

GOLDMAN SACHS GROUP INC

Form 424B2

December 26, 2018

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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. December 26, 2018.

GS Finance Corp.

\$

Trigger Callable Contingent Yield Notes due guaranteed by

The Goldman Sachs Group, Inc.

The notes will not pay a fixed coupon and may pay no coupon on a coupon payment date. The amount that you will be paid on your notes is based on the performances of the S&P 500<sup>®</sup> Index, the Russell 2000<sup>®</sup> Index and the MSCI Emerging Markets Index. Subject to our redemption right, the notes will mature on the stated maturity date (expected to be December 29, 2028). We may redeem your notes on any coupon payment date (described below) on or after March 28, 2019, regardless of the performance of the indices, at a price equal to the face amount of your notes plus any coupon (described below) then due. Coupon payment dates are expected to be the dates specified on page S-5 of this prospectus supplement.

On each determination date (the quarterly dates in March, June, September and December specified on page S-5 of this prospectus supplement), unless previously redeemed, if the closing level of each index is greater than or equal to 70.00% of its initial level set on December 21, 2018 (the initial levels are 2,416.62 with respect to the S&P 500<sup>®</sup> Index, 1,292.086 with respect to the Russell 2000<sup>®</sup> Index and 957.33 with respect to the MSCI Emerging Markets Index), you will receive on the applicable coupon payment date a coupon of \$0.325 for each \$10 face amount of your notes. If the closing level of any index on any determination date is less than 70.00% of its initial level, you will not receive a coupon payment on the applicable coupon payment date.

If your notes are outstanding at maturity, the amount that you will be paid on your notes at maturity, in addition to the final coupon, if any, is based on the performance of the lesser performing index (the index with the lowest index return). The index return for each index is the percentage increase or decrease in the closing level of the index on the final determination date from its initial level.

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

- if the final level of each index is greater than or equal to 70.00% of its initial level, \$10 plus the final coupon;
- if the final level of each index is greater than or equal to 50.00% of its initial level but the final level of any index is less than 70.00% of its initial level, \$10. You will not receive a final coupon; or
- if the final level of any index is less than 50.00% of its initial level, the sum of (i) \$10 plus (ii) the product of (a) the lesser performing index return times (b) \$10. You will receive less than 50.00% of the face amount of your notes and you will not receive a final coupon.

The maximum return on your notes is 3.25% quarterly (or 13.00% per annum), regardless of how much any index appreciates.

Any sale prior to maturity could result in a loss even if the level of each index at the time of such sale is greater than or equal to 50.00% of its initial level.

You should read the disclosure herein to better understand the terms and risks of your investment, including the credit risk GS Finance Corp. and The Goldman Sachs Group, Inc. See page S-12.

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 \$9.35 and \$9.65 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.

Original issue date: expected to be December 31, 2018 Original issue price: 100.00% of the face amount  
Underwriting discount: 1.40% of the face amount\* Net proceeds to the issuer: 98.60% of the face amount

\*UBS Financial Services Inc., the selling agent, will receive a selling concession not in excess of 1.00% 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 \$9.35 and \$9.65 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 an 88 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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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-25. 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.

Indices: the S&P 500<sup>®</sup> Index (Bloomberg symbol, “SPX Index”), as published by S&P Dow Jones Indices LLC, the Russell 2000<sup>®</sup> Index (Bloomberg symbol, “RTY Index”), as published by FTSE Russell (“Russell”), and the MSCI Emerging Markets Index (Bloomberg symbol, “MXEF Index”) as maintained by MSCI Inc.; see “The Indices” on page S-35

Specified currency: U.S. dollars (“\$”)

Face amount: each note will have a face amount equal to \$10; \$ \_\_\_\_\_ 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 1.00% of the face amount. See “Supplemental Plan of Distribution” on page S-66

Purchase at amount other than face amount: the amount we will pay you for your notes on the stated maturity date or upon any early redemption of 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 or date of early redemption, 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. 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” on page S-17 of this prospectus supplement

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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 an income-bearing pre-paid derivative contract in respect of the indices, as described under “Supplemental Discussion of Federal Income Tax Consequences” herein. Pursuant to this approach, it is the opinion of Sidley Austin LLP that it is likely that any coupon payment will be taxed as ordinary income in accordance with your regular method of accounting for U.S. federal income tax purposes. If you are a United States alien holder of the notes, we intend to withhold on coupon payments made to you at a 30% rate or at a lower rate specified by an applicable income tax treaty. In addition, upon the sale, exchange, redemption 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 (excluding amounts attributable to any coupon payment) and your tax basis in your notes.

Cash settlement amount (on the stated maturity date): subject to our early redemption right, for each \$10 face amount of your notes, we will pay you on the stated maturity date an amount in cash equal to:

- if the final index level of each index is greater than or equal to its coupon barrier, \$10 plus the final coupon;
- if the final index level of each index is greater than or equal to its downside threshold but the final index level of any index is less than its coupon barrier, \$10. You will not receive a final coupon; or
- if the final index level of any index is less than its downside threshold, the sum of (i) \$10 plus (ii) the product of (a) the lesser performing index return times (b) \$10.

Downside threshold: 1,208.310 with respect to the S&P 500<sup>®</sup> Index, 646.043 with respect to the Russell 2000<sup>®</sup> Index and 478.665 with respect to the MSCI Emerging Markets Index (in each case, 50.00% of such index’s initial index level (rounded to the nearest one-thousandth))

Early redemption right: we have the right to redeem your notes at our option, in whole but not in part, at a price equal to 100% of the face amount plus any coupon then due, on each coupon payment date on or after March 28, 2019, subject to at least two business days’ prior notice

Lesser performing index return: the index return of the lesser performing index

Lesser performing index: the index with the lowest index return

Coupon: subject to our early redemption right, on each coupon payment date, for each \$10 face amount of your notes, we will pay you an amount in cash equal to:

- if the closing level of each index on the related coupon determination date is greater than or equal to its coupon barrier, \$0.325 (3.25% quarterly or 13.00% per annum); or
- if the closing level of any index on the related coupon determination date is less than its coupon barrier, \$0.00

No coupon payment or return of principal is guaranteed. As discussed above, we will not pay a coupon with respect to any coupon determination date on which the closing level of any index is less than its coupon barrier. Also, although both the coupon determination dates and coupon payment dates occur quarterly, there may not be an equal number of days between coupon determination dates or between coupon payment dates, respectively. However, the way in which the coupon is determined will not vary based on the actual number of days between coupon determination dates or between coupon payment dates.

Coupon barrier: 1,691.634 with respect to the S&P 500<sup>®</sup> Index, 904.460 with respect to the Russell 2000<sup>®</sup> Index and 670.131 with respect to the MSCI Emerging Markets Index (in each case, 70.00% of such index’s initial index level (rounded to the nearest one-thousandth))

Initial index level: 2,416.62 with respect to the S&P 500<sup>®</sup> Index, 1,292.086 with respect to the Russell 2000<sup>®</sup> Index and 957.33 with respect to the MSCI Emerging Markets Index. The initial index level of each index represents the closing level of such index on December 21, 2018 and may be higher or lower than the closing level of such index on the trade date.

Final index level: with respect to each index, the closing level of such 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-28

Closing level: with respect to each index on any trading day, the closing level of such index, as further described under “Specific Terms of Your Notes — Special Calculation Provisions — Closing Level” on page S-31



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Index return: with respect to each index on the determination date, the quotient of (i) the final index level minus the initial index level divided by (ii) the initial index level, expressed as a positive or negative percentage

Defeasance: not applicable

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

Business day: as described under “Specific Terms of Your Notes — Special Calculation Provisions — Business Day” on page S-31

Trading day: as described under “Specific Terms of Your Notes — Special Calculation Provisions — Trading Day” on page S-31

Trade date: expected to be December 26, 2018

Original issue date (settlement date) (to be set on the trade date): expected to be December 31, 2018

Determination date (to be set on the trade date): expected to be December 26, 2028, subject to adjustment as described under “Specific Terms of Your Notes — Determination Date” on page S-27

Stated maturity date (to be set on the trade date): expected to be December 29, 2028, subject to our redemption right and to adjustment as described under “Specific Terms of Your Notes — Stated Maturity Date” on page S-27

Coupon determination dates (to be set on the trade date): expected to be the dates specified as such in the table under “Coupon payment dates” below, subject to adjustment as described under “Specific Terms of Your Notes — Coupon Determination Dates” on page S-28. Although the coupon determination dates occur quarterly, there may not be an equal number of days between coupon determination dates.

Coupon payment dates (to be set on the trade date): expected to be the dates specified in the table below, subject to adjustment as described under “Specific Terms of Your Notes — Coupon and Coupon Payment Dates” on page S-27. Although the coupon payment dates occur quarterly, there may not be an equal number of days between coupon payment dates.

Coupon Determination Dates    Coupon Payment Dates

March 26, 2019	March 28, 2019
June 26, 2019	June 28, 2019
September 26, 2019	September 30, 2019
December 26, 2019	December 30, 2019
March 26, 2020	March 30, 2020
June 26, 2020	June 30, 2020
September 28, 2020	September 30, 2020
December 28, 2020	December 30, 2020
March 26, 2021	March 30, 2021
June 28, 2021	June 30, 2021
September 27, 2021	September 29, 2021
December 27, 2021	December 29, 2021
March 28, 2022	March 30, 2022
June 27, 2022	June 29, 2022
September 26, 2022	September 28, 2022
December 27, 2022	December 29, 2022
March 27, 2023	March 29, 2023
June 26, 2023	June 28, 2023
September 26, 2023	September 28, 2023
December 26, 2023	December 28, 2023
March 26, 2024	March 28, 2024
June 26, 2024	June 28, 2024
September 26, 2024	September 30, 2024
December 26, 2024	December 30, 2024
March 26, 2025	March 28, 2025
June 26, 2025	June 30, 2025

September 26, 2025	September 30, 2025
December 26, 2025	December 30, 2025
March 26, 2026	March 30, 2026
June 26, 2026	June 30, 2026
September 28, 2026	September 30, 2026
December 28, 2026	December 30, 2026
March 29, 2027	March 31, 2027
June 28, 2027	June 30, 2027
September 27, 2027	September 29, 2027
December 27, 2027	December 29, 2027
March 27, 2028	March 29, 2028
June 26, 2028	June 28, 2028
September 26, 2028	September 28, 2028
December 26, 2028	December 29, 2028

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Regular record dates: the scheduled business day immediately preceding the day on which payment is to be made (as such payment date may be adjusted)

Calculation agent: GS&Co.

CUSIP no.: 36256M866

ISIN no.: US36256M8661

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

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## 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 (i) the impact that various hypothetical closing levels of the indices on a coupon determination date could have on the coupon payable on the related coupon payment date and (ii) the impact that the various hypothetical closing levels of the lesser performing index 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 index levels of the lesser performing index that are entirely hypothetical; no one can predict what the index level of any index will be on any day throughout the life of your notes, what the closing level of any index will be on any coupon determination date and what the final index level of the lesser performing index will be on the determination date. The indices have been highly volatile in the past — meaning that the index levels have changed substantially in relatively short periods — and their performance cannot be predicted for any future period.

The information in the following examples reflects the 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 or early redemption. 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 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-12 of this prospectus supplement. The information in the examples also reflect the key terms and assumptions in the box below.

## Key Terms and Assumptions

Face amount	\$10
Initial index level of the S&P 500® Index	2,416.62
Initial index level of the Russell 2000® Index	1,292.086
Initial index level of the MSCI Emerging Markets Index	957.33
Downside threshold	1,208.310 with respect to the S&P 500® Index, 646.043 with respect to the Russell 2000® Index and 478.665 with respect to the MSCI Emerging Markets Index (in each case, 50.00% of such index’s initial index level (rounded to the nearest one-thousandth))
Coupon barrier	1,691.634 with respect to the S&P 500® Index, 904.460 with respect to the Russell 2000® Index and 670.131 with respect to the MSCI Emerging Markets Index (in each case, 70.00% of such index’s initial index level (rounded to the nearest one-thousandth))
Coupon	\$0.325 (3.25% quarterly or 13.00% per annum)

Neither a market disruption event nor a non-trading day occurs on any originally scheduled coupon determination date or the originally scheduled determination date

No change in or affecting any of the index stocks or the method by which the applicable index sponsor calculates any index

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

For these reasons, the actual performance of the indices over the life of your notes, the actual index levels on any coupon determination date, as well as the coupon payable, if any, on each coupon payment date, may bear little relation to the hypothetical examples shown below or to the historical index levels shown elsewhere in this prospectus supplement. For information about the index levels during recent

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periods, see “The Indices — Historical Closing Levels of the Indices” on page S-57. Before investing in the notes, you should consult publicly available information to determine the index levels between the date of this prospectus supplement and the date of your purchase of the 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 index stocks.

Hypothetical Coupon Payments

With respect to each \$10 face amount of notes, the examples below show hypothetical coupons, if any, that we would pay on a coupon payment date if the closing levels of the indices on the applicable coupon determination date were the hypothetical closing levels shown.

## Scenario 1

Hypothetical Coupon Determination Date	Hypothetical Closing Level of the S&P 500® Index	Hypothetical Closing Level of the Russell 2000® Index	Hypothetical Closing Level of the MSCI Emerging Markets Index	Hypothetical Coupon Paid on Related Coupon Payment Date
First	1,200	600	1,000	\$0.000
Second	2,150	640	900	\$0.000
Third	3,800	1,900	900	\$0.325
Fourth	1,100	1,100	750	\$0.000
Fifth	3,400	1,150	600	\$0.000
Sixth	2,200	1,075	650	\$0.000
Seventh	2,650	1,400	850	\$0.325
Eighth	2,400	575	600	\$0.000
Ninth	3,000	1,300	950	\$0.325
Tenth	2,000	590	1,100	\$0.000
Eleventh	2,300	550	1,300	\$0.000
Twelfth - Fortieth	2,100	900	1,000	\$0.000
Total Hypothetical Coupons Paid				\$0.975

In Scenario 1, we do not exercise our early redemption right and the hypothetical closing level of each index increases and decreases by varying amounts, compared to its initial index level, on the hypothetical coupon determination dates. Because the hypothetical closing level of each index on the third, seventh and ninth hypothetical coupon determination dates is greater than or equal to its coupon barrier, coupons are paid on the three related coupon payment dates and the total of the hypothetical coupons paid in Scenario 1 is \$0.975. Because the hypothetical closing level of at least one index on all other coupon determination dates is less than its coupon barrier, no further coupons will be paid, including at maturity. The overall return on your notes may be less than zero.

## Scenario 2

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Hypothetical Coupon Determination Date	Hypothetical Closing Level of the S&P 500® Index	Hypothetical Closing Level of the Russell 2000® Index	Hypothetical Closing Level of the MSCI Emerging Markets Index	Hypothetical Coupon Paid on Related Coupon Payment Date
First	1,100	1,300	1,000	\$0.000
Second	1,050	1,350	850	\$0.000
Third	1,000	1,900	950	\$0.000
Fourth	1,100	1,400	1,000	\$0.000
Fifth	1,050	1,375	850	\$0.000
Sixth	1,000	1,300	900	\$0.000
Seventh	1,500	1,350	950	\$0.000
Eighth	1,100	1,325	1,300	\$0.000
Ninth	1,050	1,500	850	\$0.000
Tenth	1,000	1,300	975	\$0.000
Eleventh	1,100	1,350	950	\$0.000
Twelfth – Fortieth	1,150	1,275	900	\$0.000
			Total	
			Hypothetical Coupons Paid	\$0.000

In Scenario 2, we do not exercise our early redemption right and the hypothetical closing level of the S&P 500® Index decreases by varying amounts, compared to its initial index level, on the hypothetical coupon determination dates and the hypothetical closing level of each of the Russell 2000® Index and the MSCI Emerging Markets Index increases and decreases by varying amounts, compared to its initial index level, on the hypothetical coupon determination dates. Because in each case the hypothetical closing level of the S&P 500® Index is less than its coupon barrier, you will not receive a coupon payment on any hypothetical coupon payment date, even though the closing level of each of the Russell 2000® Index and the MSCI Emerging Markets Index is above its coupon barrier on each hypothetical coupon determination date. Therefore, the total of the hypothetical coupons paid in Scenario 2 is \$0.00. The overall return on your notes will be zero or less.

## Scenario 3

Hypothetical Coupon Determination Date	Hypothetical Closing Level of the S&P 500® Index	Hypothetical Closing Level of the Russell 2000® Index	Hypothetical Closing Level of the MSCI Emerging Markets Index	Hypothetical Coupon Paid on Related Coupon Payment Date
First	2,700	1,900	1,300	\$0.325
			Total Hypothetical Coupons Paid	\$0.325

In Scenario 3, the hypothetical closing level of each index is greater than or equal to its coupon barrier on the first hypothetical coupon determination date. In addition, we exercise our early redemption right with respect to the first hypothetical coupon payment date (which is also the first hypothetical date with respect to which we could exercise such right). Therefore, on such hypothetical coupon payment date, in addition to the hypothetical coupon of \$0.325, you will receive an amount in cash equal to \$10 for each \$10 face amount of your notes and your notes will be redeemed.

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## Hypothetical Cash Settlement Amount at Maturity

If we have not redeemed the notes early, the cash settlement amount we would deliver for each \$10 face amount of your notes on the stated maturity date will depend on the performance of the lesser performing index on the determination date, as shown in the table below. The table below assumes that we have not redeemed the notes early and reflects hypothetical cash settlement amounts that you could receive on the stated maturity date.

The levels in the left column of the table below represent hypothetical final index levels of the lesser performing index and are expressed as percentages of the initial index level of the lesser performing index. The amounts in the right column represent the hypothetical cash settlement amounts, based on the corresponding hypothetical final index level of the lesser performing index (expressed as a percentage of the initial index level of the lesser performing index), 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 index level of the lesser performing index (expressed as a percentage of the initial index level of the lesser performing index) and the assumptions noted above.

We Have Not Redeemed the Notes Early

Hypothetical Final Index Level of the Lesser Performing Index (as Percentage of Initial Index Level)	Hypothetical Cash Settlement Amount at Maturity if We Have <u>Not</u> Redeemed the Notes Early (as Percentage of Face Amount)
175.000%	100.000%*
150.000%	100.000%*
125.000%	100.000%*
100.000%	100.000%*
90.000%	100.000%*
80.000%	100.000%*
70.000%	100.000%*
60.000%	100.000%
50.000%	100.000%
49.999%	49.999%
30.000%	30.000%
25.000%	25.000%
10.000%	10.000%
0.000%	0.000%

\*Does not include the final coupon

If, for example, we have not redeemed the notes early, the final index level of the lesser performing index were determined to be 25.000% of its initial index 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 excluding any coupons you may have received over the term of the notes (if you purchased your notes at a premium to face amount you would lose a correspondingly higher percentage of your investment). In addition, if the final index level of the lesser performing index were determined to be 80.000% of its initial index 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 the final index level of the lesser performing index is greater than or equal to its downside threshold, if you held your notes to the stated maturity date, you would receive \$10 for each \$10 face amount of your notes. Alternatively, if the final index level of the lesser performing index were determined to be 175.000% of its initial index level, the cash settlement amount that we would deliver on your notes at maturity would be limited to 100.000% of each \$10 face amount of your notes, as shown in the table above. As a result, if you held your notes to the stated maturity date, you would not benefit from any increase in the

final index level over the initial index level.

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The cash settlement amounts shown above are entirely hypothetical; they are based on market prices for the index stocks 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 Your Notes — The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors” on page S-17.

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 under “Additional Risk Factors Specific to Your Notes — The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors” on page S-17. The discussion in this paragraph does not modify or affect the terms of the notes or the U.S. federal income tax treatment of the notes, as described elsewhere in this prospectus supplement.

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



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**ADDITIONAL RISK FACTORS SPECIFIC TO YOUR NOTES**

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

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

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

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

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

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

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

You can lose your entire investment in the notes. Assuming we do not redeem your notes early, the cash settlement amount on your notes, if any, on the stated maturity date will be based on the performance of the lesser performing of the S&P 500<sup>®</sup> Index, the Russell 2000<sup>®</sup> Index and the MSCI Emerging Markets Index as measured from their initial index levels set on December 21, 2018 to their closing levels on the determination date. If the final index level of the lesser performing index for your notes is less than its downside threshold, you will have a loss for each \$10 of the face amount of your notes equal to the product of the lesser performing index return times \$10. 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 applies 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 sell your notes before the stated maturity date, you may receive far less than the amount of your investment in the notes.

### The Return on Your Notes May Change Significantly Despite Only a Small Change in the Level of the Lesser Performing Index

If your notes are not redeemed and the final index level of the lesser performing index is less than its downside threshold, 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 50.00% between the initial index level and the final index level of the lesser performing index will not result in a loss of principal on the notes, a decrease in the final index level of the lesser performing index to less than 50.00% of its initial index level will result in a loss of a significant portion of the face amount of the notes despite only a small change in the level of the lesser performing index.



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### You May Not Receive a Coupon on Any Coupon Payment Date

You will be paid a coupon on a coupon payment date only if the closing level of each index on the applicable coupon determination date is equal to or greater than its coupon barrier. If the closing level of any index on the related coupon determination date is less than its coupon barrier, you will not receive a coupon payment on the applicable coupon payment date. If this occurs on every coupon determination date, whether due to changes in the levels of one or more than one of the indices, the overall return you earn on your notes will be zero or less and such return will be less than you would have earned by investing in a note that bears interest at the prevailing market rate.

**Because the Notes Are Linked to the Performance of the Lesser Performing Index, You Have a Greater Risk of Receiving No Quarterly Coupons and Sustaining a Significant Loss on Your Investment Than If the Notes Were Linked to Just One Index**

The risk that you will not receive any quarterly coupons, or that you will suffer a significant loss on your investment, is greater if you invest in the notes as opposed to substantially similar notes that are linked to the performance of just one index. With three indices, it is more likely that an index will close below its coupon barrier on any coupon determination date, or below its downside threshold on the determination date, than if the notes were linked to only one index. Therefore, it is more likely that you will not receive any quarterly coupons and that you will suffer a significant loss on your investment.

Movements in the values of the indices may be correlated or uncorrelated at different times during the term of the notes and, if there is correlation, such correlation may be positive (the indices move in the same direction) or negative (the indices move in reverse directions). You should not take the historical correlation (or lack thereof) of the indices as an indication of the future correlation, if any, of the indices. Such correlation could have an adverse effect on your return on the notes. For example, if one index is negatively correlated with the other indices on a coupon determination date or the determination date, as applicable, and the level of such index increases, it is likely that the other indices will decrease and such decrease could cause one or both of the other indices to close below its coupon barrier on a coupon determination date or below its downside threshold on the determination date. In addition, although the correlation of the indices' performance may change over the term of the notes, the coupon is determined, in part, based on the correlation of the indices' performance at the time when the terms of the notes are finalized. As discussed below in "A Higher Coupon and/or a Lower Downside Threshold May Reflect Greater Expected Volatility of the Indices, and Greater Expected Volatility Generally Indicates An Increased Risk of Declines in the Levels of the Indices and, Potentially, a Significant Loss at Maturity", higher coupons indicate a greater potential for missed coupons and for a loss on your investment at maturity, which are risks generally associated with indices that have lower correlation. In addition, other factors and inputs other than correlation may impact how the terms of the notes are set and the performance of the notes.

**A Higher Coupon, a Lower Coupon Barrier and/or a Lower Downside Threshold May Reflect Greater Expected Volatility of the Indices, and Greater Expected Volatility Generally Indicates An Increased Risk of Declines in the Levels of the Indices and, Potentially, a Significant Loss at Maturity**

The economic terms for the notes, including the coupon, coupon barrier and the downside threshold, are based, in part, on the expected volatility of each index at the time the terms of the notes are set. "Volatility" refers to the frequency and magnitude of changes in the levels of the indices.

Higher expected volatility with respect to each index as of the trade date generally indicates a greater expectation as of that date that (i) the final index level of the lesser performing index could ultimately be less than its downside threshold on the determination date, which would result in a loss of a significant portion or all of your investment in the notes, or (ii) the closing level of the index on any coupon determination date will be less than its coupon barrier, which would result in the nonpayment of the coupon. At the time the terms of the notes are set, higher expected volatility will generally be reflected in a higher coupon, a lower coupon barrier and/or a lower downside threshold, as compared to otherwise comparable notes issued by the same issuer with the same maturity (taking into account any ability of the issuer to redeem the notes prior to maturity) but with one or more different indices. However, there is no

guarantee that the higher coupon,

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lower coupon barrier or lower downside threshold set for your notes on the trade date will adequately compensate you, from a risk-potential reward perspective, for the greater risk of receiving no coupon on any coupon payment date or of losing some or all of your investment in the notes.

A relatively higher coupon (as compared to otherwise comparable securities), which would increase the positive return if the closing level of each index is greater than or equal to its coupon barrier on a coupon determination date, or a relatively lower coupon barrier, which would increase the amount that an index could decrease on a coupon determination date before the notes become ineligible for a particular coupon payment, may generally indicate an increased risk that the level of each index will decrease substantially, which would result in the nonpayment of the coupon on some or all of the coupon payment dates.

Similarly, a relatively lower downside threshold (as compared to otherwise comparable securities), which would increase the buffer against the loss of principal, may generally indicate an increased risk that the level of each index will decrease substantially. This would result in a significant loss at maturity if the final index level of any index is less than its downside threshold. Further, a relatively lower downside threshold may not indicate that the notes have a greater likelihood of a return of principal at maturity based on the performance of each index.

You should not take the historical volatility of any index as an indication of its future volatility. You should be willing to accept the downside market risk of each index and the potential to not receive some coupons and to lose a significant portion or all of your investment in the notes.

#### **We Are Able to Redeem Your Notes at Our Option**

On any quarterly coupon payment date on or after March 28, 2019, we will be permitted to redeem your notes at our option. Even if we do not exercise our option to redeem your notes, our ability to do so may adversely affect the value of your notes. It is our sole option whether to redeem your notes prior to maturity and we may or may not exercise this option for any reason. Many factors may influence the likelihood of your notes being redeemed. In general, your notes are more likely to be redeemed when prevailing interest rates are lower than the applicable coupon payable on a coupon payment date. Because of this redemption option, the term of your notes could be anywhere between three months and ten years. You may not be able to reinvest the proceeds from an investment in the notes at a comparable return for a similar level of risk in the event the notes are redeemed prior to maturity.

#### **The Coupon Does Not Reflect the Actual Performance of the Indices from December 21, 2018 to Any Coupon Determination Date or from Coupon Determination Date to Coupon Determination Date**

On any coupon payment date, you will receive a coupon only if the level of each index is equal to or above its coupon barrier. The coupon for each quarterly coupon payment date is different from, and may be less than, a coupon that is based on the performance of an index between December 21, 2018 and any coupon determination date or between two coupon determination dates. You will not participate in any appreciation of any index. Accordingly, the coupons, if any, on the notes may be less than the return you could earn on another instrument linked to one of the indices that pays coupons based on the performance of such index from December 21, 2018 to any coupon determination date or from coupon determination date to coupon determination date. In addition, although both the coupon determination dates and coupon payment dates occur quarterly, there may not be an equal number of days between coupon determination dates or between coupon payment dates, respectively. However, the way in which the coupon is determined will not vary based on the actual number of days between coupon determination dates or between coupon payment dates.

#### **The Cash Settlement Amount Will Be Based Solely on the Lesser Performing Index**

The cash settlement amount will be based on the lesser performing index without regard to the performance of the other indices. As a result, you could lose all or some of your initial investment if the lesser performing index return is negative, even if there is an increase in the level of any (or all) of the other indices. This could be the case even if the other indices increased by an amount greater than the decrease in the lesser performing index.

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### You Are Exposed to the Market Risk of Each Index

Your return on the notes will be contingent upon the independent performance of each of the S&P 500<sup>®</sup> Index, the Russell 2000<sup>®</sup> Index and the MSCI Emerging Markets Index. Unlike an instrument with a return linked to a basket of underlying assets, in which risk is mitigated and diversified among all of the components of the basket, you will be fully exposed to the risks related to each index. Poor performance by any of the indices over the term of the notes may negatively affect your return and will not be offset or mitigated by positive performance by the other indices.

To receive any coupon payment, each index must close at or above its coupon barrier on a coupon determination date.

To receive any contingent repayment of principal at maturity, each index must close at or above its downside threshold on the determination date. In addition, if not redeemed prior to maturity, you will incur a loss proportionate to the negative return of the lesser performing index even if the other indices appreciate during the term of the notes.

Accordingly, your investment is subject to the market risk of each index.

Movements in the values of the indices may be correlated or uncorrelated at different times during the term of the notes. Any such correlation may be positive (the indices move in the same direction) or negative (the indices move in reverse directions), and such correlation (or lack thereof) could have an adverse effect on your return on the notes. If the performance of the indices is not correlated or is negatively correlated, the risk of not receiving a coupon and of incurring a significant loss of principal at maturity generally increases.

For example, the likelihood that one of the indices will close below its coupon barrier on a coupon determination date and/or its downside threshold on the determination date, generally will increase when the movements in the values of the indices are negatively correlated. This results in a greater likelihood that a coupon will not be paid during the term of the notes and/or that there will be a significant loss of principal at maturity if the notes are not previously redeemed. However, even if the indices have a higher positive correlation, one or more of those indices might close below its coupon barrier on a coupon determination date or its downside threshold on the determination date, as each of the indices may decrease in value together.

The coupon and the downside threshold are determined, in part, based on the correlations of the indices' performance at the time when the terms of the notes are set on the trade date. A higher coupon, a lower coupon barrier and/or a lower downside threshold (as compared to otherwise comparable securities) are generally associated with more negative correlation, which reflects a greater likelihood that a coupon will not be paid and that there will be a loss on your investment at maturity. However, there is no guarantee that the higher coupon, lower coupon barrier or lower downside threshold set for your notes on the trade date will adequately compensate you, from a risk-potential reward perspective, for the greater risk of receiving no coupon on any coupon payment date or of losing some or all of your investment in the notes.

The correlations referenced in setting the terms of the notes are based on the future expected correlation of the indices as determined by us and are not derived from the daily levels of the indices over the period set forth under "Correlation of the Indices." Other factors and inputs other than correlation may also impact how the terms of the notes are set and the performance of the notes.

The greater the number of indices to which a note is linked, generally the more likely it is that one of the indices will close below its coupon barrier or its downside threshold, resulting in a greater likelihood that a coupon will not be paid during the terms of the notes and that there will be a significant loss of principal at maturity.

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### 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 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 indices;
- the volatility – i.e., the frequency and magnitude of changes – in the closing levels of the indices;
- the dividend rates of the index stocks;
- economic, financial, regulatory, political, military and other events that affect stock markets generally and the index stocks, and which may affect the closing levels of the indices;
- the actual and expected positive or negative correlation between the indices, or the actual or expected absence of any such correlation;
- 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, and including actual or anticipated upgrades or downgrades in our credit ratings or the credit ratings of The Goldman Sachs Group, Inc. or changes in other credit measures.

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

You cannot predict the future performance of the indices based on their historical performance. The actual performance of the indices over the life of the offered notes, the cash settlement amount paid on the stated maturity date, as well as the coupon payable, if any, on each coupon payment date, may bear little or no relation to the historical closing levels of the indices or to the hypothetical examples shown elsewhere in this prospectus supplement.

### 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.

### 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, if any, or the amount we will pay you upon any early redemption of your notes, 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 or date of early redemption 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 or date of early redemption, 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.



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If the Levels of the Indices Change, the Market Value of Your Notes May Not Change in the Same Manner

The price of your notes may move differently than the performance of the indices. Changes in the levels of the indices may not result in a comparable change in the market value of your notes. Even if the closing level of each index is greater than or equal to its coupon barrier but less than 100% of its initial index level during some portion of the life of the notes, the market value of your notes may not reflect this. We discuss some of the reasons for this disparity under “— The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors” above.

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

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

Goldman Sachs is a global investment banking, securities and investment management firm that provides a wide range of financial services to a substantial and diversified client base that includes corporations, financial institutions, governments and individuals. As such, it acts as an investor, investment banker, research provider, investment manager, investment advisor, market maker, trader, prime broker

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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 indices or 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 an index or 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 indices or 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 indices or 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 indices or 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 an Index or the Issuers of the 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 indices or the issuers of the 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 indices or 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 indices or 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 indices or 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.

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

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

### The Policies of an Index Sponsor and Changes that Affect an Index or the Index Stocks Comprising an Index Could Affect the Coupons Payable on Your Notes, if Any, or the Cash Settlement Amount on the Stated Maturity Date and the Market Value of Your Notes

The policies of an index sponsor concerning the calculation of the level of an index, additions, deletions or substitutions of the index stocks comprising such index, and the manner in which changes affecting such index stocks or their issuers, such as stock dividends, reorganizations or mergers, are reflected in the index level, could affect the level of such index and, therefore, the coupon payable on your notes, if any, on any coupon payment date and the market value of your notes before that date. The coupons payable on your notes, if any, and their market value could also be affected if an index sponsor changes these policies, for example, by changing the manner in which it calculates the index level, or if the index sponsor discontinues or suspends calculation or publication of such index level, in which case it may become difficult to determine the market value of your notes. If events such as these occur, the calculation agent — which initially will be GS&Co., our affiliate — may determine the applicable index levels on any



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such date — and thus the amount payable on any coupon payment date, if any, or 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 applicable index levels on any trading day, a coupon determination date or the determination date and the coupons payable on your notes, if any, or the cash settlement amount more fully under “Specific Terms of Your Notes — Discontinuance or Modification of an Index” and “— Role of Calculation Agent” below.

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

The applicable index sponsor calculates the level of an index by reference to the prices of the index stocks, without taking account of the value of dividends paid on those index stocks. Therefore, the return on your notes will not reflect the return you would realize if you actually owned the index stocks included in each index and received the dividends paid on those index stocks. You will not receive any dividends that may be paid on any of the index stocks by the index stock issuers. See “— You Have No Shareholder Rights or Rights to Receive Any Index Stock” below for additional information.

**Except to the Extent The Goldman Sachs Group, Inc. Is One of the Companies Whose Common Stock Comprises the S&P 500® Index, There Is No Affiliation Between the Index Stock Issuers or the Index Sponsors and Us**

The common stock of The Goldman Sachs Group, Inc. is one of the index stocks comprising the S&P 500® Index. We are not otherwise affiliated with the issuers of the index stocks or the 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 index sponsors or the 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 indices or any of the other index stock issuers. You, as an investor in your notes, should make your own investigation into the indices and the index stock issuers. See “The Indices” below for additional information about each index.

Neither the index sponsors nor any of the other 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 index sponsors nor any of the other 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.

**You Have No Shareholder Rights or Rights to Receive Any Index Stock**

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

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Past Index Performance is No Guide to Future Performance

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

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

The value of your notes is linked, in part, to an index (the MSCI Emerging Markets Index) that is 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.

In addition, the value of your notes is linked in part to the MSCI Emerging Markets Index, which holds stocks traded in the equity markets of emerging market countries. The countries whose markets are represented by the MSCI Emerging Markets Index include Brazil, Chile, China, Colombia, the Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, South Africa, South Korea, Taiwan, Thailand, Turkey and United Arab Emirates. Countries with emerging markets may have relatively unstable governments, may present the risks of nationalization of businesses, restrictions on foreign ownership and prohibitions on the repatriation of assets, and may have less protection of property rights than more developed countries. The economies of countries with emerging markets may be based on only a few industries, may be highly vulnerable to changes in local or global trade conditions, and may suffer from extreme and volatile debt burdens or inflation rates. Local securities markets may trade a small number of securities and may be unable to respond effectively to increases in trading volume, potentially making prompt liquidation of holdings difficult or impossible at times. It will also likely be more costly and difficult for the index sponsor to enforce the laws or regulations of a foreign country or trading facility, and it is possible that the foreign country or trading facility may not have laws or regulations which adequately protect the rights and interests of investors in the stocks included in the MSCI Emerging Markets Index.

As Calculation Agent, GS&Co. Will Have the Authority to Make Determinations that Could Affect the Value of Your Notes

As calculation agent for your notes, GS&Co. will have discretion in making certain determinations that affect your notes, including determining: the closing levels of the indices on any coupon determination

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date, which we will use to determine the coupon, if any, we will pay on any applicable coupon payment date; the final index level of the lesser performing index on the determination date, which we will use to determine the amount we must pay on the stated maturity date; whether to postpone a coupon determination date or the determination date because of a market disruption event or a non-trading day; the coupon determination dates; the coupon payment dates; and the stated maturity date. The calculation agent also has discretion in making certain adjustments relating to a discontinuation or modification of the indices. See “Specific Terms of Your Notes — Discontinuance or Modification of an 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 Calculation Agent Can Postpone a Coupon Determination Date or the Determination Date, as the Case May Be, If a Market Disruption Event or a Non-Trading Day Occurs or is Continuing**

If the calculation agent determines that, on a date that would otherwise be a coupon determination date or the determination date, a market disruption event has occurred or is continuing with respect to an index or that day is not a trading day with respect to any index, such coupon determination date or the determination date will be postponed as provided under “Specific Terms of Your Notes — Coupon Determination Dates” and “Specific Terms of Your Notes — Determination Date”, as applicable. In no case, however, will the coupon determination date or the determination date be postponed to a date later than the corresponding originally scheduled coupon payment date or the originally scheduled stated maturity date, as applicable, or if the corresponding originally scheduled coupon payment date or the originally scheduled stated maturity date is not a business day, later than the first business day after the corresponding originally scheduled coupon payment date or the originally scheduled stated maturity date. Moreover, if a coupon determination date or the determination date, as applicable, is postponed to the last possible day, but the market disruption event has not ceased by that day or that day is not a trading day, that day will nevertheless be the coupon determination date or the determination date, as applicable, for the corresponding coupon payment date or stated maturity date. In such a case, the calculation agent will determine the applicable closing levels or final index levels for such coupon determination date or 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.

**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 issue price you paid as provided on the cover of this prospectus supplement.

**There are Small-Capitalization Stock Risks Associated with the Russell 2000® Index**

The Russell 2000® Index is comprised of stocks of companies that may be considered small capitalization companies. These companies often have greater stock price volatility, lower trading volume and less liquidity than large capitalization companies and therefore the Russell 2000® Index may be more volatile than an index in which a greater percentage of the constituent stocks are issued by large-capitalization companies.

**Your Investment in the Notes Will Be Subject to Foreign Currency Exchange Rate Risk**

Because the MSCI Emerging Markets Index is a U.S. dollar denominated index whose index stock prices are converted by the MSCI Emerging Markets Index sponsor into U.S. dollars for purposes of calculating the value of the MSCI Emerging Markets Index, investors in the notes will be exposed to currency exchange rate risk with respect to each of the currencies represented in the MSCI Emerging Markets Index which are converted in such manner. An investor’s net exposure will depend on the extent to which the currencies represented in the MSCI Emerging Markets Index strengthen or weaken against the U.S. dollar and the relative weight of each relevant currency represented in the overall MSCI Emerging Markets Index. If, taking into account such weighting, the dollar strengthens against the component currencies, the value of the MSCI Emerging Markets Index will be adversely affected and any coupon payments and the amount payable at maturity of the notes may be reduced.

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**Regulators Are Investigating Potential Manipulation of Published Currency Exchange Rates**

It has been reported that the U.K. Financial Conduct Authority and regulators from other countries are in the process of investigating the potential manipulation of published currency exchange rates. If such manipulation has occurred or is continuing, certain published exchange rates may have been, or may be in the future, artificially lower (or higher) than they would otherwise have been. Any such manipulation could have an adverse impact on any payments on, and the value of, your notes and the trading market for your notes. In addition, we cannot predict whether any changes or reforms affecting the determination or publication of exchange rates or the supervision of currency trading will be implemented in connection with these investigations. Any such changes or reforms could also adversely impact your notes.

**Certain Considerations for Insurance Companies and Employee Benefit Plans**

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

**The Tax Consequences of an Investment in Your Notes Are Uncertain**

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. 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 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, GS Finance Corp. intends to continue treating the notes for U.S. federal income tax purposes in accordance with the treatment described under “Supplemental Discussion of Federal Income Tax Consequences” on page S-60 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.



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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 supplement and accompanying prospectus. 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:

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

Defeasance applies as follows:

· full defeasance: no

· covenant defeasance: no

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### 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

Please note that the information about the settlement or trade date, issue price, discount or commission 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 offered 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 offered 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.

### Index, Index Sponsor and Index Stocks

In this prospectus supplement, when we refer to an index, we mean either the S&P 500<sup>®</sup> Index, the Russell 2000<sup>®</sup> Index or the MSCI Emerging Markets Index specified on the front cover page, or any successor index, as each may be modified, replaced or adjusted from time to time as described under “— Discontinuance or Modification of an Index” below. When we refer to an index sponsor as of any time, we mean the entity, including any successor sponsor, that determines and publishes the applicable index as then in effect. When we refer to the index stocks of an index as of any time, we mean the stocks that comprise the index as then in effect, after giving effect to any additions, deletions or substitutions.

### Payment of a Contingent Coupon

Subject to our redemption right, on each coupon payment date, for each \$10 face amount of your notes, we will pay you an amount in cash equal to:

· if the closing level of each index on the related coupon determination date is greater than or equal to its coupon barrier, \$0.325 (3.25% quarterly or 13.00% per annum); or

· if the closing level of any index on the related coupon determination date is less than its coupon barrier, \$0.00.

The coupon barrier is 1,691.634 with respect to the S&P 500<sup>®</sup> Index, 904.460 with respect to the Russell 2000<sup>®</sup> Index and 670.131 with respect to the MSCI Emerging Markets Index (in each case, 70.00% of such index’s initial index level (rounded to the nearest one-thousandth)).

### Payment of Principal on Stated Maturity Date

Subject to our redemption right, for each \$10 face amount of your notes, we will pay you on the stated maturity date an amount in cash equal to:

· if the final index level of each index is greater than or equal to its coupon barrier, \$10 plus the final coupon;

· if the final index level of each index is greater than or equal to its downside threshold but the final index level of any index is less than its coupon barrier, \$10. You will not receive a final coupon; or

· if the final index level of any index is less than its downside threshold, the sum of (i) \$10 plus (ii) the product of (a) the lesser performing index return times (b) \$10.

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The downside threshold is 1,208.310 with respect to the S&P 500<sup>®</sup> Index, 646.043 with respect to the Russell 2000<sup>®</sup> Index and 478.665 with respect to the MSCI Emerging Markets Index (in each case, 50.00% of such index's initial index level (rounded to the nearest one-thousandth)).

With respect to each index, the index return is calculated by subtracting the initial index level from the final index level and dividing the result by the initial index level, with the quotient expressed as a percentage.

The lesser performing index is the index with the lowest index return. The lesser performing index return is the index return of the lesser performing index.

The initial index level is 2,416.62 with respect to the S&P 500<sup>®</sup> Index, 1,292.086 with respect to the Russell 2000<sup>®</sup> Index and 957.33 with respect to the MSCI Emerging Markets Index. The initial index level of each index represents the closing level of such index on December 21, 2018 and may be higher or lower than the closing level of such index on the trade date. With respect to each index, the calculation agent will determine the final index level, which will be the closing level of such index on the determination date. However, the calculation agent will have discretion to adjust the closing level on any coupon determination date or 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 an Index” below.

#### Stated Maturity Date

The stated maturity date is expected to be December 29, 2028, unless that day is not a business day, in which case the stated maturity date will be postponed to 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 is expected to be December 26, 2028, unless the calculation agent determines that, with respect to an index, a market disruption event occurs or is continuing on that day or that day is not otherwise a trading day.

In the event the originally scheduled determination date is a non-trading day with respect to any index, the determination date will be the first day thereafter that is a trading day for all indices (the “first qualified trading day”) provided that no market disruption event occurs or is continuing with respect to an index on that day. If a market disruption event with respect to an index occurs or is continuing on the originally scheduled determination date or the first qualified trading day, the determination date will be the first following trading day on which the calculation agent determines that each index has had at least one trading day (from and including the originally scheduled determination date or the first qualified trading day, as applicable) on which no market disruption event has occurred or is continuing and the closing level of each 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 date on which the level of an index is 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, either due to the occurrence of serial non-trading days or due to the occurrence of one or more market disruption events. On such last possible determination date, if a market disruption event occurs or is continuing with respect to an 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 index, that day will nevertheless be the determination date.

#### Coupon and Coupon Payment Dates

The coupons will be calculated and paid as described in this prospectus supplement.

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The coupons on the offered notes will be paid on the coupon payment dates (to be set on the trade date and are expected to be the dates specified in the table under “Summary Information — Key Terms — Coupon Payment Dates” on page S-5, unless, for any such coupon payment date, that day is not a business day, in which case such coupon payment date will be postponed to the next following business day; if a coupon determination date is postponed as described under “— Coupon Determination Dates” below, such coupon payment date will be postponed by the same number of business day(s) from but excluding the applicable originally scheduled coupon determination date to and including the actual coupon determination date). Although the coupon payment dates occur quarterly, there may not be an equal number of days between coupon payment dates.

Coupon Determination Dates

The coupon determination dates are specified in the table under “Summary Information — Key Terms — Coupon payment dates” on page S-5, commencing on March 26, 2019 and ending on December 26, 2028, unless the calculation agent determines that, with respect to any index, a market disruption event occurs or is continuing on that day or that day is not otherwise a trading day. In the event the originally scheduled coupon determination date is a non-trading day with respect to an index, the coupon determination date will be the first day thereafter that is a trading day for all indices (the “first qualified coupon trading day”) provided that no market disruption event occurs or is continuing with respect to an index on that day. If a market disruption event with respect to an index occurs or is continuing on the originally scheduled coupon determination date or the first qualified coupon trading day, the coupon determination date will be the first following trading day on which the calculation agent determines that each index has had at least one trading day (from and including the originally scheduled coupon determination date or the first qualified coupon trading date, as applicable) on which no market disruption event has occurred or is continuing and the closing level of each index for that coupon determination date will be determined on or prior to the postponed coupon determination date as set forth under “— Consequences of a Market Disruption Event or a Non-Trading Day” below. (In such case, the coupon determination date may differ from the date on which the level of an index is determined for the purpose of the calculations to be performed on the coupon determination date.) In no event, however, will the coupon determination date be postponed to a date later than the originally scheduled coupon payment date or, if the originally scheduled coupon payment date is not a business day, later than the first business day after the originally scheduled coupon payment date, either due to the occurrence of serial non-trading days or due to the occurrence of one or more market disruption events. On such last possible coupon determination date applicable to the relevant coupon payment date, if a market disruption event occurs or is continuing with respect to an 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 index, that day will nevertheless be the coupon determination date. Although the coupon determination dates occur quarterly, there may not be an equal number of days between coupon determination dates.

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

With respect to any index, if a market disruption event occurs or is continuing on a day that would otherwise be a coupon determination date or the determination date, or such day is not a trading day, then such coupon determination date or the determination date will be postponed as described under “— Coupon Determination Dates” or “— Determination Date” above. If any coupon determination date or the determination date is postponed to the last possible date due to the occurrence of serial non-trading days, the level of each index will be the calculation agent’s assessment of such level, in good faith and in its sole discretion, on such last possible postponed coupon determination date or determination date, as applicable.

If any coupon determination date or the determination date is postponed due to a market disruption event with respect to any index, the closing level of each index with respect to such coupon determination date or the final index level with respect to the determination date, as applicable, will be calculated based on (i) for any index that is not affected by a market disruption event on (A) the applicable originally scheduled coupon determination date or the first qualified coupon trading day thereafter (if applicable) or (B) the originally scheduled determination date or the first qualified trading day thereafter (if applicable), the closing level of the index on that date, (ii) for any index that is affected by a market disruption event on (A) the

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applicable originally scheduled coupon determination date or the first qualified coupon trading day thereafter (if applicable) or (B) the originally scheduled determination date or the first qualified trading day thereafter (if applicable), the closing level of the index on the first following trading day on which no market disruption event exists for such index and (iii) the calculation agent's assessment, in good faith and in its sole discretion, of the level of any index on the last possible postponed coupon determination date or determination date, as applicable, with respect to such index as to which a market disruption event continues through the last possible postponed coupon determination date or determination date. As a result, this could result in the closing level on any coupon determination date or final index level on the determination date of each index being determined on different calendar dates.

For the avoidance of doubt, once the closing level for an index is determined for a coupon determination date or determination date, the occurrence of a later market disruption event or non-trading day will not alter such calculation.

#### Discontinuance or Modification of an Index

If an index sponsor discontinues publication of an index and such index sponsor or anyone else publishes a substitute index that the calculation agent determines is comparable to such index, or if the calculation agent designates a substitute index, then the calculation agent will determine the coupon payable, if any, on the relevant coupon payment date or 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 a coupon determination date or the determination date, as applicable, that the publication of an index is discontinued and there is no successor index, the calculation agent will determine the coupon or the cash settlement amount, as applicable, on the related coupon payment date or the stated maturity date, as applicable, by a computation methodology that the calculation agent determines will as closely as reasonably possible replicate such index.

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

All determinations and adjustments to be made by the calculation agent with respect to an 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 amount payable 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 each of your notes as the outstanding principal amount of that note. Although the terms of your 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

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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 principal amount of all of 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 in principal amount of such affected debt securities. We discuss these matters in the accompanying prospectus 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 or delivery 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 or delivery 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 each index, the coupon determination dates, the coupon payment dates, the regular record dates, the coupon, if any, on each coupon payment date, each index return, the closing levels of the indices on each coupon determination date, each final index level, the determination date, business days, trading days, postponement of a coupon payment date, the stated maturity date and the amount of cash payable 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 date of this prospectus supplement. We may change the calculation agent for your notes at any time after the date of this prospectus supplement without notice and GS&Co. may resign as calculation agent at any time upon 60 days’ written notice to us.

### Our Early Redemption Right

We may redeem your notes, at our option, in whole but not in part, on each coupon payment date on or after March 28, 2019, for an amount equal to 100% of the face amount plus any coupon then due.

If we choose to exercise our early redemption right described in this prospectus supplement, we will notify the holder of your notes and the trustee by giving at least two business days’ prior notice. The day we give the notice, which will be a business day, will be the redemption notice date and the immediately following coupon payment date, which we will state in the redemption notice, will be the redemption date. We will not give a redemption notice that results in a redemption date later than the stated maturity date.

If we give the holder a redemption notice, we will redeem the entire outstanding face amount of your notes as follows. On the redemption date, we will pay to the holder of record on the scheduled business day immediately preceding the redemption date, 100% of the face amount in cash, together with any coupon then due, in the manner described under “Manner of Payment” above.

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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 21 in the accompanying prospectus. A day is a scheduled business day if, as of the trade date, such day is scheduled to be a New York business day.

Trading Day

When we refer to a trading day with respect to an index, we mean (i) with respect to the MSCI Emerging Markets Index, a day on which such index is calculated and published by the index sponsor, regardless of whether one or more of the principal securities markets for such index stocks are closed on that day, if the index sponsor publishes the level of the index on that day and (ii) with respect to the S&P 500<sup>®</sup> Index and the Russell 2000<sup>®</sup> Index, a day on which the respective principal securities markets for all of the index stocks are open for trading, the index sponsor is open for business and such index is calculated and published by the index sponsor.

Closing Level

When we refer to the closing level of the S&P 500<sup>®</sup> Index on any trading day, we mean the official closing level of the index or any successor index published by the index sponsor on such trading day for such index.

When we refer to the closing level of the Russell 2000<sup>®</sup> Index or the MSCI Emerging Markets Index on any trading day, we mean the closing level of such index or any successor index reported by Bloomberg Financial Services, or any successor reporting service we may select, on such trading day for that index. Currently, whereas the index sponsor of the Russell 2000<sup>®</sup> Index and the index sponsor of the MSCI Emerging Markets Index publishes the official closing level of its respective index to six decimal places, Bloomberg Financial Services reports the closing level of each index to fewer decimal places. As a result, the closing level of each of the Russell 2000<sup>®</sup> Index and the MSCI Emerging Markets Index reported by Bloomberg Financial Services may be lower or higher than its respective official closing level published by its index sponsor.

Default Amount

The default amount for your notes on any day (except as provided in the last sentence under “— Default Quotation Period” below), will be an amount in the specified currency for the face amount of your notes, equal to the cost of having a qualified financial institution, of the kind and selected as described below, expressly assume all of our payment and other obligations with respect to your notes as of that day and as if no default or acceleration had occurred, or to undertake other obligations providing substantially equivalent economic value to you with respect to your notes. That cost will equal:

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

During the default quotation period for your notes, which we describe below, the holder and/or we or the calculation agent 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.

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### 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 index: a suspension, absence or material limitation of trading in index stocks constituting 20% or more, by weight, of the index or any constituent 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,

a suspension, absence or material limitation of trading in option or futures contracts, if available, relating to the index, any constituent index or to index stocks constituting 20% or more, by weight, of such index or any constituent 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

index stocks constituting 20% or more, by weight, of the index, any constituent index, or option or futures contracts, if available, relating to the index, any constituent index or to index stocks constituting 20% or more, by weight, of the index or any constituent index are not trading on what were the respective primary markets for those 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 or a similarly situated party to unwind all or a material portion of a hedge that could be effected with respect to the notes. For more information about hedging by GS Finance Corp. and/or any of its affiliates, see "Use of Proceeds" and "Hedging" below.



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The following events will not be market disruption events:

- 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 an index, any constituent index or to any index stock.

For this purpose, an “absence of trading” in the primary securities market on which an index stock is traded, or on which option or futures contracts relating to an index or any constituent index or an 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 index stock or in option or futures contracts, if available, relating to the index, any constituent index or an 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 index stock or those contracts, or
- a disparity in bid and ask quotes relating to that 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 index will not, by itself, constitute a market disruption event for the other unaffected index.

As is the case throughout this prospectus supplement, references to the index in this description of market disruption events includes 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 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 to unwind those we have entered into, in connection with the offered notes and perhaps in connection with other index-linked notes we issue, some of which may have returns linked to the indices or the 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 indices or some or all of the index stocks,
- may take or dispose of positions in the securities of the index stock issuers themselves,
- may take or dispose of positions in listed or over-the-counter options or other instruments based on indices designed to track the performance of the stock exchanges or other components of the equity markets, and /or
- may take short positions in the 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 indices or the index stocks. We expect these steps to involve sales of instruments linked to the indices on or shortly before the final coupon determination date. These steps may also involve sales and/or purchases of some or all of the index stocks, or listed or over-the-counter options, futures or other instruments linked to the indices, some or all of the 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 INDICES

The S&P 500<sup>®</sup> Index

The S&P 500<sup>®</sup> Index includes a representative sample of 500 companies in leading industries of the U.S. economy. The 500 companies are not the 500 largest companies listed on the NYSE and not all 500 companies are listed on the NYSE. S&P Dow Jones Indices LLC (“S&P”) chooses companies for inclusion in the S&P 500<sup>®</sup> Index with an aim of achieving a distribution by broad industry groupings that approximates the distribution of these groupings in the common stock population of the U.S. equity market. Although the S&P 500<sup>®</sup> Index contains 500 constituent companies, at any one time it may contain greater than 500 constituent trading lines since some companies included in the S&P 500<sup>®</sup> Index prior to July 31, 2017 may be represented by multiple share class lines in the S&P 500<sup>®</sup> Index. The S&P 500<sup>®</sup> Index is calculated, maintained and published by S&P and is part of the S&P Dow Jones Indices family of indices. Additional information is available on the following websites: [us.spindices.com/indices/equity/sp-500](http://us.spindices.com/indices/equity/sp-500) and [spji.com/](http://spji.com/). We are not incorporating by reference the websites or any material they include in this prospectus supplement.

S&P intends for the S&P 500<sup>®</sup> Index to provide a performance benchmark for the large-cap U.S. equity markets. Constituent changes are made on an as-needed basis and there is no schedule for constituent reviews. Constituent changes are generally announced one to five business days prior to the change. Relevant criteria for additions to the S&P 500<sup>®</sup> Index that are employed by S&P include: the company proposed for addition should have an unadjusted company market capitalization of \$6.1 billion or more (for spin-offs, eligibility is determined using when-issued prices, if available); using composite pricing and volume, the ratio of annual dollar value traded in the proposed constituent to float-adjusted market capitalization of that company should be 1.00 or greater and the stock should trade a minimum of 250,000 shares in each of the six months leading up to the evaluation date; the company must be a U.S. company (characterized as a Form 10-K filer with its U.S. portion of fixed assets and revenues constituting a plurality of the total and with a primary listing of the common stock on the NYSE, NYSE Arca, NYSE American (formerly NYSE MKT), NASDAQ Global Select Market, NASDAQ Select Market, NASDAQ Capital Market, Bats BZX, Bats BYX, Bats EDGA, Bats EDGX or IEX (each, an “eligible exchange”)); the proposed constituent has a public float of 50% or more of its stock; the inclusion of the company will contribute to sector balance in the index relative to sector balance in the market in the relevant market capitalization range; financial viability (the sum of the most recent four consecutive quarters’ Generally Accepted Accounting Principles (GAAP) earnings (net income excluding discontinued operations) should be positive as should the most recent quarter); and, for IPOs, the company must be traded on an eligible exchange for at least twelve months. In addition, constituents of the S&P MidCap 400<sup>®</sup> Index and the S&P SmallCap 600<sup>®</sup> Index can be added to the S&P 500<sup>®</sup> Index without meeting the financial viability, public float and/or liquidity eligibility criteria if the S&P Index Committee decides that such an addition will enhance the representativeness of the S&P 500<sup>®</sup> Index as a market benchmark. Certain types of organizational structures and securities are always excluded, including business development companies (BDCs), limited partnerships, master limited partnerships, limited liability companies (LLCs), OTC bulletin board issues, closed-end funds, ETFs, ETNs, royalty trusts, tracking stocks, preferred stock and convertible preferred stock, unit trusts, equity warrants, convertible bonds, investment trusts, rights and American depositary receipts (ADRs). Stocks are deleted from the S&P 500<sup>®</sup> Index when they are involved in mergers, acquisitions or significant restructurings such that they no longer meet the inclusion criteria, and when they substantially violate one or more of the addition criteria. Stocks that are delisted or moved to the pink sheets or the bulletin board are removed, and those that experience a trading halt may be retained or removed in S&P’s discretion. S&P evaluates additions and deletions with a view to maintaining S&P 500<sup>®</sup> Index continuity.

For constituents included in the S&P 500<sup>®</sup> Index prior to July 31, 2017, all publicly listed multiple share class lines are included separately in the S&P 500<sup>®</sup> Index, subject to, in the case of any such share class line, that share class line satisfying the liquidity and float criteria discussed above and subject to certain exceptions. It is possible that one listed share class line of a company may be included in the S&P 500<sup>®</sup> Index while a second listed share class line of the same company is excluded. For companies that issue a second publicly traded share class to index share class holders, the newly issued share class line is considered for inclusion if the event is mandatory and the market capitalization of the distributed class is not considered to be de minimis.



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As of July 31, 2017, companies with multiple share class lines are no longer eligible for inclusion in the S&P 500<sup>®</sup> Index. Constituents of the S&P 500<sup>®</sup> Index prior to July 31, 2017 with multiple share class lines will be grandfathered in and continue to be included in the S&P 500<sup>®</sup> Index. If an S&P 500<sup>®</sup> Index constituent reorganizes into a multiple share class line structure, that company will be reviewed for continued inclusion in the S&P 500<sup>®</sup> Index at the discretion of the S&P Index Committee.

As of December 20, 2018, the 500 companies included in the S&P 500<sup>®</sup> Index were divided into eleven Global Industry Classification Sectors. The Global Industry Classification Sectors include (with the approximate percentage currently included in such sectors indicated in parentheses): Communication Services (10.16%), Consumer Discretionary (9.79%), Consumer Staples (7.50%), Energy (5.32%), Financials (13.27%), Health Care (15.45%), Industrials (9.20%), Information Technology (20.19%), Materials (2.64%), Real Estate (3.04%) and Utilities (3.44%). (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 500<sup>®</sup> Index as of the open of business on September 24, 2018 to coincide with the September 2018 quarterly rebalancing.

Calculation of the S&P 500<sup>®</sup> Index

The S&P 500<sup>®</sup> Index is calculated using a base-weighted aggregative methodology. The value of the S&P 500<sup>®</sup> Index on any day for which an index value is published is determined by a fraction, the numerator of which is the aggregate of the market price of each stock in the S&P 500<sup>®</sup> Index times the number of shares of such stock included in the S&P 500<sup>®</sup> Index, and the denominator of which is the divisor, which is described more fully below. The “market value” of any index stock is the product of the market price per share of that stock times the number of the then-outstanding shares of such index stock that are then included in the S&P 500<sup>®</sup> Index.

The S&P 500<sup>®</sup> Index is also sometimes called a “base-weighted aggregative index” because of its use of a divisor. The “divisor” is a value calculated by S&P that is intended to maintain conformity in index values over time and is adjusted for all changes in the index stocks’ share capital after the “base date” as described below. The level of the S&P 500 Index reflects the total market value of all index stocks relative to the S&P 500<sup>®</sup> Index’s base date of 1941-43. In addition, the S&P 500<sup>®</sup> Index is float-adjusted, meaning that the share counts used in calculating the S&P 500<sup>®</sup> Index reflect only those shares available to investors rather than all of a company’s outstanding shares. S&P seeks to exclude shares held by certain shareholders concerned with the control of a company, a group that generally includes the following: officers and directors and related individuals whose holdings are publicly disclosed, private equity, venture capital, special equity firms, publicly traded companies that hold shares for control in another company, strategic partners, holders of restricted shares,



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employee stock ownership plans, employee and family trusts, foundations associated with the company, holders of unlisted share classes of stock, government entities at all levels (except government retirement or pension funds) and any individual person listed as a 5% or greater stakeholder in a company as reported in regulatory filings (collectively, “control holders”). To this end, S&P excludes all share-holdings (other than depository banks, pension funds, mutual funds, exchange traded fund providers, 401(k) plans of the company, government retirement and pension funds, investment funds of insurance companies, asset managers and investment funds, independent foundations, savings plans and investment plans) with a position greater than 5% of the outstanding shares of a company from the float-adjusted share count to be used in S&P 500<sup>®</sup> Index calculations.

The exclusion is accomplished by calculating an Investable Weight Factor (IWF) for each stock that is part of the numerator of the float-adjusted index fraction described above:

$IWF = (\text{available float shares}) / (\text{total shares outstanding})$

where available float shares is defined as total shares outstanding less shares held by control holders. In most cases, an IWF is reported to the nearest one percentage point. For companies with multiple share class lines, a separate IWF is calculated for each share class line.

Maintenance of the S&P 500<sup>®</sup> Index

In order to keep the S&P 500<sup>®</sup> Index comparable over time S&P engages in an index maintenance process. The S&P 500<sup>®</sup> Index maintenance process involves changing the constituents as discussed above, and also involves maintaining quality assurance processes and procedures, adjusting the number of shares used to calculate the S&P 500<sup>®</sup> Index, monitoring and completing the adjustments for company additions and deletions, adjusting for stock splits and stock dividends and adjusting for other corporate actions. In addition to its daily governance of indices and maintenance of the S&P 500<sup>®</sup> Index methodology, at least once within any 12 month period, the S&P Index Committee reviews the S&P 500<sup>®</sup> Index methodology to ensure the S&P 500<sup>®</sup> Index continues to achieve the stated objective, and that the data and methodology remain effective. The S&P Index Committee may at times consult with investors, market participants, security issuers included in or potentially included in the S&P 500<sup>®</sup> Index, or investment and financial experts.

Divisor Adjustments

The two types of adjustments primarily used by S&P are divisor adjustments and adjustments to the number of shares (including float adjustments) used to calculate the S&P 500<sup>®</sup> Index. Set forth below is a table of certain corporate events and their resulting effect on the divisor and the share count. If a corporate event requires an adjustment to the divisor, that event has the effect of altering the market value of the affected index stock and consequently of altering the aggregate market value of the index stocks following the event. In order that the level of the S&P 500<sup>®</sup> Index not be affected by the altered market value (which could be an increase or decrease) of the affected index stock, S&P generally derives a new divisor by dividing the post-event market value of the index stocks by the pre-event index value, which has the effect of reducing the S&P 500<sup>®</sup> Index’s post-event value to the pre-event level.

Changes to the Number of Shares of a Constituent

The S&P 500<sup>®</sup> Index maintenance process also involves tracking the changes in the number of shares included for each of the index companies. The timing of adjustments to the number of shares depends on the type of event causing the change, and whether the change represents 5% or more of the total share count (for companies with multiple share class lines, the 5% threshold is based on each individual share class line rather than total company shares). Changes as a result of mergers or acquisitions are implemented when the transaction occurs. At S&P’s discretion, however, de minimis merger and acquisition changes may be accumulated and implemented with the updates made at the quarterly share updates as described below. Changes in a constituent’s total shares of 5% or more due to public offerings (which must be underwritten, have a publicly available prospectus or prospectus summary filed with the Securities and Exchange Commission and include a public confirmation that the offering has been completed) are implemented as soon as reasonably possible. Other changes of 5% or more are made weekly and are announced on Fridays for implementation after the close of trading on the following Friday. For changes of less than 5%, on the third Friday of the last month in each calendar quarter, S&P updates the share totals of companies in the S&P 500<sup>®</sup> Index as required by any changes in the number of shares





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outstanding. S&P implements a share / IWF freeze beginning after the market close on the Tuesday preceding the second Friday of each quarterly rebalancing month and ending after the market close on the third Friday of the quarterly rebalancing month. During this frozen period, shares and IWFs are not changed except for certain corporate action events (merger activity, stock splits and rights offerings).

Adjustments for Corporate Actions

There is a large range of corporate actions that may affect companies included in the S&P 500<sup>®</sup> Index. Certain corporate actions require S&P to recalculate the share count or the float adjustment or to make an adjustment to the divisor to prevent the value of the S&P 500<sup>®</sup> Index from changing as a result of the corporate action. This helps ensure that the movement of the S&P 500<sup>®</sup> Index does not reflect the corporate actions of individual companies in the S&P 500<sup>®</sup> Index.

Spin-Offs

As a general policy, a spin-off security is added to the S&P 500<sup>®</sup> Index at a zero price at the market close of the day before the ex-date (with no divisor adjustment). The spin-off security will remain in the S&P 500<sup>®</sup> Index if it meets all eligibility criteria. If the spin-off security is determined ineligible to remain in the S&P 500<sup>®</sup> Index, it will generally be removed after at least one day of regular way trading (with a divisor adjustment). If there is a gap between the ex-date and distribution date (or payable date), or if the spin-off security does not trade regular way on the ex-date, the spin-off security is kept in the S&P 500<sup>®</sup> Index until the spin-off security begins trading regular way.

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Several additional types of corporate actions, and their related adjustments, are listed in the table below.

Corporate Action	Share Count Revision Required?	Divisor Adjustment Required?
Stock split	Yes – share count is revised to reflect new count	No – share count and price changes are off-setting
Change in shares outstanding (secondary issuance, share repurchase and/or share buy-back)	Yes – share count is revised to reflect new count	Yes
Special dividends	No	Yes – calculation assumes that share price drops by the amount of the dividend; divisor adjustment reflects this change in index market value
Change in IWF	No	Yes – divisor change reflects the change in market value caused by the change to an IWF
Company added to or deleted from the S&P 500® Index	No	Yes – divisor is adjusted by the net change in market value, calculated as the shares issued multiplied by the price paid
Rights Offering	No	Yes – divisor adjustment reflects increase in market capitalization (calculation assumes that offering is fully subscribed )

Recalculation Policy

S&P reserves the right to recalculate and republish the S&P 500® 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 500® Index is made at the discretion of the index manager and/or index 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 500® 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 500® 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 500® Index following specified guidelines. In the event that the S&P 500® Index is recalculated, it shall be done within a reasonable timeframe following the detection and review of the issue.

Calculations and Pricing Disruptions

Closing levels for the S&P 500® Index are calculated by S&P based on the closing price of the individual constituents of the S&P 500® Index as set by their primary exchange. Closing prices are received by S&P from one of its third party vendors and verified by comparing them with prices from an alternative vendor. The vendors receive the closing price from the primary exchanges. Real-time intraday prices are calculated

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similarly without a second verification. Prices used for the calculation of real time index values are based on the “Consolidated Tape”. The Consolidated Tape is an aggregation of trades for each constituent over all regional exchanges and trading venues and includes the primary exchange. If there is a failure or interruption on one or more exchanges, real-time calculations will continue as long as the “Consolidated Tape” is operational.

If an interruption is not resolved prior to the market close, official closing prices will be determined by following the hierarchy set out in NYSE Rule 123C. A notice is published on the S&P website at [spdji.com](http://spdji.com) indicating any changes to the prices used in S&P 500® Index calculations. In extreme circumstances, S&P may decide to delay index adjustments or not publish the S&P 500® Index. Real-time indices are not restated.

### 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.

To a large degree, S&P is dependent on the exchanges to provide guidance in the event of an unexpected exchange closure. S&P’s decision making is dependent on exchange guidance regarding pricing and mandatory corporate actions.

NYSE Rule 123C provides closing contingency procedures for determining an official closing price for listed securities if the exchange is unable to conduct a closing transaction in one or more securities due to a system or technical issue.

3:00 PM ET is the deadline for an exchange to determine its plan of action regarding an outage scenario. As such, S&P also uses 3:00 PM ET as the cutoff.

If all major exchanges fail to open or unexpectedly halt trading intraday due to unforeseen circumstances, S&P will take the following actions:

### Market Disruption Prior to Open of Trading:

If all exchanges indicate that trading will not open for a given day, S&P will treat the day as an unscheduled market holiday. The decision will be communicated to clients as soon as possible through the normal channels. Indices (i) containing multiple markets will be calculated as normal, provided that at least one market is open that day. Indices which only contain closed markets will not be calculated.

(ii) If exchanges indicate that trading, although delayed, will open for a given day, S&P will begin index calculation when the exchanges open.

### Market Disruption Intraday:

If exchanges indicate that trading will not resume for a given day, the S&P 500® Index level will be calculated (i) using prices determined by the exchanges based on NYSE Rule 123C. Intraday S&P 500® Index values will continue to use the last traded composite price until the primary exchange publishes official closing prices.

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### The Russell 2000<sup>®</sup> Index

The Russell 2000<sup>®</sup> Index is sponsored by FTSE Russell (“Russell”) and measures the composite price performance of stocks of 2,000 companies in the U.S. equity market. It is generally considered to be a “small-cap” index. Additional information about the Russell 2000<sup>®</sup> Index is available on the following website:

[ftse.com/analytics/factsheets/Home/Search#](http://ftse.com/analytics/factsheets/Home/Search#). We are not incorporating by reference the website or any material it includes in this prospectus supplement.

As of December 20, 2018, the 2,000 companies included in the Russell 2000<sup>®</sup> Index were divided into nine Russell Global Sectors. The Russell Global Sectors include (with the approximate percentage currently included in such sectors indicated in parentheses): Consumer Discretionary (14.69%), Consumer Staples (2.41%), Financial Services (24.02%), Health Care (13.66%), Materials & Processing (5.97%), Other Energy (3.45%), Producer Durables (13.27%), Technology (12.57%) and Utilities (4.96%). (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.)

The Russell 2000<sup>®</sup> Index includes approximately 2,000 of the smallest securities that form the Russell 3000<sup>®</sup> Index. The Russell 3000<sup>®</sup> Index is comprised of the 3,000 largest U.S. companies, or 98% based on market capitalization, of the investable U.S. equity market. The Russell 2000<sup>®</sup> Index is designed to track the performance of the small capitalization segment of the U.S. equity market.

Selection of Constituent Stocks of the Russell 2000<sup>®</sup> Index



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The Russell 2000<sup>®</sup> Index is a sub-index of the Russell 3000<sup>®</sup> Index. To be eligible for inclusion in the Russell 3000<sup>®</sup> Index, and, consequently, the Russell 2000<sup>®</sup> Index, a company's stocks must be listed on the rank day in May of a given year (the timetable is announced each spring) and Russell must have access to documentation verifying the company's eligibility for inclusion. Eligible initial public offerings ("IPOs") are added to Russell U.S. Indices quarterly, based on total market capitalization rankings within the market-adjusted capitalization breaks established during the most recent reconstitution. To be added to any Russell U.S. index during a quarter outside of reconstitution, IPOs must meet additional eligibility criteria.

A company is included in the U.S. equity markets and is eligible for inclusion in the Russell 3000<sup>®</sup> Index, and consequently, the Russell 2000<sup>®</sup> Index, if that company incorporates in the U.S., has its headquarters in the U.S. and also trades with the highest liquidity in the U.S. If a company does not satisfy all of the above criteria, it can still be included in the U.S. equity market if any one of the following home country indicators is in the United States: (i) country of incorporation, (ii) country of headquarters and (iii) country in which the company trades with the highest liquidity (as defined by a two-year average daily dollar trading volume from all exchanges within the country), and the primary location of that company's assets or its revenue, based on an average of two years of assets or revenues data, is also in the United States. In addition, if there is insufficient information to assign a company to the U.S. equity markets based on its assets or revenue, the company may nonetheless be assigned to the U.S. equity markets if the headquarters of the company is located in the United States or if the headquarters of the company is located in certain "benefit-driven incorporation countries", or "BDIs", and that company's most liquid stock exchange is in the United States. The BDI countries are Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Channel Islands, Cook Islands, Curaçao, Faroe Islands, Gibraltar, Guernsey, Isle of Man, Jersey, Liberia, Marshall Islands, Panama, Saba, Sint Eustatius, Sint Maarten and Turks and Caicos Islands. A U.S.-listed company is not eligible for inclusion within the U.S. equity market if it has been classified by Russell as a China N share on the rank date of the index reconstitution. A company will be considered a China N share if the following criteria are satisfied: (i) the company is incorporated outside of the People's Republic of China, (ii) the company is listed on the NYSE, the NASDAQ or the NYSE MKT, (iii) over 55% of the revenue or assets of the company are derived from the People's Republic of China, and (iv) the company is controlled by a mainland Chinese entity, company or individual (if the shareholder background cannot be determined with publicly available information, Russell will consider whether the establishment and origin of the company are in mainland China and whether the company is headquartered in mainland China). ADRs and ADSs are not eligible for inclusion in the Russell 2000<sup>®</sup> Index.

In addition, all securities eligible for inclusion in the Russell 3000<sup>®</sup> Index, and consequently, the Russell 2000<sup>®</sup> Index, must trade on an eligible exchange (BATS, IEX, NYSE, NYSE MKT, NYSE Arca and NASDAQ).

Exclusions from the Russell 2000<sup>®</sup> Index

Russell specifically excludes the following companies and securities from the Russell 2000<sup>®</sup> Index: (i) preferred and convertible preferred stock, redeemable shares, participating preferred stock, warrants, rights, installment receipts and trust receipts; (ii) royalty trusts, U.S. limited liability companies, closed-end investment companies, companies that are required to report Acquired Fund Fees and Expenses (as defined by the SEC), including business development companies, blank check companies, special-purpose acquisition companies and limited partnerships; (iii) companies with a total market capitalization less than \$30 million; (iv) companies with only a small portion of their shares available in the marketplace (companies with 5% or less float); (v) bulletin board, pink sheets or over-the-counter traded securities, including securities for which prices are displayed on the FINRA ADF; (vi) real estate investment trusts and publicly traded partnerships that generate, or have historically generated, unrelated business taxable income and have not taken steps to block their unrelated business taxable income to equity holders; and (vii) companies with 5% or less of the company's voting rights in the hands of unrestricted shareholders (existing constituents that do not currently have more than 5% of the company's voting rights in the hands of unrestricted shareholders have until the September 2022 review to meet this requirement).

Initial List of Eligible Securities



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The primary criterion Russell uses to determine the initial list of securities eligible for the Russell 3000<sup>®</sup> Index and, consequently, the Russell 2000<sup>®</sup> Index, is total market capitalization, which is calculated by multiplying the total outstanding shares for a company by the market price as of the rank day for those securities being considered at annual reconstitution. IPOs may be added between constitutions as noted below. All common stock share classes are combined in determining a company's total shares outstanding. If multiple share classes have been combined, the number of total shares outstanding will be multiplied by the primary exchange close price and used to determine the company's total market capitalization. In cases where the common stock share classes act independently of each other (e.g., tracking stocks), each class is considered for inclusion separately. Stocks must have a closing price at or above \$1.00 on their primary exchange or an eligible secondary exchange on the last trading day of May of each year to be eligible for inclusion in the Russell 2000<sup>®</sup> Index. In order to reduce unnecessary turnover, if an existing member's closing price is less than \$1.00 on the rank day in May, it will be considered eligible if the average of the daily closing prices from their primary exchange during the 30 days prior to the rank day is equal to or greater than \$1.00. If an existing member does not trade on the rank day, it must price at \$1.00 or above on another eligible U.S. exchange to remain eligible.

### Multiple Share Classes

If an eligible company trades under multiple share classes or if a company distributes shares of an additional share class to its existing shareholders through a mandatory corporate action, each share class will be reviewed independently for inclusion. Share classes in addition to the primary vehicle (the pricing vehicle) that have a total market capitalization larger than the smallest company in the Russell 3000E<sup>™</sup> Index, an average daily dollar trading value that exceeds that of the global median, and a float greater than 5% of shares available in the market place are eligible for inclusion.

The pricing vehicle will generally be designated as the share class with the highest two-year trading volume as of the rank day. In the absence of two years' worth of data, all available data will be used for this calculation. If the difference between trading volumes for each share class is less than 20%, the share class with the most available shares outstanding will be used as the pricing vehicle. At least 100 day trading volume is necessary to consider the class as a pricing vehicle for existing members. New members will be analyzed on all available data, even if that data is for less than 100 days.

### Annual Reconstitution

The Russell 2000<sup>®</sup> Index is reconstituted annually by Russell to reflect changes in the marketplace. The list of companies is ranked based on total market capitalization on the last trading day in May, with the actual reconstitution occurring on the final Friday of June each year, unless the final Friday in June is the 29th or 30th, in which case reconstitution will occur on the preceding Friday. A full calendar for reconstitution is made available each spring. A company's total shares are multiplied by the primary exchange close price of the pricing vehicle and used to determine the company's total market capitalization for the purpose of ranking of companies and determination of index membership. If no volume exists on the primary exchange on the rank day, the last trade price from an eligible secondary exchange will be used where volume exists (using the lowest trade price above \$1.00 if multiple secondary markets exist). The company's rank will be determined based on the cumulative market capitalization. As of the June 2016 reconstitution, any share class not qualifying for eligibility independently will not be aggregated with the pricing vehicle within the available shares calculation.

For mergers and spin-offs that are effective between the rank day and the Friday prior to annual reconstitution in June, the market capitalizations of the impacted securities are recalculated and membership is reevaluated as of the effective date of the corporate action. For corporate events that occur during the final week of reconstitution (during which reconstitution is finalized Friday after U.S. market close), market capitalizations and memberships will not be reevaluated. Non index members that have been considered ineligible as of rank day will not be reevaluated in the event of a subsequent corporate action that occurs between rank day and the reconstitution effective date.

### Index Calculation and Capitalization Adjustments





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As a capitalization-weighted index, the Russell 2000® Index reflects changes in the capitalization, or market value, of the index stocks relative to the capitalization on a base date. This discussion describes the “price return” calculation of the Russell 2000® Index. The current Russell 2000® Index value is the compounded result of the cumulative daily (or monthly) return percentages, where the starting value of the Russell 2000® Index is equal to the base value (100) and base date (December 31, 1978). Returns between any two dates can then be derived by dividing the ending period index value (IV1) by the beginning period (IV0) index value, so that the return equals  $[(IV1 / IV0) - 1] * 100$ .

Constituent stocks of the Russell 2000® Index are weighted in the Russell 2000® Index by their free-float market capitalization, which is calculated by multiplying the primary closing price by the number of free-float shares. Free-float shares are shares that are available to the public for purchase as determined by Russell. Adjustments to shares are reviewed quarterly (including at reconstitution) and for major corporate actions such as mergers.

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 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%).

Corporate Actions Affecting the Russell 2000® Index

Russell adjusts the Russell 2000® Index on a daily basis in response to certain corporate actions and events. Therefore, a company’s membership in the Russell 2000® Index and its weight in the Russell 2000® Index can be impacted by these corporate actions. The adjustment is applied based on sources of public information, including press releases and Securities and Exchange Commission filings. Prior to the completion of a corporate action or event, Russell estimates the effective date. Russell will then adjust the anticipated effective date based on public information until the date is considered final. Depending on the time on a given day that an action is determined to be final, Russell will generally either (1) apply the action before the open on the ex-date or (2) apply the action after providing appropriate notice. If Russell has confirmed the completion of a corporate action, scheduled to become effective subsequent to a rebalance, the event may be implemented in conjunction with the rebalance to limit turnover, provided appropriate notice can be given. Russell applies the following methodology guidelines when adjusting the Russell 2000® Index in response to corporate actions and events:

“No Replacement” Rule — Securities that are deleted from the Russell 2000® Index between reconstitution dates, for any reason (e.g., mergers, acquisitions or other similar corporate activity) are not replaced. Thus, the number of securities in the Russell 2000® Index over the past year will fluctuate according to corporate activity.

Mergers and Acquisitions



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Adjustments due to mergers and acquisitions are applied to the Russell 2000® Index after the action is determined to be final. In the event that a constituent is being acquired for cash or is delisted subsequent to an index review, such constituent will be removed from the Russell 2000® Index in conjunction with the index review, assuming that the action is determined to be final and a minimum of two days' notice can be provided.

**Between constituents:** When mergers and acquisitions take place between companies that are both constituents of a Russell index for cash, the target company is deleted and shares of the acquiring stock are increased according to the offer terms. When mergers and acquisitions take place between companies that are both constituents of a Russell index for stock, the target company is deleted from the Russell 2000® Index at the last traded price.

**Between a constituent and a non-constituent:** If the target company is a member of the Russell 2000® Index, it is deleted from the Russell 2000® Index and the acquiring company will be included initially in the Russell 2000® Index provided it is eligible in all other respects at the time of the merger, regardless of previous eligibility screenings. If the acquiring company is deemed eligible it will be added to the Russell 2000® Index on the effective date and the opening price will be calculated using the offer terms.

Given sufficient market hours after the confirmation of a merger or acquisition, Russell effects the action after the close on the last day of trading of the target company, or at an appropriate time once the transaction has been deemed to be final.

**Rights Offerings** — Rights offered to shareholders are reflected in the Russell 2000® Index only if the subscription price of the rights is at a discount to the market price of the stock. Provided that Russell has been alerted to the rights offer prior to the ex-date, it will adjust the price of the stock for the value of the rights and increased shares according to the terms of the offering before the open on the ex-date.

**Spin-offs**— Spun-off companies are added to the parent company's index if the parent company's market value is reduced simultaneously per the spin-off valuation. Spun-off companies are added to the Russell 2000® Index at the same time as they are spun-off from their parent company on the ex-date of the distribution.

**Initial Public Offerings** — Eligible IPOs are added to the Russell 2000® Index based on total market capitalization ranking within the market-adjusted capitalization breaks established at the most recent annual reconstitution. An IPO of additional share classes will be considered for eligibility and must meet the same eligibility criteria for all other multiple share classes. If at the time of the IPO the additional share class does not meet the eligibility criteria for separate index membership, it will not be added to the Russell 2000® Index and will subsequently be reviewed for index membership during the next annual reconstitution.

Once IPO additions have been announced, an IPO may be added to the Russell 2000® Index prior to the previously announced schedule, if a corporate action has deemed this to be appropriate and notice can be provided (e.g. an index member automatically receives shares via a stock distribution into a projected IPO add).

**Tender Offers** — A company acquired as a result of a tender offer is removed when (i) (a) offer acceptances reach 90%; (b) shareholders have validly tendered and the shares have been irrevocably accepted for payment; and (c) 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; (ii) where offer acceptances are below 90%, there is reason to believe that the remaining free float is under 5% based on information available at the time; or (iii) following completion of the offer the acquirer has stated intent to finalize the acquisition via a short-form merger, squeeze-out, top-up option or any other compulsory mechanism.

Where the conditions for index deletion are not met, Russell may implement a free float change based on the reported acceptance results at the expiration of the initial, subsequent or final offer period where (i) the minimum acceptance level as stipulated by the acquiror is met; (ii) shareholders have validly tendered

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and the shares have been irrevocably accepted for payment; (iii) all pertinent offer conditions have been reasonably met and (iv) the change to the current float factor is greater than 3%. A minimum two day notice period of the change is generally provided. If the offer includes a stock consideration, the acquiring company's shares will be increased proportionate to the free float change of the target company. If the target company's free float change is greater than 3%, the associated change to the acquiring company's shares will be implemented regardless of size. Additionally, if the change to the target company is less than 3%, then no change will be implemented to the target or the acquiring company at the time of the event, regardless of any change to the acquiring company's shares. The target company will then be deleted as a second-step, if the conditions for deletion are achieved at the expiration of a subsequent offer period.

**Delisted and Suspended Stocks** — A stock will be deleted as a constituent if it is delisted from all eligible exchanges, becomes bankrupt, files for bankruptcy protection, is insolvent or is liquidated, or where evidence of a change in circumstances makes it ineligible for index inclusion. If, however, a stock is suspended, Russell will determine its treatment as follows:

- if a constituent is declared bankrupt without any indication of compensation to shareholders, the last traded price will be adjusted to zero value and the constituent will be removed from the Russell 2000® Index with T+2 notice;
- in all other cases, a constituent will continue to be included in the Russell 2000® Index for a period of up to 20 business days at its last traded price;
- if a constituent continues to be suspended at the end of the 20 business day period, it will be subject to review and a decision will be taken to either allow the constituent to remain in the Russell 2000® Index for a further period of up to 20 business days or to remove it at zero value. In making this determination, Russell will take into account the stated reasons for the suspension. These reasons may include announcements made by the company regarding a pending acquisition or restructuring, and any stated intentions regarding a date for the resumption of trading. This procedure will be repeated at successive 20 business day intervals thereafter until either trading recommences or the suspension period reaches 80 business days;
- if the suspension period reaches 80 business days, Russell will provide notice that the constituent will be removed at zero value following the expiry of at least 40 business days;
- in certain limited circumstances where the index weight of the constituent is significant and Russell determines that a market-related value can be established for the suspended constituent, for example because similar company securities continue to trade, deletion may take place at the market-related value instead. In such circumstances, Russell will set out its rationale for the proposed treatment of the constituent at the end of the 80 business day period;
- if, following the end of the 80 business day period, a suspended constituent resumes trading before the Wednesday before the first Friday of March, June, September or December, the deletion notice will be rescinded and the constituent will be retained in the Russell 2000® Index. If the constituent resumes trading after these dates but before the review effective date, the constituent will continue to be removed from the Russell 2000® Index as previously announced but in these circumstances the deletion may instead be implemented at market value; and
- if a constituent has been removed from the Russell 2000® Index and trading is subsequently restored, the constituent will only be re-considered for inclusion after a period of 12 months from its deletion. For the purposes of index eligibility it will be treated as a new issue.

**Bankruptcy and Voluntary Liquidations** — Companies that file for a Chapter 7 liquidation bankruptcy or have filed a liquidation plan will be removed from the Russell 2000® Index at the time of the bankruptcy filing (except when shareholder approval is required to finalize the liquidation plan, in which case the company will be removed once shareholder approval has been granted); whereas companies filing for a Chapter 11 reorganization bankruptcy will remain a member of the Russell 2000® Index, unless the company is delisted from the primary exchange, in which case normal delisting rules apply. If a company files for bankruptcy, is delisted and it can be confirmed that it will not trade on any market, including OTC, Russell may remove the stock at a nominal price of \$0.0001.



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Stock Distributions and distributions in specie— A price adjustment for stock distributions is applied on the ex-date of the distribution. Where Russell is able to value a distribution in specie prior to the ex-date, a price adjustment is made to the company paying the dividend at the open on the ex-date. If no valuation of the distribution exists prior to the ex-date, no price adjustment is applied. Where the company whose holders are receiving the distribution is an index member, its shares will be increased according to the terms of the distribution. If such company is not an index member, the distributed shares will be added to the Russell 2000® Index until they have been settled and have listed, at which point they will be removed at the last traded price giving appropriate notice.

Special Cash Dividends — If a constituent pays out a special cash dividend, the price of the stock is adjusted to deduct the dividend amount before the open on the ex-date. No adjustment for regular cash dividends is made in the price return calculation of the Russell 2000® Index.

Updates to Shares Outstanding and Free Float — Russell reviews the Russell 2000® Index quarterly for updates to shares outstanding and to free floats used in calculating the Russell 2000® Index. The changes are implemented quarterly in March, June, September and December after the close on the third Friday of such month. The June reconstitution will be implemented on the last Friday of June (unless the last Friday occurs on the 29th or 30th of the month, in which case reconstitution will occur on the Friday prior).

In March, September and December shares outstanding and free floats are updated to reflect (i) changes greater than 1% for cumulative shares in issue changes and (ii) changes greater than 3% for cumulative free float changes. In addition, a constituent with a free float of 15% or below will not be subject to the 3% change threshold and will instead be updated if the change is greater than 1%. Updates to shares outstanding and free floats will be implemented each June regardless of size (i.e., the percentage change thresholds above will not be applied). Russell implements the June updates using data sourced primarily from the companies' publicly available information filed with the Securities and Exchange Commission.

Outside of the quarterly update cycle, outstanding shares and free float will be updated with at least two days' notice if prompted by primary or secondary offerings if (i) there is a USD \$1 billion investable market capitalization change related to a primary/secondary offering or (ii) there is a resultant 5% change in index shares related to a primary or secondary offering and a USD \$250 million investable market capitalization change. These changes are implemented after the close on the day that the subscription period closes, assuming two days' notice can be provided. If two days' notice cannot be provided prior to the end of the subscription period, the change will still proceed with two days' notice and will be implemented at the earliest opportunity. If discovery of the event occurs more than two days after the close of the subscription period, the changes are deferred until the quarterly review cycle.

If a company distributes shares of an additional share class to its existing shareholders through a mandatory corporate action, the additional share class will be evaluated for separate index membership. The new share class will be deemed eligible if the market capitalization of the distributed shares meets the minimum size requirement (the market capitalization of the smallest member of the Russell 3000E Index from the previous rebalance as adjusted for performance to date). If the additional share class is not eligible at the time of distribution, it will not be added to the Russell 2000® Index.

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GS Finance Corp. does not accept any responsibility for the calculation, maintenance or publication of the Russell 2000® Index or any successor index.



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### The MSCI Emerging Markets Index

The MSCI Emerging Markets Index is a stock index calculated, published and disseminated daily by MSCI Inc. ("MSCI") through numerous data vendors, on the MSCI website and in real time on Bloomberg Financial Markets and Reuters Limited.

The MSCI Emerging Markets Index is a free float-adjusted market capitalization index and is one of the MSCI Global Investable Market Indices (the "MSCI Indices"), the methodology of which is described below. The MSCI Emerging Markets Index is considered a "standard" index, which means it consists of all eligible large capitalization and mid-capitalization stocks, as determined by MSCI, in the relevant emerging markets. Additional information about the MSCI Indices is available on the following website: [msci.com/index-methodology](http://msci.com/index-methodology). Daily closing level information for the MSCI Emerging Markets Index is available on the following website: [msci.com](http://msci.com). We are not incorporating by reference the website, the sources listed above or any material they include in this prospectus supplement.

The MSCI Emerging Markets Index is intended to provide performance benchmarks for the emerging equity markets in the Americas, Europe, the Middle East, Africa and Asia, which are, as of the date of this prospectus supplement, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey and the United Arab Emirates. The constituent stocks of the MSCI Emerging Markets Index are derived from the constituent stocks in the 24 MSCI standard single country indices for the emerging market countries listed above. The MSCI Emerging Markets Index is calculated in U.S. dollars on a total return net basis. The MSCI Emerging Markets Index was launched on December 31, 1987 at an initial value of 100.

MSCI Emerging Markets Index Stock Weighting by Country as of December 20, 2018

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<u>Country</u>	<u>Percentage (%)</u> *
Brazil	7.40%
Chile	1.09%
China	30.32%
Colombia	0.40%
Czech Republic	0.18%
Egypt	0.13%
Greece	0.22%
Hungary	0.33%
India	9.53%
Indonesia	2.31%
Korea, Republic Of	13.84%
Malaysia	2.37%
Mexico	2.78%
Pakistan	0.04%
Peru	0.42%
Philippines	1.12%
Poland	1.28%
Qatar	1.11%
Russian Federation	3.76%
South Africa	6.16%
Taiwan, Province Of China	11.34%
Thailand	2.47%
Turkey	0.64%
United Arab Emirates	0.76%

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

As of the close on May 31, 2018, MSCI began a multi-step process to include, in the MSCI Emerging Markets Index, large cap China A shares that are not in trading suspension. As part of the first step of the inclusion process, which resulted from the May 2018 quarterly index review, MSCI added such large cap China A shares to the MSCI Emerging Markets Index at 2.5% of their foreign inclusion factor-adjusted market capitalization. In connection with the August 2018 quarterly index review, MSCI implemented the second step of the inclusion process by increasing the foreign inclusion factor-adjusted market capitalization of those existing China A share constituents from 2.5% to 5%. With the implementation of this second step, and the inclusion of additional China A shares in connection with the August 2018 quarterly index review, China A shares were initially expected to represent approximately 0.75% of the MSCI Emerging Markets Index.

MSCI has announced that, beginning in June 2019, it expects to include the MSCI Saudi Arabia Index in the MSCI Emerging Markets Index, representing on a pro forma basis a weight of approximately 2.6% of the MSCI Emerging Markets Index with 32 securities, following a two-step inclusion process. The first inclusion step is expected to coincide with the May 2019 semi-annual review and the second inclusion step is expected to take place as part of the August 2019 quarterly index review. In addition, MSCI has announced the reclassification of the MSCI Argentina Index from a “frontier market” to an “emerging market”, and the MSCI Argentina Index is expected to be included in the MSCI Emerging Markets Index coinciding with the May 2019 semi-annual index review. MSCI expects to continue to restrict the inclusion in the MSCI Argentina Index to only foreign listings of Argentinian companies, such as American depositary receipts.

MSCI divides the companies included in the MSCI Emerging Markets Index into eleven Global Industry Classification Sectors: Communication Services, Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Information Technology, Materials, Real Estate and Utilities.

MSCI Emerging Markets Index Stock Weighting by Sector as of December 20, 2018

<u>Sector**</u>	<u>Percentage (%)</u> *
Communication Services	13.97%

Consumer Discretionary	10.45%
Consumer Staples	6.74%
Energy	8.01%
Financials	24.87%
Health Care	2.80%
Industrials	5.56%
Information Technology	14.17%
Materials	7.71%
Real Estate	3.04%
Utilities	2.68%

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\*Information provided by MSCI. 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.

### Construction of the MSCI Emerging Markets Index

MSCI undertakes an index construction process, which involves: (i) defining the equity universe; (ii) determining the market investable equity universe for each market; (iii) determining market capitalization size segments for each market; (iv) applying index continuity rules for the standard index; (v) creating style segments within each size segment within each market; and (vi) classifying securities under the Global Industry Classification Standard. The MSCI Emerging Markets Index construction methodology differs in some cases depending on whether the relevant market is considered a developed market or an emerging market. All of the MSCI Indices are standard indices, meaning that only securities that would qualify for inclusion in a large cap index or a mid cap index will be included as described below.

### Defining the Equity Universe

**Identifying Eligible Equity Securities:** The equity universe initially looks at securities listed in any of the countries in the MSCI Global Index series, which will be classified as either “developed markets” or “emerging markets”. All listed equity securities, including real estate investment trusts and certain income trusts in Canada are eligible for inclusion in the equity universe. Limited partnerships, limited liability companies and business trusts, which are listed in the U.S. and are not structured to be taxed as limited partnerships, are likewise eligible for inclusion in the equity universe. Conversely, mutual funds, exchange traded funds, equity derivatives and most investment trusts are not eligible for inclusion in the equity universe. Preferred shares that exhibit characteristics of equity securities are eligible.

**Country Classification of Eligible Securities:** Each company and its securities (i.e., share classes) are classified in one and only one country, which allows for a distinctive sorting of each company by its respective country.

### Determining the Market Investable Equity Universes

A market investable equity universe for a market is derived by (i) identifying eligible listings for each security in the equity universe; and (ii) applying investability screens to individual companies and securities in the equity universe that are classified in that market. A market is generally equivalent to a single country. The global investable equity universe is the aggregation of all market investable equity universes.

(i) **Identifying Eligible Listings:** A security may have a listing in the country where it is classified (a “local listing”) and/or in a different country (a “foreign listing”). A security may be represented by either a local listing or a foreign listing (including a depositary receipt) in the global investable equity universe. A security may be represented by a foreign listing only if the security is classified in a country that meets the foreign listing materiality requirement (as described below), and the security’s foreign listing is traded on an eligible stock exchange of a developed market country if the security is classified in a developed market country or, if the security is classified in an emerging market country, an eligible stock exchange of a developed market country or an emerging market country.

In order for a country to meet the foreign listing materiality requirement, MSCI determines all securities represented by a foreign listing that would be included in the country’s MSCI Country Investable Market Index if foreign listings were eligible from that country. The aggregate free-float adjusted market capitalization for all such securities should represent at least (i) 5% of the free float-adjusted market capitalization of the relevant MSCI Country Investable Market Index and (ii) 0.05% of the free-float adjusted market capitalization of the MSCI ACWI Investable Market Index. If a country does not meet the foreign listing materiality requirement, then securities in that country may not be represented by a foreign listing in the global investable equity universe.

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(ii) Applying Investability Screens: The investability screens used to determine the investable equity universe in each market are:

**Equity Universe Minimum Size Requirement:** This investability screen is applied at the company level. In order to be included in a market investable equity universe, a company must have the required minimum full market capitalization. The equity universe minimum size requirement applies to companies in all markets and is derived as follows:

First, the companies in the developed market equity universe are sorted in descending order of full market capitalization and the cumulative coverage of the free float-adjusted market capitalization of the developed market equity universe is calculated for each company. Each company's free float-adjusted market capitalization is represented by the aggregation of the free float-adjusted market capitalization of the securities of that company in the equity universe.

Second, when the cumulative free float-adjusted market capitalization coverage of 99% of the sorted equity universe is achieved, by adding each company's free float-adjusted market capitalization in descending order, the full market capitalization of the company that reaches the 99% threshold defines the equity universe minimum size requirement. The rank of this company by descending order of full market capitalization within the developed market equity universe is noted, and will be used in determining the equity universe minimum size requirement at the next rebalance.

As of May 2017, the equity universe minimum size requirement was set at U.S. \$236 million. Companies with a full market capitalization below this level are not included in any market investable equity universe. The equity universe minimum size requirement is reviewed and, if necessary, revised at each semi-annual index review, as described below.

**Equity Universe Minimum Free Float-Adjusted Market Capitalization Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a market investable equity universe, a security must have a free float-adjusted market capitalization equal to or higher than 50% of the equity universe minimum size requirement.

**Minimum Liquidity Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a market investable equity universe, a security must have at least one eligible listing that has adequate liquidity as measured by its 12-month and 3-month annualized traded value ratio ("ATVR") and 3-month frequency of trading. The ATVR attempts to mitigate the impact of extreme daily trading volumes and takes into account the free float-adjusted market capitalization of securities. A minimum liquidity level of 20% of the 3-month ATVR and 90% of 3-month frequency of trading over the last 4 consecutive quarters, as well as 20% of the 12-month ATVR, are required for inclusion of a security in a market investable equity universe of a developed market. A minimum liquidity level of 15% of the 3-month ATVR and 80% of 3-month frequency of trading over the last 4 consecutive quarters, as well as 15% of the 12-month ATVR, are required for inclusion of a security in a market investable equity universe of an emerging market.

Only one listing per security may be included in the market investable equity universe. In instances where a security has two or more eligible listings that meet the above liquidity requirements, then the following priority rules are used to determine which listing will be used for potential inclusion of the security in the market investable equity universe:

(1) Local listing (if the security has two or more local listings, then the listing with the highest 3-month ATVR will be used).

(2) Foreign listing in the same geographical region (MSCI classifies markets into three main geographical regions: EMEA, Asia Pacific and Americas. If the security has two or more listings in the same geographical region, then the listing with the highest 3-month ATVR will be used).

(3) Foreign listing in a different geographical region (if the security has two or more listings in a different geographical region, then the listing with the highest 3-month ATVR will be used).



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Due to liquidity concerns relating to securities trading at very high stock prices, a security that is currently not a constituent of a MSCI Global Investable Markets Index that is trading at a stock price above U.S. \$10,000 will fail the liquidity screening and will not be included in any market investable equity universe.

**Global Minimum Foreign Inclusion Factor Requirement:** This investability screen is applied at the individual security level. To determine the free float of a security, MSCI considers the proportion of shares of such security available for purchase in the public equity markets by international investors. In practice, limitations on the investment opportunities for international investors include: strategic stakes in a company held by private or public shareholders whose investment objective indicates that the shares held are not likely to be available in the market; limits on the proportion of a security's share capital authorized for purchase by non-domestic investors; or other foreign investment restrictions which materially limit the ability of foreign investors to freely invest in a particular equity market, sector or security.

MSCI will then derive a "foreign inclusion factor" for the company that reflects the proportion of shares outstanding that is available for purchase in the public equity markets by international investors. MSCI will then "float-adjust" the weight of each constituent company in an index by the company's foreign inclusion factor.

Once the free float factor has been determined for a security, the security's total market capitalization is then adjusted by such free float factor, resulting in the free float-adjusted market capitalization figure for the security.

**Minimum Length of Trading Requirement:** This investability screen is applied at the individual security level. For an initial public offering to be eligible for inclusion in a market investable equity universe, the new issue must have started trading at least three months before the implementation of a semi-annual index review. This requirement is applicable to small new issues in all markets. Large initial public offerings are not subject to the minimum length of trading requirement and may be included in a market investable equity universe and a standard index, such as the MSCI Emerging Markets Index, outside of a quarterly or semi-annual index review.

**Minimum Foreign Room Requirement:** This investability screen is applied at the individual security level. For a security that is subject to a foreign ownership limit to be eligible for inclusion in a market investable equity universe, the proportion of shares still available to foreign investors relative to the maximum allowed (referred to as "foreign room") must be at least 15%.

### Defining Market Capitalization Size Segments for Each Market

Once a market investable equity universe is defined, it is segmented into the following size-based indices:

- Investable Market Index (Large Cap + Mid Cap + Small Cap)
- Standard Index (Large Cap + Mid Cap)
- Large Cap Index
- Mid Cap Index
- Small Cap Index

Creating the size segment indices in each market involves the following steps: (i) defining the market coverage target range for each size segment; (ii) determining the global minimum size range for each size segment; (iii) determining the market size-segment cutoffs and associated segment number of companies; (iv) assigning companies to the size segments; and (v) applying final size-segment investability requirements. For emerging market indices, the market coverage for a standard index is 42.5%. As of April 2017, the global minimum size range for an emerging market standard index is a full market capitalization of USD 1.37 billion to USD 3.16 billion.

### Index Continuity Rules for Standard Indices

In order to achieve index continuity, as well as provide some basic level of diversification within a market index, notwithstanding the effect of other index construction rules, a minimum number of five constituents will be maintained for a developed market standard index and a minimum number of three constituents will be maintained for an emerging market standard index, and involves the following steps:



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· If after the application of the index construction methodology, a developed market standard index contains fewer than five securities or an emerging market standard index contains fewer than three securities, then the largest securities by free float-adjusted market capitalization are added to the MSCI Emerging Markets Index in order to reach the minimum number of required constituents.

· At subsequent MSCI Emerging Markets Index reviews, if the minimum number of securities described above is not met, then after the market investable equity universe is identified, the securities are ranked by free float-adjusted market capitalization, however, in order to increase stability the free float-adjusted market capitalization of the existing index constituents (prior to review) is multiplied by 1.50, and securities are added until the desired minimum number of securities is reached.

Constituent index means any of the component country indices comprising the MSCI Emerging Markets Index.

### Creating Style Indices within Each Size Segment

All securities in the investable equity universe are classified into value or growth segments. The classification of a security into the value or growth segment is used by MSCI to construct additional indices.

### Classifying Securities under the Global Industry Classification Standard

All securities in the global investable equity universe are assigned to the industry that best describes their business activities. The GICS classification of each security is used by MSCI to construct additional indices.

As of the close of business on September 21, 2018, MSCI and S&P Dow Jones Indices LLC 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 Classification Sector structure changes are effective for the MSCI Emerging Markets Index as of the open of business of December 3, 2018 to coincide with the November 2018 semi-annual index review.

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Calculation Methodology for the MSCI Emerging Markets Index

The performance of the MSCI Emerging Markets Index is a free float weighted average of the U.S. dollar values of its component securities.

Prices used to calculate the component securities are the official exchange closing prices or prices accepted as such in the relevant market. In the case of a market closure, or if a security does not trade on a specific day or during a specific period, MSCI carries forward the previous day's price (or latest available closing price). In the event of a market outage resulting in any component security price to be unavailable, MSCI will generally use the last reported price for such component security for the purpose of performance calculation unless MSCI determines that another price is more appropriate based on the circumstances. Closing prices are converted into U.S. dollars, as applicable, using the closing exchange rates calculated by WM/Reuters at 4:00 P.M. London Time.

Maintenance of the MSCI Emerging Markets Index

In order to maintain the representativeness of the MSCI Indices, structural changes may be made by adding or deleting component securities. Currently, such changes in the MSCI Indices may generally only be made on four dates throughout the year: after the close of the last business day of each February, May, August and November.

Each country index is maintained with the objective of reflecting, on a timely basis, the evolution of the underlying equity markets. In maintaining each component country index, emphasis is also placed on its continuity, continuous investability of constituents and replicability of the index and on index stability and minimizing turnover.

MSCI classifies index maintenance in three broad categories. The first consists of ongoing event related changes, such as mergers and acquisitions, which are generally implemented in the country indices in which they occur. The second category consists of quarterly index reviews, aimed at promptly reflecting other significant market events. The third category consists of semi-annual index reviews that systematically re-assess the various dimensions of the equity universe.

Ongoing event-related changes to the MSCI Emerging Markets Index are the result of mergers, acquisitions, spin-offs, bankruptcies, reorganizations and other similar corporate events. They can also result from capital reorganizations in the form of rights issues, stock bonus issues, public placements and other similar corporate actions that take place on a continuing basis. MSCI will remove from the index as soon as practicable securities of companies that file for bankruptcy or other protection from their creditors, that are suspended and for which a return to normal business activity and trading is unlikely in the near future; or that fail stock exchange listing requirements with a delisting announcement. Securities may also be considered for early deletion in other significant cases, such as decreases in free float and foreign ownership limits, or when a constituent company acquires or merges with a non-constituent company or spins-off another company. In practice, when a constituent company is involved in a corporate event which results in a significant decrease in the company's free float adjusted market capitalization or the company decreases its foreign inclusion factor to below 0.15, the securities of that constituent company are considered for early deletion from the indices simultaneously with the event unless, in either case, it is a standard index constituent with a minimum free float-adjusted market capitalization is not at least two-thirds of one-half of the standard index interim size segment cut-off. Share conversions may also give rise to an early deletion. All changes resulting from corporate events are announced prior to their implementation, provided all necessary information on the event is available.

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MSCI's quarterly index review process is designed to ensure that the country indices continue to be an accurate reflection of evolving equity markets. This goal is achieved by timely reflecting significant market driven changes that were not captured in each index at the time of their actual occurrence and that should not wait until the semi-annual index review due to their importance. These quarterly index reviews may result in additions and deletions of component securities from a country index (or a security being removed from one country listing and represented by a different country listing) and changes in "foreign inclusion factors" and in number of shares. Additions and deletions to component securities may result from: the addition of large companies that did not meet the minimum size criterion for inclusion at the time of their initial public offering or secondary offering; the replacement of companies which are no longer suitable industry representatives; the deletion of securities whose overall free float has fallen to less than 15% and that do not meet specified criteria; the deletion of securities that have become very small or illiquid; and the addition or deletion of securities as a result of other market events. Significant changes in free float estimates and corresponding changes in the foreign inclusion factor for component securities may result from: block sales, block buys, secondary offerings and transactions made by way of immediate book-building that did not meet the requirements for implementation at the time of such event; corporate events that should have been implemented at the time of such event but could not be reflected immediately due to lack of publicly available details at the time of the event; exercise of IPO over-allotment options which result in an increase in free float; increases in foreign ownership limits; decreases in foreign ownership limits which did not require foreign investors to immediately sell shares in the market; re-estimates of free float figures resulting from the reclassification of shareholders from strategic to non-strategic, and vice versa, the end of lock-up periods or expiration of loyalty incentives for non-strategic shareholders; conversion of a non-index constituent share class or an unlisted line of shares which has an impact on index constituents; and acquisition by shares of non-listed companies or assets. However, no changes in foreign inclusion factors are implemented for any of the above events if the change in free float estimate is less than 1%, except in cases of correction. Small changes in the number of shares resulting from, for example, exercise of options or warrants, conversion of convertible bonds or other instruments, conversion of a non-index constituent share class or an unlisted line of shares which has an impact on index constituents, periodic conversion of a share class into another share class, exercise of over-allotment options, exercise of share buybacks, or the cancellation of shares, are generally updated at the quarterly index review rather than at the time of the event. The results of the quarterly index reviews are announced at least two weeks in advance of their effective implementation dates as of the close of the last business day of February and August. MSCI has noted that consistency is a factor in maintaining each component country index.

MSCI's semi-annual index review is designed to systematically reassess the component securities of the MSCI Emerging Markets Index. During each semi-annual index review, the universe of component securities is updated and the global minimum size range for the MSCI Emerging Markets Index is recalculated, which is based on the full market capitalization and the cumulative free float-adjusted market capitalization coverage of each security that is eligible to be included in the MSCI Emerging Markets Index. The following MSCI Emerging Markets Index maintenance activities, among others, are undertaken during each semi-annual index review: the list of countries in which securities may be represented by foreign listings is reviewed; the component securities are updated by identifying new equity securities that were not part of the MSCI Emerging Markets Index at the time of the previous quarterly index review; the minimum size requirement for the MSCI Emerging Markets Index is updated and new companies are evaluated relative to the new minimum size requirement; existing component securities that do not meet the minimum liquidity requirements of the MSCI Emerging Markets Index may be removed (or, with respect to any such security that has other listings, a determination is made as to whether any such listing can be used to represent the security in the market investable universe); and changes in "foreign inclusion factors" are implemented (provided the change in free float is greater than 1%, except in cases of correction). During a semi-annual index review, component securities may be added or deleted from a country index for a range of reasons, including the reasons discussed with respect to component securities changes during quarterly index reviews as discussed above. Foreign listings may become eligible to represent securities only from the countries that met the foreign listing materiality requirement during the previous semi-annual index review (this requirement is applied only to countries that do not yet include foreign listed securities). Once a country meets the foreign listing materiality requirement at a given semi-annual index review, foreign listings will remain eligible for such country even if the foreign listing

materiality requirements are not met in the future.

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The results of the semi-annual index reviews are announced at least two weeks in advance of their effective implementation date as of the close of the last business day of May and November.

MSCI Emerging Markets Index maintenance also includes monitoring and completing adjustments for share changes, stock splits, stock dividends, and stock price adjustments due to company restructurings or spin-offs.

These guidelines and the policies implementing the guidelines are the responsibility of, and, ultimately, subject to adjustment by, MSCI.

Daily closing price information for the MSCI Emerging Markets Index is available on the following website: msci.com. We are not incorporating by reference that website or any material it includes in this prospectus supplement.

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Historical Closing Levels of the Indices

The closing levels of the indices have fluctuated in the past and may, in the future, experience significant fluctuations. Any historical upward or downward trend in the closing level of any index during the period shown below is not an indication that such index is more or less likely to increase or decrease at any time during the life of your notes. You should not take the historical closing levels of an index as an indication of the future performance of an index. We cannot give you any assurance that the future performance of any index or the index stocks will result in you receiving any coupon payments or receiving the outstanding face amount of your notes on the stated maturity date. Neither we nor any of our affiliates make any representation to you as to the performance of the indices. Before investing in the offered notes, you should consult publicly available information to determine the relevant index levels between the date of this prospectus supplement and the date of your purchase of the offered notes. The actual performance of an index over the life of the offered notes, as well as the cash settlement amount at maturity may bear little relation to the historical levels shown below.

The graphs below show the daily historical closing levels of each index from December 21, 2008 through December 21, 2018. We obtained the closing levels in the graphs below from Bloomberg Financial Services, without independent verification. Although the official closing levels of each of the Russell 2000® Index and the MSCI Emerging Markets Index are published to six decimal places by its index sponsor, Bloomberg Financial Services reports the levels of the Russell 2000® Index and the MSCI Emerging Markets Index to fewer decimal places.

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Correlation of the Indices

The graph below shows the historical closing levels of each index from December 21, 2008 through December 21, 2018. For comparison purposes, each index has been adjusted to have a closing level of 100.00 on December 21, 2008 by dividing the closing level of that index on each day by the closing level of that index on December 21, 2008 and multiplying by 100.00. We obtained the closing levels used to determine the adjusted closing levels in the graph below from Bloomberg Financial Services, without independent verification. You should not take the historical performance of the indices as an indication of the future performance of the indices.

Historical Performances of the S&P 500<sup>®</sup> Index, the Russell 2000<sup>®</sup> Index and the MSCI Emerging Markets Index  
Movements in the values of the indices may be correlated or uncorrelated at different times during the term of the notes and, if there is correlation, such correlation may be positive (the indices move in the same direction) or negative (the indices move in reverse directions). The more similar the movements of the daily returns of the indices over the given period, the more positively correlated those indices are. The graph above illustrates the historical performance of each index relative to the other indices over the time period shown and provides an indication of how the relative performance of the daily returns of one index has historically been to the others. However, it is the actual level of the lesser performing index (and not the level of historical correlation between the indices) that determines the return on your notes.

Please read “Additional Risk Factors Specific to Your Notes—You Are Exposed to the Market Risk of Each Index” on page S-16 of this prospectus supplement.

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SUPPLEMENTAL DISCUSSION OF 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 regulated investment company;
- an accrual method taxpayer subject to special tax accounting rules as a result of its use of financial statements;
- a tax exempt organization;
- a partnership;
- 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 discusses 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 other tax consequences of your investment 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 a note and you are:

- a citizen or resident of the United States;

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- 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 income-bearing pre-paid derivative contracts in respect of the indices. Except as otherwise stated below, the discussion below assumes that the notes will be so treated.

Coupon payments that you receive should be included in ordinary income at the time you receive the payment or when the payment accrues, in accordance with your regular method of accounting for U.S. federal income tax purposes.

Upon the sale, exchange, redemption or maturity of your notes, you should recognize capital gain or loss equal to the difference between the amount realized on the sale, exchange, redemption or maturity (excluding any amounts attributable to accrued and unpaid coupon payments, which will be taxable as described above) and your tax basis in your notes. Your tax basis in your notes will generally be equal to the amount that you paid for the notes. Such capital gain or loss should generally be short-term capital gain or loss if you hold the notes for one year or less, and should be long-term capital gain or loss if you hold the notes for more than one year. 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 applicable original 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 income you recognize upon the sale, exchange, redemption 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 persons who purchase a note at other than the adjusted issue price as determined for tax purposes.

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It is possible that the Internal Revenue Service could assert that your notes should generally be characterized as described above, except that (1) the gain you recognize upon the sale, exchange, redemption or maturity of your notes should be treated as ordinary income or (2) you should not include the coupon payments in income as you receive them but instead you should reduce your basis in your notes by the amount of coupon payments that you receive. It is also possible that the Internal Revenue Service could seek to characterize your notes in a manner that results in tax consequences to you different from those described above.

It is also possible that the Internal Revenue Service could seek to characterize your notes as notional principal contracts. It is also possible that the coupon payments would not be treated as either ordinary income or interest for U.S. federal income tax purposes, but instead would be treated in some other manner.

You should consult your tax advisor as to possible alternative characterizations of your notes for U.S. federal income tax purposes.

#### Possible Change in Law

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. 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.

In addition, 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 the 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, GS Finance Corp. intends to continue treating the notes for U.S. federal income tax purposes in accordance with the treatment described above unless and until such time as Congress, the Treasury Department or the Internal Revenue Service determine that some other treatment is more appropriate.

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.

#### 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 the 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.

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Because the U.S. federal income tax treatment (including the applicability of withholding) of the coupon payments on the notes is uncertain, in the absence of further guidance, we intend to withhold on the coupon payments made to you at a 30% rate or at a lower rate specified by an applicable income tax treaty under an “other income” or similar provision. We will not make payments of any additional amounts. To claim a reduced treaty rate for withholding, you generally must provide a valid Internal Revenue Service Form W-8BEN, Internal Revenue Service Form W-8BEN-E, or an acceptable substitute form upon which you certify, under penalty of perjury, your status as a U.S. alien holder and your entitlement to the lower treaty rate. Payments will be made to you at a reduced treaty rate of withholding only if such reduced treaty rate would apply to any possible characterization of the payments (including, for example, if the coupon payments were characterized as contract fees). Withholding also may not apply to coupon payments made to you if: (i) the coupon payments are “effectively connected” with your conduct of a trade or business in the United States and are includable in your gross income for U.S. federal income tax purposes, (ii) the coupon payments are attributable to a permanent establishment that you maintain in the United States, if required by an applicable tax treaty, and (iii) you comply with the requisite certification requirements (generally, by providing an Internal Revenue Service Form W-8ECI). If you are eligible for a reduced rate of United States withholding tax, you may obtain a refund of any amounts withheld in excess of that rate by filing a refund claim with the Internal Revenue Service. “Effectively connected” payments includable in your United States gross income are generally taxed at rates applicable to United States citizens, resident aliens, and domestic corporations; if you are a corporate United States alien holder, “effectively connected” payments may be subject to an additional “branch profits tax” under certain circumstances. You will also be subject to generally applicable information reporting and backup withholding requirements with respect to payments on your notes 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.

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 effects, that would cause payments on your notes to be subject to withholding, even if you comply with certification requirements as to your foreign status.

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 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 advisors in this regard.

In addition, 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 coupon payments and any amounts you receive upon the sale, exchange, redemption 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 the stocks included in the 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 any coupon payment or 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 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)

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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.

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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 governmental 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 1.00% 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.

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 expect to deliver the notes against payment therefor in New York, New York on December 31, 2018. Under Rule 15c6-1 of the Securities Exchange Act of 1934, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. Accordingly, purchasers who wish to trade notes on any date prior to two business days before delivery will be required to specify alternative settlement arrangements to prevent a failed settlement.

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; or
- 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 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.

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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 or 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 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.

Trigger Callable Contingent Yield Notes due  
guaranteed by  
The Goldman Sachs Group, Inc.

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Goldman Sachs & Co. LLC

UBS Financial Services Inc.  
Selling Agent

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