

GOLDMAN SACHS GROUP INC

Form 424B2

April 02, 2019

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Filed Pursuant to Rule 424(b)(2)

Registration Statement No. 333-219206

**The information in this preliminary prospectus supplement is not complete and may be changed. This preliminary prospectus supplement is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.**

Subject to Completion. Dated April 2, 2019.

**GS Finance Corp.**

\$

Basket-Linked Trigger GEARS due

guaranteed by

**The Goldman Sachs Group, Inc.**

**The notes will not bear interest.** The amount that you will be paid on your notes on the stated maturity date (expected to be April 30, 2024) is based on the performance of a weighted basket comprised of the EURO STOXX 50<sup>®</sup> Index (40.00% weighting), the FTSE<sup>®</sup> 100 Index (20.00% weighting), Nikkei 225 (20.00% weighting), the Swiss Market Index (7.50% weighting), the S&P/ASX 200 Index (7.50% weighting) and the Hang Seng Index (5.00% weighting) as measured from the trade date (expected to be April 26, 2019) to and including the determination date (expected to be April 25, 2024). The initial basket level is 100 and the final basket level will equal the *sum* of the products, as calculated for each basket index, of: (i) the final index level *divided* by (ii) the initial index level (set on the trade date) *multiplied* by (iii) the applicable initial weighted value for each basket index.

If the final basket level on the determination date is greater than the initial basket level, then the return on the notes will be positive and equal the *product* of the basket return (the percentage increase or decrease in the final basket level from the initial basket level) *multiplied* by between 2.72 and 2.82 (set on the trade date).

If the final basket level is equal to or less than the initial basket level but greater than or equal to the downside threshold of 65.00% of the initial basket level, you will receive the face amount of your notes at maturity.

If the final basket level is less than the downside threshold of 65.00% of the initial basket level, then the return on your notes will be negative and will equal the basket return. **If this occurs, you will receive significantly less than the face amount of your notes at maturity and you will lose your entire investment in the notes if the final basket level is zero.**

At maturity, for each \$10 face amount of your notes you will receive an amount in cash equal to:

if the final basket level is *greater than* the initial basket level, the *sum* of (a) \$10 *plus* (b) the *product* of the basket return *times* \$10 *times* between 2.72 and 2.82 (set on the trade date);

if the final basket level is *equal to* or *less than* the initial basket level but *greater than* or *equal to* the downside threshold of 65.00% of the initial basket level, \$10; or

if the final basket level is *less than* the downside threshold of 65.00% of the initial basket level, the *sum* of (a) \$10 *plus* (b) the *product* of the basket return *times* \$10, resulting in a loss proportionate to the negative basket return.

**Declines in one basket index may offset increases in the other basket indices. Due to the unequal weighting of each basket index, the performances of the EURO STOXX 50<sup>®</sup> Index, the FTSE<sup>®</sup> 100 Index and Nikkei 225 will have a significantly larger impact on your return on the notes than the performance of the Swiss Market Index, the S&P/ASX 200 Index or the Hang Seng Index.**

**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-13.**

*The estimated value of your notes at the time the terms of your notes are set on the trade date is expected to be between \$9.15 and \$9.45 per \$10 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.*

<b>Original issue date:</b>	expected to be April 30, 2019	<b>Original issue price:</b>	100.00% of the face amount
<b>Underwriting discount:</b>	3.85% of the face amount*	<b>Net proceeds to the issuer:</b>	96.15% of the face amount

\* UBS Financial Services Inc., as the selling agent, will receive a selling concession not in excess of 3.5% 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

UBS Financial Services Inc.

Selling Agent

Prospectus Supplement No.    dated    , 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 expected to be between \$9.15 and \$9.45 per \$10 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 \$ per \$10 face amount).*

*Prior to , 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 over a 365 day period from the time of pricing). On and after , 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 and 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.

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**Table of Contents****SUMMARY INFORMATION**

*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 and under Specific Terms of Your Notes on page S-23. 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. Also, references to the accompanying prospectus mean the accompanying prospectus, dated July 10, 2017, and references to the accompanying prospectus supplement mean the accompanying prospectus supplement, dated July 10, 2017, for Medium-Term Notes, Series E, in each case of GS Finance Corp. and The Goldman Sachs Group, Inc. References to the indenture in this prospectus supplement mean 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.*

**Key Terms**

**Issuer:** GS Finance Corp.

**Guarantor:** The Goldman Sachs Group, Inc.

**Underlying basket:** a weighted basket comprised of six underlying basket indices

**Underlying basket indices:** the EURO STOXX 50<sup>®</sup> Index (Bloomberg symbol, SX5E Index), as published by STOXX Limited; the FTSE<sup>®</sup> 100 Index (Bloomberg symbol, UKX Index), as published by FTSE Russell; the Nikkei 225 (Bloomberg symbol, NKY Index), as published by Nikkei Inc.; the Swiss Market Index (Bloomberg symbol, SMI Index), as published by SIX Group Ltd.; the S&P/ASX 200 Index (Bloomberg symbol, AS51 Index), as published by S&P Dow Jones Indices LLC; and the Hang Seng Index (Bloomberg symbol, HSI Index), as published by The Hang Seng Indexes Company Limited; see The Underlying Basket and the Underlying Basket Indices on page S-31

**Specified currency:** U.S. dollars ( \$ )

**Face amount:** each note will have a face amount of \$10, or an integral multiple of \$10 in excess thereof; \$ in the aggregate for all the offered notes; the aggregate face amount of the offered notes may be increased if the issuer, at its sole option, decides to sell an additional amount of the offered notes on a date subsequent to the date of this prospectus supplement

**Denominations:** \$10 and integral multiples of \$10 in excess thereof

**Minimum purchase amount:** in connection with the initial offering of the notes, the minimum face amount of notes that may be purchased by any investor is \$1,000

**Supplemental plan of distribution:** GS Finance Corp. expects to agree to sell to Goldman Sachs & Co. LLC ( GS&Co. ), and GS&Co. expects to agree to purchase from GS Finance Corp., the aggregate face amount of the

offered notes specified on the front cover of this prospectus supplement. GS&Co. proposes initially to offer the notes to the public at the original issue price set forth on the cover page of this prospectus supplement, and to UBS Financial Services Inc. at such price less a concession not in excess of 3.5% of the face amount. See Supplemental Plan of Distribution on page S-71

**Cash settlement amount:** on the stated maturity date, for each \$10 face amount of your notes you will receive an amount in cash equal to:

if the final underlying basket level is *greater than* the initial underlying basket level, the *sum* of (a) \$10 *plus* (b) the *product* of the underlying basket return *times* \$10 *times* the upside gearing;  
if the final underlying basket level is *equal to* or *less than* the initial underlying basket level but *greater than* or *equal to* the downside threshold, \$10; or

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if the final underlying basket level is *less than* the downside threshold, the *sum* of (a) \$10 *plus* (b) the *product* of the underlying basket return *times* \$10, resulting in a loss proportionate to the negative underlying basket return.

**Purchase at amount other than face amount:** the amount we will pay you at the stated maturity date for your notes will not be adjusted based on the issue price you pay for your notes, so if you acquire notes at a premium (or discount) to face amount and hold them to the stated maturity date, it could affect your investment in a number of ways. The return on your investment in such notes will be lower (or higher) than it would have been had you purchased the notes at face amount. Also, the stated downside threshold would not offer the same measure of protection to your investment as would be the case if you had purchased the notes at face amount. See *Additional Risk Factors Specific to Your Notes – 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*

**Supplemental discussion of U.S. federal income tax consequences:** you will be obligated pursuant to the terms of the notes in the absence of a change in law, an administrative determination or a judicial ruling to the contrary to characterize each note for all tax purposes as a pre-paid derivative contract in respect of the underlying basket indices, as described under *Supplemental Discussion of U.S. Federal Income Tax Consequences* herein. Pursuant to this approach, it is the opinion of Sidley Austin LLP that upon the sale, exchange or maturity of your notes, it would be reasonable for you to recognize capital gain or loss equal to the difference, if any, between the amount of cash you receive at such time and your tax basis in your notes. No statutory, judicial or administrative authority directly discusses how your notes should be treated for U.S. federal income tax purposes. As a result, the U.S. federal income tax consequences of your investment in the notes are uncertain and alternative characterizations are possible. The Internal Revenue Service might assert that a treatment other than that described above is more appropriate (including on a retroactive basis) and the timing and character of income in respect of the notes might differ from the treatment described above.

**Trade date:** expected to be April 26, 2019

**Original issue date (settlement date) (to be set on the trade date):** expected to be April 30, 2019

**Initial underlying basket level:** 100

**Initial weighted value:** the initial weighted value for each of the underlying basket indices is expected to equal the *product* of the initial weight of such underlying basket index *times* the initial underlying basket level. The initial weight of each underlying basket index is shown in the table below:

Underlying Basket Index	Initial Weight in Underlying Basket
EURO STOXX 50 <sup>®</sup> Index	40.00%
FTSE <sup>®</sup> 100 Index	20.00%
Nikkei 225	20.00%
Swiss Market Index	7.50%
S&P/ASX 200 Index	7.50%
Hang Seng Index	5.00%

**Initial EURO STOXX 50<sup>®</sup> Index level (to be set on the trade date):**

**Initial FTSE<sup>®</sup> 100 Index level (to be set on the trade date):**

**Initial Nikkei 225 level (to be set on the trade date):**

**Initial Swiss Market Index level (to be set on the trade date):**

**Initial S&P/ASX 200 Index level (to be set on the trade date):**

**Initial Hang Seng Index level (to be set on the trade date):**

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**Final EURO STOXX 50® Index level:** the closing level of such underlying basket index on the determination date, except in the limited circumstances described under Specific Terms of Your Notes Consequences of a Market Disruption Event or a Non-Trading Day on page S-26 and subject to adjustment as provided under Specific Terms of Your Notes Discontinuance or Modification of an Underlying Basket Index on page S-26

**Final FTSE® 100 Index level:** the closing level of such underlying basket index on the determination date, except in the limited circumstances described under Specific Terms of Your Notes Consequences of a Market Disruption Event or a Non-Trading Day on page S-26 and subject to adjustment as provided under Specific Terms of Your Notes Discontinuance or Modification of an Underlying Basket Index on page S-26

**Final Nikkei 225 level:** the closing level of such underlying basket index on the determination date, except in the limited circumstances described under Specific Terms of Your Notes Consequences of a Market Disruption Event or a Non-Trading Day on page S-26 and subject to adjustment as provided under Specific Terms of Your Notes Discontinuance or Modification of an Underlying Basket Index on page S-26

**Final Swiss Market Index level:** the closing level of such underlying basket index on the determination date, except in the limited circumstances described under Specific Terms of Your Notes Consequences of a Market Disruption Event or a Non-Trading Day on page S-26 and subject to adjustment as provided under Specific Terms of Your Notes Discontinuance or Modification of an Underlying Basket Index on page S-26

**Final S&P/ASX 200 Index level:** the closing level of such underlying basket index on the determination date, except in the limited circumstances described under Specific Terms of Your Notes Consequences of a Market Disruption Event or a Non-Trading Day on page S-26 and subject to adjustment as provided under Specific Terms of Your Notes Discontinuance or Modification of an Underlying Basket Index on page S-26

**Final Hang Seng Index level:** the closing level of such underlying basket index on the determination date, except in the limited circumstances described under Specific Terms of Your Notes Consequences of a Market Disruption Event or a Non-Trading Day on page S-26 and subject to adjustment as provided under Specific Terms of Your Notes Discontinuance or Modification of an Underlying Basket Index on page S-26

**Final underlying basket level:** the *sum* of the following: (1) the final EURO STOXX 50® Index level *divided* by the initial EURO STOXX 50® Index level, *multiplied* by the initial weighted value of the EURO STOXX 50® Index *plus* (2) the final FTSE® 100 Index level *divided* by the initial FTSE® 100 Index level, *multiplied* by the initial weighted value of the FTSE® 100 Index *plus* (3) the final Nikkei 225 level *divided* by the initial Nikkei 225 level, *multiplied* by the initial weighted value of the Nikkei 225 *plus* (4) the final Swiss Market Index level *divided* by the initial Swiss Market Index level, *multiplied* by the initial weighted value of the Swiss Market Index *plus* (5) the final S&P/ASX 200 Index level *divided* by the initial S&P/ASX 200 Index level, *multiplied* by the initial weighted value of the S&P/ASX 200 Index *plus* (6) the final Hang Seng Index level *divided* by the initial Hang Seng Index level, *multiplied* by the initial weighted value of the Hang Seng Index

**Underlying basket return:** the *quotient* of (i) the final underlying basket level *minus* the initial underlying basket level *divided* by (ii) the initial underlying basket level, expressed as a positive or negative percentage

**Closing level:** as described under Specific Terms of Your Notes Special Calculation Provisions Closing Level on page S-28

**Upside gearing (to be set on the trade date):** expected to be between 2.72 and 2.82

**Downside threshold:** 65.00% of the initial underlying basket level

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**Trigger event:** the final underlying basket level is less than the downside threshold

**Stated maturity date (to be set on the trade date):** expected to be April 30, 2024, subject to adjustment as described under Specific Terms of Your Notes Stated Maturity Date on page S-25

**Determination date (to be set on the trade date):** expected to be April 25, 2024, subject to adjustment as described under Specific Terms of Your Notes Determination Date on page S-25

**No interest:** the notes will not bear interest

**No redemption:** the notes will not be subject to redemption right or price dependent redemption right

**No listing:** the notes will not be listed on any securities exchange or interdealer market quotation system

**Calculation agent:** GS&Co.

**Business day:** as described under Specific Terms of Your Notes Special Calculation Provisions Business Day on page S-27

**Trading day:** as described under Specific Terms of Your Notes Special Calculation Provisions Trading Day on page S-27

**CUSIP no.:** 36257D451

**ISIN no.:** US36257D4512

**FDIC:** 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

**Table of Contents****HYPOTHETICAL EXAMPLES****(Hypothetical terms only. Actual terms may vary.)**

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 final underlying basket levels or hypothetical closing levels of the underlying basket indices, as applicable, on the determination date could have on the cash settlement amount at maturity assuming all other variables remain constant.

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

The information in the following examples reflects hypothetical rates of return on the offered notes assuming that they are purchased on the original issue date at the face amount and held to the stated maturity date. 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 interest rates, the volatility of the underlying basket indices, 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-13 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	\$10
Upside gearing	2.72
Downside threshold	65.00% of the initial underlying basket level

Neither a market disruption event nor a non-trading day occurs with respect to any underlying basket index on the originally scheduled determination date

No change in or affecting any of the underlying basket indices or the methods by which any of the underlying basket index sponsors calculates the EURO STOXX 50<sup>®</sup> Index, the FTSE<sup>®</sup> 100 Index, Nikkei 225, the Swiss Market Index, the S&P/ASX 200 Index or the Hang Seng Index, respectively

Notes purchased on original issue date at the face amount and held to the stated maturity date

Moreover, we have not yet set the initial EURO STOXX 50<sup>®</sup> Index level, the initial FTSE<sup>®</sup> 100 Index level, the initial Nikkei 225 level, the initial Swiss Market Index level, the initial S&P/ASX 200 Index level or the initial Hang Seng Index level that will serve as the baselines for determining the underlying basket return and the amount that we will pay on your notes, if any, at maturity. We will not do so until the trade date. As a result, the actual initial EURO STOXX 50<sup>®</sup> Index level, the initial FTSE<sup>®</sup> 100 Index level, the initial Nikkei 225 level, the initial Swiss Market Index level, the initial S&P/ASX 200 Index level and the initial Hang Seng Index level may differ substantially from the level of such underlying basket index prior to the trade date.

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For these reasons, the actual performance of the underlying basket over the life of your notes, as well as the amount payable at maturity, if any, may bear little relation to the hypothetical examples shown below or to the historical levels of each underlying basket index shown elsewhere in this prospectus supplement. For information about the historical levels of the underlying basket index during recent periods, see *The Underlying Index Historical Closing Levels of the Underlying Basket Indices* below. Before investing in the offered notes, you should consult publicly available information to determine the levels of the underlying basket indices between the date of this prospectus supplement and the date of your purchase of the offered notes.

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 basket indices.

The levels in the left column of the table below represent hypothetical final underlying basket levels and are expressed as percentages of the initial underlying basket level. The amounts in the middle column represent the hypothetical cash settlement amounts, based on the corresponding hypothetical final underlying basket level (expressed as a percentage of the initial underlying basket level), assuming that a **trigger event does not occur** (i.e., the final underlying basket level is greater than or equal to the downside threshold), and are expressed as percentages of the face amount of a note (rounded to the nearest one-thousandth of a percent). The amounts in the right column represent the hypothetical cash settlement amounts, based on the corresponding hypothetical final underlying basket level (expressed as a percentage of the initial underlying basket level), assuming that a **trigger event occurs** (i.e., the final underlying basket level is less than the downside threshold), and are expressed as percentages of the face amount of a note (rounded to the nearest one-thousandth of a percent). Thus, a hypothetical cash settlement amount of 100.000% means that the value of the cash payment that we would deliver for each \$10 of the outstanding face amount of the offered notes on the stated maturity date would equal 100.000% of the face amount of a note, based on the corresponding hypothetical final underlying basket level (expressed as a percentage of the initial underlying basket level) and the assumptions noted above.

Hypothetical Final Underlying Basket Level  (as Percentage of Initial Underlying Basket Level)	Hypothetical Cash Settlement Amount (as Percentage of Face Amount)	
	Trigger Event Has Not Occurred	Trigger Event Has Occurred
150.000%	236.000%	N/A
125.000%	168.000%	N/A
120.000%	154.400%	N/A
115.000%	140.800%	N/A
110.000%	127.200%	N/A
<b>100.000%</b>	<b>100.000%</b>	<b>N/A</b>
90.000%	100.000%	N/A
80.000%	100.000%	N/A
<b>65.000%</b>	<b>100.000%</b>	<b>N/A</b>

64.999%	N/A	64.999%
25.000%	N/A	25.000%
<b>0.000%</b>	<b>N/A</b>	<b>0.000%</b>

If, for example, a trigger event has occurred and the final underlying basket level were determined to be 25.000% of the initial underlying basket level, the cash settlement amount that we would deliver on your notes at maturity would be 25.000% 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 at the face amount and held them to the stated maturity date, you would lose 75.000% of your investment, which is proportionate to the decline in the underlying basket from the trade date to the determination date (if your purchased your notes at a premium to face amount you would lose a correspondingly higher percentage of your investment).

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If, for example, a **trigger event has not occurred** and the final underlying basket level were determined to be 90.000% of the initial underlying basket level, the cash settlement amount that we would deliver on your notes at maturity would be 100.000% of the face amount of your notes, as shown in the table above. Because a trigger event has not occurred (i.e., the hypothetical final underlying basket level is greater than or equal to the downside threshold), the cash settlement amount that we would deliver on your notes at maturity would be 100.000% of the face amount of your notes, as shown in the table above.

If, however, the final underlying basket level were determined to be 150.000% of the initial underlying basket level, the cash settlement amount that we would deliver on your notes at maturity would be 236.000% of the face amount of your notes, as shown in the table above. Since the hypothetical final underlying basket level is greater than the initial underlying basket level, the underlying basket return is enhanced by the upside gearing and the cash settlement amount that we would deliver on your notes at maturity would be 236.000% of the face amount of your notes, as shown in the table above.

The following examples illustrate the hypothetical cash settlement amount at maturity for each note based on hypothetical final levels of the underlying basket indices, calculated based on the key terms and assumptions above. The levels in Column A represent hypothetical initial levels for each underlying basket index, and the levels in Column B represent hypothetical final levels for each underlying basket index. The percentages in Column C represent hypothetical final levels for each underlying basket index in Column B expressed as percentages of the corresponding hypothetical initial levels in Column A. The amounts in Column D represent the applicable initial weighted value for each underlying basket index, and the amounts in Column E represent the products of the percentages in Column C times the corresponding amounts in Column D. The final underlying basket level for each example is shown beneath each example, and equals the sum of the products shown in Column E. The underlying basket return for each example is shown beneath the final underlying basket level for such example, and equals the quotient of (i) the final underlying basket level for such example minus the initial underlying basket level divided by (ii) the initial underlying basket level, expressed as a percentage. The values below have been rounded for ease of analysis.



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**Example 1: The final underlying basket level is greater than the initial underlying basket level.**

	Column A	Column B	Column C	Column D	Column E
Underlying Basket	Hypothetical			Initial	
Index	Initial Level	Hypothetical Final Level	Column B / Column A	Weighted Value	Column C x Column D
EURO STOXX 50® Index	3,300.00	3,960.00	120.00%	40.00	48.00
FTSE® 100 Index	7,300.00	8,760.00	120.00%	20.00	24.00
Nikkei 225	21,200.00	25,440.00	120.00%	20.00	24.00
Swiss Market Index	9,400.00	11,280.00	120.00%	7.50	9.00
S&P/ASX 200 Index	6,200.00	7,440.00	120.00%	7.50	9.00
Hang Seng Index	29,000.000	34,800.000	120.00%	5.00	6.00
				Final Underlying Basket Level:	120.00
				Underlying Basket Return:	20.00%

In this example, all of the hypothetical final levels for the underlying basket indices are greater than the applicable hypothetical initial levels, which results in the hypothetical final underlying basket level being greater than the initial underlying basket level of 100.00. Since the hypothetical final underlying basket level was determined to be 120.00, the hypothetical cash settlement amount for each \$10 face amount of your notes will equal:

$$\text{Cash settlement amount} = \$10 + (\$10 \times 2.72 \times 20.00\%) = \$15.44$$

**Example 2: The final underlying basket level is less than the initial underlying basket level, but greater than the downside threshold. The cash settlement amount equals the \$10 face amount.**

	Column A	Column B	Column C	Column D	Column E
Underlying Basket	Hypothetical			Initial	Column C
Index	Initial Level	Hypothetical Final Level	Column B / Column A	Weighted Value	x Column D
EURO STOXX 50® Index	3,300.00	3,135.00	95.00%	40.00	38.00
FTSE® 100 Index	7,300.00	6,935.00	95.00%	20.00	19.00
Nikkei 225	21,200.00	20,140.00	95.00%	20.00	19.00
Swiss Market Index	9,400.00	8,930.00	95.00%	7.50	7.125
S&P/ASX 200 Index	6,200.00	5,890.00	95.00%	7.50	7.125
Hang Seng Index	29,000.000	27,550.000	95.00%	5.00	4.75
				Final Underlying Basket Level:	95.00
				Underlying Basket Return:	-5.00%

In this example, all of the hypothetical final levels for the underlying basket indices are less than the applicable hypothetical initial levels, which results in the hypothetical final underlying basket level being less than the initial underlying basket level of 100.00. Since the hypothetical final underlying basket level of 95 is greater than the downside threshold of 65.00% of the initial underlying basket level but less than the initial underlying basket level of 100, the hypothetical cash settlement amount for each \$10 face amount of your notes will equal the face amount, or \$10.

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**Example 3: The final underlying basket level is less than the downside threshold. The cash settlement amount is less than the \$10 face amount.**

	Column A	Column B	Column C	Column D	Column E
Underlying Basket	Hypothetical		Column B /	Initial	Column C x
Index	Initial Level	Hypothetical Final Level	Column A	Weighted Value	Column D
EURO STOXX 50 <sup>®</sup> Index	3,300.00	495.00	15.00%	40.00	6.00
FTSE <sup>®</sup> 100 Index	7,300.00	1,095.00	15.00%	20.00	3.00
Nikkei 225	21,200.00	21,200.00	100.00%	20.00	20.00
Swiss Market Index	9,400.00	9,494.00	101.00%	7.50	7.575
S&P/ASX 200 Index	6,200.00	6,262.00	101.00%	7.50	7.575
Hang Seng Index	29,000.000	29,290.000	101.00%	5.00	5.05
				Final Underlying Basket Level:	49.20
				Underlying Basket Return:	-50.80%

In this example, the hypothetical final levels of the EURO STOXX 50<sup>®</sup> Index and the FTSE<sup>®</sup> 100 Index are less than their hypothetical initial levels, while the hypothetical final level of the Nikkei 225 is equal to its hypothetical initial level and the hypothetical final levels of the Swiss Market Index, the S&P/ASX 200 Index and the Hang Seng Index are greater than their applicable hypothetical initial levels.

Because the underlying basket is unequally weighted, increases in the lower weighted underlying basket indices will be offset by decreases in the more heavily weighted underlying basket indices. In this example, the large declines in the EURO STOXX 50<sup>®</sup> Index and the FTSE<sup>®</sup> 100 Index result in the hypothetical final underlying basket level being less than the downside threshold of 65.00% of the initial underlying basket level even though the Nikkei 225 remained flat and the Swiss Market Index, the S&P/ASX 200 Index and the Hang Seng Index increased.

Since the hypothetical final underlying basket level of 49.20 is less than the downside threshold of 65.00% of the initial underlying basket level, the hypothetical cash settlement amount for each \$10 face amount of your notes will equal:

$$\text{Cash settlement amount} = \$10 + (\$10 \times -50.80\%) = \$4.92$$

**Example 4: The final underlying basket level is less than the downside threshold. The cash settlement amount is less than the \$10 face amount.**

	Column A	Column B	Column C	Column D	Column E
Underlying Basket	Hypothetical	Hypothetical	Column B /	Initial	Column C x
Index	Initial Level	Final Level	Column A	Weighted Value	Column

					<b>D</b>
EURO STOXX 50 <sup>®</sup> Index	3,300.00	1,320.00	40.00%	40.00	16.00
FTSE <sup>®</sup> 100 Index	7,300.00	3,285.00	45.00%	20.00	9.00
Nikkei 225	21,200.00	9,540.00	45.00%	20.00	9.00
Swiss Market Index	9,400.00	3,760.00	40.00%	7.50	3.00
S&P/ASX 200 Index	6,200.00	3,100.00	50.00%	7.50	3.75
Hang Seng Index	29,000.000	11,600.000	40.00%	5.00	2.00
				Final Underlying Basket Level:	42.75
				Underlying Basket Return:	-57.25%

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In this example, the hypothetical final levels for all of the underlying basket indices are less than the applicable hypothetical initial levels, which results in the hypothetical final underlying basket level being less than the initial underlying basket level of 100.00. Since the hypothetical final underlying basket level of 42.75 is less than the downside threshold of 65.00% of the initial underlying basket level, the hypothetical cash settlement amount for each \$10 face amount of your notes will equal:

$$\text{Cash settlement amount} = \$10 + (\$10 \times -57.25\%) = \$4.275$$

The cash settlement amounts shown above are entirely hypothetical; they are based on levels of the underlying basket indices that may not be achieved on the determination date and on assumptions that may prove to be erroneous. The actual market value of your notes on 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 cash settlement 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 cash settlement amounts on notes held to the stated maturity date 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 the Notes – The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors** on page S-16.

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 bond bought by the holder and one or more options entered into between the holder and us. Therefore, the terms of the notes may be impacted by the various factors mentioned on page S-16 in the section **Additional Risk Factors Specific to the Notes – The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors**. 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 final underlying basket level or what the market value of your notes will be on any particular trading day, nor can we predict the relationship between the level of each underlying basket index and the market value of your notes at any time prior to the stated maturity date. The actual amount that you will receive, if any, at maturity and the rate of return on the offered notes will depend on the actual initial level of each underlying basket index and upside gearing, which we will set on the trade date, and the actual basket return determined by the calculation agent as described above. Moreover, the assumptions on which the hypothetical returns are based may turn out to be inaccurate. Consequently, the amount of cash to be paid in respect of your notes, if any, on the stated maturity date may be very different from the information reflected in the examples above.*

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**Table of Contents****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 the underlying index stocks, i.e., with respect to an underlying basket index to which your notes are linked, the stocks comprising such underlying basket index. 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 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).

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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.

### **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 underlying basket indices, 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.

### **The Cash Settlement Amount on Your Notes Is Not Linked to the Level of the Underlying Basket Indices at Any Time Other than the Determination Date**

The final underlying basket level will be based on the closing levels of the underlying basket indices on the determination date (subject to adjustment as described elsewhere in this prospectus supplement). Therefore, if the closing levels of the underlying basket indices dropped precipitously on the determination date, the cash settlement amount for your notes may be significantly less than it would have been had the cash settlement amount been linked to the closing levels of the underlying basket indices prior to such drop in the levels of the underlying basket indices. Although the actual levels of the underlying basket indices on the stated maturity date or at other times during the life of your notes may be higher than the closing levels of the underlying basket indices on the determination date, you will not benefit from the closing levels of the underlying basket indices at any time other than on the determination date.

### **You May Lose Your Entire Investment in the Notes**

You can lose your entire investment in the notes. The cash payment on your notes, if any, on the stated maturity date will be based on the performance of a weighted basket comprised of the EURO STOXX 50<sup>®</sup> Index, the FTSE<sup>®</sup> 100 Index, the Nikkei 225, the Swiss Market Index, the S&P/ASX 200 Index and the Hang Seng Index as measured from the initial underlying basket level of 100 to the final underlying basket level on the determination date. If a trigger event has occurred, the amount in cash you will receive on your notes on the stated maturity date, if any, will be less than the face amount of your notes and you will incur a loss on the face amount proportionate to the decline of the underlying basket from the trade date to the determination date. Thus, you may lose your entire investment in the notes, which would include any premium to face amount you paid when you purchased the notes.

Also, the application of the downside threshold occurs only at maturity and the market price of your notes prior to the stated maturity date may be significantly lower than the purchase price you pay for your notes. Consequently, if you are able to sell your notes before the stated maturity date, you may receive far less than the amount of your investment



in the notes.

**Lower Downside Thresholds Are Generally Associated With Higher Volatility of the Basket and Therefore a Greater Risk of Loss**

Volatility refers to the frequency and magnitude of changes in a basket level. The fact that the underlying basket to which your notes are linked is more volatile (as determined by us) than other baskets means that, as of the trade date, the expected risk that the underlying basket to which your notes are linked will close below its downside threshold on the determination date (in which case you will receive less than the face amount of your notes at maturity) is greater with respect to your notes than with respect to a note issued by us with the same terms and tenor, but linked to a less volatile basket.

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If the expected volatility of the underlying basket is higher than for a note issued by us with the same terms and tenor, but linked to a less volatile basket, a relatively lower downside threshold for the notes may not necessarily indicate a lower risk of loss at maturity, because there is no guarantee that the downside threshold set for your notes adequately offsets this increased expected risk.

**You should not take the historical volatility of any basket as an indication of its future volatility. You should be willing to accept the downside market risk of the underlying basket and the potential to lose some or all of your investment at maturity.**

### **The Return on Your Notes May Change Significantly Despite Only a Small Change in the Underlying Basket Level**

If a trigger event occurs, you will receive less than the face amount of your notes and you could lose all or a substantial portion of your investment in the notes. This means that while a drop of up to 35.00% between the initial underlying basket level and the final underlying basket level will not result in a loss of principal on the notes (since a trigger event will not have occurred), any additional decrease in the final underlying basket level to less than 65.00% of the initial underlying basket level will result in a loss of a significant portion of the principal amount of the notes.

### **Your Notes Will Not Bear Interest**

You will not receive any interest payments on your notes. As a result, even if the cash settlement amount payable for each of 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 Lower Performance of One Underlying Basket Index May Offset an Increase in the Other Underlying Basket Indices**

Declines in the level of one underlying basket index may offset increases in the levels of the other underlying basket indices. As a result, any return on the underlying basket 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 at maturity. In addition, because the underlying basket indices are not equally weighted, increases in the lower weighted underlying basket indices may be offset by even small decreases in the more heavily weighted underlying basket indices.

### **Past Performance is No Guide to Future Performance**

The actual performance of the underlying basket indices over the life of the notes, as well as the amount payable at maturity, may bear little relation to the historical closing levels of the underlying basket indices or to the hypothetical return examples set forth elsewhere in this prospectus supplement. We cannot predict the future performance of the underlying basket indices.

### **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.

**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**

The cash settlement amount you will be paid for your notes on 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 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 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. In addition, the impact of the downside threshold on the return on your investment will depend upon the price you pay for your notes relative to face amount. For example, if you purchase your notes at a premium to face amount, the downside threshold, while still providing some protection for the return on the notes, will allow a greater percentage decrease in your

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investment in the notes than would have been the case for notes purchased at face amount or a discount to face amount.

**The Return on Your Notes Will Not Reflect Any Dividends Paid on the Underlying Index Stocks**

Each underlying basket index sponsor calculates the level of the applicable underlying basket index by reference to the prices of the underlying index stocks, without taking account of the value of dividends paid on those underlying index stocks. Therefore, the return on your notes will not reflect the return you would realize if you actually owned the underlying index stocks and received the dividends paid on those stocks. You will not receive any dividends that may be paid on any of the underlying index stocks by the underlying index stock issuers. See [You Have No Shareholder Rights or Rights to Receive Any Underlying Index Stock](#) below for additional information.

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

When we refer to the market value of your notes, we mean the value that you could receive for your notes if you chose and are able to sell them in the open market before the stated maturity date. A number of factors, many of which are beyond our control and impact the value of bonds and options generally, will influence the market value of your notes, including:

the levels of the underlying basket indices;

whether a trigger event has occurred;

the volatility i.e., the frequency and magnitude of changes in the levels of the underlying basket indices;

the dividend rates of the underlying index stocks;

economic, financial, regulatory, political, military and other events that affect the stock markets generally and the underlying index stocks, and which may affect the closing levels of the underlying basket indices;

other 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 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 or less than you would have received had you held your notes to maturity.

You cannot predict the future levels of the underlying basket indices based on their historical fluctuations. The actual levels of the underlying basket indices over the life of the notes may bear little or no relation to their historical closing levels or to the hypothetical examples shown elsewhere in this prospectus supplement.

**If the Level of the Underlying Basket Indices 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 underlying basket indices. Changes in the levels of the underlying basket indices may not result in a comparable change in the market value of your notes. Even if the levels of the underlying basket indices increase above their respective initial levels 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.

**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

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or similar to your notes, underlying basket indices, underlying index stocks 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 Index Stock**

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

**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 underlying basket indices or the underlying index stocks. 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 underlying basket indices or the underlying index stocks, 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 changes in the levels of the underlying basket indices or the underlying index stocks, as applicable.

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 underlying basket indices directly or indirectly by affecting the price of the underlying index stocks and therefore the market value of your notes and the amount we will pay on your notes, if any, at maturity. 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**

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,

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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 underlying basket indices or underlying index stocks. 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 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 underlying basket indices or underlying index stocks, 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 securities of the underlying basket indices or underlying index stocks 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 underlying basket indices or underlying index stocks 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 underlying basket



indices or underlying index stocks, 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 Underlying Basket Indices or the Issuers of the Underlying Index Stocks 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

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the underlying basket indices or the issuers of the underlying index stocks, 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 underlying basket indices or underlying index 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 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 underlying basket indices or underlying index stocks, 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 underlying basket indices or underlying index stocks, 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.

### **As Calculation Agent, GS&Co. Will Have the Authority to Make Determinations that Could Affect the Value of Your Notes, When Your Notes Mature and the Amount You Receive at Maturity**

As calculation agent for your notes, GS&Co. will have discretion in making various determinations that affect your notes, including determining: the final underlying basket level on the determination date, which we will use to determine the amount we must pay on the stated maturity date; whether a trigger event has occurred; whether to postpone the determination date because of a market disruption event or a non-trading day; the stated maturity date; the default amount and any amount payable on your notes. See *Specific Terms of Your Notes* below. The calculation agent also has discretion in making certain adjustments relating to a discontinuation or modification of the underlying index. See *Specific Terms of Your Notes - Discontinuance or Modification of the Underlying Index* below. 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 calculation agent at any time without notice and GS&Co. may resign as calculation agent at any time upon 60 days' written notice to us.

**The Policies of an Underlying Basket Index Sponsor and Changes That Affect an Underlying Basket Index or the Underlying Index Stocks Could Affect the Payment Amount on Your Notes and Their Market Value**

The policies of an underlying basket index sponsor concerning the calculation of the level of an underlying basket index, additions, deletions or substitutions of underlying index stocks and the manner in which changes affecting the underlying index stocks or their issuers, such as stock dividends,

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reorganizations or mergers, are reflected in the levels of the underlying basket indices could affect the level of the applicable underlying basket index and, therefore, the cash settlement amount on your notes on the stated maturity date and the market value of your notes before that date. The cash settlement amount on your notes and their market value could also be affected if the applicable underlying basket index sponsor changes these policies, for example, by changing the manner in which it calculates the level of the underlying basket index or the method by which it constructs the underlying basket index, or if any underlying basket index sponsor discontinues or suspends calculation or publication of the levels of the underlying basket indices, 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 levels of the underlying basket indices are not available on the determination date because of a market disruption event or for any other reason, the calculation agent which initially will be GS&Co., our affiliate may determine the closing levels of the underlying basket indices on the determination date and thus the cash settlement amount on the stated maturity date in a manner it considers appropriate, in its sole discretion. We describe the discretion that the calculation agent will have in determining the closing levels of the underlying basket indices on the determination date and the cash settlement amount on your notes more fully under **Specific Terms of Your Notes** **Discontinuance or Modification of the Underlying Basket Indices** and **Role of Calculation Agent** below.

### **There Is No Affiliation Between the Underlying Index Stock Issuers or the Underlying Basket Index Sponsors and Us**

We are not affiliated with the issuers of the underlying index stocks or the underlying basket index sponsors. 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 underlying basket index sponsors or the underlying index stock issuers. 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 basket indices and the underlying index stock issuers. You, as an investor in your notes, should make your own investigation into the underlying basket indices and the underlying index stock issuers. See **The Underlying Basket and the Underlying Basket Indices** below for additional information about the underlying basket indices.

Neither the underlying basket index sponsors nor any of the other underlying index stock issuers are involved in the offering of your notes in any way and none of them have any obligation of any sort with respect to your notes. Thus, neither the underlying basket index sponsors nor any of the underlying index 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.

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

### **The Calculation Agent Can Postpone the Determination Date If a Market Disruption Event or a Non-Trading Day Occurs or is Continuing**

If the calculation agent determines that, on the date that would otherwise be the determination date, a market disruption event occurs or is continuing with respect to an underlying basket index or that day is not a trading day with respect to an underlying basket index, the determination date will be postponed until the first following trading day on

which the calculation agent determines that, on or subsequent to the originally scheduled determination date, each underlying basket index has had at least one trading day on which no market disruption event has occurred or is continuing. In no event, however, will the determination date be postponed to a date later than the originally scheduled stated maturity date or, if the originally scheduled stated maturity date is not a business day, later than the first business day after the originally scheduled stated maturity date. Moreover, if the determination date is postponed to the last possible day, but a market disruption event occurs or is continuing with respect to an underlying basket index that has not yet had such a trading day on which no market disruption event has occurred or is continuing or if such last possible day is not a trading day with respect to such underlying basket index,

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that day will nevertheless be the determination date. In such a case, the calculation agent will determine the applicable level of such underlying basket index or underlying basket indices for the determination date based on the procedures described under **Specific Terms of Your Notes** **Consequences of a Market Disruption Event or a Non-Trading Day** below.

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

The value of your notes is linked to underlying basket indices that are comprised of stocks 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. Also, there is generally less publicly available information about foreign companies than about those U.S. companies that are subject to the reporting requirements of the U.S. Securities and Exchange Commission. Further, foreign companies are subject to accounting, auditing and financial reporting standards and requirements that differ from those applicable to U.S. reporting companies.

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.

**Your Notes Are Linked to the Underlying Basket Indices, Which Are Comprised of Underlying Index Stocks That Are Traded in Foreign Currencies But Not Adjusted to Reflect Their U.S. Dollar Value, And, Therefore, the Return on Your Notes Will Not Be Adjusted for Changes in the Foreign Currency Exchange Rates**

Your notes are linked to underlying basket indices whose underlying index stocks are traded in foreign currencies but not adjusted to reflect their U.S. dollar value. The amount payable on your notes will not be adjusted for changes in the applicable exchange rates relative to the U.S. dollar. The amount payable will be based solely upon the overall changes in the levels of the underlying basket indices. Changes in foreign currency exchange rates, however, may reflect changes in the economy of the foreign countries in which the applicable underlying index stocks are listed that, in turn, may affect the levels of the underlying basket indices.

**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

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and holding the offered notes. This is discussed in more detail under Employee Retirement Income Security Act below.

**Your Notes May Be Subject to an Adverse Change in Tax Treatment in the Future**

The tax consequences of an investment in your notes are uncertain, both as to the timing and character of any inclusion in income in respect of your notes.

The Internal Revenue Service announced on December 7, 2007 that it is considering issuing guidance regarding the tax treatment of an instrument such as your notes, and any such guidance could adversely affect the value and the tax treatment of your notes. Among other things, the Internal Revenue Service may decide to require the holders to accrue ordinary income on a current basis and recognize ordinary income on payment at maturity, and could subject non-U.S. investors to withholding tax. Furthermore, in 2007, legislation was introduced in Congress that, if enacted, would have required holders that acquired instruments such as your notes after the bill was enacted to accrue interest income over the term of such instruments even though there will be no interest payments over the term of such instruments. It is not possible to predict whether a similar or identical bill will be enacted in the future, or whether any such bill would affect the tax treatment of your notes. We describe these developments in more detail under Supplemental Discussion of U.S. Federal Income Tax Consequences United States Holders Possible Change in Law below. You should consult your tax advisor about this matter. Except to the extent otherwise provided by law, we intend to continue treating the notes for U.S. federal income tax purposes in accordance with the treatment described under Supplemental Discussion of U.S. Federal Income Tax Consequences on page S-66 below unless and until such time as Congress, the Treasury Department or the Internal Revenue Service determine that some other treatment is more appropriate. 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.

**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. The discussion in that section is hereby modified to reflect regulations proposed by the Treasury Department indicating its intent to eliminate the requirements under FATCA of withholding on gross proceeds from the sale, exchange, maturity or other disposition of relevant financial instruments. The Treasury Department has indicated that taxpayers may rely on these proposed regulations pending their finalization.



**Table of Contents****SPECIFIC TERMS OF YOUR NOTES**

*We refer to the notes we are offering by this prospectus supplement as the offered notes or the notes. 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. Also, references to the accompanying prospectus mean the accompanying prospectus, dated July 10, 2017, and references to the accompanying prospectus supplement mean the accompanying prospectus supplement, dated July 10, 2017, for Medium-Term Notes, Series E, in each case of GS Finance Corp. and The Goldman Sachs Group, Inc. Please note that in this section entitled Specific Terms of Your Notes, references to holders mean those who own notes registered in their own names, on the books that we or the trustee maintain for this purpose, and not those who own beneficial interests in notes registered in street name or in notes issued in book-entry form through The Depository Trust Company. Please review the special considerations that apply to owners of beneficial interests in the accompanying prospectus, under Legal Ownership and Book-Entry Issuance.*

The offered notes are part of a series of debt securities, entitled Medium-Term Notes, Series E, that we may issue under the indenture from time to time as described in the accompanying prospectus and accompanying prospectus supplement. The offered notes are also indexed debt securities, as defined in the accompanying prospectus.

This prospectus supplement summarizes specific financial and other terms that apply to the offered notes, including your notes; terms that apply generally to all Series E medium-term notes are described in Description of Notes We May Offer in the accompanying prospectus supplement. The terms described here supplement those described in the accompanying prospectus supplement and the accompanying prospectus and, if the terms described here are inconsistent with those described there, the terms described here are controlling.

In addition to those terms described under Summary Information in this prospectus supplement, the following terms will apply to your notes:

**No interest:** we will not pay interest on your notes

**Specified currency:**

U.S. dollars ( \$ )

**Form of note:**

global form only: yes, at DTC

non-global form available: no

**Denominations:** each note registered in the name of a holder must have a face amount of \$10, or an integral multiple of \$10 in excess thereof

**Minimum purchase amount:** In connection with the initial offering of the notes, the minimum face amount of notes that may be purchased by any investor is \$1,000.

**Defeasance applies as follows:**

full defeasance: no

covenant defeasance: no

**Other terms:**

the default amount will be payable on any acceleration of the maturity of your notes as described under Special Calculation Provisions below

a business day for your notes will not be the same as a business day for our other Series E medium-term notes, as described under Special Calculation Provisions below

a trading day for your notes will be as described under Special Calculation Provisions below

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Please note that the information about the settlement date or trade date, issue price, underwriting discount and net proceeds to GS Finance Corp. on the front cover page or elsewhere in this prospectus supplement relates only to the initial issuance and sale of the notes. We may decide to sell additional notes on one or more dates after the date of this prospectus supplement, at issue prices and with, underwriting discounts and net proceeds that differ from the amounts set forth on the front cover page or elsewhere in this prospectus supplement. If you have purchased your notes in a market-making transaction after the initial issuance and sale of the notes, any such relevant information about the sale to you will be provided in a separate confirmation of sale.

We describe the terms of your notes in more detail below.

**Underlying Basket Indices, Underlying Basket Index Sponsors and Underlying Index Stocks**

In this prospectus supplement, when we refer to an underlying basket index, we mean the applicable underlying basket index specified on the front cover page, or any successor index, as it may be modified, replaced or adjusted from time to time as described under **Payment of Principal on Stated Maturity Date** **Discontinuance or Modification of the Underlying Basket Indices** below. When we refer to an underlying basket index sponsor as of any time, we mean the entity, including any successor sponsor, that determines and publishes the applicable underlying basket index as then in effect. When we refer to the underlying index stocks of an underlying basket index as of any time, we mean the stocks that comprise the applicable underlying basket index as then in effect, after giving effect to any additions, deletions or substitutions.

**Payment of Principal on Stated Maturity Date**

On the stated maturity date, for each \$10 face amount of your notes you will receive an amount in cash equal to:

if the final underlying basket level is *greater than* the initial underlying basket level, the *sum* of (a) \$10 *plus* (b) the *product* of the underlying basket return *times* \$10 *times* the upside gearing;

if the final underlying basket level is *equal to or less than* the initial underlying basket level but *greater than or equal to* the downside threshold, \$10; or

if the final underlying basket level is *less than* the downside threshold, the *sum* of (a) \$10 *plus* (b) the *product* of the underlying basket return *times* \$10, resulting in a loss proportionate to the negative underlying basket return. The underlying basket return is calculated by *subtracting* the initial underlying basket level from the final underlying basket level and *dividing* the result by the initial underlying basket level, with the quotient expressed as a percentage. The initial underlying basket level is 100. The downside threshold will be 65.00% of the initial underlying basket level. A trigger event will occur if the final underlying basket level is less than the downside threshold. The final underlying basket level will equal the *sum* of the following: (1) the final EURO STOXX 50<sup>®</sup> Index level *divided* by the initial EURO STOXX 50<sup>®</sup> Index level, *multiplied* by the initial weighted value of the EURO STOXX 50<sup>®</sup> Index *plus* (2) the final FTSE<sup>®</sup> 100 Index level *divided* by the initial FTSE<sup>®</sup> 100 Index level, *multiplied* by the initial weighted value of the FTSE<sup>®</sup> 100 Index *plus* (3) the final Nikkei 225 level *divided* by the initial Nikkei 225 level, *multiplied* by the initial weighted value of the Nikkei 225 *plus* (4) the final Swiss Market Index level *divided* by the initial Swiss Market Index level, *multiplied* by the initial weighted value of the Swiss Market Index *plus* (5) the final S&P/ASX 200 Index level *divided* by the initial S&P/ASX 200 Index level, *multiplied* by the initial weighted value of

the S&P/ASX 200 Index *plus* (6) the final Hang Seng Index level *divided* by the initial Hang Seng Index level, *multiplied* by the initial weighted value of the Hang Seng Index. The upside gearing will be set on the trade date and is expected to be between 2.72 and 2.82.

The initial weighted value for each of the underlying basket indices is expected to equal the *product* of the initial weight of such underlying basket index *times* the initial underlying basket level. The initial weight of each underlying basket index is shown in the table below:

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<b>Underlying Basket Index</b>	<b>Initial Weight in Underlying Basket</b>
EURO STOXX 50 <sup>®</sup> Index	40.00%
FTSE <sup>®</sup> 100 Index	20.00%
Nikkei 225	20.00%
Swiss Market Index	7.50%
S&P/ASX 200 Index	7.50%
Hang Seng Index	5.00%

The initial level with respect to each underlying basket index will be set on the trade date and will equal the closing level of each such underlying basket index on such date. The calculation agent will determine the final level with respect to each underlying basket index, which will be the closing level of such underlying basket index on the determination date. However, the calculation agent will have discretion to adjust the final level with respect to each basket index on the determination date or to determine it in a different manner as described under **Consequences of a Market Disruption Event or a Non-Trading Day** and **Discontinuance or Modification of the Underlying Basket Index** below.

***Stated Maturity Date***

The stated maturity date (which will be determined on the trade date) is expected to be April 30, 2024, 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** below, the stated maturity date will be postponed by the same number of business day(s) from but excluding the originally scheduled determination date to and including the actual determination date.

***Determination Date***

The determination date will be a date specified on the trade date and is expected to be April 25, 2024, unless the calculation agent determines that a market disruption event with respect to an underlying basket index occurs or is continuing on such day or such day is not a trading day with respect to an underlying basket index. In that event, the determination date will be the first following trading day on which the calculation agent determines that, on or subsequent to the originally scheduled determination date, each underlying basket index has had at least one trading day on which no market disruption event has occurred or is continuing and the closing level of each underlying basket index will be determined on or prior to the postponed determination date as set forth under **Consequences of a Market Disruption Event or a Non-Trading Day** below. (In such case, the determination date may differ from the dates on which the levels of one or more underlying basket indices are determined for the purpose of the calculations to be performed on the determination date.) In no event, however, will the determination date be postponed to a date later than the originally scheduled stated maturity date or, if the originally scheduled stated maturity date is not a business day, later than the first business day after the originally scheduled stated maturity date. On such last possible determination date, if a market disruption event occurs or is continuing with respect to an underlying basket index that has not yet had such a trading day on which no market disruption event has occurred or is continuing or if such last possible day is not a trading day with respect to such underlying basket index, that day will nevertheless be the determination date.

***Consequences of a Market Disruption Event or a Non-Trading Day***

If a market disruption event with respect to any underlying basket index occurs or is continuing on a day that would otherwise be the determination date, or such day is not a trading day, then the determination date will be postponed as described under **Determination Date** above. As a result of any of the foregoing, the stated maturity date for your notes

may also be postponed, as described under Stated Maturity Date above. If the determination date is postponed due to a market disruption event or non-trading day with respect to one or more of the underlying basket indices, the final underlying basket level will be calculated based on (i) the closing level of each of the underlying basket indices that is not affected by the market disruption event or non-trading day, if any, on the originally scheduled determination date, (ii) the closing level of each of the underlying basket indices that is affected by the market disruption event or non-trading day on the first trading day following the originally scheduled determination date on which no market disruption event exists for that underlying basket index, and (iii)

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the calculation agent's assessment, in its sole discretion, of the closing level of each underlying basket index on the last possible postponed determination date with respect to each underlying basket index as to which a market disruption event or non-trading day continues through the last possible postponed determination date. As a result, this could result in the closing level of differing underlying basket indices being determined on different calendar dates. For the avoidance of doubt, once the closing level for one or more underlying basket indices is determined for a determination date, the occurrence of a later market disruption event or non-trading day will not alter such calculation.

### ***Discontinuance or Modification of an Underlying Basket Index***

If, with respect to an underlying basket index, the underlying basket index sponsor discontinues publication of such underlying basket index and such underlying basket index sponsor or anyone else publishes a substitute index that the calculation agent determines is comparable to the applicable underlying basket index or if the calculation agent designates a substitute index, then the calculation agent will determine the cash settlement amount on the stated maturity date by reference to the substitute index. We refer to any substitute index approved by the calculation agent as a successor index.

If the calculation agent determines on the determination date that the publication of an underlying basket index is discontinued and there is no successor index, the calculation agent will determine the cash settlement amount on the stated maturity date by a computation methodology that the calculation agent determines will as closely as reasonably possible replicate the underlying basket index.

If the calculation agent determines that an underlying basket index, the underlying index stocks comprising that underlying basket index or the method of calculating that underlying basket 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 underlying basket index or of the underlying index stocks and whether the change is made by the underlying basket 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 index stocks or their issuers or is due to any other reason—and is not otherwise reflected in the level of the underlying basket index by the underlying basket index sponsor pursuant to the then-current index methodology of the underlying basket index, then the calculation agent will be permitted (but not required) to make such adjustments in such underlying basket index or the method of its calculation and the underlying basket index weightings as it believes are appropriate to ensure that the underlying basket level used to determine the cash settlement amount on the stated maturity date is equitable.

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

### **Default Amount on Acceleration**

If an event of default occurs and the maturity of your notes is accelerated, we will pay the default amount in respect of the principal of your notes at the maturity, instead of the cash settlement amount on the stated maturity date as described earlier. We describe the default amount under [Special Calculation Provisions](#) below.

For the purpose of determining whether the holders of our Series E medium-term notes, which include your notes, are entitled to take any action under the indenture, we will treat the outstanding face amount of your notes as the outstanding principal amount of that note. Although the terms of the offered notes differ from those of the other Series E medium-term notes, holders of specified percentages in principal amount of all Series E medium-term notes, together in some cases with other series of our debt securities, will be able to take action affecting all the Series E

medium-term notes, including your notes, except with respect to certain Series E medium-term notes if the terms of such notes specify that the holders of specified percentages in the principal amount of all such notes must also consent to such action. This action may involve changing some of the terms that apply to the Series E medium-term notes, accelerating the maturity of the Series E medium-term notes after a default or waiving some of our obligations under the indenture. In addition, certain changes to the indenture and the notes that only affect certain debt securities may be made with the approval of holders of a majority of the principal amount of such affected debt securities. We discuss these matters in the accompanying prospectus

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under Description of Debt Securities We May Offer Default, Remedies and Waiver of Default and Modification of the Debt Indentures and Waiver of Covenants .

**Manner of Payment**

Any payment on your notes at maturity will be made to an account designated by the holder of your notes and approved by us, or at the office of the trustee in New York City, but only when your notes are surrendered to the trustee at that office. We also may make any payment in accordance with the applicable procedures of the depository.

**Modified Business Day**

As described in the accompanying prospectus, any payment on your notes that would otherwise be due on a day that is not a business day may instead be paid on the next day that is a business day, with the same effect as if paid on the original due date. For your notes, however, the term business day may have a different meaning than it does for other Series E medium-term notes. We discuss this term under Special Calculation Provisions below.

**Role of Calculation Agent**

The calculation agent in its sole discretion will make all determinations regarding the closing levels of the underlying basket indices, the final underlying basket level, the underlying basket return, market disruption events, successor indices, business days, trading days, the determination date and the cash settlement amount on your notes at maturity. Absent manifest error, all determinations of the calculation agent will be final and binding on you and us, without any liability on the part of the calculation agent.

Please note that GS&Co., our affiliate, is currently serving as the calculation agent as of the original issue date of your notes. We may change the calculation agent for your notes at any time after the original issue date without notice and GS&Co. may resign as calculation agent at any time upon 60 days written notice to us.

**Special Calculation Provisions**

***Business Day***

When we refer to a business day with respect to your notes, we mean a day that is a New York business day as described under Description of Debt Securities We May Offer Calculations of Interest on Debt Securities Business Days on page 16 in the accompanying prospectus.

***Trading Day***

When we refer to a trading day with respect to any of the FTSE<sup>®</sup> 100 Index, the Nikkei 225, the Swiss Market Index, the S&P/ASX 200 Index and the Hang Seng Index, we mean a day on which the respective principal securities markets for all of the respective underlying index stocks are open for trading, the respective underlying basket index sponsor is open for business and such underlying basket index is calculated and published by the respective index sponsor. Although an underlying basket index sponsor of any such index may publish an underlying basket index level with respect to an underlying basket index on a day when one or more of the principal securities markets for the underlying basket index s underlying index stocks are closed, that day would not be a trading day for purposes of such underlying basket index.

When we refer to a trading day with respect to the EURO STOXX 50<sup>®</sup> Index, we mean a day on which such underlying basket index is calculated and published by the underlying basket index sponsor, regardless of whether one or more of the principal securities markets for the underlying index stocks are closed on that day, if the underlying basket index sponsor publishes the level of such underlying basket index on that day.

***Closing Level***

When we refer to the closing level for an underlying basket index on any trading day, we mean the official closing level of such underlying basket index or any successor index published on such trading day by the underlying basket index sponsor.

***Default Amount***

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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 principal 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 we describe below, the holder and/or we 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.

***Market Disruption Event***

With respect to any given trading day, any of the following will be a market disruption event with respect to an underlying basket index:

a suspension, absence or material limitation of trading in underlying index stocks constituting 20% or more, by weight, of the underlying basket index on their respective primary markets, in each case for more than two consecutive hours of trading or during the one-half hour before the close of trading in that market, as determined by the calculation agent in its sole discretion, or

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a suspension, absence or material limitation of trading in option or futures contracts relating to the underlying basket index or to underlying index stocks constituting 20% or more, by weight, of the underlying basket index in the respective primary markets for those contracts, in each case for more than two consecutive hours of trading or during the one-half hour before the close of trading in that market, as determined by the calculation agent in its sole discretion, or

underlying index stocks constituting 20% or more, by weight, of the underlying basket index, or option or futures contracts, if available, relating to the underlying basket index or to underlying index stocks constituting 20% or more, by weight, of the underlying basket index are not trading on what were the respective primary markets for those underlying index stocks or contracts, as determined by the calculation agent in its sole discretion, *and*, in the case of any of these events, the calculation agent determines in its sole discretion that the event could materially interfere with the ability of GS Finance Corp. or any of its affiliates to unwind all or a material portion of a hedge that could be effected with respect to the offered notes. For more information about hedging by GS Finance Corp. and/or any of its affiliates, see *Use of Proceeds* and *Hedging* below.

The following events will not be market disruption events with respect to an underlying basket index:

a limitation on the hours or numbers of days of trading, but only if the limitation results from an announced change in the regular business hours of the relevant market, and

a decision to permanently discontinue trading in option or futures contracts relating to the underlying basket index or to any underlying index stock.

For this purpose, an absence of trading in the primary securities market on which an underlying index stock, or on which option or futures contracts relating to the underlying basket index or an underlying index stock, are traded will not include any time when that market is itself closed for trading under ordinary circumstances. In contrast, a suspension or limitation of trading in an underlying index stock or in option or futures contracts, if available, relating to the underlying basket index or an underlying index stock in the primary market for that stock or those contracts, by reason of:

a price change exceeding limits set by that market,

an imbalance of orders relating to that underlying index stock or those contracts, or

a disparity in bid and ask quotes relating to that underlying index stock or those contracts, will constitute a suspension or material limitation of trading in that stock or those contracts in that market.

A market disruption event with respect to one underlying basket index will not, by itself, constitute a market disruption event for the other unaffected underlying basket indices.

As is the case throughout this prospectus supplement, references to an underlying basket index in this description of market disruption events includes such underlying basket index and any successor index as it may be modified, replaced or adjusted from time to time.

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**USE OF PROCEEDS**

We intend to 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. expects to 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 expect to enter into hedging transactions involving purchases of listed or over-the-counter options, futures and other instruments linked to the underlying basket indices on or before the trade date. In addition, from time to time after we issue the offered notes, we and/or our affiliates may enter into additional hedging transactions and 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 underlying basket indices or the underlying index stocks. Consequently, with regard to your notes, from time to time, we and/or our affiliates:

expect to acquire, or dispose of positions in listed or over-the-counter options, futures or other instruments linked to the underlying basket indices or some or all of the underlying index stocks,

may take or dispose of positions in the securities of the underlying index stock issuers themselves,

may take or dispose of positions in listed or over-the-counter options or other instruments based on indexes designed to track the performance of the stock exchanges or other components of the equity markets, and/or

may take short positions in the underlying index 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. We and/or our affiliates may acquire a long or short position in securities similar to your 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 offered notes and perhaps relating to other notes with returns linked to the underlying basket indices or the underlying index stocks. We expect these steps to involve sales of instruments linked to the underlying basket indices on or shortly before the determination date. These steps may also involve sales and/or purchases of some or all of the underlying index stocks, or listed or over-the-counter options, futures or other instruments linked to any one or more of the underlying basket indices, some or all of the underlying index stocks or indices designed to track the performance of the U.S., European, Asian or other stock exchanges or other components of the U.S., European, Asian or other equity markets or other components of such markets.

*The hedging activity discussed above may adversely affect the market value of your notes from time to time and the amount we will pay 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 underlying basket is comprised of the following underlying basket indices with the following initial weights within the basket: the EURO STOXX 50<sup>®</sup> Index (40.00% weighting), the FTSE<sup>®</sup> 100 Index (20.00% weighting), the Nikkei 225 (20.00% weighting), the Swiss Market Index (7.50% weighting), the S&P/ASX 200 Index (7.50% weighting) and the Hang Seng Index (5.00% weighting).

**The EURO STOXX 50<sup>®</sup> Index**

The EURO STOXX 50<sup>®</sup> Index is a free-float market capitalization-weighted index of 50 European blue-chip stocks and was created by and is sponsored and maintained by STOXX Limited. Publication of the EURO STOXX 50<sup>®</sup> Index began on February 26, 1998, based on an initial index value of 1,000 at December 31, 1991. The 50 stocks included in the EURO STOXX 50<sup>®</sup> Index trade in Euros, and are allocated, based on their country of incorporation, primary listing and largest trading volume, to one of the following countries: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain, which we refer to collectively as the Eurozone. Companies allocated to a Eurozone country but not traded in Euros are not eligible for inclusion in the index. The level of the EURO STOXX 50<sup>®</sup> Index is disseminated on the STOXX Limited website. STOXX Limited is under no obligation to continue to publish the index and may discontinue publication of it at any time. Additional information regarding the EURO STOXX 50<sup>®</sup> Index may be obtained from the STOXX Limited website: [stoxx.com](http://stoxx.com). We are not incorporating by reference the website or any material it includes in this prospectus supplement.

The top ten constituent stocks of the EURO STOXX 50<sup>®</sup> Index as of March 21, 2019, by weight, are: Total S.A. (5.52%), SAP SE (4.48%), Sanofi (3.73%), LINDE PLC (3.52%), LVMH Moët Hennessy Louis Vuitton SE (3.51%), Allianz SE (3.47%), Siemens AG (3.27%), Unilever N.V. (3.09%), ASML Holding N.V. (2.99%) and Banco Santander S.A. (2.90%); constituent weights may be found at [stoxx.com/download/indices/factsheets/SX5GT.pdf](http://stoxx.com/download/indices/factsheets/SX5GT.pdf) under Factsheets and Methodologies and are updated periodically.

As of March 21, 2019, the sixteen industry sectors which comprise the EURO STOXX 50<sup>®</sup> Index represent the following weights in the index: Automobiles & Parts (3.93%), Banks (10.55%), Chemicals (8.08%), Construction & Materials (2.94%), Food & Beverage (4.45%), Health Care (9.47%), Industrial Goods & Services (10.66%), Insurance (6.72%), Media (1.03%), Oil & Gas (7.19%), Personal & Household Goods (10.59%), Real Estate (0.87%), Retail (3.92%), Technology (9.99%), Telecommunications (4.85%), and Utilities (4.75%); industry weightings may be found at [stoxx.com/download/indices/factsheets/SX5GT.pdf](http://stoxx.com/download/indices/factsheets/SX5GT.pdf) under Factsheets and Methodologies and are updated periodically. Percentages may not sum to 100% due to rounding. Sector designations are determined by the index sponsor using criteria it has selected or developed. Index sponsors may use very different standards for determining sector designations. In addition, many companies operate in a number of 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.

As of March 21, 2019, the eight countries which comprise the EURO STOXX 50<sup>®</sup> Index represent the following weights in the index: Belgium (2.60%), Finland (1.29%), France (38.14%), Germany (30.60%), Ireland (0.97%), Italy (4.96%), Netherlands (11.21%) and Spain (10.24%); country weightings may be found at [stoxx.com/download/indices/factsheets/SX5GT.pdf](http://stoxx.com/download/indices/factsheets/SX5GT.pdf) under Factsheets and Methodologies and are updated periodically.

*EURO STOXX 50<sup>®</sup> Index Composition.*

The EURO STOXX 50<sup>®</sup> Index is composed of 50 index stocks chosen by STOXX Limited from the 19 EURO STOXX Supersector indices, which represent the Eurozone portion of the STOXX Europe 600 Supersector indices. The 19 supersectors from which stocks are selected for the EURO STOXX 50<sup>®</sup> Index are Automobiles & Parts, Banks, Basic Resources, Chemicals, Construction & Materials, Financial Services, Food & Beverages, Health Care, Industrial Goods & Services, Insurance, Media, Oil & Gas, Personal & Household Goods, Real Estate, Retail, Technology, Telecommunications, Travel & Leisure

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and Utilities, although stocks from each of these supersectors are not necessarily included at a given time.

*Component Selection*

The composition of the EURO STOXX 50® Index is reviewed by STOXX Limited annually in September. Within each of the 19 EURO STOXX Supersector indices, the respective index component stocks are ranked by free-float market capitalization. The largest stocks are added to the selection list until the coverage is close to, but still less than, 60% of the free-float market capitalization of the corresponding EURO STOXX Total Market Index Supersector Index. If the next highest-ranked stock brings the coverage closer to 60% in absolute terms, then it is also added to the selection list. All remaining stocks that are current EURO STOXX 50® Index components are then added to the selection list. The stocks on the selection list are then ranked by free-float market capitalization. The 40 largest stocks on the selection list are chosen as index components. The remaining 10 stocks are then selected from the largest current stocks ranked between 41 and 60. If the number of index components is still below 50, then the largest remaining stocks on the selection list are added until the EURO STOXX 50® Index contains 50 stocks. In exceptional cases, the STOXX Limited Management Board may make additions and deletions to the selection list.

*Ongoing Maintenance of Component Stocks*

The component stocks of the EURO STOXX 50® Index are monitored on an ongoing monthly basis for deletion and quarterly basis for addition. Changes to the composition of the EURO STOXX 50® Index due to corporate actions (including mergers and takeovers, spin-offs, sector changes and bankruptcy) are announced immediately, implemented two trading days later and become effective on the next trading day after implementation.

The component stocks of the EURO STOXX 50® Index are subject to a fast exit rule. A component stock is deleted if it ranks 75 or below on the monthly selection list and it ranked 75 or below on the selection list of the previous month. The highest-ranked non-component stock will replace the exiting component stock. The EURO STOXX 50® Index is also subject to a fast entry rule. All stocks on the latest selection lists and initial public offering (IPO) stocks are reviewed for a fast-track addition on a quarterly basis. A stock is added if it qualifies for the latest blue-chip selection list generated at the end of February, May, August or November and if it ranks within the lower buffer (between 1 and 25) on the selection list. If added, the stock replaces the smallest component stock.

A deleted stock is replaced immediately to maintain the fixed number of stocks. The replacement is based on the latest monthly selection list. In the case of a merger or takeover where a component stock is involved, the original component stock is replaced by the new component stock. In the case of a spin-off, if the original stock was a component stock, then each spin-off stock qualifies for addition if it lies within the lower buffer between 1 and 40 on the latest selection list. The largest qualifying spin-off stock replaces the original component stock, while the next qualifying spin-off stock replaces the lowest ranked component stock and likewise for other qualifying spin-off stocks.

The free float factors and outstanding number of shares for each index stock that STOXX Limited uses to calculate the EURO STOXX 50® Index, as described below, are reviewed, calculated and implemented on a quarterly basis and are fixed until the next quarterly review. Certain extraordinary adjustments to the free float factors and/or the number of outstanding shares are implemented and made effective more quickly. The timing depends on the magnitude of the change. Each component's weight is capped at 10% of the EURO STOXX 50® Index's total free float market capitalization. The free float factor reduces the index stock's number of shares to the actual amount available on the market. All holdings that are larger than five percent of the total outstanding number of shares and held on a long-term basis are excluded from the index calculation (including, but not limited to, stock owned by the company itself, stock owned by governments, stock owned by certain individuals or families, and restricted shares).

*Index Calculation*

STOXX Limited calculates the EURO STOXX 50<sup>®</sup> Index using the Laspeyres formula, which measures the aggregate price changes in the index stocks against a fixed base quantity weight. The discussion below describes the price return calculation of the EURO STOXX 50<sup>®</sup> Index.

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The formula for calculating the EURO STOXX 50<sup>®</sup> Index value can be expressed as follows:

$$\frac{\text{Free Float Market Capitalization of the EURO STOXX 50}^{\text{®}} \text{ Index}}{\text{EURO STOXX 50}^{\text{®}} \text{ Index}} = \frac{\text{Free Float Market Capitalization of the EURO STOXX 50}^{\text{®}} \text{ Index}}{\text{Divisor}}$$

The free float market capitalization of the EURO STOXX 50<sup>®</sup> Index is equal to the sum of the product of the price, the number of shares, the free float factor and the weighting cap factor for each index stock as of the time the EURO STOXX 50<sup>®</sup> Index is being calculated. The index stocks trade in Euros and thus, no currency conversion is required. Where any index component stock price is unavailable on any trading day, the index sponsor will generally use the last reported price for such component stock.

In case the investability and tradability of the index and index based products is affected by an upcoming market or company event that is considered significant or extreme by the STOXX Management Board, the following actions or a combination of the following actions are taken. For all such changes a minimum notification period of two full trading days will be observed. The action scope may include but is not limited to:

- application of expert judgment for index component pricing data,
- adjustment of operational procedures,
- postponement of index adjustments,
- adjustment of selection lists,
- change of weights of index constituents by adjusting the number of shares, free-float factors or weighting cap-factors, or
- adjustment of index compositions.

*EURO STOXX 50 Divisor*

The EURO STOXX 50<sup>®</sup> Index is calculated using a divisor that helps to maintain the continuity of the index's value so that corporate actions do not artificially increase or decrease the level of the EURO STOXX 50<sup>®</sup> Index.

The divisor is calculated by starting with the previous divisor in effect for the EURO STOXX 50<sup>®</sup> Index (which we call the original divisor value) and multiplying it by a fraction, the numerator of which is the previous free float market capitalization of the EURO STOXX 50<sup>®</sup> Index, plus or minus the difference between the closing market capitalization of the EURO STOXX 50<sup>®</sup> Index and the adjusted closing market capitalization of the EURO STOXX 50<sup>®</sup> Index, and the denominator of which is the previous free float market capitalization of the EURO STOXX 50<sup>®</sup> Index. The adjusted free float market capitalization is calculated for stocks of companies that have experienced a corporate action of the type described below as of the time the new divisor value is being calculated using the free

float market capitalization calculated with adjusted closing prices, the new number of shares, and the new free float factor minus the free float market capitalization calculated with that stock's original closing price, number of shares, and free float factor, in each case as used in calculating the original divisor value. Errors in divisor calculation are corrected on an intraday basis if discovered on the same day the new divisor is effective. If the error is discovered later, the error is corrected on an intraday basis if feasible and only if the error is considered significant by the STOXX Limited Management Board.

*Divisor Adjustments*

STOXX Limited adjusts the divisor for the EURO STOXX 50<sup>®</sup> Index to maintain the continuity of the EURO STOXX 50<sup>®</sup> Index values across changes due to corporate actions. Changes in weights due to corporate actions are distributed proportionally across all index components and equal an investment into the portfolio. The following is a summary of the adjustments to any index stock made for corporate actions and the effect of such adjustments on the divisor, where shareholders of the index stock will receive  $B$  new shares for every  $A$  share held (where applicable) and assuming that the version of the

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index to which your notes are linked is the price return version. All adjusted prices consider withholding taxes based on the new shares being distributed, using  $B * (1 - \text{withholding tax where applicable})$  .

*(1) Special cash dividend:*

Adjusted price = closing price - dividend announced by the company \* (1- withholding tax if applicable)

Divisor: decreases

*(2) Split and reverse split:*

Adjusted price = closing price \* A / B

New number of shares = old number of shares \* B / A

Divisor: no change

*(3) Rights offering:*

Adjusted price = (closing price \* A + subscription price \* B) / (A + B)

New number of shares = old number of shares \* (A + B) / A

Divisor: increases

If the subscription price is not available or if the subscription price is equal to or greater than the closing price on the day before the effective date, then no adjustment is made.

Extremely dilutive rights issues having a share ratio larger or equal to 2000% ( $B/A \geq 20$ ) are treated as follows:

STOXX will announce the deletion of the company from the index following the standard rules for index replacements if sufficient notice of two trading days before the ex-date can be given.

The company may enter the index again at the next periodic index review, but only after the new rights issue shares have been listed.

Extremely dilutive rights issues for which two trading days notice before the ex-date cannot be given, and all highly dilutive rights issues having a share ratio larger or equal to 200% ( $B/A > 2$ ) are treated as follows:

The rights issue shares are included into the index with a theoretical price on the ex-date;

The rights issue shares must be listed on an eligible stock exchange and tradable starting on the ex-date, otherwise, only a price adjustment is made and the rights are not included;

The rights issue shares will have the same parameters as the parent company;

The rights issue shares will be removed at the close of the day they start to trade with traded price being available; and

The number of shares and weighting factors will be increased after the new rights issue shares have been listed.

(4) *Stock dividend:*

Adjusted price = closing price \* A / (A + B)

New number of shares = old number of shares \* (A + B) / A

Divisor: no change

(5) *Stock dividend from treasury stock if treated as extraordinary dividend:*

Adjusted close = close - close \* B / (A + B)

Divisor: decreases

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(6) *Stock dividend of another company:*

$$\text{Adjusted price} = (\text{closing price} * A + \text{price of other company} * B) / A$$

Divisor: decreases

(7) *Return of capital and share consolidation:*

$$\text{Adjusted price} = [\text{closing price} + \text{capital return announced by company} * (1 - \text{withholding tax})] * A / B$$

$$\text{New number of shares} = \text{old number of shares} * B / A$$

Divisor: decreases

(8) *Repurchase of shares / self-tender:*

$$\text{Adjusted price} = [(\text{price before tender} * \text{old number of shares}) - (\text{tender price} * \text{number of tendered shares})] / (\text{old number of shares} - \text{number of tendered shares})$$

$$\text{New number of shares} = \text{old number of shares} - \text{number of tendered shares}$$

Divisor: decreases

(9) *Spin off:*

$$\text{Adjusted price} = (\text{closing price} * A + \text{price of spin off shares} * B) / A$$

Divisor: decreases

(10) *Combination stock distribution (dividend or split) and rights offering:*

For this corporate action, the following additional assumptions apply:

Shareholders receive B new shares from the distribution and C new shares from the rights offering for every A share held; and

If A is not equal to one, all the following new number of shares formulae need to be divided by A.

If rights are applicable after stock distribution (one action applicable to another):

$$\text{Adjusted price} = [\text{closing price} * A + \text{subscription price} * C * (1 + B / A)] / [(A + B) * (1 + C / A)]$$

$$\text{New number of shares} = \text{old number of shares} * [(A + B) * (1 + C / A)] / A$$

Divisor: increases

If stock distribution is applicable after rights (one action applicable to another):

Adjusted price = (closing price \* A + subscription price \* C) / [(A + C) \* (1 + B / A)]

New number of shares = old number of shares \* [(A + C) \* (1 + B / A)]

Divisor: increases

Stock distribution and rights (neither action is applicable to the other):

Adjusted price = (closing price \* A + subscription price \* C) / (A + B + C)

New number of shares = old number of shares \* (A + B + C) / A

Divisor: increases

(11) *Addition/deletion of a company*

No price adjustments are made. The net change in market capitalization determines the divisor adjustment.

(12) *Free float and shares changes*

No price adjustments are made. The net change in market capitalization determines the divisor adjustment.

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*License Agreement between STOXX Limited and Goldman Sachs*

STOXX and its licensors (the Licensors ) have no relationship to GS Finance Corp., other than the licensing of the EURO STOXX 50<sup>®</sup> Index and the related trademarks for use in connection with the notes.

STOXX and its Licensors do not:

Sponsor, endorse, sell or promote the notes.

Recommend that any person invest in the notes or any other securities.

Have any responsibility or liability for or make any decisions about the timing, amount or pricing of the notes.

Have any responsibility or liability for the administration, management or marketing of the notes.

Consider the needs of the notes or the owners of the notes in determining, composing or calculating the EURO STOXX 50<sup>®</sup> Index or have any obligation to do so.

**STOXX and its Licensors will not have any liability in connection with the notes. Specifically,**

**STOXX and its Licensors do not make any warranty, express or implied and disclaim any and all warranty about:**

**The results to be obtained by the notes, the owner of the notes or any other person in connection with the use of the EURO STOXX 50<sup>®</sup> Index and the data included in the EURO STOXX 50<sup>®</sup> Index;**

**The accuracy or completeness of the EURO STOXX 50<sup>®</sup> Index and its data;**

**The merchantability and the fitness for a particular purpose or use of the EURO STOXX 50<sup>®</sup> Index and its data;**

**STOXX and its Licensors will have no liability for any errors, omissions or interruptions in the EURO STOXX 50<sup>®</sup> Index or its data;**

**Under no circumstances will STOXX or its Licensors be liable for any lost profits or indirect, punitive, special or consequential damages or losses, even if STOXX or its Licensors knows that they might occur.**

**The licensing agreement between Goldman Sachs International and STOXX is solely for their benefit, and the benefit of certain affiliates of Goldman Sachs International, and not for the benefit of the owners of the notes or any other third parties.**

**THE FTSE<sup>®</sup> 100 INDEX**

The FTSE<sup>®</sup> 100 Index is a market capitalization-weighted index of the 100 most highly capitalized U.K.-listed blue chip companies traded on the London Stock Exchange. The FTSE<sup>®</sup> 100 Index is sponsored, calculated, published and disseminated by FTSE Russell, a company owned by the London Stock Exchange Group companies that we refer to as FTSE. The FTSE<sup>®</sup> 100 Index was first launched with a base level of 1,000 as of December 30, 1983. Additional

information on the FTSE® 100 Index is available from the following website: [ftse.com/products/indices/uk](http://ftse.com/products/indices/uk). We are not incorporating by reference the website or any material it includes in this prospectus supplement.

FTSE divides the 100 companies included in the FTSE® 100 Index into the 10 Industry Classification Benchmark (ICB) industries: Oil & Gas, Basic Materials, Industrials, Consumer Goods, Health Care, Consumer Services, Telecommunications, Utilities, Financials and Technology.

**Index Stock Weighting by Sector as of February 28, 2019**

<b>Sector:*</b>	<b>Percentage (%)**</b>
Oil & Gas	17.16%
Basic Materials	9.12%
Industrials	8.66%
Consumer Goods	16.01%
Health Care	9.47%
Consumer Services	11.13%

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<b>Sector:*</b>	<b>Percentage (%)**</b>
Telecommunications	3.11%
Utilities	3.26%
Financials	21.28%
Technology	0.79%

\* Sector designations are determined by the index sponsor using criteria it has selected or developed. Index sponsors may use very different standards for determining sector designations. In addition, many companies operate in a number of 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 may reflect differences in sector designation methodology as well as actual differences in the sector composition of the indices. FTSE Russell has announced structural updates to the ICB, expected to be effective July 1, 2019. FTSE Russell expects to add an 11th industry, Real Estate, to the ICB, expand and reorganize the current Telecommunications industry, reorganize the Consumer Goods and Consumer Services industries into Consumer Staples and Consumer Discretionary industries, respectively, and rename the Oil & Gas industry to the Energy industry. The Real Estate industry is expected to contain the Real Estate Investment & Services sector and the Real Estate Investment Trusts (REITs) sector. However, because Mortgage REITs derive revenue from real estate financing rather than from real estate itself, they will remain in the Financials industry. The Telecommunications industry is expected to be expanded via the addition of companies from the current Technology industry and the current Media sector and reorganized by creating a new Telecommunications Equipment sector and new Telecommunications Services (which will include Fixed Line Telecommunications and Mobile Telecommunications companies) and Cable Television Services subsectors, which will be grouped at the sector level as the Telecommunications Service Providers sector. The new Consumer Staples and Consumer Discretionary industries are expected to be a blend of the existing Consumer Goods and Consumer Services industries, with a majority of the weight in the existing Consumer Goods industry shifting to the new Consumer Staples industry and a majority of the weight in the existing Consumer Services industry shifting to the new Consumer Discretionary industry.

\*\* Information provided by FTSE. Percentages may not sum to 100% due to rounding.

The top ten constituent stocks of the FTSE® 100 Index as of March 25, 2019, by weight, are: HSBC Holdings PLC (6.84%); BP PLC (6.03%); Royal Dutch Shell PLC (5.88%); Royal Dutch Shell PLC Class B (4.96%); AstraZeneca PLC (4.48%); GlaxoSmithKline PLC (4.18%); Diageo PLC (4.06%); British American Tobacco PLC (3.89%); Rio Tinto PLC (2.64%) and Unilever (2.62%).

*FTSE® 100 Index Composition and Selection Criteria*

The FTSE® 100 Index consists of the 100 largest U.K.-listed blue chip companies, based on full market capitalization, that pass screening tests for free-float and liquidity. The FTSE® 100 Index is reviewed on a quarterly basis in March, June, September and December based on data from the close of business on the Tuesday before the first Friday of the review month. The FTSE Russell Europe, Middle East & Africa Regional Equity Advisory Committee, which we refer to as the Committee, meets quarterly to approve the constituents of the index. Any constituent changes are implemented after the close of business on the third Friday of the review month (i.e. effective Monday), following the expiration of the Intercontinental Exchange Futures Europe futures and options contracts.

**Eligibility Standards**

Only premium listed equity shares, as defined by the Financial Conduct Authority in its Listing Rules Sourcebook, are eligible for inclusion in the FTSE® 100 Index. Eligible stocks must pass free-float and liquidity screens before being included in the index.

*Free-Float Screen* With regard to free-float, a stock must have a minimum free float (as described below) of 25% if the issuing company is incorporated in the United Kingdom and 50% if it is a non-United Kingdom incorporated company. Companies with a free float of 5% or below are excluded from the FTSE® 100 Index. A new company may be initially included in the index with a free float outside of the above parameters so long as it has an initial free float above 5% and it is expected to meet the minimum free float requirements within 12 months of its first day of trading.

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*Minimum Voting Rights Screen* Companies are required to have greater than 5% of the company's voting rights (aggregated across all of its equity securities, including, where identifiable, those that are not listed or trading) in the hands of unrestricted shareholders in order to be eligible for index inclusion. Current constituents who do not meet this requirement will have until the September 2022 review to meet the requirement or they will be removed from the index.

*Liquidity Screen* With regard to liquidity, each eligible stock is tested for liquidity annually in June by calculating its median daily trading per month. When calculating the median of daily trades per month of any security, a minimum of 5 trading days in each month must exist, otherwise the month is excluded from the test. Liquidity is tested from the first business day in May of the previous year to the last business day of April. The median trade is calculated by ranking each daily trade total and selecting the middle-ranking day. Any period of suspension is not included in the test. The liquidity test is applied on a pro-rata basis where the testing period is less than 12 months. A stock not presently included in the FTSE® 100 Index that does not turnover at least 0.025% of its shares in issue (after application of any investability weightings) based on its median daily trade per month in at least ten of the 12 months prior to the annual index review in June will not be eligible for inclusion until the next annual review. An existing constituent failing to trade at least 0.015% of its shares in issue (after the application of any investability weightings) based on its median daily trade per month for at least eight of the 12 months prior to the annual index review will be removed from the FTSE® 100 Index and will not be eligible for inclusion until the next annual review. New issues must have a minimum trading record of at least 20 trading days prior to the review date and that they have turned over at least 0.025% of their shares in issue (after the application of any investability weightings) based on their median daily trade each month, on a pro-rata basis since premium listing or UK Nationality allocation date if non-UK incorporated.

*Price* With regard to price, the Committee must be satisfied that an accurate and reliable price exists for purposes of determining the market value of a company. To be eligible for inclusion in the FTSE® 100 Index, a stock must have a full listing on the London Stock Exchange with a Sterling-denominated price on SETS (SETS is the London Stock Exchange's trading service for among other securities, those included in the FTSE 100 Index).

*Market Capitalization Ranking* Eligible stocks that pass the free-float and liquidity screens and that have an accurate and reliable price are ranked by the Committee according to their market capitalization before the application of any adjustments based on the extent to which the shares are publicly traded. Only the quoted equity capital of a constituent company will be included in the calculation of its market capitalization. Where a company has two or more classes of equity, secondary lines will be included in the calculation of the market capitalization of the company only if those lines are significant and liquid. The Committee will add a stock to the FTSE® 100 Index at the quarterly review if it has risen to 90th place or above on the full market capitalization rankings and will delete a stock at the quarterly review if it has fallen to 111th place or below on these rankings. Market capitalization rankings are calculated using data as of the close of business on the day before the review.

*100 Constituent Limitation* The FTSE® 100 Index always contains 100 constituents. If a greater number of companies qualify to be inserted in the index than qualify to be removed, the lowest ranking constituents of the index will be removed so that the total number of stocks remains at 100 following inclusion of those that qualify to be inserted. Likewise, if a greater number of companies qualify to be removed than to be inserted at the quarterly review, securities of the highest ranking companies that are then not included in the FTSE® 100 Index will be inserted to match the number of companies being removed, in order to maintain the total at 100.

*Index Calculation*

The FTSE® 100 Index is a market capitalization weighted index. This means that the price movement of a larger company (that is, one representing larger percentage of the index) will have a greater effect on the price of the index than will the price movement of a smaller company (that is, one representing a smaller percentage of the index).

The value of the FTSE® 100 Index is represented by a fraction, (a) the numerator of which is the *sum* of the *product* of (i) the price of each component stock, (ii) the number of shares issued for each such component and (iii) a free float factor for each such component (described more fully below), and (b) the



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denominator of which is a divisor. The divisor represents the total issued share capital of the index on the base date; the divisor may be adjusted as necessary to allow for changes in issued share capital of individual securities without distorting the index.

As noted above, a free float factor is applied to each index component. By employing this approach, FTSE uses the investable market capitalization, not the total market capitalization, of each constituent to determine the value of the FTSE® 100 Index. Investable market capitalization depends on free float. The following are excluded from free float: shares directly owned by state, regional, municipal and local governments (excluding shares held by independently managed pension schemes for governments); shares held by sovereign wealth funds where each holding is 10% or greater of the total number of shares in issue; shares held by directors, senior executives and managers of the company, and by their family and direct relations, and by companies with which they are affiliated; shares held within employee share plans; shares held by public companies or by non-listed subsidiaries of public companies; shares held by founders, promoters, former directors, founding venture capital and private equity firms, private companies and individuals (including employees) where the holding is 10% or greater of the total number of shares in issue; all shares where the holder is subject to a lock-in clause (for the duration of that clause, after which free float changes resulting from the expiration of a lock-in clause will be implemented at the next quarterly review subsequent to there being a minimum of 20 business days between the expiration date of such lock-in clause and the Tuesday before the first Friday of the review month; if the previously locked-in shares are sold by way of a corporate event (such as a secondary offering), any change to the free float will be applied T+2 following completion and therefore will not be subject to the minimum 20 business day rule); shares held by an investor, investment company or an investment fund that is actively participating in the management of a company or is holding shares for publicly announced strategic reasons or that has successfully placed a current member to the board of directors of a company; and shares that are subject to ongoing contractual agreements (such as swaps) where they would ordinarily be treated as restricted. In addition, while portfolio holdings such as pension funds, insurance funds or investment companies will generally not be considered as restricted from free float, where a single portfolio holding is 30% or greater it will be regarded as strategic and therefore restricted (and will remain restricted until the holding falls below 30%).

The FTSE® 100 Index is recalculated whenever errors or distortions occur that are deemed to be significant. Users of the FTSE® 100 Index are notified through appropriate media.

*Index Maintenance*

The FTSE® 100 Index is reviewed quarterly for changes in free float. A constituent's free float is updated during the June review regardless of the size of the change. At the March, September and December quarterly updates, a constituent with a free float greater than 15% will have its free float updated if it moves by more than three percentage points above or below the existing free float. A constituent with a free float of 15% or below will be subject to a one percentage point threshold. Free float changes resulting from corporate events will not be subject to the percentage change requirements, and will be implemented in line with the event. If a constituent is the target of a tender offer but the conditions for removal from the index are not met, FTSE may implement a free float change when (i) the minimum acceptance level as stipulated by the acquirer has been met, (ii) shareholders have validly tendered and the shares have been irrevocably accepted for payment, and (iii) all pertinent offer conditions have been reasonably met.

At each quarterly review, the Committee publishes a Reserve List containing the six highest ranking non-constituents of the FTSE® 100 Index. The Reserve List will be used in the event that one or more constituents are deleted from the index during the period up to the next quarterly review. If a merger or takeover results in one index constituent being absorbed by another constituent, the resulting company will remain a constituent and a vacancy will be created. This vacancy will be filled by selecting the highest ranking security in the Reserve List as at the close of the FTSE® 100 Index calculation two days prior to the deletion and related index adjustment. If an index constituent is taken over by a

non-constituent company, the original constituent will be removed and replaced by the highest ranking non-constituent on the Reserve List. Any eligible company resulting from the takeover will be eligible to become the replacement company if it is ranked higher than any other company on the Reserve List. If a constituent company is split to form two or more companies, then the resulting companies will be eligible for inclusion as FTSE® 100 Index constituents, based on their respective full market capitalizations (before the

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application of any investability weightings), provided that they qualify in all other respects. Any eligible company resulting from a split that, after 20 business days, has no available market price and no known trading date will be removed. If a split results in the inclusion of an ineligible non-equity security, such security will remain in the FTSE® 100 Index for two trading days and then be removed. If a constituent is delisted or ceases to have a firm quotation, it will be removed from the list of constituents and be replaced by the highest ranking eligible company from the Reserve List. If a constituent is the target of a tender offer, it will normally be removed from the index with a minimum T+2 notice when either (a) offer acceptances reach 90%, shareholders have validly tendered and the shares have been irrevocably accepted for payment, and all pertinent offer conditions have been reasonably met and the acquirer has not explicitly stated that it does not intend to acquire the remaining shares; or (b) offer acceptances are below 90% and there is reason to believe that the remaining free float is under 5% based on information available at the time or, following completion of the offer, the acquirer has stated that the offer has been declared wholly unconditional.

*Capitalization Adjustments*

A secondary line of a company will be considered for index inclusion if its total market capitalization before the application of any adjustments based on the extent to which the shares are publicly traded, is greater than 25% of the total market capitalization of the company's principal line and the secondary line is eligible, in its own right. Should the total market capitalization of a secondary line fall below 20% of the total market capitalization of the company's principal line at an annual review, the secondary line will be deleted from the FTSE® 100 Index unless its total market capitalization remains above the qualification level for continued inclusion as a constituent of the FTSE® 100 Index at that review. Where a company has partly paid shares, these shares, together with the outstanding call(s), are both included in the FTSE® 100 Index.

**Share Weighting Changes** For the purposes of computing the FTSE® 100 Index, to prevent a large number of insignificant weighting changes, the number of shares in issue for each constituent security is amended only when the total shares in issue held within the index system changes by more than 1% on a cumulative basis. Changes will be made quarterly after the close of business on the third Friday of March, June, September and December. The data for these changes will be taken from the close of business on the third Wednesday of the month prior to the review month. If a corporate action is applied to a constituent which involves a change in the number of shares in issue, the change in shares will be applied simultaneously with the corporate action.

**Shares in Issue Increase** When a company increases the number of shares it has in issue, the market capitalization of that company increases and the total market capitalization will rise accordingly. The index divisor is adjusted to maintain a constant index value.

**Weighting Amendments** The market capitalization of a company is adjusted to take account of various corporate actions. To prevent the value of the FTSE® 100 Index from changing due to such an event, all corporate actions which affect the market capitalization of the FTSE® 100 Index require an offsetting divisor adjustment. By adjusting the divisor, the value of the FTSE® 100 Index remains constant before and after the event. Below is a summary of the more frequent corporate actions and their resulting adjustment.

<b>Type of Corporate Action</b>	<b>Adjustment</b>	<b>Adjustment to Divisor</b>
Issue of new shares	Share weighting increased	Yes
Bonus issue of same stock or stock split		No

Number of shares held before issue  
or split divided by number of shares  
held after issue or split

Rights Issues/Entitlement Offers These are an entitlement issued to shareholders which give them the right to buy additional shares directly from the company in proportion to existing holdings. FTSE will only adjust the index to account for a right if the subscription price of the right is at a discount to the market price of the stock. Provided FTSE has been alerted to the rights offer prior to the ex-date, a price

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adjustment and share increase proportionate to the terms of the offer will be implemented before the open on the ex-date. The rights become attached to the shares on the ex-date.

Where the rights issue/entitlement offer subscription price remains unconfirmed on the ex-date, FTSE will estimate the subscription price using the value being raised and the offer terms. If the rights issue is greater than ten to one, FTSE will consider this highly dilutive and, to facilitate replication, will include on the ex-date a separate temporary line to reflect the market value of the rights (together with a temporary line at a fixed value to reflect the subscription cash) until the end of the subscription period, at which point the temporary lines will be deleted and the new shares will be consolidated into the existing share line.

Where the shares being issued are not entitled to the next dividend, FTSE will deviate from the standard index treatment and include on the ex-date a separate temporary line to reflect the market value of the rights (together with a temporary line at a fixed value to reflect the subscription cash). If the dividend ex-date occurs prior to the end of the rights subscription period, the temporary lines will be deleted and the new shares assimilated into the ordinary line at the open on the dividend ex-date. If the dividend ex-date occurs after the expiration of the rights subscription period, the temporary rights and cash line will be deleted after the close on the last day of the rights subscription period, and replaced by a temporary dummy line equal to the ordinary line close price minus the upcoming dividend. On the open of the ex-dividend date, the dummy line is deleted and the shares are aggregated with the ordinary line.

In the event the rights issue involves a non-constituent (including non-equity) and the value of the right cannot be determined, there will be no adjustment on the ex-date. If the rights are scheduled to trade, a rights line will be added to the index at a value of zero on the ex-date and will be deleted from the index at the market price when it commences trading, with T+5 notice. If the rights have not commenced trading within 20 business days of the ex-date, they will be removed at zero value. No cash temporary line will be included as the index will not subscribe to the rights.

Where a company announces an open offer or a rights issue with an ex-entitlement date on the same day, FTSE will apply an index adjustment either before the market-open on the ex-entitlement day or as an intra-day adjustment as soon as possible thereafter. The adjustment will be applied based on the previous day's closing price with the new shares included in the index weighting at the open offer price.

In the case of an accelerated rights offer, where the ex-date is theoretical and typically not quoted by the exchange, shares are increased and a price adjustment is applied according to the terms of the offer before the open on the day the security resumes trading.

### *Market Disruption*

If there is a system problem or situation in the market that is judged by FTSE to affect the quality of the constituent prices at any time when an index is being calculated, the index will be declared indicative (e.g. normally where a fast market exists in the equity market). The message IND will be displayed against the index value calculated by FTSE.

### *License Agreement between FTSE and GS Finance Corp.*

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Index for the purpose to which it is being put in connection with the notes. None of the Licensor Parties have provided or will provide any financial or investment advice or recommendation in relation to the Index to GS Finance Corp. or to its clients. The Index is calculated by FTSE or its agent. None of the Licensor Parties shall be (a) liable (whether in negligence or otherwise) to any person for any error in the Index or (b) under any obligation to advise any person of any error therein.

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**Table of Contents****Nikkei 225**

The Nikkei Stock Average, more commonly known as the Nikkei 225, is a price-weighted equity index calculated, published and disseminated daily by Nikkei Inc. The Nikkei 225 is comprised of 225 highly liquid stocks of the Tokyo Stock Exchange First Section and aims to maintain long-term continuity and reflect changes in industry structure. The real-time price return Japanese yen value of the Nikkei 225 is reported by Bloomberg under the ticker symbol `NKY`. Publication of the Nikkei 225 began on September 7, 1950 and was originally calculated by the Tokyo Stock Exchange but has been calculated by Nikkei Inc. since 1970. According to Nikkei Inc., the Nikkei 225 has been widely followed throughout its history as a barometer of the Japanese equity markets and the Japanese economy following World War II. Additional information about the Nikkei 225 can be found on Nikkei Inc.'s website at: [indexes.nikkei.co.jp/en/nkave](http://indexes.nikkei.co.jp/en/nkave). We are not incorporating by reference the website or any material it includes in this document. Nikkei Inc. is under no obligation to continue to publish the Nikkei 225 and may discontinue the Nikkei 225 at any time as further described below.

Nikkei Inc. maintains an industry classification system of 36 industries, which it reclassifies into six industry sectors for purposes of the Nikkei 225. The six industry sectors, and the underlying 36 industry classifications, are as follows:

*Technology* Pharmaceuticals, Electric Machinery, Automobiles and Automobile Parts, Precision Instruments and Communications;

*Financials* Banking, Other Financial Services, Securities and Insurance;

*Consumer Goods* Fishery, Foods, Retail and Services;

*Materials* Mining, Textiles and Apparel, Pulp and Paper, Chemicals, Petroleum, Rubber, Glass and Ceramics, Steel, Nonferrous Metals and Trading Companies;

*Capital Goods/Others* Construction, Machinery, Shipbuilding, Transportation Equipment, Other Manufacturing and Real Estate; and

*Transportation and Utilities* Railway and Bus, Land Transport, Marine Transport, Air Transport, Warehousing, Electric Power and Gas.

As of March 15, 2019, the following sectors had the following weights in the Nikkei 225: Technology (43.81%), Financials (2.36%), Consumer Goods (24.90%), Materials (15.50%), Capital Goods/Others (10.29%) and Transportation and Utilities (3.14%). Percentages may not sum to 100% due to rounding. (Sector designations are determined by the basket underlier sponsor using criteria it has selected or developed. Index sponsors may use very different standards for determining sector designations. In addition, many companies operate in a number of 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.)

As of March 15, 2019, the top ten constituents of the Nikkei 225 and their respective weights were:

Company	Weight (%)
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Fast Retailing Co., Ltd.	9.23%
Softbank Group Corp.	5.61%
Fanuc Corp.	3.26%
KDDI Corp.	2.65%
Tokyo Electron Ltd.	2.63%
Terumo Corp.	2.42%

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FamilyMart UNY Holdings Co., Ltd.	2.20%
Kyocera Corp.	2.18%
Daikin Industries, Ltd.	2.13%
Secom Co. Ltd.	1.66%

The information in the table and paragraph above was derived from sources we deem reputable but without independent verification by us. The other information regarding the index methodology described herein was derived from English language documents on Nikkei Inc.'s website but without independent verification. Please note that in any case where differences arise between the English version of Nikkei Inc.'s index guide and the original Japanese version, the original Japanese document will prevail.

**Construction of the Nikkei 225**

In order to be eligible for the Nikkei 225, a stock must be an ordinary share of a domestic company listed on the Tokyo Stock Exchange First Section. Non-ordinary shares such as exchange-traded funds, real estate investment trusts, preferred stock, preferred securities and tracking stocks are not eligible. The constituents of the Nikkei 225 are reviewed once each year at the beginning of October (the annual review) and changes are typically implemented on the first trading day of October. There is no limit to the number of additions or deletions that may result from the annual review. The annual review focuses on 1) a stock's liquidity in the market and 2) industry sector balance. The purpose of the annual review is to maintain market representativeness of the constituents.

First, Nikkei Inc. assesses the liquidity of all eligible stocks by considering two factors: trading value of the preceding 5 years and magnitude of price fluctuation by volume of the preceding 5 years. Magnitude of price fluctuation by volume is calculated as the quotient of (1) the quotient of (i) the stock's high price divided by (ii) such stock's low price divided by (2) such stock's trading volume. After performing the liquidity assessment, the stocks are then ranked in descending order of liquidity and the top 450 stocks constitute the high liquidity group and remain eligible for inclusion in the Nikkei 225. Any current constituents falling outside of the high liquidity group (ranked 451 or lower based on liquidity) are deleted from the Nikkei 225. Of those stocks in the high liquidity group, the top 75 with the highest liquidity and not already a constituent are added to the Nikkei 225.

Second, the 450 stocks within the high liquidity group are categorized into the six industrial sectors described above: technology, financials, consumer goods, industrial materials, capital goods/others and transportation/utilities. Once the number of stocks in each sector is determined, such number is divided in half to determine the target number of stocks from each sector that shall constitute the 225 constituents in the Nikkei 225. If any of the sectors are over-represented at that stage (i.e., there are a greater number of actual constituents in the Nikkei 225 for the sector relative to the target number of stocks for such sector), current constituents in the Nikkei 225 are deleted in order of ascending liquidity so those constituents with the lowest liquidity are removed from the Nikkei 225 until the overage is corrected. If any of the sectors are under-represented (i.e., there are a lesser number of actual constituents in the Nikkei 225 for the sector relative to the target number of stocks for such sector), non-constituent stocks within the high liquidity group are added in order of descending liquidity so those stocks with the highest liquidity are added to the Nikkei 225 until the shortage is corrected. This process is performed to achieve a group of 225 constituents that reflect the intended sector balance.

**Calculation of the Nikkei 225**

The Nikkei 225 is a weighted price average index in which the level of the Nikkei 225 is calculated as the *quotient* of (i) the *sum* of all constituents' adjusted stock prices *divided* by (ii) the divisor (as described below). A constituent's

adjusted stock price is its stock price as adjusted by the presumed par value and such adjusted stock price is equal to the *quotient* of (i) the *product* of (a) the stock's price *times* (b) 50 yen *divided* by (ii) the presumed par value of such stock (in yen). The Nikkei 225 level is rounded to the nearest hundredth and is calculated and published every 5 seconds beginning at 9 am (Tokyo time) daily.

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The stock price used in the calculation is typically the last traded price of the constituent. In some cases, however, the Tokyo Stock Exchange publishes a special quote for the constituent, and the special quote price will be used. When this occurs, the special quote tends to be, but is not always, an intraday price. If neither a special quote price nor a traded price is available, Nikkei Inc. will use the base price, which is usually the price used in calculating the Nikkei 225 on the prior day. In the case of a stock that is trading ex-rights (e.g., after a stock split) for the first time on that day, however, Nikkei Inc. calculates an ex-rights theoretical price based on the price used for calculation on the preceding day and the appropriate adjustment to reflect the change in the stock. Nikkei Inc. does not adjust for dividends in calculating the Nikkei 225.

The presumed par value of the constituent is intended to reflect the historical basis on which the stock is traded. Japanese law abolished the concept of par value for stocks in 2001, but many stock prices reflect the former par value, such as 50, 500 or 50,000 yen. For example, stocks traded in units of 1 share (ex-par value of 50,000 yen) and stocks traded in units of 100 or 1000 shares have different price levels. Therefore, in order to calculate the Nikkei 225 on a consistent basis, Nikkei Inc. adjusts the constituent prices, usually to a presumed par value of 50 yen. Most of the constituents have a presumed par value of 50 yen, which means their original prices are simply used for purposes of calculating the Nikkei 225. However, not all constituents have a presumed par value of 50 yen. Presumed par values of current constituents range from 25 yen to 500 yen. The presumed par value for each constituent is published on Nikkei Inc.'s website.

The presumed par value also may be adjusted to reflect large scale stock splits or reverse splits. In these situations, Nikkei Inc. believes a divisor adjustment will not ensure continuity of the Nikkei 225. Instead of adjusting the divisor, Nikkei Inc. adjusts the presumed par value or, in some cases, the constituent price. For example, if a stock with a presumed par value of 50 yen splits 1 to 2, the presumed par value will be changed to 25 yen. In calculating the Nikkei 225, the constituent price will be doubled to reflect the 50 par yen basis for calculating the Nikkei 225. In the case of a small scale split (such as a split of 1 to 1.1), the divisor will be adjusted instead of the presumed par value.

### *Divisor Adjustments*

As noted above, the Nikkei 225 is calculated as an adjusted price average index, where the weight is based on the presumed par value. The divisor is intended to maintain continuity of the Nikkei 225 and is the denominator of the fraction used to calculate the average. The divisor was initially the number of constituents, but has been changed over time to reflect stock splits, reverse splits, paid-in capital increases and other changes in the constituents.

When a stock splits or reverse splits, the level of paid-in capital increases, or there are other non-market corporate events affecting the constituents, the level of stock price changes. Also, when constituents are changed, the sum of stock prices (the numerator of the fraction prior to adjustment) changes based upon the prices of additions and deletions to the Nikkei 225. Therefore, the divisor is changed except in the case of large scale splits and reverse splits, in which the presumed par value is changed as discussed above.

The divisor for the next index day is calculated as the *product* of (i) the current day's divisor *times* (ii) the *quotient* of (a) the *sum* of the base prices for the next day's constituents *divided* by (b) the *sum* of the closing prices of the current day's constituents used to calculate the Nikkei 225 level for the current day. For purposes of calculating the divisor, the base prices for the next day's constituents are calculated as follows:

The base price for stocks the prices of which are *not* changed based on non-market events will be the same as the current day's price used in calculating the Nikkei 225.

The base price for stocks the presumed par value of which are changed will be the same as the current day's price used in calculating the Nikkei 225 (and as a result of the presumed par value change, no change in the divisor will occur).

The base price for stocks the prices of which will change for non-market corporate events will be a theoretical price calculated based on the current day's prices and the ex-rights change in the stock.

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The base price for stocks becoming new index constituents on the next day will be the prices calculated for those stocks as if they were current constituents as discussed above.

As of January 30, 2018, the divisor of the Nikkei 225 was 27. The divisor is published on Nikkei Inc.'s website on each Tokyo Stock Exchange trading day and is rounded to the nearest one-thousandth. For additional information about the divisor, as well as calculation examples of divisor changes, please see the index guide on Nikkei Inc.'s website.

## **Maintenance of the Nikkei 225**

### *Extraordinary Replacement*

In addition to additions and deletions of constituents resulting from the annual review, changes to index constituents may also be made as a result of certain extraordinary events. Stocks delisted from the Tokyo Stock Exchange First Section as a result of bankruptcy, stocks designated by the Tokyo Stock Exchange as a security to be delisted, stocks of companies in bankruptcy, liquidation and similar events, stocks affected by corporate restructuring (including mergers, share exchanges and share transfers), stocks delisted due to excess debt, or stocks transferred to the Tokyo Stock Exchange Second Section will be deleted from the Nikkei 225. Constituents that are designated by the Tokyo Stock Exchange as securities under supervision become deletion candidates, but deletion is not automatic and the sustainability and probability of delisting from the exchange will be considered in determining whether to delete the constituent from the Nikkei 225.

If a constituent has been deleted from the Nikkei 225 based on an event described above, a stock will be added to replace the deleted constituent by selecting the highest liquidity stock in the same sector as the deleted constituent from the high liquidity group determined during the last annual review. However, if a deletion is scheduled close to an annual review, additional stocks may be selected as part of the applicable annual review process. Additionally, if there are multiple deletions in a short period of time not close to a scheduled annual review, the standard annual review process assessing liquidity and sector balance will be followed to select new constituents rather than referring to the last annual review list.

### *Special Rules for Additions Resulting from Other Corporate Actions*

Notwithstanding the process above, the following procedures may be applied in certain cases of corporate restructuring. Application of these special rules is determined for each particular case. Where (i) a constituent is merged and delisted or (ii) a newly established listed parent company receives its shares by transfer or exchange from another constituent, the delisted stock may be replaced by the successor company's stock if it is or will be listed within a short period on the Tokyo Stock Exchange First Section. In the case of spin-offs where multiple companies remain listed on the Tokyo Stock Exchange First Section, the stock of the company that succeeds to the major operations of the former company will become a constituent of the Nikkei 225.

Except for constituent changes resulting from the annual review and from the circumstances described above under *Extraordinary Replacement* and *Special Rules for Additions Resulting from Other Corporate Actions*, there is no process for adding new constituents to the Nikkei 225. After consultation with academics and market professionals, Nikkei Inc. decides and announces the list of deletions and additions. As discussed above under *Calculation of the Nikkei 225*, the divisor is adjusted accordingly to maintain continuity when constituents are added or deleted from the Nikkei 225. Deletions and additions to the Nikkei 225 resulting from either the annual review or extraordinary events are generally effective on the same day in an effort to maintain the number of constituents at 225. However, when necessary, additions may be made after the deletions take effect and during the interim period, the Nikkei 225 may be

calculated with less than 225 constituents. For example, in the case of sudden events, such as bankruptcy, there may be a short announcement period before the deletion is effective or if such constituent is promptly deleted, the new constituent may be added after a short period of notice.

*Changes to the Nikkei 225 Methodology*

Although the Nikkei 225 is calculated and maintained in accordance with the information provided in the methodology maintained on Nikkei Inc.'s website, Nikkei Inc. has discretion to take measures it deems appropriate upon the occurrence of events which are not covered in the methodology or in circumstances where it is difficult to continue to calculate the Nikkei 225 using the rules described in such methodology.

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**License Agreement between Nikkei Inc. and GS Finance Corp.**

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**Swiss Market Index (SMI®)**

The SMI®, which we also refer to in this description as the index :

was first launched with a base level of 1,500 as of June 30, 1988; and

is sponsored, calculated, published and disseminated by SIX Group Ltd., certain of its subsidiaries, and the Management Committee of the SIX Swiss Exchange (the Exchange ).

The index is a price return float-adjusted market capitalization-weighted index of the 20 largest stocks traded on the Swiss Stock Exchange. The Exchange has outsourced the calculation and determination of index constituents as described below, to a specialized third-party financial service provider. All matters regarding the index that require a decision, including regarding processes outsourced to a specialized third-party financial service provider, are submitted to the Management Committee. The Management Committee of SIX Swiss Exchange is supported by an Index Commission (advisory board) in all index-related matters, notably in connection with changes to the index rules and adjustments, additions and exclusions outside of the established review and acceptance period. The Index Commission meets at least twice annually.

As of March 25, 2019, the top ten constituents of the index (and their respective weightings in the index) were: Novan Inc (18.44%); Nestle SA (18.02%); Rogers Corporation (17.85%); Zurich Insurance Group AG (5.84%); UBS Group AG (5.36%); Cullen/Frost Banker, Inc. (4.37%); ABB Ltd (3.95%); Swiss Re AG (3.47%); Credit Suisse Group AG (3.25%); and LafargeHolcim Ltd (2.77%).

As of April 1, 2019, the ICB industries in the index (and their respective weights) were: Chemicals (2.28%), Construction and Materials (6.58%), Industrial Goods and Services (6.50%), Food and Beverage (17.85%), Personal and Household Goods (5.44%), Health Care (39.15%), Telecommunications (1.43%), Banks (9.83%) and Insurance (10.95%) (may not sum to 100% due to rounding). Sector designations are determined by the index sponsor using criteria it has selected or developed. Index sponsors may use very



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different standards for determining sector designations. In addition, many companies operate in a number of 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. FTSE Russell has announced structural updates to the ICB, expected to be effective July 1, 2019. FTSE Russell expects to add an 11th industry, Real Estate, to the ICB, expand and reorganize the current Telecommunications industry, reorganize the Consumer Goods and Consumer Services industries into Consumer Staples and Consumer Discretionary industries, respectively, and rename the Oil & Gas industry to the Energy industry. The Real Estate industry is expected to contain the Real Estate Investment & Services sector and the Real Estate Investment Trusts (REITs) sector. However, because Mortgage REITs derive revenue from real estate financing rather than from real estate itself, they will remain in the Financials industry. The Telecommunications industry is expected to be expanded via the addition of companies from the current Technology industry and the current Media sector and reorganized by creating a new Telecommunications Equipment sector and new Telecommunications Services (which will include Fixed Line Telecommunications and Mobile Telecommunications companies) and Cable Television Services subsectors, which will be grouped at the sector level as the Telecommunications Service Providers sector. The new Consumer Staples and Consumer Discretionary industries are expected to be a blend of the existing Consumer Goods and Consumer Services industries, with a majority of the weight in the existing Consumer Goods industry shifting to the new Consumer Staples industry and a majority of the weight in the existing Consumer Services industry shifting to the new Consumer Discretionary industry.

*SMI<sup>®</sup> Composition and Selection Criteria*

The index is comprised of the 20 highest ranked stocks traded on the Swiss Stock Exchange that have a free float of 20% or more and that are not investment companies. The equity universe is largely Swiss domestic companies, although in some cases foreign issuers with a primary listing on the Swiss Stock Exchange that submit to certain reporting requirements or investment companies that do not hold any shares of any other eligible company and that have a primary listing on the Swiss Stock Exchange may be included.

The ranking of each security is determined by a combination of the following criteria:

average free-float market capitalization over the last 12 months (compared to the capitalization of the entire Swiss Stock Exchange index family), and

cumulative on order book turnover over the last 12 months (compared to the total turnover of the Swiss Stock Exchange index family).

Each of these two factors is assigned a 50% weighting in ranking the stocks eligible for the index.

The index is reconstituted annually after prior notice of at least two months on the third Friday in September after the close of trading. For companies that were listed during the last 12 months, the cumulated on order book turnover generally excludes the first 5 trading days in the calculation. The ordinary index reconstitution is based on data from the previous July 1 through June 30. Provisional interim selection (ranking) lists based on the average free-float market capitalization and cumulative on order book turnover over the last 12 months are also published at the cut off dates March 31, September 30 and December 31.

In order to reduce turnover, an index constituent will not be replaced unless it is ranked below 23 or, if it is ranked 21 or 22, if another share ranks 18 or higher. If a company has primary listings on several exchanges and less than 50% of that company's total turnover is generated on the Swiss Stock Exchange, it will not be included in the index unless it ranks at least 18 or better on the selection list solely on the basis of its turnover on those exchanges on which it has a primary listing (i.e., without considering its free float).

*Maintenance of the Index*

Constituent Changes. In the case of major market changes as a result of capital events such as mergers or new listings, the Management Committee of SIX Swiss Exchange can decide at the request of the Index Commission that a security should be admitted to the index outside the annual review period as long as it clearly fulfills the criteria for inclusion. For the same reasons, a security can also be excluded if the requirements for admission to the index are no longer fulfilled. As a general rule, extraordinary

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acceptances into the index take place after a three-month period on a quarterly basis after the close of trading on the third Friday of March, June, September and December (for example, a security listed on or before the 5th trading day prior to the end of November cannot be included until the following March). If a delisting has been confirmed, it will be removed from the index at the next upcoming ordinary quarterly adjustment date (March, June, September and December) with a notice period of at least five days. An announced insolvency is deemed to be an extraordinary event and the security will be removed from the index five trading days prior notice if the circumstances permit such notice.

**Capped Weightings and Intra-Quarter Breaches.** The weight of any index constituent that exceeds a weight of 18% within the index is reduced to that value at each ordinary quarterly adjustment date by applying a capping factor to the calculation of such constituent's free float market capitalization. A constituent's number of shares and free float figure are used to determine its capping factor. The excess weight (the difference of the original weight minus the capped weight) is distributed proportionally across the other index constituents. The constituents are also capped to 18% as soon as two index constituents exceed a weight of 20% (an intra-quarter breach). If an intra-quarter breach is observed after the close of the markets, the new capping factors are implemented after the close of the following trading day. The weights of the largest components are therefore set again to be around 18% at the subsequent market open. In order to achieve a capped weighting while attempting to not cause market distortion, a stepwise reduction is conducted based on the ordinary quarterly index adjustment reviews to ensure that no change in the weight (as a result of capping) from one review to the next exceeds 3%. The transition period is in effect until no component has a weight larger than 18%. In the case of an intra-quarter breach where two index constituents exceed 20%, the weights are limited to the last defined weights as of the prior review.

**Number of Shares and Free Float.** The securities included in the index are weighted according to their free float. This means that shares deemed to be in firm hands are subtracted from the total market capitalization of that company. The free float is calculated on the basis of outstanding shares. Issued and outstanding equity capital is, as a rule, the total amount of equity capital that has been fully subscribed and wholly or partially paid in and documented in the Commercial Register. Not counting as issued and outstanding equity capital are the approved capital and the conditional capital of a company. The free float is calculated on the basis of listed shares only. If a company offers several different categories of listed participation rights, each is treated separately for the purposes of index calculation.

Fundamentally deemed to be shares held in firm hands are shareholdings that have been acquired by one person or a group of persons in companies domiciled in Switzerland and which, upon exceeding 5%, have been reported to the Exchange. Shares of persons and groups of persons who are subject to a shareholder agreement which is binding for more than 5% of the listed shares or who, according to publicly known facts, have a long-term interest in a company are also deemed to be in firm hands.

For the calculation of the number of shares in firm hands, the Exchange may also use other sources than the reports submitted to it. In particular, the Exchange may use data gained from issuer surveys that it conducts itself.

In general, shares held by custodian nominees, trustee companies, investment funds, pension funds and investment companies are deemed free-floating regardless of whether a report has been made to the Exchange. The Exchange classifies at its own discretion persons and groups of persons who, because of their area of activity or the absence of important information, cannot be clearly assigned.

The free-float rule applies only to bearer shares and registered shares. Capital issued in the form of participation certificates ( Partizipationsscheine ) and bonus certificates ( Genussscheine ) is taken into full account in calculating the index because it does not confer voting rights.

The number of securities in the index and the free-float factors are adjusted after the close of trading on four adjustment dates per year, the third Friday of March, June, September and December. Such changes are provisionally pre-announced at least one month before the adjustment date, although the index sponsor reserves the right to take account of recent changes up to five trading days before the adjustment date in the actual adjustment.

In order to avoid frequent slight changes to the weighting and to maintain the stability of the index, any extraordinary change of the total number of outstanding securities or the free float will only result in an

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extraordinary adjustment if it exceeds 10% and 5% respectively, occurs from one trading to the next and is in conjunction with a corporate action.

After a takeover, the index sponsor may, in exceptional cases, adjust the free float of the company in question upon publication of the end results after a five-day notification period or may exclude the security from the relevant index family. When an insolvency has been announced, an extraordinary adjustment will be made and the affected security will be removed from the index after five trading days' notice, and a replacement will be determined based on the current selection list.

The index sponsor reserves the right to make an extraordinary adjustment, in exceptional cases, without observing the notification period.

*Calculation of the Index*

The index sponsor calculates the index using the Laspeyres formula, with a weighted arithmetic mean of a defined number of securities issues. The formula for calculating the index value can be expressed as follows:

$$\text{Swiss Market Index} = \text{Free Float Market Capitalization of the SMI}^{\text{®}} / \text{Divisor}$$

The free float market capitalization of the SMI<sup>®</sup> is equal to the sum of the product of the last-paid price, the number of shares, the free float factor, the capping factor and, if a foreign stock is included, the current CHF exchange rate as of the time the index value is being calculated. (As of October 3, 2014, all stocks in the index are denominated in Swiss Francs, known as CHF). The index value is calculated in real time and is updated whenever a trade is made in a component stock. Where any index component stock price is unavailable on any trading day, the index sponsor will use the last reported price for such component stock. Only prices from the Exchange's electronic order book are used in calculating the index.

*Divisor Value and Adjustments*

The divisor is a technical number used to calculate the index and is adjusted to reflect changes in market capitalization due to corporate events. The divisor value as of January 18, 2019 is 92,269,809.

Below are common corporate events and their impact on the divisor of the index.

Event	Divisor Change?
Regular cash dividend	No
Repayments of capital through reduction of a share's par value	No
Special dividends, anniversary bonds and other extraordinary payments that, contrary to the company's usual	Yes

dividend policy, are paid out or declared extraordinary.

Share dividends (company's own shares)

No

Share dividend (shares of another company)

Yes

The index sponsor reserves the right to respond to any other corporate events with divisor adjustments or, in extraordinary circumstances, to depart from the provisions set forth above.

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recommend that any person invest in the offered notes or any other securities.

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consider the needs of the offered notes or the owners of the offered notes in determining, composing or calculating the SMI<sup>®</sup> or have any obligation to do so.

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The accuracy, timeliness, and completeness of the SMI<sup>®</sup> and its data;

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### **S&P/ASX 200**

The S&P/ASX 200, which we also refer to in this description as the index :

was first launched in 1979 by the Australian Securities Exchange and was acquired and re-launched by its current index sponsor on April 3, 2000; and

is sponsored, calculated, published and disseminated by S&P Dow Jones Indices LLC, a part of McGraw Hill Financial ( S&P ).

The index includes 200 of the largest and most liquid stocks listed on the Australian Securities Exchange, which we refer to as the ASX, by float-adjusted market capitalization. As discussed below, the S&P/ASX 200 is not limited solely to companies having their primary operations or headquarters in Australia or to companies having their primary listing on the ASX. All ordinary and preferred shares (if such preferred shares are not of a fixed income nature) listed on the ASX, including secondary listings, are eligible for the index. Hybrid stocks such as convertible stocks, bonds, warrants, preferred stock that provides a guaranteed fixed return and listed investment companies are not eligible for inclusion. Stocks currently under consideration for merger or acquisition are not eligible for inclusion or promotion to the index.



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As of March 25, 2019, the top 10 index stocks by weight were the following: Commonwealth Bank of Australia (7.66%), BHP Group Ltd. (6.7%), Westpac Banking Corp. (5.52%), CSL Ltd. (5.43%), ANZ Banking Group (4.61%), National Australia Bank Ltd. (4.17%), Macquarie Group Ltd. (2.45%), Woolworths Ltd. (2.45%), Wesfarmers Ltd. (2.44%) and Telstra Corporation Ltd. (2.41%).

As of February 28, 2019, the 11 GICS industry sectors represented by stocks in the index include: Financials (32.30%), Materials (18.70%), Health Care (8.40%), Industrials (8.00%), Real Estate (7.30%), Consumer Discretionary (6.30%), Consumer Staples (5.30%), Energy (5.90%), Communication Services (3.60%), Information Technology (2.30%) and Utilities (2.00%). Sector designations are determined by the index sponsor using criteria it has selected or developed. Index sponsors may use very different standards for determining sector designations. In addition, many companies operate in a number of 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. As of the close of business on September 21, 2018, S&P and MSCI, Inc. updated the Global Industry Classification Sector structure. Among other things, the update broadened the Telecommunications Services sector and renamed it the Communication Services sector. The renamed sector includes the previously existing Telecommunication Services Industry group, as well as the Media Industry group, which was moved from the Consumer Discretionary sector and renamed the Media & Entertainment Industry group. The Media & Entertainment Industry group contains three industries: Media, Entertainment and Interactive Media & Services. The Media industry continues to consist of the Advertising, Broadcasting, Cable & Satellite and Publishing sub-industries. The Entertainment industry contains the Movies & Entertainment sub-industry (which includes online entertainment streaming companies in addition to companies previously classified in such industry prior to September 21, 2018) and the Interactive Home Entertainment sub-industry (which includes companies previously classified in the Home Entertainment Software sub-industry prior to September 21, 2018 (when the Home Entertainment Software sub-industry was a sub-industry in the Information Technology sector)), as well as producers of interactive gaming products, including mobile gaming applications). The Interactive Media & Services industry and sub-industry includes companies engaged in content and information creation or distribution through proprietary platforms, where revenues are derived primarily through pay-per-click advertisements, and includes search engines, social media and networking platforms, online classifieds and online review companies. The Global Industry Classification Sector structure changes are effective for the S&P/ASX 200 Index as of the open of business on September 24, 2018 to coincide with the September 2018 quarterly rebalancing.

As of February 28, 2019, the countries of domicile included in the index and their relative weights were: Australia (97.40%), New Zealand (1.40%), United States (0.70%), France (0.30%) and United Kingdom (0.20%).

The S&P/ASX 200 Index is intended to provide exposure to the largest 200 eligible securities that are listed on the ASX by float-adjusted market capitalization. Constituent companies for the S&P/ASX 200 Index are chosen based on market capitalization, public float and liquidity. All index-eligible securities that have their primary or secondary listing on the ASX are included in the initial selection of stocks from which the 200 index stocks may be selected.

The float-adjusted market capitalization of companies is determined based on the daily average market capitalization over the last six months. The security's price history over the last six months, the latest available shares on issue and the investable weight factor, which we refer to as the IWF, are the factors relevant to the calculation of daily average market capitalization. The IWF is a variable that is primarily used to determine the available float of a security for ASX listed securities.

*Number of Shares*

When considering the index eligibility of securities for inclusion or promotion into S&P/ASX indices, the number of index securities under consideration is based upon the latest available ASX quoted securities. For domestic securities (companies incorporated in Australia and traded on the ASX, companies incorporated overseas but exclusively listed on the ASX and companies incorporated overseas and traded on other markets but most of its trading activity is on the ASX), this figure is purely based upon the latest available data from the ASX.

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Foreign-domiciled securities may quote the total number of securities on the ASX that is representative of their global equity capital; whereas other foreign-domiciled securities may quote securities on the ASX on a partial basis that represents their Australian equity capital. In order to overcome this inconsistency, S&P will quote the number of index securities that are represented by CHESS Depository Interests (CDIs) for a foreign entity. When CDIs are not issued, S&P will use the total securities held on the Australian register (CHESS and, where supplied, the issuer sponsored register). This quoted number for a foreign entity is representative of the Australian equity capital, thereby allowing the index to be reflective of the Australian market.

The number of CDIs or shares of a foreign entity quoted on the ASX can experience more volatility than is typically the case for ordinary shares on issue. Therefore, an average number on issue will be applied over a six-month period.

Where CDI information is not supplied to the ASX by the company or the company's share register, estimates for Australian equity capital will be drawn from CHESS data and, ultimately, registry-sourced data.

### *IWF*

All stocks in the index are assigned an IWF, which is an adjustment factor that accounts for the publicly available shares of a company. The IWF ranges between 0 and 1 and is calculated as 1 *minus* the percentage of shares held by strategic shareholders who possess 5% or more of issued shares. A company must have a minimum IWF of 0.3 to be eligible for index inclusion.

S&P Dow Jones Indices identifies the following shareholders whose holdings are considered to be control blocks and are subject to float adjustment:

1. Government and government agencies;
2. Controlling and strategic shareholders/partners;
3. Any other entities or individuals which hold more than 5%; excluding insurance companies, securities companies and investment funds;
4. Other restricted portions such as treasury stocks.

### *Liquidity Test*

Only stocks that are regularly traded are eligible for inclusion. Eligible stocks are considered for index inclusion based on their stock median liquidity (median daily value traded divided by its average float-adjusted market capitalization for the last six months) relative to the market capitalization weighted average of the stock median liquidities of the 500 companies of the All Ordinaries index, another member of the S&P/ASX index family.

### *Index Maintenance*

S&P rebalances the index constituents quarterly to ensure adequate market capitalization and liquidity based on the previous six months' worth of data. The reference date used for the six months worth of trading data is the last Friday of the month prior to the rebalancing, except for the September rebalancing where the reference date for data used is the second to last Friday of August. Quarterly review changes take effect after the market close on the third Friday of March, June, September and December. Eligible stocks are considered for index inclusion based on their float-adjusted market capitalization rank relative to the stated quota of 200 securities. For example, a stock that is

currently in the S&P/ASX 300 and is ranked at 175, based on float-adjusted market capitalization, within the universe of eligible securities may be considered for inclusion into the index, provided that liquidity hurdles are met. Stocks that fail the relative liquidation criteria are typically removed from the float-adjusted market capitalization rankings.

In order to limit the level of index turnover, eligible non-constituent securities will generally only be considered for index inclusion once a current constituent stock is excluded due to a sufficiently low rank and/or liquidity, based on the float-adjusted market capitalization. Potential index inclusions and exclusions need to satisfy buffer requirements in terms of the rank of the stock relative to a given index. In order to be added to the index, a stock must be ranked 179th or higher, and in order to be deleted from the index, a stock must be ranked 221st or lower. The buffers are established to limit the level of index turnover that may take place at each quarterly rebalancing. The buffers serve as guidelines for arriving at

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any potential constituent changes to the index, however, these rules can be by-passed when circumstances warrant.

Between rebalancing dates, an index addition is generally made only if a vacancy is created by an index deletion. Index additions are made according to float-adjusted market capitalization and liquidity. An initial public offering is added to the index only when an appropriate vacancy occurs and is subject to proven liquidity for at least eight weeks. An exception may be made for extraordinary large offerings where sizeable trading volumes justify index inclusion.

Deletions can occur between index rebalancing dates due to acquisitions, mergers and spin-offs or due to suspension or bankruptcies. The decision to remove a stock from the index will be made once there is sufficient evidence that the transaction will be completed. Stocks that are removed due to mergers & acquisitions activity are removed from the index at the cash offer price for cash-only offers. Otherwise the best available price in the market is used.

Share numbers for all index constituents are updated quarterly and are rounded to the nearest thousand. The update to the number of issued shares will be considered if the change is at least 5% of the float adjusted shares or A\$ 100 million in value.

Share updates for foreign-domiciled securities will take place annually at the March rebalancing. The update to the number of index shares will only take place when the 6-month average of CDIs or the total securities held in the Australian branch of the issuer sponsored register (where supplied) and in CHESS, as of the March rebalancing, differs from the current index shares by either 5% or a market-cap dollar amount greater than A\$ 100 million. Where CDI information is not supplied to the ASX by the company or the company's share register, estimates for Australian equity capital will be drawn from CHESS data and, ultimately, registry-sourced data.

Intra quarter share changes are implemented at the effective date or as soon as reliable information is available; however, they will only take place in the following circumstances:

Changes in a company's float-adjusted shares of 5% or more due to market-wide shares issuance;

Rights issues, bonus issues and other major corporate actions;

Dividend Reinvestment Plan share issuances of more than A\$100 million in value; and

Share issues resulting from index companies merging and major off-market buy-backs.

Share changes due to mergers or acquisitions are implemented when the transaction occurs, even if both of the companies are not in the same index and regardless of the size of the change.

IWFs are reviewed annually as part of the September quarterly review. However, any event that alters the float of a security in excess of 5% will be implemented as soon as practicable by an adjustment to the IWF.

The function of the IWF is also to manage the index weight of foreign-domiciled securities that quote shares on the basis of CDIs. Due to the volatility that is displayed by CDIs, unusually large changes in the number of CDIs on issue could result. Where this is the case, the IWF may be used to limit the effect of unusually large changes in the average number of CDIs (and, thereby, limit the potential to manipulate this figure). Where the Australian Index Committee

sees fit to apply the IWF in this manner, the rationale for the decision will be announced to the market. This will be reviewed annually at the March-quarter index rebalancing date.

*Index Calculation*

The index is calculated using a base-weighted aggregate methodology. The value of the index on any day for which an index value is published is determined by a fraction, the numerator of which is the *sum* for all index stocks of the products of the price of each stock in the index *times* the number of shares of such stock included in the index *times* that stock's IWF, and the denominator of which is the divisor, which is described more fully below.

In order to prevent the value of the index from changing due to corporate actions, all corporate actions may require S&P to make an index or divisor adjustment. This helps maintain the value of the index and ensures that the movement of the index does not reflect the corporate actions of the individual companies that comprise the index.

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The table below summarizes the types of index adjustments and indicates whether the corporate action will require a divisor adjustment:

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<b>Type of Corporate Action</b>	<b>Index Treatment</b>	<b>Divisor Adjustment Required</b>
Cash dividend	None	No
Special Cash Dividend	Price adjustment needed	Yes
Stock dividend and/or split	Shares are multiplied by and price is divided by the split factor	No
Stock dividend from class A shares into existing class B shares, both of which are included in the index	Adjustment for price of A; adjustment for shares in B	Yes
Stock dividend of different class, same company and is not included in the index	Price adjustment	Yes
Reverse Split	Adjustment for price and shares	No
Rights Offering	Adjustment for price and shares	Yes
Rights offering for a new line	Adjustment for price	Yes
New share issuance	Adjustment for shares	Yes
Reduction of capital	Share adjustment	Yes



New addition to index	Share adjustment	Yes
Deletion from index	Share adjustment	Yes
Merger (acquisition by index company for stock)	Share increase	Yes

A company that is spun-off from an index constituent will be added to the index at a zero price on the ex-date. If the spun-off company is not eligible to be included in the index based on its float adjusted market capitalization, then it will be removed from the index at least after one day of trading regular way.

In situations where an exchange is forced to close early due to unforeseen events, such as computer or electric power failures, weather conditions or other events, S&P will calculate the closing price of the indices based on (1) the closing prices published by the exchange, or (2) if no closing price is available, the last regular trade reported for each security before the exchange closed. If the exchange fails to open due to unforeseen circumstances, S&P treats this closure as a standard market holiday. The index will use the prior day's closing prices and shifts any corporate actions to the following business day. If all exchanges fail to open or in other extreme circumstances, S&P may determine not to publish the index for that day.

*Recalculation Policy*

S&P reserves the right to recalculate and republish the S&P/ASX 200 Index at its discretion in the event one of the following issues has occurred: (1) incorrect or revised closing price of one or more constituent securities; (2) missed corporate event; (3) incorrect application of corporate action or index methodology; (4) late announcement of a corporate event; or (5) incorrect calculation or data entry error. The decision to recalculate the S&P/ASX 200 Index is made at the discretion of the index manager and/or index

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committee, as further discussed below. The potential market impact or disruption resulting from the potential recalculation is considered when making any such decision. In the event of an incorrect closing price, a missed corporate event or a misapplied corporate action, a late announcement of a corporate event, or an incorrect calculation or data entry error that is discovered within two trading days of its occurrence, the index manager may, at his or her discretion, recalculate the S&P/ASX 200 Index without involving the index committee. In the event any such event is discovered beyond the two trading day period, the index committee shall decide whether the S&P/ASX 200 Index should be recalculated. In the event of an incorrect application of the methodology that results in the incorrect composition and/or weighting of index constituents, the index committee shall determine whether or not to recalculate the S&P/ASX 200 Index following specified guidelines. In the event that the S&P/ASX 200 Index is recalculated, it shall be done within a reasonable timeframe following the detection and review of the issue.

*Calculations and Pricing Disruptions*

Prices used to calculate the S&P/ASX 200 Index are obtained from IDC and Thomson Reuters. If the relevant exchange suffers a failure or interruption, real-time calculations are halted until the exchange confirms that trading and price dissemination has resumed.

If the interruption is not resolved before the market close and the exchange publishes a list of closing prices, those prices are used to calculate the closing value of the S&P/ASX 200 Index. If no list is published, the last trade for each security before the interruption is used to calculate the closing value of the S&P/ASX 200 Index. If no trades were reported for a security, the previous close adjusted for corporate actions is used for index calculation.

In extreme circumstances, S&P may decide to delay index adjustments or not publish the S&P/ASX 200 Index.

*Unexpected Exchange Closures*

An unexpected market/exchange closure occurs when a market/exchange fully or partially fails to open or trading is temporarily halted. This can apply to a single exchange or to a market as a whole, when all of the primary exchanges are closed and/or not trading. Unexpected market/exchange closures are usually due to unforeseen circumstances, such as natural disasters, inclement weather, outages, or other events.

In the event of an unexpected exchange closure, S&P uses the following guidelines:

- (i) If an unexpected exchange closure occurs prior to the open of trading and it is indicated that trading will not open for a given day, S&P Dow Jones Indices will treat the day as an unscheduled market holiday.
- (ii) If a market disruption occurs intraday, S&P will wait for the impacted exchange to publish a list of closing prices, which will then be used to calculate the closing index values. If no list is published, the last trade for each security before the interruption is used to calculate the index closing value. If no trades were reported for a security, the previous closing price, adjusted for corporate actions, is used for index calculation.

*License Agreement between S&P Dow Jones Indices LLC and GS Finance Corp.*

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### **The Hang Seng Index**

#### **Hang Seng Index**

The Hang Seng Index (referred to herein as the Hang Seng Index or the index) is a free-float-adjusted market capitalization weighted index with a cap on the weighting of individual constituent securities that measures the performance of the largest and most liquid companies listed on the Main Board of the Stock Exchange of Hong Kong (HKEX). The number of constituents of the index is fixed at 50. The Hang Seng Indexes Company Limited (HSIL) compiles, publishes and manages the Hang Seng Index. The Hang Seng Index was launched on November 24, 1969 and serves as a market benchmark that reflects the overall performance of the Hong Kong stock market. The Hang Seng Index base was backdated to July 31, 1964 and has a base value of 100.

Additional information about the Hang Seng Index is available on the following website: [hsi.com.hk/HSI-Net/HSI-Net](http://hsi.com.hk/HSI-Net/HSI-Net). Additional information about the HKEX is available on the following website: [hkex.com.hk/index.htm](http://hkex.com.hk/index.htm). We are not incorporating by reference these websites or any material they include in this prospectus supplement.

HSIL divides the constituents of the Hang Seng Index into eleven industry sectors. Sector designations are determined by the index sponsor using criteria it has selected or developed. Index sponsors may use very different standards for determining sector designations. In addition, many companies operate in a number

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of 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 sponsors may reflect differences in methodology as well as actual differences in the sector composition of the indices.

**Top Ten Constituent Stocks by Weight**

as of February 28, 2019

<b>Stock</b>	<b>Percentage (%)*</b>
AIA	10.08
TENCENT	9.74
HSBC Holdings	8.97
CCB	8.03
China Mobile	5.40
Ping An	4.91
ICBC	4.74
KHEX	3.42
Bank of China	3.09
CNOOC	2.57

\*Information on constituent stocks is available at [hsi.com.hk/HSI-Net/static/revamp/contents/en/dl\\_centre/factsheets/FS\\_HSIe.pdf](http://hsi.com.hk/HSI-Net/static/revamp/contents/en/dl_centre/factsheets/FS_HSIe.pdf).

**Stock Weightings by Industry**

as of February 28, 2019

<b>Sector</b>	<b>Weight (%)*</b>
Energy	6.28
Materials	0.00
Industrials	0.71
Consumer Goods	5.03
Consumer Services	3.30
Telecommunications	6.00
Utilities	5.23
Financials	48.45
Properties & Construction	11.28
Information Technology	10.10
Conglomerates	3.63

\*Information on industry weightings is available at [hsi.com.hk/HSI-Net/static/revamp/contents/en/dl\\_centre/factsheets/FS\\_HSIe.pdf](http://hsi.com.hk/HSI-Net/static/revamp/contents/en/dl_centre/factsheets/FS_HSIe.pdf).

Percentages may not sum to 100% due to rounding.

*Composition and Eligibility Criteria*

**Eligibility Criteria**

The universe of securities eligible for the Hang Seng Index includes stocks and real estate investment trusts with a primary listing on the Main Board of the HKEX. If a company has two classes of listed shares, each class of shares will be considered separately.

A security from the eligible universe is eligible for constituent selection if it fulfills the following eligibility requirements:

(1) market value requirement: the security must be among those securities that constitute the top 90th percentile of the total market value of the universe of eligible securities (the market value of each individual security is the average of the month-end market values for the past 12 months of any review period);

(2) turnover requirement: for each security, turnover in the past 24 months is assessed for eight quarterly sub-periods and points are assigned for each pass achieved by a security as outlined below. The highest

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score for the turnover requirement is 12 points and securities should obtain at least 8 points to meet the turnover requirement.

a) for each quarterly sub-period, a security will be regarded as passing the turnover requirement in that period if it is among the top 90th percentile of the aggregate market turnover of the universe of eligible securities;

b) two points will be assigned for each pass achieved over the latest four sub-periods, and one point will be assigned for each pass attained over the previous four sub-periods.

(3) listing history requirement: to ensure that constituents of the Hang Seng Index are representative securities of the HKEX and meet the market value requirement and turnover requirement, a security should normally have a listing history of at least 24 months before becoming eligible for inclusion in the Hang Seng Index, with exceptions as noted below. The listing history is the period between the listing date and the applicable review meeting date.

a) market value exception: a security with a large market value but with a listing history of less than 24 months may be considered for inclusion in the index if it satisfies one of the more stringent market value rank/minimum listing requirements below. For those securities with a listing of less than 12 months, the market value will be the average of the month-end market values since the listing date.

i) a market value rank in the top five with a minimum listing history of 3 months

ii) a market value rank of between 6 and 15 with a minimum listing history of 6 months

iii) a market value rank of between 16 and 20 with a minimum listing history of 12 months

iv) a market value rank of between 21 and 25 with a minimum listing history of 18 months

b) turnover requirement exception: a security with a listing history of less than or equal to 12 months will past the turnover requirement if it is among the top 90th percentile of the aggregate market turnover of the universe of eligible stocks for each quarterly sub-period. A security with a listing history of over 12 months will be subject to the turnover requirement outlined in (2) above.

(4) H-share company requirement: H-shares of mainland China enterprises listed on the HKEX will not be selected unless the company has no unlisted share capital.

(5) Non-high shareholding concentration requirement: a security that is the subject of a Hong Kong Securities and Futures Commission High Shareholding Concentration notice will generally not be eligible for inclusion in the index.

## **Final Selection**

All securities included in the universe of eligible securities that meet the eligibility requirements will be considered for inclusion in the Hang Seng Index. The final selection of the 50 constituents to be included in the index will be made by the advisory committee after taking into account the following considerations:

1) market value and turnover rank of securities;

2) representation of the relevant sub-sector (finance, utilities, properties, and commerce and industry) within the Hang Seng Index directly reflecting that of the market; and



3) financial performance.

The ratio of H-shares vs. non H-shares in terms of constituent number in the index will not be fixed. However, in determining constituent changes, HSIL will endeavor to maintain a balanced combination that best reflects the performance of the HKEX as a whole.

***Calculation Methodology***

The Hang Seng Index is calculated using a free-float-adjusted market weighted capitalization methodology with a 10% cap on individual securities. Your notes are linked to the [price return calculation](#) of the Hang Seng Index, which means that the index calculation does not take into account ordinary dividends or warrant bonuses. Under the free-float methodology, the following shareholdings,

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when exceeding 5% of shareholdings in the company on an individual basis, are viewed as non-free float and are excluded for index calculation purposes:

Strategic holdings: governments and affiliated entities or any other entities which hold substantial shares in a company are considered as non-free float unless otherwise proved;

Directors and management holdings: shares held by directors, members of the board committee, principal officers or founding members;

Corporate cross-holdings: shares held by publicly traded companies or private firms/institutions; and

Lock-up shares: shares that are subject to a publicly disclosed lock-up arrangement.

Any A-shares (shares listed in Shanghai and largely restricted to Chinese investors) with trading restrictions will be classified as non-free float, regardless of the shareholding percentage.

A free-float adjustment factor representing the proportion of shares that is free floated as a percentage of the issued shares is rounded up to the nearest whole percentage for free-float adjustment factors of less than 10% and is otherwise rounded up to the nearest multiple of 5%. Free-float adjustment factors are reviewed quarterly. For companies with more than one class of shares, free-float adjustment factors will be calculated separately for each class of shares.

A cap of 10% on individual stock weightings is applied, such that no individual constituent in the index will have a weighting exceeding a predetermined cap level on the index capping date.

The Hang Seng Index is calculated and disseminated every 2 seconds during trading hours on each trading day of the HKEX and is calculated as the *product* of (i) the current aggregate free-float-adjusted market capitalization of constituents *divided* by the previous trading day's aggregate free-float-adjusted market capitalization of constituents, (ii) *multiplied* by the previous trading day's closing index level. The current aggregate free-float-adjusted market capitalization of constituents on any trading day is the *product* of the current price of the constituents, the actual total number of each class of shares issued by each constituent (with respect to H-share constituents, taking into account only the H-share portion), the free-float adjustment factor (which is between zero and 1) *and* the cap factor (which is between zero and 1), in each case as determined on that trading day. A cap factor is calculated quarterly, such that no individual constituent in the index will have a weighting exceeding a predetermined cap level on the index capping date. The previous trading day's aggregate free-float adjusted market capitalization of constituents is the *product* of the closing price of the constituents on the previous trading day, the actual total number of each class of shares issued by each constituent (with respect to H-share constituents, taking into account only the H-share portion), the free-float adjustment factor (which is between zero and 1), *and* the cap factor (which is between zero and 1), in each case as determined on that trading day.

### ***Trading on the HKEX***

Trading on the HKEX is fully electronic through an Automatic Order Matching and Execution System. Trading on the HKEX takes place each Monday to Friday (excluding public holidays). The trading day consists of a pre-opening

auction session from 9:00 a.m. to 9:30 a.m., followed by a morning trading session from 9:30 a.m. to 12:00 p.m., and an afternoon trading session from 1:00 p.m. to 4:00 p.m. (Hong Kong time). The HKEX recently implemented a closing auction session, which lasts for approximately 8 to 10 minutes after the close of the afternoon trading session at 4:00pm. During the closing auction, market participants who want to trade at the closing price input buy and sell orders. These orders then form a consensus closing price for each stock and orders are executed at that price. The index level will not be updated during the closing auction session, and the closing level of the index will be determined at the conclusion of the closing auction session.

In the event that the constituent stock prices are not available from the HKEX due to a market disruption event, the underlier sponsor will suspend real-time dissemination of the index level and will resume index services depending on the market activity recovery of the HKEX.

### ***Index Rebalancing***

The adjustment of the free float adjustment factor, the calculation of the cap factor, and the update of issued shares is undertaken quarterly, and is usually implemented after market close on the first Friday in March, June, September and December, and comes into effect on the next trading day.

The index may also be adjusted on an ad hoc basis in the event of certain corporate actions and events. A minimum notice period of two trading days will be given to index users for any ad hoc rebalance. For

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corporate actions, including bonus issues, rights issues, stock splits and stock consolidations, the issued shares will be updated simultaneously with the corporate action adjustment and will take effect on the ex-date.

Other corporate events, including placing and issuance of new shares, will result in an adjustment to the free float factor if the number of free float issued shares changes by more than 10%. After the update, the index will be recapped if the weighting of any capped constituent fell below 5 percentage points from the cap level, or the weighting of any constituent is higher than 5 percentage points above the cap level.

In the event of ad hoc constituent changes, the index will only be recapped if the weighting of a newly included constituent is higher than the cap level. For ad hoc constituent deletion, no recapping will be undertaken.

### ***Trading Suspension***

Whether to remove a suspended constituent from the Hang Seng Index and replace it with an appropriate candidate will be determined in the regular index review. Should a suspended constituent be removed from the Hang Seng Index, its last traded price may be adjusted down to the system lowest price, i.e. \$0.0001 in the security's price currency, or an official residual price (if available) will be used for index calculation on the trading day preceding the effective date of the constituent changes. In the event of a trading suspension, the last traded price will be used for index calculation during the suspension period. In exceptional circumstances, a suspended constituent may be retained in the index only if it is believed that its shares are highly likely to resume trading in the near future.

Where the HKEX considers it necessary for the protection of the investor or the maintenance of an orderly market, it may at any time direct a trading halt or suspend dealings in any securities or cancel the listing of any securities in such circumstances and subject to such conditions as it thinks fit, whether requested by the listed issuer or not. The HKEX may also do so where: (1) an issuer fails, in a manner which the HKEX considers material, to comply with the HKEX listing rules; (2) the HKEX considers there are insufficient securities in the hands of the public; (3) the HKEX considers that the listed issuer does not have a sufficient level of operations or sufficient assets to warrant the continued listing of the issuer's securities; or (4) the HKEX considers that the issuer or its business is no longer suitable for listing.

In the following circumstances, when an announcement cannot be made promptly, an issuer must apply for a trading halt or suspension of its own accord, and such request for a trading halt or suspension will normally be acceded to: (1) where the issuer has information that, in the view of the HKEX, there is or there is likely to be a false market (i.e., where there is material misinformation or materially incomplete information in the market which is compromising proper price discovery) in the issuer's securities; (2) where the issuer reasonably believes that there is inside information which must be disclosed under the HKEX's inside information rules; or (3) where the issuer reasonably believes or it is reasonably likely that confidentiality may have been lost in respect of certain inside information.

In the following circumstances, pending an announcement, an issuer should request a short suspension of trading pending the publication of the announcement: (1) where the issuer has signed an agreement in respect of a share transaction, major transaction, very substantial acquisition or reverse takeover and the required announcement has not been published before trading begins on the next business day; (2) where the issuer has signed an agreement in respect of a notifiable transaction that is expected to be price-sensitive pending the publication of the required press announcement; or (3) where the issuer has finalized the major terms of an agreement in respect of a notifiable transaction that is expected to be price sensitive and the issuer considers that the necessary degree of security cannot be maintained or that the security may have been breached.

An issuer may request a suspension (other than a trading halt), and such request will normally only be acceded to in the following circumstances: (1) where the issuer is subject to an offer, but only where terms have been agreed in principle and require discussion with, and agreement by, one or more major shareholders (suspensions in such cases will normally only be appropriate where no previous announcement has been made); (2) to maintain an orderly market; (3) where there is an occurrence of certain levels of notifiable transactions, such as substantial changes in the nature, control or structure of the issuer, where publication of full details is necessary to permit a realistic valuation to be made of the securities concerned, or the approval of shareholders is required; (4) where the issuer is no longer suitable for listing, or becomes a cash company (a company whose net assets are comprised significantly of cash); (5) where the issuer is going into receivership or liquidation; or (6) where the issuer

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confirms that it will be unable to meet its obligation to disclose periodic financial information in accordance with the HKEX's listing rules.

***License Agreement***

Goldman Sachs expects to enter into a license agreement with the Hang Seng Indexes Company Limited ( "HSIL" ) whereby GS Finance Corp., in exchange for a fee, will be permitted to use the Hang Seng Index in connection with the offer and sale of your security. The Hang Seng Index (the "Index" ) is published and compiled by Hang Seng Indexes Company Limited pursuant to a license from Hang Seng Data Services Limited. The mark and name Hang Seng Index is proprietary to Hang Seng Data Services Limited. Hang Seng Indexes Company Limited and Hang Seng Data Services Limited expects to agree to the use of, and reference to, the Index by GS Finance Corp. in connection with the offered notes (the "Product" ), **BUT NEITHER HANG SENG INDEXES COMPANY LIMITED NOR HANG SENG DATA SERVICES LIMITED WARRANTS OR REPRESENTS OR GUARANTEES TO ANY BROKER OR HOLDER OF THE PRODUCT OR ANY OTHER PERSON (i) THE ACCURACY OR COMPLETENESS OF ANY OF THE INDEX AND ITS COMPUTATION OR ANY INFORMATION RELATED THERETO; OR (ii) THE FITNESS OR SUITABILITY FOR ANY PURPOSE OF ANY OF THE INDEX OR ANY COMPONENT OR DATA COMPRISED IN IT; OR (iii) THE RESULTS WHICH MAY BE OBTAINED BY ANY PERSON FROM THE USE OF ANY OF THE INDEX OR ANY COMPONENT OR DATA COMPRISED IN IT FOR ANY PURPOSE, AND NO WARRANTY OR REPRESENTATION OR GUARANTEE OF ANY KIND WHATSOEVER RELATING TO ANY OF THE INDEX IS GIVEN OR MAY BE IMPLIED.** The process and basis of computation and compilation of any of the Index and any of the related formula or formulae, constituent stocks and factors may at any time be changed or altered by Hang Seng Indexes Company Limited without notice. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, NO RESPONSIBILITY OR LIABILITY IS ACCEPTED BY HANG SENG INDEXES COMPANY LIMITED OR HANG SENG DATA SERVICES LIMITED (i) IN RESPECT OF THE USE OF AND/OR REFERENCE TO ANY OF THE INDEX BY GS FINANCE CORP. IN CONNECTION WITH THE PRODUCT; OR (ii) FOR ANY INACCURACIES, OMISSIONS, MISTAKES OR ERRORS OF HANG SENG INDEXES COMPANY LIMITED IN THE COMPUTATION OF ANY OF THE INDEX; OR (iii) FOR ANY INACCURACIES, OMISSIONS, MISTAKES, ERRORS OR INCOMPLETENESS OF ANY INFORMATION USED IN CONNECTION WITH THE COMPUTATION OF ANY OF THE INDEX WHICH IS SUPPLIED BY ANY OTHER PERSON; OR (iv) FOR ANY ECONOMIC OR OTHER LOSS WHICH MAY BE DIRECTLY OR INDIRECTLY SUSTAINED BY ANY BROKER OR HOLDER OF THE PRODUCT OR ANY OTHER PERSON DEALING WITH THE PRODUCT AS A RESULT OF ANY OF THE AFORESAID, AND NO CLAIMS, ACTIONS OR LEGAL PROCEEDINGS MAY BE BROUGHT AGAINST HANG SENG INDEXES COMPANY LIMITED AND/OR HANG SENG DATA SERVICES LIMITED** in connection with the Product in any manner whatsoever by any broker, holder or other person dealing with the Product. Any broker, holder or other person dealing with the Product does so therefore in full knowledge of this disclaimer and can place no reliance whatsoever on Hang Seng Indexes Company Limited and Hang Seng Data Services Limited. For the avoidance of doubt, this disclaimer does not create any contractual or quasi-contractual relationship between any broker, holder or other person and Hang Seng Indexes Company Limited and/or Hang Seng Data Services Limited and must not be construed to have created such relationship.

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**Historical Closing Levels of the Underlying Basket Indices**

The closing levels of the underlying basket indices have fluctuated in the past and may, in the future, experience significant fluctuations. Any historical upward or downward trend in the closing levels of the underlying basket indices during the period shown below is not an indication that the underlying basket indices are more or less likely to increase or decrease at any time during the life of your notes.

You should not take the historical levels of the underlying basket indices as an indication of the future performance of the underlying basket indices. We cannot give you any assurance that the future performance of the underlying basket indices or the underlying index stocks will result in your receiving an amount greater than the outstanding face amount of your notes, or that you will not incur a loss on your investment, on the stated maturity date.

Neither we nor any of our affiliates make any representation to you as to the performance of the underlying basket indices. Before investing in the offered notes, you should consult publicly available information to determine the levels of the underlying basket indices between the date of this prospectus supplement and the date of your purchase of the offered notes. The actual performance of the underlying basket indices over the life of the offered notes, as well as the cash settlement amount, may bear little relation to the historical levels shown below.

The graph below shows the daily historical closing levels of the underlying index from March 29, 2009 through March 29, 2019. We obtained the closing levels in the graph below from Bloomberg Financial Services, without independent verification.

**Historical Performance of the EURO STOXX 50® Index**

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**Historical Performance of the FTSE 100® Index**

**Historical Performance of Nikkei 225**

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**Historical Performance of the Swiss Market Index**

**Historical Performance of the S&P/ASX 200 Index**

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**Historical Performance of the Hang Seng Index**

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**Historical Underlying Basket Levels**

The following graph is based on the underlying basket closing level for the period from March 29, 2009 through March 29, 2019 assuming that the underlying basket closing level was 100 on March 29, 2009. We derived the underlying basket closing levels based on the method to calculate the underlying basket closing level as described in this prospectus supplement and on actual closing levels of the relevant underlying basket indices on the relevant date. The underlying basket closing level has been normalized such that its hypothetical level on March 29, 2009 was 100. As noted in this prospectus supplement, the initial underlying basket level will be set at 100 on the trade date. The underlying basket closing level can increase or decrease due to changes in the levels of the underlying basket indices.

**Historical Performance of the Basket**

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**SUPPLEMENTAL DISCUSSION OF U.S. FEDERAL INCOME TAX CONSEQUENCES**

The following section supplements the discussion of U.S. federal income taxation in the accompanying prospectus.

The following section is the opinion of Sidley Austin LLP, counsel to GS Finance Corp. and The Goldman Sachs Group, Inc. In addition, it is the opinion of Sidley Austin LLP that the characterization of the notes for U.S. federal income tax purposes that will be required under the terms of the notes, as discussed below, is a reasonable interpretation of current law.

This section does not apply to you if you are a member of a class of holders subject to special rules, such as:

a dealer in securities or currencies;

a trader in securities that elects to use a mark-to-market method of accounting for your securities holdings;

a bank;

a life insurance company;

a tax exempt organization;

a partnership;

a regulated investment company;

an accrual method taxpayer subject to special tax accounting rules as a result of its use of financial statements;

a person that owns a note as a hedge or that is hedged against interest rate risks;

a person that owns a note as part of a straddle or conversion transaction for tax purposes; or

a United States holder (as defined below) whose functional currency for tax purposes is not the U.S. dollar. Although this section is based on the U.S. Internal Revenue Code of 1986, as amended, its legislative history, existing and proposed regulations under the Internal Revenue Code, published rulings and court decisions, all as currently in effect, no statutory, judicial or administrative authority directly addresses how your notes should be treated for U.S. federal income tax purposes, and as a result, the U.S. federal income tax consequences of your investment in your

notes are uncertain. Moreover, these laws are subject to change, possibly on a retroactive basis.

*You should consult your tax advisor concerning the U.S. federal income tax and any other applicable tax consequences of your investments in the notes, including the application of state, local or other tax laws and the possible effects of changes in federal or other tax laws.*

#### **United States Holders**

This section applies to you only if you are a United States holder that holds your notes as a capital asset for tax purposes. You are a United States holder if you are a beneficial owner of each of your notes and you are:

a citizen or resident of the United States;

a domestic corporation;

an estate whose income is subject to U.S. federal income tax regardless of its source; or

a trust if a United States court can exercise primary supervision over the trust's administration and one or more United States persons are authorized to control all substantial decisions of the trust.

*Tax Treatment.* You will be obligated pursuant to the terms of the notes in the absence of a change in law, an administrative determination or a judicial ruling to the contrary to characterize your notes for all tax purposes as pre-paid derivative contracts in respect of the underlying basket indices. Except as otherwise stated below, the discussion herein assumes that the notes will be so treated.

Upon the sale, exchange or maturity of your notes, you should recognize capital gain or loss equal to the difference, if any, between the amount of cash you receive at such time and your tax basis in your notes.

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Your tax basis in the notes will generally be equal to the amount that you paid for the notes. If you hold your notes for more than one year, the gain or loss generally will be long-term capital gain or loss. If you hold your notes for one year or less, the gain or loss generally will be short-term capital gain or loss. Short-term capital gains are generally subject to tax at the marginal tax rates applicable to ordinary income.

**No statutory, judicial or administrative authority directly discusses how your notes should be treated for U.S. federal income tax purposes. As a result, the U.S. federal income tax consequences of your investment in the notes are uncertain and alternative characterizations are possible. Accordingly, we urge you to consult your tax advisor in determining the tax consequences of an investment in your notes in your particular circumstances, including the application of state, local or other tax laws and the possible effects of changes in federal or other tax laws.**

*Alternative Treatments.* There is no judicial or administrative authority discussing how your notes should be treated for U.S. federal income tax purposes. Therefore, the Internal Revenue Service might assert that a treatment other than that described above is more appropriate. For example, the Internal Revenue Service could treat your notes as a single debt instrument subject to special rules governing contingent payment debt instruments. Under those rules, the amount of interest you are required to take into account for each accrual period would be determined by constructing a projected payment schedule for the notes and applying rules similar to those for accruing original issue discount on a hypothetical noncontingent debt instrument with that projected payment schedule. This method is applied by first determining the comparable yield i.e., the yield at which we would issue a noncontingent fixed rate debt instrument with terms and conditions similar to your notes and then determining a payment schedule as of the issue date that would produce the comparable yield. These rules may have the effect of requiring you to include interest in income in respect of your notes prior to your receipt of cash attributable to that income.

If the rules governing contingent payment debt instruments apply, any gain you recognize upon the sale, exchange or maturity of your notes would be treated as ordinary interest income. Any loss you recognize at that time would be treated as ordinary loss to the extent of interest you included as income in the current or previous taxable years in respect of your notes, and, thereafter, as capital loss.

If the rules governing contingent payment debt instruments apply, special rules would apply to a person who purchases notes at a price other than the adjusted issue price as determined for tax purposes.

It is also possible that your notes could be treated in the manner described above, except that any gain or loss that you recognize at maturity would be treated as ordinary gain or loss. You should consult your tax advisor as to the tax consequences of such characterization and any possible alternative characterizations of your notes for U.S. federal income tax purposes.

It is possible that the Internal Revenue Service could seek to characterize your notes in a manner that results in tax consequences to you that are different from those described above. You should consult your tax advisor as to the tax consequences of any possible alternative characterizations of your notes for U.S. federal income tax purposes.

***Possible Change in Law***

On December 7, 2007, the Internal Revenue Service released a notice stating that the Internal Revenue Service and the Treasury Department are actively considering issuing guidance regarding the proper U.S. federal income tax treatment of an instrument such as the offered notes, including whether holders should be required to accrue ordinary income on a current basis and whether gain or loss should be ordinary or capital. It is not possible to determine what guidance they will ultimately issue, if any. It is possible, however, that under such guidance, holders of the notes will ultimately

be required to accrue income currently and this could be applied on a retroactive basis. The Internal Revenue Service and the Treasury Department are also considering other relevant issues, including whether foreign holders of such instruments should be subject to withholding tax on any deemed income accruals, and whether the special constructive ownership rules of Section 1260 of the Internal Revenue Code might be applied to such instruments. Except to the extent otherwise provided by law, we intend to continue treating the notes for U.S. federal income tax purposes in accordance with the treatment described above under Tax Treatment unless and until such time as Congress, the Treasury Department or the Internal Revenue Service determine that some other treatment is more appropriate.

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Furthermore, in 2007, legislation was introduced in Congress that, if enacted, would have required holders that acquired instruments such as your notes after the bill was enacted to accrue interest income over the term of such instruments even though there will be no interest payments over the term of such instruments. It is not possible to predict whether a similar or identical bill will be enacted in the future, or whether any such bill would affect the tax treatment of your notes.

It is impossible to predict what any such legislation or administrative or regulatory guidance might provide, and whether the effective date of any legislation or guidance will affect notes that were issued before the date that such legislation or guidance is issued. You are urged to consult your tax advisor as to the possibility that any legislative or administrative action may adversely affect the tax treatment of your notes.

### ***Backup Withholding and Information Reporting***

Please see the discussion under **United States Taxation Taxation of Debt Securities Backup Withholding and Information Reporting United States Holders** in the accompanying prospectus for a description of the applicability of the backup withholding and information reporting rules to payments made on your notes.

### **United States Alien Holders**

This section applies to you only if you are a United States alien holder. You are a United States alien holder if you are the beneficial owner of notes and are, for U.S. federal income tax purposes:

a nonresident alien individual;

a foreign corporation; or

an estate or trust that in either case is not subject to U.S. federal income tax on a net income basis on income or gain from the notes.

You will be subject to generally applicable information reporting and backup withholding requirements as discussed in the accompanying prospectus under **United States Taxation Taxation of Debt Securities Backup Withholding and Information Reporting United States Alien Holders** with respect to payments on your notes at maturity and, notwithstanding that we do not intend to treat the notes as debt for tax purposes, we intend to backup withhold on such payments with respect to your notes unless you comply with the requirements necessary to avoid backup withholding on debt instruments (in which case you will not be subject to such backup withholding) as set forth under **United States Taxation Taxation of Debt Securities United States Alien Holders** in the accompanying prospectus.

As discussed above, alternative characterizations of the notes for U.S. federal income tax purposes are possible. Should an alternative characterization of the notes, by reason of a change or clarification of the law, by regulation or otherwise, cause payments at maturity with respect to the notes to become subject to withholding tax, we will withhold tax at the applicable statutory rate and we will not make payments of any additional amounts. Prospective United States alien holders of the notes should consult their tax advisor in this regard.

Furthermore, on December 7, 2007, the Internal Revenue Service released Notice 2008-2 soliciting comments from the public on various issues, including whether instruments such as your notes should be subject to withholding. It is



therefore possible that rules will be issued in the future, possibly with retroactive effect, that would cause payments on your notes at maturity to be subject to withholding, even if you comply with certification requirements as to your foreign status.

The Treasury Department has issued regulations under which amounts paid or deemed paid on certain financial instruments ( 871(m) financial instruments ) that are treated as attributable to U.S.-source dividends could be treated, in whole or in part depending on the circumstances, as a dividend equivalent payment that is subject to tax at a rate of 30% (or a lower rate under an applicable treaty), which in the case of any amounts you receive upon the sale, exchange or maturity of your notes, could be collected via withholding. If these regulations were to apply to the notes, we may be required to withhold such taxes if any U.S.-source dividends are paid on any of the stocks included in the underlying basket indices during the term of the notes. We could also require you to make certifications (e.g., an applicable Internal Revenue Service Form W-8) prior to the maturity of the notes in order to avoid or minimize withholding obligations, and we could withhold accordingly (subject to your potential right to claim a refund from the Internal Revenue Service) if such certifications were not received or were not satisfactory. If withholding

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was required, we would not be required to pay any additional amounts with respect to amounts so withheld. These regulations generally will apply to 871(m) financial instruments (or a combination of financial instruments treated as having been entered into in connection with each other) issued (or significantly modified and treated as retired and reissued) on or after January 1, 2021, but will also apply to certain 871(m) financial instruments (or a combination of financial instruments treated as having been entered into in connection with each other) that have a delta (as defined in the applicable Treasury regulations) of one and are issued (or significantly modified and treated as retired and reissued) on or after January 1, 2017. In addition, these regulations will not apply to financial instruments that reference a qualified index (as defined in the regulations). We have determined that, as of the issue date of your notes, your notes will not be subject to withholding under these rules. In certain limited circumstances, however, you should be aware that it is possible for United States alien holders to be liable for tax under these rules with respect to a combination of transactions treated as having been entered into in connection with each other even when no withholding is required. You should consult your tax advisor concerning these regulations, subsequent official guidance and regarding any other possible alternative characterizations of your notes for U.S. federal income tax purposes.

**Foreign Account Tax Compliance Act (FATCA) Withholding**

Pursuant to Treasury regulations, Foreign Account Tax Compliance Act (FATCA) withholding (as described in United States Taxation Taxation of Debt Securities Foreign Account Tax Compliance Act (FATCA) Withholding in the accompanying prospectus) will generally apply to obligations that are issued on or after July 1, 2014; therefore, the notes will generally be subject to the FATCA withholding rules. Pursuant to recently proposed regulations, the Treasury Department has indicated its intent to eliminate the requirements under FATCA of withholding on gross proceeds from the sale, exchange, maturity or other disposition of relevant financial instruments. The Treasury Department has indicated that taxpayers may rely on these proposed regulations pending their finalization.

**Table of Contents****EMPLOYEE RETIREMENT INCOME SECURITY ACT**

*This section is only relevant to you if you are an insurance company or the fiduciary of a pension plan or an employee benefit plan (including a governmental plan, an IRA or a Keogh Plan) proposing to invest in the notes.*

The U.S. Employee Retirement Income Security Act of 1974, as amended ( ERISA ), and the U.S. Internal Revenue Code of 1986, as amended (the Code ), prohibit certain transactions ( prohibited transactions ) involving the assets of an employee benefit plan that is subject to the fiduciary responsibility provisions of ERISA or Section 4975 of the Code (including individual retirement accounts, Keogh plans and other plans described in Section 4975(e)(1) of the Code) (a Plan ) and certain persons who are parties in interest (within the meaning of ERISA) or disqualified persons (within the meaning of the Code) with respect to the Plan; governmental plans may be subject to similar prohibitions unless an exemption applies to the transaction. The assets of a Plan may include assets held in the general account of an insurance company that are deemed plan assets under ERISA or assets of certain investment vehicles in which the Plan invests. Each of The Goldman Sachs Group, Inc. and certain of its affiliates may be considered a party in interest or a disqualified person with respect to many Plans, and, accordingly, prohibited transactions may arise if the notes are acquired by or on behalf of a Plan unless those notes are acquired and held pursuant to an available exemption. In general, available exemptions are: transactions effected on behalf of that Plan by a qualified professional asset manager (prohibited transaction exemption 84-14) or an in-house asset manager (prohibited transaction exemption 96-23), transactions involving insurance company general accounts (prohibited transaction exemption 95-60), transactions involving insurance company pooled separate accounts (prohibited transaction exemption 90-1), transactions involving bank collective investment funds (prohibited transaction exemption 91-38) and transactions with service providers under Section 408(b)(17) of ERISA and Section 4975(d)(20) of the Code where the Plan receives no less and pays no more than adequate consideration (within the meaning of Section 408(b)(17) of ERISA and Section 4975(f)(10) of the Code). The person making the decision on behalf of a Plan or a governmental plan shall be deemed, on behalf of itself and the plan, by purchasing and holding the notes, or exercising any rights related thereto, to represent that (a) the plan will receive no less and pay no more than adequate consideration (within the meaning of Section 408(b)(17) of ERISA and Section 4975(f)(10) of the Code) in connection with the purchase and holding of the notes, (b) none of the purchase, holding or disposition of the notes or the exercise of any rights related to the notes will result in a nonexempt prohibited transaction under ERISA or the Code (or, with respect to a governmental plan, under any similar applicable law or regulation), and (c) neither The Goldman Sachs Group, Inc. nor any of its affiliates is a fiduciary (within the meaning of Section 3(21) of ERISA) or, with respect to a governmental plan, under any similar applicable law or regulation) with respect to the purchaser or holder in connection with such person's acquisition, disposition or holding of the notes, or as a result of any exercise by The Goldman Sachs Group, Inc. or any of its affiliates of any rights in connection with the notes, and neither The Goldman Sachs Group, Inc. nor any of its affiliates has provided investment advice in connection with such person's acquisition, disposition or holding of the notes.

*If you are an insurance company or the fiduciary of a pension plan or an employee benefit plan (including a government plan, an IRA or a Keogh plan) and propose to invest in the notes, you should consult your legal counsel.*

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**SUPPLEMENTAL PLAN OF DISTRIBUTION**

GS Finance Corp. expects to agree to sell to GS&Co., and GS&Co. expects to agree to purchase from GS Finance Corp., the aggregate face amount of the offered notes specified on the front cover of this prospectus supplement. GS&Co. proposes initially to offer the notes to the public at the original issue price set forth on the cover page of this prospectus supplement, and to UBS Financial Services Inc. at such price less a concession not in excess of 3.5% of the face amount.

In connection with the initial offering of the notes, the minimum face amount of notes that may be purchased by any investor is \$1,000.

We expect to deliver the notes against payment therefor in New York, New York on April 30, 2019.

In the future, GS&Co. or other affiliates of GS Finance Corp. may repurchase and resell the offered notes in market-making transactions, with resales being made at prices related to prevailing market prices at the time of resale or at negotiated prices. GS Finance Corp. estimates that its share of the total offering expenses, excluding underwriting discounts and commissions, will be approximately \$ . For more information about the plan of distribution and possible market-making activities, see Plan of Distribution in the accompanying prospectus.

We have been advised by GS&Co. that it intends to make a market in the notes. However, neither GS&Co. nor any of our other affiliates that makes a market is obligated to do so and any of them may stop doing so at any time without notice. No assurance can be given as to the liquidity or trading market for the notes.

Any notes which are the subject of the offering contemplated by this prospectus supplement, the accompanying prospectus and the accompanying prospectus supplement may not be offered, sold or otherwise made available to any retail investor in the European Economic Area. Consequently no key information document required by Regulation (EU) No 1286/2014 (the PRIIPs Regulation ) for offering or selling the notes or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation. For the purposes of this provision:

- (a) the expression retail investor means a person who is one (or more) of the following:
  - (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, MiFID II );  
or
  - (ii) a customer within the meaning of Directive 2002/92/EC (as amended, the Insurance Mediation Directive ), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or
  - (iii) not a qualified investor as defined in Directive 2003/71/EC (as amended, the Prospectus Directive );  
and

- (b) the expression an offer includes the communication in any form and by any means of sufficient information on the terms of the offer and the notes to be offered so as to enable an investor to decide to purchase or subscribe for the notes.

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State ), GS&Co. has represented and agreed that with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State (the Relevant Implementation Date ) it has not made and will not make an offer of notes which are the subject of the offering contemplated by this prospectus supplement, the accompanying prospectus and the accompanying prospectus supplement to the public in that Relevant Member State except that, with effect from and including the Relevant Implementation Date, an offer of such notes may be made to the public in that Relevant Member State:

- a) at any time to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- b) at any time to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), subject to obtaining the prior consent of the relevant dealer or dealers nominated by the issuer for any such offer; or

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c) at any time in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of notes referred to above shall require us or any dealer to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an offer of notes to the public in relation to any notes in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the notes to be offered so as to enable an investor to decide to purchase or subscribe for the notes, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State and the expression Prospectus Directive means Directive 2003/71/EC (as amended, including by Directive 2010/73/EU), and includes any relevant implementing measure in the Relevant Member State.

Any invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) in connection with the issue or sale of the notes may only be communicated or caused to be communicated in circumstances in which Section 21(1) of the FSMA does not apply to GS Finance Corp. or The Goldman Sachs Group, Inc.

All applicable provisions of the FSMA must be complied with in respect to anything done by any person in relation to the notes in, from or otherwise involving the United Kingdom.

The notes may not be offered or sold in Hong Kong by means of any document other than (i) to professional investors as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) and any rules made thereunder, or (ii) in other circumstances which do not result in the document being a prospectus as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32 of the Laws of Hong Kong) or which do not constitute an offer to the public within the meaning of that Ordinance; and no advertisement, invitation or document relating to the notes may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere) which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to the notes which are or are intended to be disposed of only to persons outside Hong Kong or only to professional investors as defined in the Securities and Futures Ordinance and any rules made thereunder.

This prospectus supplement, along with the accompanying prospectus supplement and the accompanying prospectus have not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus supplement, along with the accompanying prospectus supplement and the accompanying prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the notes may not be circulated or distributed, nor may the notes be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act, Chapter 289 of Singapore (the SFA)) under Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to conditions set forth in the SFA.

Where the notes are subscribed or purchased under Section 275 of the SFA by a relevant person which is a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor, the securities (as defined in Section 239(1) of the SFA) of that corporation shall not be transferable for six months after that corporation has acquired the notes under Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where

such transfer arises from an offer in that corporation's securities pursuant to Section 275(1A) of the SFA, (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore ( Regulation 32 ).

Where the notes are subscribed or purchased under Section 275 of the SFA by a relevant person which is a trust (where the trustee is not an accredited investor (as defined in Section 4A of the SFA)) whose

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sole purpose is to hold investments and each beneficiary of the trust is an accredited investor, the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferable for six months after that trust has acquired the notes under Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer that is made on terms that such rights or interest are acquired at a consideration of not less than S\$200,000 (or its equivalent in a foreign currency) for each transaction (whether such amount is to be paid for in cash or by exchange of securities or other assets), (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32.

The notes have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended), or the FIEA. The notes may not be offered or sold, directly or indirectly, in Japan or to or for the benefit of any resident of Japan (including any person resident in Japan or any corporation or other entity organized under the laws of Japan) or to others for reoffering or resale, directly or indirectly, in Japan or to or for the benefit of any resident of Japan, except pursuant to an exemption from the registration requirements of the FIEA and otherwise in compliance with any relevant laws and regulations of Japan.

The notes are not offered, sold or advertised, directly or indirectly, in, into or from Switzerland on the basis of a public offering and will not be listed on the SIX Swiss Exchange or any other offering or regulated trading facility in Switzerland. Accordingly, neither this prospectus supplement nor any accompanying prospectus supplement, prospectus or other marketing material constitute a prospectus as defined in article 652a or article 1156 of the Swiss Code of Obligations or a listing prospectus as defined in article 32 of the Listing Rules of the SIX Swiss Exchange or any other regulated trading facility in Switzerland. Any resales of the notes by the underwriters thereof may only be undertaken on a private basis to selected individual investors in compliance with Swiss law. This prospectus supplement and accompanying prospectus and prospectus supplement may not be copied, reproduced, distributed or passed on to others or otherwise made available in Switzerland without our prior written consent. By accepting this prospectus supplement and accompanying prospectus and prospectus supplement or by subscribing to the notes, investors are deemed to have acknowledged and agreed to abide by these restrictions. Investors are advised to consult with their financial, legal or tax advisers before investing in the notes.

### **Conflicts of Interest**

GS&Co. is an affiliate of GS Finance Corp and The Goldman Sachs Group, Inc. and, as such, will have a conflict of interest in this offering of notes within the meaning of Financial Industry Regulatory Authority, Inc. (FINRA) Rule 5121. Consequently, this offering of notes will be conducted in compliance with the provisions of FINRA Rule 5121. GS&Co. will not be permitted to sell notes in this offering to an account over which it exercises discretionary authority without the prior specific written approval of the account holder.



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We have not authorized anyone to provide any information or to make any representations other than those contained or incorporated by reference in this prospectus supplement, the accompanying prospectus supplement and the accompanying prospectus. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus supplement, the accompanying prospectus supplement and the accompanying prospectus is an offer to sell only the notes offered hereby, but only under the circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus supplement, the accompanying prospectus supplement and the accompanying prospectus is current only as of the respective dates of such documents.

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**GS Finance Corp.**

Basket-Linked Trigger GEARS due

guaranteed by

**The Goldman Sachs Group, Inc.**

**Goldman Sachs & Co. LLC**

**UBS Financial Services Inc.**

**Selling Agent**