anticipation of this offering. An offering of notes will effectively transfer a portion of Goldman Sachs' exposure (and indirectly transfer the exposure of Goldman Sachs' hedging or other counterparties) to investors in the notes.

The terms of the offering (including the selection of the index, the underlying stocks or 3-month USD LIBOR, and the establishment of other transaction terms) may have been selected in order to serve the investment or other objectives of Goldman Sachs or another client or counterparty of Goldman Sachs. In such a case, Goldman Sachs would typically receive the input of other parties that are involved in or otherwise have an interest in the offering, transactions hedged by the offering, or related transactions. The incentives of these other parties would normally differ from and in many cases be contrary to those of investors in the notes.

Other Investors in the Notes May Not Have the Same Interests as You

Other investors in the notes are not required to take into account the interests of any other investor in exercising remedies or voting or other rights in their capacity as securityholders or in making requests or recommendations to Goldman Sachs as to the establishment of other transaction terms. The interests of other investors may, in some circumstances, be adverse to your interests. For example, certain investors may take short positions (directly or indirectly through derivative transactions) on assets that are the same or similar to your notes, the index, the underlying stocks or 3-month USD LIBOR or other similar securities, which may adversely impact the market for or value of your notes.

You Have No Shareholder Rights or Rights to Receive Any Underlying Stock

Investing in the notes will not make you a holder of any of the underlying stocks. Neither you nor any other holder or owner of the notes will have any rights with respect to the underlying stocks, including any voting rights, any right to receive dividends or other distributions, any rights to make a claim against the underlying stocks or any other rights of a holder of the underlying stocks. The notes will be paid in cash and you will have no right to receive delivery of any underlying stocks.

The Note Calculation Agent Will Have the Authority to Make Determinations That Could Affect the Market Value of Your Notes, When Your Notes Mature and the Amount You Receive at Maturity

As of the date of this prospectus supplement, we have appointed GS&Co. as the note calculation agent. As note calculation agent, GS&Co. will make all determinations and calculations relating to any amount payable on the note, which includes determinations regarding: the initial index level; the closing level of the index on the call observation dates, which we will use to determine whether your notes will be automatically called the final index level on the determination date, which we will use to determine the amount we must pay on the stated maturity date the index return; the call observation dates; whether to postpone any call observation date or the determination date because of a non-trading day the determination date the stated maturity date business days trading days and the default amount. The note calculation agent also has discretion in making certain adjustments relating to a discontinuation or modification of the index. See "Terms and Conditions — Discontinuance or modification of the index" above. The exercise of this discretion by GS&Co. could adversely affect the value of your notes and may present GS&Co. with a conflict of interest. We may change the note calculation agent at any time without notice and GS&Co. may resign as note calculation agent at any time upon 60 days' written notice to GS Finance Corp.

Your Notes May Not Have an Active Trading Market

Your notes will not be listed or displayed on any securities exchange or included in any interdealer market quotation system, and there may be little or no secondary market for your notes. Even if a secondary market for your notes develops, it may not provide significant liquidity and we expect that transaction costs in any secondary market would be

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high. As a result, the difference between bid and asked prices for your notes in any secondary market could be substantial.

The Note Calculation Agent Can Postpone Any Call Observation Date or the Determination Date if a Non-Trading Day Occurs

If the note calculation agent determines that, on a day that would otherwise be a call observation date or the determination date, such day is not a trading day for the index, the applicable call observation date or the determination date, as applicable, will be postponed until the first following trading day, subject to limitation on postponement as described under "Terms and Conditions — Call observation dates" above and "Terms and Conditions — Determination Date" above. If any call observation date or the determination date is postponed to the last possible day and such day is not a trading day, such day will nevertheless be the applicable call observation date or the determination date, as applicable. In such a case, the note calculation agent will determine the closing level or the final index level, as applicable, based on the procedures described under "Terms and Conditions — Consequences of a non-trading day" above.

There Is No Affiliation Between the Underlying Stock Issuers and Us

Other than as specified above, we are not affiliated with the issuers of the underlying stocks (the "underlying stock issuers"), the index sponsor or the index calculation agent. As we have told you above, however, we or our affiliates may currently or from time to time in the future own securities of, or engage in business with, the index sponsor, the underlying stock issuers or the index calculation agent. Neither we nor any of our affiliates have participated in the preparation of any publicly available information or made any "due diligence" investigation or inquiry with respect to the underlying stock issuers. You, as an investor in your notes, should make your own investigation into the underlying stock issuers. See "The Index" below for additional information about the index.

Neither the index sponsor, the index calculation agent nor any of the underlying stock issuers are involved in this offering of the notes in any way and none of them have any obligation of any sort with respect to the notes. Thus, neither the index sponsor, the index calculation agent nor any of the underlying stock issuers have any obligation to take your interests into consideration for any reason, including in taking any corporate actions that might affect the market value of your notes.

We May Sell an Additional Aggregate Face Amount of the Notes at a Different Issue Price

At our sole option, we may decide to sell an additional aggregate face amount of the notes subsequent to the date of this prospectus supplement. The issue price of the notes in the subsequent sale may differ substantially (higher or lower) from the original issue price you paid as provided on the cover of this prospectus supplement.

Certain Considerations for Insurance Companies and Employee Benefit Plans

Any insurance company or fiduciary of a pension plan or other employee benefit plan that is subject to the prohibited transaction rules of the Employee Retirement Income Security Act of 1974, as amended, which we call "ERISA", or the Internal Revenue Code of 1986, as amended, including an IRA or a Keogh plan (or a governmental plan to which similar prohibitions apply), and that is considering purchasing the offered notes with the assets of the insurance company or the assets of such a plan, should consult with its counsel regarding whether the purchase or holding of the offered notes could become a "prohibited transaction" under ERISA, the Internal Revenue Code or any substantially similar prohibition in light of the representations a purchaser or holder in any of the above categories is deemed to make by purchasing and holding the offered notes. This is discussed in more detail under "Employee Retirement Income Security Act" on page S-55 of this prospectus supplement.

Your Notes Will Be Treated as Debt Instruments Subject to Special Rules Governing Contingent Payment Debt Instruments for U.S. Federal Income Tax Purposes

The notes will be treated as debt instruments subject to special rules governing contingent payment debt instruments for U.S. federal income tax purposes. If you are a U.S. individual or taxable entity, you generally will be required to pay taxes on ordinary income from the notes over their term based on the comparable yield for the notes, even though you generally will not receive any payments from us until maturity. This comparable yield is determined solely to calculate the amount on which you will be taxed prior to maturity and is neither a prediction nor a guarantee of what the actual yield will be. In addition, any gain you may recognize on the sale, exchange, redemption or maturity of the notes will be taxed as ordinary interest income. If you are a secondary purchaser of the notes, the tax consequences to you may be different. Please see "Supplemental Discussion of Federal Income Tax Consequences" below for a more detailed discussion. Please also consult your tax advisor concerning the U.S. federal income tax and any other applicable tax consequences to you of owning your notes in your particular circumstances.

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Foreign Account Tax Compliance Act (FATCA) Withholding May Apply to Payments on Your Notes, Including as a Result of the Failure of the Bank or Broker Through Which You Hold the Notes to Provide Information to Tax Authorities

Please see the discussion under "United States Taxation — Taxation of Debt Securities — Foreign Account Tax Compliance Act (FATCA) Withholding" in the accompanying prospectus for a description of the applicability of FATCA to payments made on your notes.

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USE OF PROCEEDS

We will lend the net proceeds from the sale of the offered notes to The Goldman Sachs Group, Inc. or its affiliates. The Goldman Sachs Group, Inc. will use the proceeds from such loans for the purposes we describe in the accompanying prospectus under “Use of Proceeds”. We or our affiliates may also use those proceeds in transactions intended to hedge our obligations under the offered notes as described below.

HEDGING

In anticipation of the sale of the offered notes, we and/or our affiliates have entered into or expect to enter into cash-settled hedging transactions involving purchases of listed or over-the-counter options, futures and/or other instruments linked to the index or the underlying stocks. In addition, from time to time after we issue the offered notes, we and/or our affiliates expect to enter into additional hedging transactions and to unwind those we have entered into, in connection with the offered notes and perhaps in connection with other index-linked notes we issue, some of which may have returns linked to the index, the underlying stocks or 3-month USD LIBOR. Consequently, with regard to your notes, from time to time, we and/or our affiliates:

- expect to acquire, or dispose of, cash-settled positions in listed or over-the-counter options, futures or other instruments linked to the index or some or all of the underlying stocks or 3-month USD LIBOR,
- may take or dispose of positions in listed or over-the-counter options or other instruments based on indices designed to track the performance of components of the U.S. equity market,
- may take short positions in the underlying stocks or other securities of the kind described above — i.e., we and/or our affiliates may sell securities of the kind that we do not own or that we borrow for delivery to purchaser, and/or
- may take or dispose of positions in interest rate swaps, options swaps and treasury bonds.

We and/or our affiliates may acquire a long or short position in securities similar to the offered notes from time to time and may, in our or their sole discretion, hold or resell those securities.

In the future, we and/or our affiliates expect to close out hedge positions relating to the notes and perhaps relating to other notes with returns linked to the index, the underlying stocks or 3-month USD LIBOR. We expect our affiliates’ steps to involve sales of instruments linked to the index, the underlying stocks or 3-month USD LIBOR on or shortly before any call observation date or the determination date, as applicable. Our affiliates’ steps also may involve sales and/or purchases of some or all of the listed or over-the-counter options, futures or other instruments linked to the index.

The hedging activity discussed above may adversely affect the market value of your notes from time to time and the value of the consideration that we will deliver on your notes at maturity. See “Additional Risk Factors Specific to Your Notes” above for a discussion of these adverse effects.

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THE INDEX

The Motif Capital Aging of America 7 ER Index (the “index”) tracks the U.S. exchange-listed common equity securities (including American Depositary Receipts, or “ADRs”) of companies concentrated in the healthcare and real estate sectors that may benefit from the long-term demographic shift towards an older population in the United States (the “aging of America”) and the resulting demand for products and services geared towards managing the health and lifestyle of an aging population. The index is calculated by measuring the extent to which (a) (i) such U.S. exchange-listed common equity securities and (ii) in certain circumstances, a money market position outperform (b) the sum of (i) the return on a notional cash deposit at a notional interest rate of 3-month USD LIBOR plus (ii) 0.75% per annum (accruing daily). Each U.S. exchange-listed common equity security included in the index generally will be subject to a maximum and a minimum weight constraint. In addition, the index is subject to a 7.0% volatility control. As explained in more detail below, if with respect to any index business day (as defined below) the volatility of the equity securities over a look-back period is greater than 7.0%, the weight assigned to the equity securities within the index will be rebalanced into the money market position in order to comply with the volatility control. Historically, a very significant portion (up to approximately 90%) of the index consistently has been allocated to the money market position.

The index was first launched on June 1, 2016 and based on an initial value for the base index (as defined below under “Base Index Composition”) of 100 on June 20, 2006. The level of the index is calculated and published by Solactive AG (the “index calculation agent”) and is reported by Bloomberg under the symbol “MCAER Index”. The index is sponsored by Motif Capital Management, Inc. (the “index sponsor”). Additional information about the index may be obtained from the index calculation agent’s website at solactive.com/?s=motif&index=DE000SLA2DZ0. We are not incorporating by reference the website or any material it includes in this document.

As of January 11, 2019, there were 120 constituent stocks in the index and the top ten constituent stocks, by weight, were: Johnson & Johnson (2.10%); UnitedHealth Group Incorporated (1.84%); Amgen Inc. (1.64%); Novartis AG (1.45%); Abbvie Inc. (1.35%); Pfizer Inc. (1.25%); Eli Lilly & Co. (1.04%); Novo Nordisk A/S (0.98%); Celgene Corp. (0.90%) and Bristol-Myers Squibb Co. (0.89%). As of that same date, 74.23% of the index was comprised of the money market position. For hypothetical and historical data regarding the index’s monthly average exposure to the money market position, see “– Average Allocation Between the Base Index and the Money Market Position for Each Month” below. A full list of index constituents as of the last calendar day of each month is available on the index sponsor’s website. We are not incorporating by reference the website or any materials it includes in this document.

The index sponsor divides the companies included in the base index into two sectors based on the Thomson Reuters Business Classification. The sectors are (with the approximate percentage of underlying stocks in the base index included in such sectors as of January 11, 2019 indicated in parentheses) (percentages may not sum to 100% due to rounding): healthcare (93.4%) and financials (6.6%) (companies within the real estate sector are included in the financials category). Index sponsors may use very different standards for determining sector designations. In addition, many companies operate in a number of different sectors, but are listed in only one sector and the basis on which that sector is selected may also differ. As a result, sector comparisons between indices with different index sponsors may reflect differences in methodology as well as actual differences in the sector composition of the indices.

Base Index Composition

On the third Friday of each June (the “base index observation day”), the index sponsor determines the U.S. exchange listed common equity securities (including ADRs) included in the base index (the “underlying stocks”) and their exposure to the aging of America (as discussed below), and the index calculation agent determines the target weight of each of the underlying stocks (as defined below under “Determining the weight of each underlying stock in the base index – Target weights”). If the limited circumstance described under “Determining the weight of each underlying stock in the base index   Short-term treasury bond ETF position” below applies, on that date the index calculation agent will also determine the target weight of the iShares Short-Term Treasury Bond ETF (the “underlying ETF”) in the index. The rebalancing of the underlying stocks and the underlying ETF, if applicable, and their weights by changing the respective number of shares will be implemented over a five day period (the “base index rebalancing period”) beginning on the day that is three index business days after the applicable base index observation day and including the four following index business days (each a “base index rebalancing day”). The underlying stocks and, if applicable, the underlying ETF together comprise the “base index”.

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Determining the underlying stocks

Identify the underlying stock universe

The index sponsor identifies companies that (i) develop therapies for medical conditions that disproportionately affect those citizens who are 65 years of age or older ("senior citizens") and (ii) provide age-restricted services used by senior citizens.

Identifying therapy developing companies

In order to identify the companies that develop therapies for medical conditions that disproportionately affect senior citizens, the index sponsor references the most recent Tables of Summary Health Statistics (the "CDC report") from the Centers for Disease Control and Prevention (the "CDC") website. From those diseases included in the CDC report, the index sponsor determines the specific health conditions that disproportionately affect senior citizens. The determination is made by establishing (i) that a health condition is not uncommon, which for this purpose means that the condition affects more than 1% of the total U.S. population who are 18 years of age or older, and (ii) that the percentage of senior citizen patients relative to all patients who are 18 years of age or older with such condition is greater than 30%. The data from the most recent CDC report identifies the following conditions as disproportionately affecting senior citizens: cancer; heart disease (including hypertension and stroke); diabetes; arthritis; kidney disease; chronic obstructive pulmonary disease; and hearing loss.

Each condition identified as described in the paragraph above is paired with specific keywords. Semantic searches are then conducted over the most recent annual regulatory filings (i.e., Forms 10-K, 40-F and 20-F) of all companies with U.S. exchange-listed common equity filed with the Securities and Exchange Commission (the "SEC") in order to identify companies with a positive match for one or more keyword(s). All companies with a positive match are added to the underlying stock universe for potential inclusion in the base index.

The conditions and keywords associated with each condition are:

- Cancer: "Cancer", "Oncology", "Malignancy", "Neoplasm"
- Heart Disease: "Heart Disease", "Hypertension", "Stroke", "Cardiovascular Disease", "Atherosclerosis", "Arrhythmia", "Coro Artery Disease"
- Diabetes: "Diabetes", "Insulin", "Hypoglycemia", "Hyperglycemia"
- Arthritis: "Arthritis", "Osteoarthritis", "Rheumatoid Arthritis"
- Kidney Disease: "Kidney Disease", "Dialysis", "Renal Disease", "Acute Renal Failure"
- Chronic Obstructive Pulmonary Disease: "Chronic Obstructive Pulmonary Disease", "COPD", "Bronchitis", "Emphysema", "Lung Inflammation", "Bronchodilators", "Lung Disease", "Chronic Obstructive Lung Disease", "Chronic Obstructive Airwa Disease"
- Hearing Loss: "Hearing Loss", "Deafness", "Presbycusis"

Fifteen index business days (as defined below) prior to each base index observation day, the index committee (as defined below) will determine if a new CDC report has been released. If a new CDC report has been released, the index committee will make any necessary updates to the list of specific health conditions that disproportionately affect senior citizens using the criteria identified above and determine a set of keywords relevant to such conditions to be used in the semantic searches effective with such base index observation day.

Identifying age-restricted services companies

In order to identify the companies that provide age-restricted services that are used by senior citizens, the index sponsor identifies services used by senior citizens. Currently, the index sponsor has identified two such services for this purpose: Senior Housing Facilities and Medicare Insurance.

Each age-restricted service identified as described in the paragraph above is paired with specific keywords and semantic searches are conducted over the most recent annual regulatory filings of all companies with U.S. exchange-listed common equity filed with the SEC in order to identify companies with a positive match for one or more keyword(s). All companies with a positive match are added to the underlying stock universe for potential inclusion in the base index.

The services and keywords associated with each service are:

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- Senior Housing Facilities: "Independent Living Facilities", "Retirement Communities", "Assisted Living", "Senior Housing"
- Medicare Insurance: "Medicare", "Medicare Advantage", "Medicare Supplement", "Medicare Part D"

Fifteen index business days prior to each base index observation day, the index committee will determine if there are additional age-restricted services used by for senior citizens. If a service is identified, the index committee will add it to the list and determine a set of keywords relevant to such services to be used in the semantic searches effective with such base index observation day.

Apply underlying stock screens

Any stock that fails any of the following screens is removed from the underlying stock universe:

Average daily dollar volume: stocks having an average daily dollar volume ("ADDV") of less than $1,000,000 over the most recent 30-day period are removed from the underlying stock universe. ADDV for a stock on a given day is equal to the 30-day average of such stock's daily dollar value from (but excluding) such day to (and including) the day which is the 30th calendar day prior thereto. For each trading day during the 30-calendar day period, the daily dollar value is equal to such stock's trading volume for such day multiplied by such stock's last available price as of the close of trading for such day. A stock's trading volume may be equal to zero on a trading day. In addition, while the ADDV period consists of 30 calendar days, only trading days within such period are used for purposes of the ADDV calculation and the actual number of trading days varies from period to period.

Market capitalization: stocks of companies whose market capitalization is less than $500 million are removed from the underlying stock universe. Market capitalization for a company stock on a given day is calculated by multiplying the total number of outstanding shares on such day by the closing price of a share of such stock on such day. In the event that an index market disruption event (determined with respect to a stock subject to this market capitalization screen as specified in the "Index Market Disruptions" section below) occurs or is continuing on such day with respect to such stock, the market capitalization will be equal to the market capitalization on the immediately prior index business day on which no index market disruption event occurs or is continuing with respect to such stock. (For purposes of determining whether an index market disruption event occurs or is continuing with respect to a stock in the context of this market capitalization screen, any references in the "Index Market Disruptions" section to "underlying stock" shall mean any stock subject to this market capitalization stock screen.)

Closing price: stocks having a closing price of less than $1 at any point over the most recent thirty day period are removed from the underlying stock universe.

Revenue: stocks of companies having total revenue of less than $25 million over the previous twelve month period as of their most recent annual regulatory filing are removed from the underlying stock universe.

Return data: stocks having less than 60 days of historical return data over the most recent 90 day period are removed from the underlying stock universe.

Apply Thomson Reuters Business Classification screen

The Thomson Reuters Business Classification (the "TRBC") for each company included in the underlying stock universe is obtained. Any company that has an Economic Sector classification of "Healthcare" or a Business Sector classification of "Real Estate" is retained in the underlying stock universe. All other stocks are removed from the underlying stock universe.

Calculate exposure to the aging of America

For each company included in the underlying stock universe, such company's "exposure to the aging of America" is equal to the quotient of (i) such company's total theme revenue (calculated as described below) divided by (ii) such company's total revenue.

In order to determine a company's total theme revenue, the most recent annual regulatory filing for such company is reviewed to determine all revenue streams that contain revenue derived from a "senior product" or a "senior service" (each a "theme revenue stream"). A "senior product" is a drug or therapy that the index sponsor determines is used to treat a health condition that disproportionately affects senior citizens, as identified under Identifying therapy developing companies above. A "senior service" is a service that the index sponsor determines is used by senior citizens, as identified under Identifying age-restricted services companies above. This review is not limited to searches for the

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keywords described above, and additional company information and third party information may be, and often is, consulted to determine if a specific product or service is a senior product or senior service.

For example, the index sponsor generally will classify a drug used to treat melanoma as a senior product, as melanoma is a type of cancer, even though "melanoma" is not one of the keywords associated with cancer used to identify companies for potential inclusion in the underlying stock universe. Further, the index sponsor generally will classify a nursing home as a senior service, as it is a type of senior housing facility, even though "nursing home" is not one of the keywords associated with senior housing facility used to identify companies for potential inclusion in the underlying stock universe.

With respect to a company, the sum of the theme revenue from each theme revenue stream is such company's total theme revenue.

The theme revenue for each theme revenue stream is determined by calculating the senior revenue therein and applying the applicable adjustments, as follows:

1. Determine Senior Revenue

For each theme revenue stream of a company, the index sponsor determines the amount of revenue that is derived from senior products or senior services ("senior revenue").

i. If a theme revenue stream includes only revenue derived from one or more senior products and/or senior services, all revenue reported by that theme revenue stream will be considered senior revenue and the senior revenue from each senior product and senior service will be adjusted as set forth under "Adjust Senior Revenue" below.

ii. If a theme revenue stream includes a combination of revenue derived from senior products and/or senior services and non-senior products and/or non-senior services, and the index sponsor has determined that appropriate company data (either within or outside of the annual regulatory filing) exists that sets forth the amount of revenue included in the theme revenue stream that is senior revenue, such data will be used as the amount of senior revenue in such theme revenue stream and such senior revenue from each senior product and senior service will be adjusted as set forth under "Adjust Senior Revenue" below.

iii. If a theme revenue stream includes a combination of revenue derived from senior products and/or senior services and non-senior products and/or non-senior services, and the index sponsor has determined that no appropriate company data (either within or outside of the annual regulatory filing) sets forth the amount of revenue included in the theme revenue stream that is senior revenue, the revenue in such theme revenue stream will be equally allocated and adjusted as described under "Equal Allocation" below.

2. Adjust Senior Revenue

Once the senior revenue has been identified for a theme revenue stream, such senior revenue will be subject to the following adjustment, as applicable, and the resulting total will be such theme revenue stream's theme revenue:

i. Senior revenue derived from a single senior product ("senior product adjustment"): The senior revenue amount will be multiplied by (a) if the index sponsor determines that it is available and appropriate for use, the percentage of senior citizen use of such product as provided in company data (either within or outside of the annual regulatory filing), or (b) if the preceding percentage is not available or appropriate for use, the percentage of new cases of the medical condition the senior product is used to treat that is attributable to senior citizens, as identified by the most recent CDC report.

1. In instances where a single senior product is used to treat more than one medical condition, the senior revenue attributed to such product will be adjusted by (a) if the index sponsor determines that it is available and appropriate for use, the percentage of senior citizen use of such product as provided in company data (either within or outside of the annual regulatory filing), or (b) if the preceding percentage is not available or appropriate for use, the percentage of new cases of the medical condition the product is primarily

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used to treat that is attributable to senior citizens, as identified by the most recent CDC report.

For example, if a company reports earnings of $1 million in a theme revenue stream where the revenue is attributed to a chronic obstructive pulmonary disease ("COPD") therapy, and the company does not provide data on the percentage of senior citizen use of such therapy, the revenue attributed to the COPD therapy would be adjusted by the percentage of new cases of COPD attributable to seniors, as identified by the most recent CDC report (the applicable senior product adjustment). If the applicable senior product adjustment was 33.5%, the theme revenue related to that theme revenue stream would be calculated as 33.5% of $1 million, or $335,000.

ii. Senior revenue derived from a single senior service ("senior service adjustment"): The senior revenue amount will be multiplied by (a) if the index sponsor determines that it is available and appropriate for use, the percentage of use of such service attributable to senior citizens provided in company data (either within or outside of the annual regulatory filing) or (b) if the preceding percentage is not available or appropriate for use and the index sponsor determines that appropriate government data on the incidence of senior use of such service exists, the percentage of use of such service attributable to senior citizens, as identified by such government data.

For example, if a company reports earnings of $2 million in a theme revenue stream where the revenue is attributed to providing senior housing facilities, and the company does not provide data on the percentage of senior citizen use of such service, the revenue attributed to senior housing facilities generally would be adjusted by the percentage of senior citizen use of senior housing facilities, as identified by government data (the applicable senior service adjustment). If the applicable senior service adjustment was 92%, the theme revenue related to that theme revenue stream would be calculated as 92% of $2 million, or $1,840,000.

iii. In instances where the senior revenue for a theme revenue stream is derived from more than one senior product or senior service, the index sponsor will look to (a) appropriate company data (either within or outside of the annual regulatory filing) or (b) if the index sponsor determines that such company data is not available, appropriate government data available that sets forth, or can be used as a proxy in order to estimate, the amount of such senior revenue that can be attributed to each senior product or senior service included in the theme revenue stream. If the index sponsor determines that such data exists, it will be applied to the senior revenue as, or as a proxy in order to estimate, the amount of senior revenue that should be allocated to each senior product and/or senior service. The revenue as allocated to each senior product or senior service then will be adjusted by the applicable senior product adjustment or senior service adjustment.

For example, if a company reports senior revenue of $2 million in a theme revenue stream where revenue is attributed to both a cancer treatment drug and a diabetes therapy, and the company specifies on its website (but perhaps not in its annual regulatory filing) that $1 million in revenue is attributed to such cancer treatment drug, the revenue attributed to the cancer treatment drug would be adjusted by the percentage of new cases of cancer attributable to senior citizens, as identified by the most recent CDC report (the applicable senior product adjustment) and the revenue attributed to the diabetes therapy would be adjusted by the percentage of new cases of diabetes attributable to senior citizens, as identified by the most recent CDC report (the applicable senior product adjustment). If the senior product adjustment for the cancer treatment drug was 51.1% and the senior product adjustment for diabetes was 42.1%, the theme revenue for the theme revenue stream would be calculated as the sum of 51.1% of $1 million and 42.1% of $1 million, or $932,000.

iv. In instances where the senior revenue for a theme revenue stream is derived from more than one senior product or senior service, and the index sponsor has determined that no appropriate company data (either within or outside of the annual regulatory filing) or appropriate government data is available that sets forth, or can be used as a proxy in order to estimate, the amount of such senior revenue that can be attributed to each senior product or senior service included in the theme revenue stream, the total revenue in the theme revenue stream will be adjusted by the lowest of the applicable senior product adjustment(s) or senior service adjustment(s).

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For example, if a company reports senior revenue of $2 million in a theme revenue stream where revenue is attributed to both a cancer treatment drug and a diabetes therapy, but the company does not specify, either in its annual filing or in additional company data, the amount of revenue allocated to each therapy, and the index sponsor has determined that no appropriate government data is available as a proxy to estimate the amount of revenue that should be allocated to each product, the total senior revenue will be further adjusted by the lowest of the applicable senior product adjustments. If the senior product adjustment for cancer was 51.1% and the senior product adjustment for diabetes was 42.1%, the theme revenue for the theme revenue stream would be calculated as 42.1% of $2 million, or $842,000.

3. Equal Allocation

Where senior revenue is included in a theme revenue stream where revenue is derived from a combination of senior products and/or senior services and non-senior products and/or non-senior services, but the index sponsor has determined that no appropriate company data (either within or outside of the annual regulatory filing) is available that sets forth the amount of revenue included in the theme revenue stream that is senior revenue, the total amount of revenue in such theme revenue stream is equally allocated to each product and/or service included in the theme revenue stream by dividing the total revenue in such theme revenue stream by the number of products and/or services in such theme revenue stream (as set forth in the description of such revenue stream in the company's annual filing). The revenue allocated to each senior product and/or senior service included in the theme revenue stream then will be adjusted by the applicable senior product adjustment or senior service adjustment. If the total of the as adjusted revenue attributable to each senior product or senior service in the theme revenue stream is greater than 10% of such theme revenue stream, only 10% of the total revenue from such theme revenue stream will be included in the company's theme revenue calculation.

For example, the theme revenue for a company that has only one revenue stream, which is a theme revenue stream, which reports revenue from (a) oncology solutions, (b) vaccines, and (c) diabetes care in such theme revenue stream, but does not break down revenues earned from each of the three sources, will be calculated by dividing the total revenue from such revenue stream by the total number of products and services reported in the revenue stream (in this case, three). The resulting percentage of the revenue stream attributable to each product and/or service used by senior citizens (33.3% for oncology solutions and 33.3% for diabetes care) will then be adjusted by the applicable data obtained from the CDC on the percentage of new cases of such medical condition attributable to senior citizens. If the sum of the adjusted revenue numbers for oncology solutions and diabetes care exceeds 10% of the revenue reported in the theme revenue stream, then 10% of the company's total revenue will be the total theme revenue for the company.

Stocks of companies with less than 10% of exposure to the aging of America are removed from the underlying stock universe.

All remaining stocks are included in the base index and become the underlying stocks.

A summary flow chart of the total theme revenue determination, entitled "Summary Flow Chart II: Total Theme Revenue" can be found at the end of this discussion of the index.

Determining the weight of each underlying stock in the base index

Initial weights

For each underlying stock, the index calculation agent determines the company's market capitalization derived from its exposure to the aging of America. The "adjusted market capitalization" is equal to a company's exposure to the aging of America multiplied by such company's total market capitalization.

A company's "total market capitalization" is equal to the total outstanding shares of such company on the base index observation day multiplied by the closing price of such shares on the base index observation day. In the event that an index market disruption event occurs or is continuing on a base index observation day with respect to an underlying stock that was included in the base index on the index business day prior to such base index observation day, the market capitalization of such underlying stock on the immediately prior index business day on which no index market disruption event occurs or is continuing with respect to such underlying stock will be the market capitalization used to calculate such underlying stock's adjusted market capitalization. In the event that an index market disruption event occurs or is continuing on a base index observation day with respect to a stock that was not included in the base index on the index

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business day prior to such base index observation day, the theme adjusted market capitalization for such stock will be set to zero, and such stock will not be included in the base index.

The adjusted market capitalization of an underlying stock is then divided by the aggregate of the adjusted market capitalization for all underlying stocks. The result is the initial weight for such underlying stock and a thematically weighted portfolio.

Target weights

The initial weight for each stock will then be adjusted by the index calculation agent, as necessary, to comply with the weight constraints. The resulting adjusted weight is the target weight for the underlying stock.

The weight constraints apply to each underlying stock so that each underlying stock must have a minimum weight of not less than 0.1% and a maximum weight of not more than the lesser of (i) 10% and (ii) ADDV (as defined under "Base Index Components" above, and expressed as a numerical value) x 10^{-9}, expressed as a percentage. Negative weights are not permitted.

For any underlying stock with an initial weight of less than 0.1%, the target weight for such underlying stock will be adjusted to 0.1% prior to any additional adjustment to such underlying stock's target weight that is made to comply with the underlying stock maximum weight constraint of any other underlying stock.

For any underlying stock with an initial weight greater than the maximum weight for such underlying stock, the target weight for such underlying stock will be set to such underlying stock's maximum weight. The difference in the weight between the underlying stock's initial weight and the underlying stock's target weight will be proportionally redistributed to the rest of the underlying stock target weights, subject to the maximum weight constraint for each underlying stock. This is an iterative process and is performed repeatedly, until no underlying stock violates its maximum weight constraint.

The sum of the weights of the underlying stocks (and, in the limited circumstance described under "Short-term treasury bond ETF position" below, the underlying ETF) is always equal to 1.0.

If the sum of the target weights for the underlying stocks is less than 1.0, the base index will also include exposure to the underlying ETF, such that the sum of the target weights for the underlying stocks and the weight of the underlying ETF will equal 1.0, as described under "Short-term treasury bond ETF position" below.

Short-term treasury bond ETF position

If on any base index observation day, the sum of the target weights for the underlying stocks is less than 1.0, the base index will also include exposure to the underlying ETF. The underlying ETF will have a weight in the base index equal to the difference between 1.0 and the sum of the target weights for all underlying stocks (the "underlying ETF target weight").

The short-term treasury bond ETF position is intended to express the notional returns accruing to a hypothetical investor from an investment in the underlying ETF, which is comprised of publicly-issued U.S. Treasury securities that have a remaining maturity of greater than one month and less than or equal to one year. The underlying ETF seeks investment results that correspond generally to the price and yield performance before fees and expenses, of public obligations of the U.S. Treasury that have a minimum term to maturity of greater than one month and less than or equal to one year, as measured by the ICE U.S. Treasury Short Bond Index. The underlying ETF's shares trade on the NASDAQ under the ticker symbol "SHV". We obtained the following fee information from the iShares® website without independent verification. The underlying ETF investment advisor, BlackRock Fund Advisors ("BFA") is entitled to receive a management fee from the underlying ETF based on a percentage of the ETFs average daily net assets, at an annual rate of 0.15%. BFA is responsible for substantially all expenses of the ETF, except interest expenses, taxes, brokerage expenses, future distribution fees or expenses and extraordinary expenses.

If for any reason the underlying ETF ceases to exist, is delisted, terminated, wound up, liquidated or files for bankruptcy, is combined with another exchange traded fund that has a different investment objective, or changes its currency of denomination, then the index committee, in its sole discretion, can choose to replace the underlying ETF with a successor exchange traded fund that in the determination of the index committee most closely replicates the underlying ETF. Any such changes or actions taken with respect to the underlying ETF 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 change or actions.

Base index rebalancing period

The target weight of each underlying stock and the underlying ETF target weight, if applicable, for each annual

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rebalancing will be determined on the applicable base index observation day regardless of whether an index market disruption event, as described below under "Index Market Disruptions", occurs.

The annual rebalancing of the underlying stocks based on their target weights will be implemented over the base index rebalancing period. The base index rebalancing period is comprised of five index rebalancing days, beginning on the day that is three index business days after the applicable base index observation day and including the four following index business days, subject to adjustment as described below under "Index Market Disruptions". Following each base index observation day, any change in the number of shares of an underlying stock in the base index from the prior base index observation day based on such underlying stock's target weight will be implemented incrementally on each day during the applicable base index rebalancing period. While the number of shares of each underlying stock will be rebalanced incrementally based on its target weight over the base index rebalancing period, because of price movements of the underlying stocks, the weights of the underlying stocks at the end of the base index rebalancing period and thereafter will be greater than or less than (but not equal to) the applicable underlying stock target weights set on the corresponding base index observation date.

If, on a base index observation day, the base index includes exposure to the underlying ETF, the number of shares of the underlying ETF will be rebalanced, as necessary, based on the underlying ETF target weight along with the number of shares of the underlying stocks incrementally on each day in such base index rebalancing period.

A summary flow chart of the annual base index rebalancing process, entitled "Summary Flow Chart I: Rebalancing" can be found at the end of this discussion of the index.

Total Return Index Rebalancing

In order to control volatility, on each total return index rebalancing day, which is each index business day, the exposure of the index to the base index may be partially rebalanced into the money market position if the realized volatility of the base index exceeds 7.0% (the "volatility cap"). The base index as controlled for volatility is the "total return index".

An "index business day" is a day on which the New York Stock Exchange is open for its regularly trading session.

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 with respect to each total return index rebalancing day. Annualized base index realized volatility is the degree of variation in the daily closing prices of the underlying stocks and the underlying ETF, if applicable, over the relevant volatility cap period. The "volatility cap period" is the period from (and including) the day which is 21 index business days before the given total return index rebalancing day to (but excluding) the day that is 1 index business day prior to the given total return index rebalancing day. As long as with respect to 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%, meaning that none of the base index weight will be rebalanced into the money market position. However, if with respect to 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 money market position for that total return index rebalancing day, done 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 total return index's exposure to the respective underlying stock weights and the underlying ETF weight, if applicable, within the index will be ratably reduced.

The money market position

The money market position is intended to express the notional returns accruing to a hypothetical investor from an investment in a notional money market account denominated in U.S. dollars that accrues interest at a rate determined by reference to the notional interest rate, which equals 3-month USD LIBOR, as described below. The money market position will have a positive notional return if the notional interest rate is positive.

On any calendar day, the value of the money market position (the "money market position value") will equal the product of the money market position value on the notional interest rate reset date immediately preceding the given calendar day multiplied by 1 plus the product of (i) the notional interest rate on the notional interest rate reset date immediately preceding the given calendar day multiplied by (ii) the day count fraction for the period from (but excluding) the notional interest rate reset date immediately preceding the given calendar day to (and including) the given calendar day, determined by using the day count fraction of actual/360.

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The notional interest rate will be reset quarterly, on each January 2, April 2, July 2, and October 2 or, if one of those dates is not an index business day, on the index business day immediately following such date. Each such date is referred to herein as a "notional interest rate reset date".
The "notional interest rate" on any notional interest rate reset date will equal 3-month USD LIBOR, which is the offered rate for three-month deposits in U.S. dollars, as that rate appears on Reuters screen 3750 page as of 11:00 a.m., London time, as observed two London business days prior to the relevant notional interest rate reset date. Each such date is referred to herein as a "USD LIBOR interest determination date". "Reuters screen" means the display on the Reuters service, or any successor or replacement service, on the page specified above, or any successor or replacement page on that service. A "London business day" is a day on which commercial banks and foreign currency markets settle payments and are open for general business in London. If the rate described above does not so appear on Reuters screen 3750 page, then 3-month USD LIBOR will be determined on the basis of the rates at which three-month deposits in U.S. dollars are offered by four major banks in the London interbank market selected by the index calculation agent at approximately 12:00 P.M., London time, on the relevant USD LIBOR interest determination date, to prime banks in the London interbank market, beginning on the relevant notional interest rate reset date, and in a representative amount. The index calculation agent will request the principal London office of each of these major banks to provide a quotation of its rate. If at least two quotations are provided, 3-month USD LIBOR for the relevant notional interest rate reset date will be the arithmetic mean of the quotations. If fewer than two of the requested quotations described above are provided, 3-month USD LIBOR for the relevant notional interest rate reset date will be the arithmetic mean of the rates quoted by major banks in New York City, selected by the index calculation agent, at approximately 11:00 A.M., New York City time, on the relevant notional interest rate reset date, for loans in U.S. dollars to leading European banks for a period of three months, beginning on the relevant notional interest rate reset date, and in a representative amount. If no quotation is provided as described in the preceding paragraph, then the index calculation agent, after consulting such sources as it deems comparable to any of the foregoing quotations or display page, or any such source as it deems reasonable from which to estimate 3-month USD LIBOR or any of the foregoing lending rates, shall determine 3-month USD LIBOR for that notional interest rate reset date in its sole discretion.
The "day count convention" is equal to (actual/360).
A summary flow chart of the daily total index rebalancing process, entitled "Summary Flow Chart I: Rebalancing" can be found at the end of this discussion of the index.
Calculating the Index Value
Index value calculation
The index is calculated on an excess return basis, meaning that the value of the index is equal to the excess return of the total return index over the sum of (i) 0.75% per annum (accruing daily) plus (ii) the return that could be earned on a notional cash deposit at the notional interest rate, compounded daily.
On any given index business day, the "index value" is equal to (i) the product of (a) the index value as of the notional interest rate reset date immediately preceding the given index business day multiplied by (b) the difference of (1) the quotient of (A) the total return index value as of the given index business day divided by (B) the total return index value as of the notional interest rate reset date immediately preceding the given index business day minus (2) the product of (A) the notional interest rate as of the notional interest rate reset date immediately preceding the given index business day multiplied by (B) the day count fraction for the period from (but excluding) the notional interest rate reset date immediately preceding (but not including) the given index business day to (and including) the given index business day, determined using the day count convention reduced by (ii) the product of (a) 0.75% per annum multiplied by (b) the day count fraction for the period from (but excluding) the notional interest rate reset date immediately preceding (but not including) the given index business day to (and including) the given index business day, determined using the day count convention.
Total return index value calculation
On any given index business day, the "total return index value" is equal to the product of (i) the total return index value as of the total return index rebalancing day immediately preceding the given index business day multiplied by (ii) the sum of (a) the product of (1) the quotient of the base index value as of the given index business day divided by the base index value as of the total return index rebalancing day immediately preceding the given index business day

multiplied by (2) the base index weight as of the total return index rebalancing day immediately preceding the given index business day plus (b) the product of (1) the quotient of the money market position value as of the given index business day divided by the money market position value as of the total return index rebalancing day immediately preceding the given index business

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day multiplied by (2) 1 minus the base index weight as of the total return index rebalancing day immediately preceding the given index business day.

The "base index weight" is equal to the lesser of (i) 100% and (ii) the quotient of (a) the volatility cap divided by (b) the annualized base index realized volatility as of the total return index rebalancing day immediately preceding (but not including) the given index business day.

Base index value calculation

On any given index business day, the "base index value" is equal to the sum of, for each underlying stock and the underlying ETF, if applicable, (a) the number of underlying stock shares or underlying ETF shares, if applicable, as of the given index business day multiplied by (b) the closing price of such underlying stock or the underlying ETF, if applicable, as of the given index business day.

On any given index business day that is a base index rebalancing day, for each underlying stock, the number of "underlying stock shares" for such underlying stock is equal to the product of (i) the weight for such underlying stock calculated as though no index market disruption event occurred or was continuing on the given base index rebalancing day multiplied by (ii) the quotient of (a) the sum of, for each underlying stock and the underlying ETF, if applicable, the product of (I) the number of underlying stock shares or underlying ETF shares, if applicable, as of the index business day immediately preceding the given base index rebalancing day multiplied by (II) the closing price of such underlying stock or the underlying ETF, if applicable, as of the index business day immediately preceding the given base index rebalancing day divided by (b) the closing price of such underlying stock on the index business day immediately preceding the given base index rebalancing day.

On any given index business day that is a base index rebalancing day, for each underlying stock, the "weight for such underlying stock calculated as though no index market disruption event occurred or was continuing on the given base index rebalancing day" is calculated as the sum of (i) the underlying stock weight on the index business day immediately preceding the first base index rebalancing day of the relevant base index rebalancing period plus (ii) the product of (a) the remainder of (I) the underlying stock target weight that was determined on the base index observation day immediately preceding the given base index rebalancing day minus (II) the underlying stock weight on the index business day immediately preceding the first base index rebalancing day of the relevant base index rebalancing period multiplied by (b) the remainder of (I) the number of base index rebalancing days elapsed as of (and including) the given base index rebalancing day in the relevant base index rebalancing period divided by (II) the total number of base index rebalancing days in the relevant base index rebalancing period.

The "underlying stock weight" for each underlying stock on any given index business day is calculated as the quotient of (i) the product of (a) the number of underlying stock shares of such underlying stock on the given index business day multiplied by (b) the closing price of the underlying stock on the given index business day divided by (ii) the sum of, for each underlying stock and the underlying ETF, if applicable, the product of (a) the number of underlying stock shares for such underlying stock or underlying ETF shares, if applicable, on the given index business day multiplied by (b) the closing price of such underlying stock or the underlying ETF, if applicable, on the given index business day.

On any given index business day that is a base index rebalancing day, for the underlying ETF, if applicable, the number of "underlying ETF shares" is equal to the product of (i) the weight for the underlying ETF calculated as though no index market disruption event occurred or was continuing on the given base index rebalancing day multiplied by (ii) the quotient of (a) the sum of, for each underlying stock and the underlying ETF, the product of (I) the number of underlying stock shares or underlying ETF shares as of the index business day immediately preceding the given base index rebalancing day multiplied by (II) the closing price of such underlying stock or the underlying ETF as of the index business day immediately preceding the given base index rebalancing day divided by (b) the closing price of the underlying ETF on the index business day immediately preceding the given base index rebalancing day.

For the underlying ETF, if applicable, the "weight for the underlying ETF calculated as though no index market disruption event occurred or was continuing on the given base index rebalancing day" is calculated as the sum of (i) the underlying ETF weight on the index business day immediately preceding the first base index rebalancing day of the relevant base index rebalancing period plus (ii) the product of (a) the remainder of (I) the underlying ETF target weight that was determined on the base index observation day immediately preceding the given base index rebalancing day minus (II) the underlying ETF weight on the index business day immediately preceding the first base index rebalancing day of the relevant base index rebalancing period multiplied by (b) the remainder of (I) the number of base index rebalancing days elapsed as of (and including) the given base index rebalancing day in the relevant base index

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rebalancing period divided by (II) the total number of base index rebalancing days in the relevant base index rebalancing period.

The “underlying ETF weight” on any given index business day is calculated as the quotient of (i) the product of (a) the number of underlying ETF shares on the given index business day multiplied by (b) the closing price of the underlying ETF on the given index business day divided by (ii) the sum of, for each underlying stock and the underlying ETF, the product of (a) the number of underlying stock shares for such underlying stock or underlying ETF shares, if applicable, on the given index business day multiplied by (b) the closing price of such underlying stock or the underlying ETF, if applicable, on the given index business day.

On any given index business day that is a base index rebalancing day, in the event that there is a potential adjustment event affecting the underlying stock or the underlying ETF, if applicable, adjustments to the number of underlying stock shares or underlying ETF shares, if applicable, computed as described above, will be made as described under “Potential Adjustment Events” below.

On any given index business day that is not a base index rebalancing day, the number of underlying stock shares and underlying ETF shares, if applicable, will remain unchanged from the last base index rebalancing day, subject to any potential adjustment events affecting the underlying stock or the underlying ETF, if applicable. In the case of a potential adjustment event affecting an underlying stock or the underlying ETF, if applicable, adjustments to the number of underlying stock shares or underlying ETF shares, if applicable, will be made as described under “Potential Adjustment Events” below.

Index Market Disruptions

Index value calculation

If on any index business day, an index market disruption event occurs or is continuing with respect to any non-zero weighted underlying stock or underlying ETF, if applicable, included in the index, the index calculation agent shall postpone calculation of the index value to the next index business day on which no index market disruption event occurs or is continuing with respect to any non-zero weighted underlying stock or underlying ETF, if applicable, included in the index and an indicative level for the index will be published. Such level will be identified as a “disrupted indicative level”. The index calculation agent shall resume calculating the index value on the first index business day on which no index market disruption event is occurring or continuing with respect to any underlying stock or the underlying ETF, if applicable, by using (i) for the number of underlying stock shares of each underlying stock or the number of underlying ETF shares of the underling ETF, if applicable, that had not been affected by such index market disruption event, the number of underlying stock shares and underlying ETF shares, if applicable, that would have been used as if the base index rebalancing day(s), if applicable, occurred on each index business day on which such index market disruption event occurred or was continuing 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 index market disruption event occurred or was continuing and (ii) for the number of underlying stock shares of each underlying stock or the number of underlying ETF shares of the underlying ETF, if applicable, that had been affected by such index market disruption event, the number of underlying stock shares and underlying ETF shares, if applicable, on the index business day immediately preceding the first day of such index market disruption event.

On the sixth index business day following the occurrence of an index market disruption event with respect to any underlying stocks or the underlying ETF, if applicable, included in the index, if such index market disruption event is continuing and such underlying stocks or the underlying ETF, if applicable, have not been removed from the index, the index committee may determine in its sole discretion to instruct the index calculation agent to calculate the index, using a price for such underlying stocks or the underlying ETF, if applicable, 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 index calculation agent, the index committee may revisit such determination on any index business day thereafter on which the index market disruption event is continuing.

Notwithstanding the foregoing, in the event of a force majeure event in which all underlying stocks and the underlying ETF, if applicable, are affected, the calculation and publication of the index will be postponed until, in the determination of the index calculation agent, such force majeure event has been resolved.

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Base index rebalancing day or total return index rebalancing day

Base index rebalancing day

As discussed above, the target weight attributed to each underlying stock and the underlying ETF, if applicable, will be determined on each base index observation day regardless of whether an index market disruption event (as defined below) occurs.

If an index market disruption event affects an underlying stock or the underlying ETF, if applicable, on a base index rebalancing day, the index calculation agent shall then rebalance the base index for that base index rebalancing day and for every subsequent base index rebalancing day within the applicable base index rebalancing period as if (i) for each underlying stock or the underlying ETF, if applicable, that had not been affected by such index market disruption event, the base index rebalancing day occurred on such day and (ii) for each underlying stock or the underlying ETF, if applicable, that had been affected by such index market disruption event, the base index rebalancing day did not occur on such day (i.e., each underlying stock or the underlying ETF, if applicable, that was affected by such index market disruption event is not further rebalanced during such base index rebalancing period).

Therefore, if an underlying stock or the underlying ETF, if applicable, is affected by an index market disruption event on a base index rebalancing day, the number of shares of such underlying stock or the underlying ETF, if applicable, will not be further rebalanced over the remaining base index rebalancing days in the applicable base index rebalancing period. Instead, the number of such underlying stock shares or underlying ETF shares, if applicable, will be held constant over the remaining days in the applicable base index rebalancing period, such that the number of underlying stock shares or underlying ETF shares, if applicable, will remain equal to the number of underlying stock shares or underlying ETF shares, if applicable, after the close on the index business day immediately preceding the base index rebalancing day on which it was first affected by such index market disruption event.

For each underlying stock or the underlying ETF, if applicable, affected by an index market disruption event on a base index rebalancing day, the underlying stock weight or underlying ETF weight, if applicable, for each subsequent base index rebalancing day during the applicable base index rebalancing period will be calculated as the quotient of (i) the product of (a) the number of such underlying stock shares or underlying ETF shares, if applicable, after the close on the index business day immediately preceding the given base index rebalancing day multiplied by (b) the last available traded price of such underlying stock or underlying ETF, if applicable, on the index business day immediately preceding the given base index rebalancing day divided by (ii) the sum of, for each underlying stock and the underlying ETF, if applicable, the product of (a) the number of underlying stock shares or underlying ETF shares, if applicable, on the index business day immediately preceding the given base index rebalancing day multiplied by (b) as applicable, the closing price or the last available traded price of such underlying stock or the underlying ETF, if applicable, as of the index business day immediately preceding the given base index rebalancing day.

If not all underlying stocks and the underlying ETF, if applicable, are affected by an index market disruption event, then the shares of such underlying stocks and the underlying ETF, if applicable, not affected by an index market disruption event will not be rebalanced over the base index rebalancing period based on the underlying stock target weight or underlying ETF target weight, if applicable. Instead, on each subsequent base index rebalancing day, the number of shares of the underlying stock and underlying ETF, if applicable, will be adjusted such that each underlying stock and the underlying ETF, if applicable, will retain a weight within the remaining weight of the base index not allocated to the underlying stock(s) or the underlying ETF, if applicable, affected by an index market disruption event that is proportional to its underlying stock target weight or underlying ETF target weight, if applicable, relative to the underlying stock target weights and underlying ETF target weight, if applicable, of all other underlying stocks and the underlying ETF, if applicable, not affected by an index market disruption event.

Thus, on each base index rebalancing day, the underlying stock weight and the underlying ETF weight, if applicable, for each underlying stock and the underlying ETF, if applicable, not affected by an index market disruption event is calculated as: the product of (i) the quotient of (a) the underlying stock weight or underlying ETF weight, if applicable, calculated as though no index market disruption event occurred or was continuing on any base index rebalancing day in the applicable base index rebalancing period divided by (b) 1 minus the sum of, for each underlying stock or the underlying ETF, if applicable, affected by an index market disruption event, such underlying stock weight or underlying ETF weight, if applicable, calculated as though no index market disruption event occurred or was continuing on any base index rebalancing day in the applicable base index rebalancing period multiplied by (ii)

1 minus the sum of the underlying stock weight(s) and underlying ETF weight, if applicable, for each underlying stock and the underlying ETF, if applicable, affected by an index market disruption event during the applicable base index rebalancing period.

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The number of underlying stock shares or underlying ETF shares, if applicable, for each underlying stock or the underlying ETF, if applicable, not affected by an index market disruption event will then, on each subsequent base index rebalancing day in the applicable base index rebalancing period, be calculated as the product of (i) the weight of the underlying stock or the underlying ETF, if applicable, for the given base index rebalancing day multiplied by (ii) the quotient of (a) the sum of, for each underlying stock or the underlying ETF, if applicable, (I) the number of underlying stock shares or underlying ETF shares, if applicable, after the close on the index business day immediately preceding the given base index rebalancing day multiplied by (II) as applicable, the closing price or the last available traded price if the closing price is not available of such underlying stock or the underlying ETF, if applicable, on the index business day immediately preceding the given base index rebalancing day divided by (b) the closing price of such underlying stock or the underlying ETF, if applicable, on the index business day immediately preceding the given base index rebalancing day.

For example, on a base index observation day, a hypothetical base index with no minimum or maximum weight constraints and no underlying ETF requirement consists of only four underlying stocks (stock A, stock B, stock C and stock D), all four of which were included in the base index on the index business day prior to the base index observation day, at weights of 40%, 20%, 30% and 10%, respectively. For illustrative purposes, the closing price for each underlying stock is assumed to be the same at $10 per share at the end of each day. With the assumption of a constant closing price of $10, the number of underlying stock shares on the index business day prior to the base index observation day can be assumed to be 4, 2, 3 and 1 for Stock A, Stock B, Stock C and Stock D, respectively. On the base index observation day, the underlying stock target weight of each underlying stock is determined to be equal to 20%, 50%, 10% and 20%, respectively.

If an index market disruption event affects stock A on the second base index rebalancing day in the applicable base index rebalancing period, the second base index rebalancing day and all subsequent base index rebalancing days in the base index rebalancing period will be deemed to have not occurred with respect to stock A. The number of underlying stock shares for stock A will be held constant at 3.6, which is equal to the number of underlying stock shares for stock A at the end of the first base index rebalancing day (the last index business day without an index market disruption event), as stock A was rebalanced by 1/5 of the decrease on the first base index rebalancing day in the base index rebalancing period. Similarly, the number of underlying stock shares for stock B, stock C and stock D will be 2.6, 2.6 and 1.2, respectively, at the end of the first base index rebalancing day.

The weight for Stock A, given the index market disruption event, will now be 36% for the second base index rebalancing day (compared to a weight of 32% which would have been expected for stock A for such day in the absence of the index market disruption event). The weights for stock B, stock C and stock D will be calculated such that each retains a weight within the remaining weight of the base index not allocated to stock A’s weight that is proportional to its underlying stock target weight relative to the other underlying stock target weights. The weight in the base index not allocated to stock A’s weight is equal to 64%. The weight in the base index that was to be allocated to stock A on the second base index rebalancing day in the absence of the index market disruption event was 68% for such day. Therefore, the weight for stock B on the second base index rebalancing day will be equal to 30.12% (the product of 32%/68% multiplied by 64%), versus the weight of 32% in the absence of the index market disruption event for stock B on the second base index rebalancing day) and the weight for stock C and stock D will be equal to 20.71% and 13.18%, respectively (versus the weights of 22% and 14%, respectively, on the second base index rebalancing day in the absence of an index market disruption event). Therefore, the underlying stock shares for stock A, stock B, stock C and stock D will be 3.6, 3.012, 2.071 and 1.318, respectively for the second base index rebalancing day.

In contrast, if an index market disruption event does not affect stock A during the base index rebalancing period but an index market disruption event affects stock B on the third base index rebalancing day in the applicable base index rebalancing period, the third base index rebalancing day and all subsequent base index rebalancing days in the base index rebalancing period will be deemed to have not occurred with respect to stock B. The underlying stock shares for stock B will be held at 3.2 shares for the remaining base index rebalancing days (as stock B was rebalanced by a total of 2/5 of the increase over the first and second base index rebalancing days in the base index rebalancing period to a weight of 32%). Therefore, on the fifth and final day of the base index rebalancing period, the weights for stock A, stock C and stock D will be calculated such that each retains a weight within the remaining weight of the base index not allocated to stock B's weight that is proportional to its underlying stock target weight relative to the others underlying stock target weights. The weight in the base index not allocated to stock B's weight is equal to 68%. Therefore, the weight for stock A on the final rebalancing day in the base index rebalancing period will be equal to 27.2% (versus the underlying stock target weight of 20%). Correspondingly, the underlying stock shares for stock A, stock B, stock C and stock D will be 2.72, 3.2, 1.36 and 2.72, respectively, at the end of the base index rebalancing period (in the absence of the index market

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disruption event affecting stock B, the underlying stock shares for stock A, stock B, stock C and stock D would have been 2, 5, 1 and 2, respectively).

Total return index rebalancing day

If a total return index rebalancing day must be effected on an index business day on which an index market disruption event affects an underlying stock or the underlying ETF, if applicable, the index calculation agent shall then rebalance the index as if (i) for each underlying stock or the underlying ETF, if applicable, that had not been affected by an index market disruption event, the total return index rebalancing day occurred on such day and (ii) for each underlying stock that had been affected by such index market disruption event, the total return index rebalancing day did not occur on such day, provided that for 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 stock or the underlying ETF, if applicable, that was affected by such index 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 an index market disruption event has occurred or is continuing with respect to any underlying stock or the underlying ETF, if applicable (except if such index market disruption event affects all the underlying stocks and the underlying ETF, if applicable), the base index value will include any underlying stock or the underlying ETF, if applicable, that has been affected by an index market disruption event and will be calculated (i) in the event of a trading disruption related to movements in price that exceed limits established by the relevant exchange, by assuming the closing price of the underlying stock or the closing price of the underlying ETF, if applicable, is equal to such price limit on such index business day or (ii) in the event of an index 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 last traded price of the underlying stock or the underlying ETF, if applicable, on the immediately preceding relevant index business day by the percentage change (whether positive or negative) of the underlying stock or the underlying ETF, if applicable, having the largest absolute total return (expressed in percentage; as adjusted for dividends, splits and spin-offs) from the immediately preceding relevant index business day to the relevant index business day; provided, that if an index market disruption event has occurred and is continuing with respect to more than one underlying stock on an index business day, then the index calculation agent shall consult with the index committee to determine the values to be used for such disrupted underlying stock 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.

An "index market disruption event" with respect to an underlying stock or the underlying ETF, if applicable, will have occurred in any of the following situations (as determined by the index calculation agent in its sole discretion): (i) the official closing price, level or other measure of any underlying stock or the underlying ETF, if applicable, 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 an exchange disruption; (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, and which the index calculation agent determines is material; (iv) with respect to the underlying ETF, the net asset value per share is not calculated or is not announced by the underlying ETF or the sponsor of the underlying ETF, and such event has a material impact on the index; (v) with respect to the underlying ETF, the underlying ETF or the sponsor of the Underlying ETF suspends creations or redemptions of shares, and such event has a material impact on the index; (vi) upon the occurrence or existence of an index dislocation; or (vii) upon the occurrence or existence of a force majeure 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 stock shares, the underlying ETF shares, the index underlying the underlying ETF or futures or options on the underlying stock shares, the underlying ETF shares or the index underlying the underlying ETF.

An "exchange disruption" means any event that disrupts or impairs (as determined by the index calculation agent in its sole discretion) the ability of market participants in general to effect transactions in, or obtain market values for, the shares of the underlying stock or underlying ETF on the relevant exchange or futures or options on the underlying stock shares, underlying ETF shares or the index underlying the underlying ETF, in each case on the relevant related exchange.

An "exchange" means the primary exchange on which shares of an underlying stock or the underlying ETF are listed.

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A "related exchange" means, in respect of an underlying stock, the underlying ETF or the index underlying the underlying ETF, 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 stock, the underlying ETF or the index underlying the underlying ETF, as the case may be, are traded, if any.

An "index dislocation" means the index calculation agent determines that a market participant, as a result of a market-wide condition relating to the index, any underlying stock or the underlying ETF, would (i) be unable, after using commercially reasonable efforts, to acquire, establish, re-establish, substitute, maintain, unwind, or dispose of all or a material portion of any hedge position relating to the index, an underlying stock or the underlying ETF, 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 index 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, index calculation agent or any of their respective affiliates that index calculation agent determines is likely to have a material effect on a component necessary for the calculation of the index, or on its ability to perform its role in respect of the index.

Potential Adjustment Events

In the event that an underlying stock or the underlying ETF, if applicable, is affected by a "potential adjustment event", the index calculation agent may make adjustments to the number of shares of such underlying stock or the underlying ETF, if applicable, reflected in the index and/or the weighting of the underlying stock or the underlying ETF, if applicable, if it determines that the event could have a diluting or concentrative effect on the theoretical value of the underlying stock shares or the underlying ETF shares, if applicable, and would not otherwise be accounted for in the index. The table below describes the potential adjustment events for which the index calculation agent may make adjustments. The effective date of any adjustment made will be as of the ex-date for the potential adjustment event with the exception of ad-hoc situations as described below.

Ad-hoc situations are defined as circumstances when either the index calculation agent receives information about the effectiveness of a transaction after the last trading day of an underlying stock or the underlying ETF, if applicable, or the underlying stock or the underlying ETF, if applicable, has been suspended from trading with immediate effect and will not resume trading until its delisting and/or has been delisted from the relevant exchange with immediate effect. In case of ad-hoc situations, the adjustment will be applied with a notice period of two index business days, i.e., the effective date for the adjustment will be the third index business day following the announcement.

If a potential adjustment event is announced prior to an underlying stock being removed from the index, but the ex-date occurs after the underlying stock is removed from the index, the underlying stock will never be adjusted for such adjustment event.

Potential Adjustment Event	Adjustment	Adjustment Description
Cash Dividends	Yes	The dividend is reinvested in the underlying stock or underlying ETF
Special/Extraordinary Dividends	Yes	The dividend is reinvested in the underlying stock or 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.
Stock Cash Acquisition	Yes	Where company X is acquired, proceeds equal to the original number of shares of company X multiplied by the latest available price determined by the calculation agent are reinvested proportionally across the index. If an ad-hoc situation applies, then a notional position in company X, where the valuation of the notional position is exactly equal to the proceeds, will be maintained in the base index during the two index business day notice period prior to the effective date.
Stock Merger	Yes	If company Y, the acquirer, is currently in the index, and irrespective of whether or not an ad-hoc situation applies to the adjustment event, then where shareholders receive "B" new shares of company Y for every "A" share of company X held, the shares of company X are replaced by shares of company Y where the number of shares of company Y is obtained by multiplying the original number of shares of company X by the quotient of B divided by A. If the acquirer is not a current index constituent, then the shares of the acquired company will be removed from the index and the proceeds will be reinvested proportionally across the index. If an ad-hoc situation applies and the acquirer company Z is not a current index constituent, and where shareholders receive "C" shares of company Z for every "A" share of company X held, then for the two index business day notice period, the shares of company X will be replaced by shares of company Z obtained by multiplying the original number of shares of company X by the quotient of C divided by A. The shares of company Z will be removed from the index on the effective date and proceeds will be reinvested proportionally across the index.
Stock Spinoff	Yes	Where shareholders receive "B" new shares of spun-off company Y for every "A" share of parent company X held, a position in company Y is initiated where the number of shares of company Y is obtained by multiplying the original number of shares of company X by the quotient of B divided by A. If the effective date of the spinoff is a base index rebalancing day, the effective proceeds of the spinoff obtained by multiplying the original number of shares of company X by the quotient of B divided by A and that further multiplied by the latest available price of company Y determined by the index calculation agent are reinvested in company X.
Stock Delisting	Yes	The proceeds received from the sale of the delisted securities are reinvested proportionally across the index. If an ad-hoc situation applies, then a notional cash position equal to the proceeds will be maintained in the base index during the two index business day notice period prior to the effective date.

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For potential adjustment events not listed in the table above, the index 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 stock shares or the underlying ETF shares, if applicable, and would not otherwise be accounted for in the index. Any such adjustments are publicly announced in advance wherever practicable.

The Index Committee and Index Calculation Agent