



## GS Finance Corp.

\$146,000

Leveraged NASDAQ-100 Technology Sector Index-Linked Notes due 2023

guaranteed by

### The Goldman Sachs Group, Inc.

**The notes do not bear interest.** The amount that you will be paid on your notes on the stated maturity date (November 30, 2023) is based on the performance of the NASDAQ-100 Technology Sector Index as measured from the trade date (November 22, 2019) to and including the determination date (November 22, 2023).

If the final index level on the determination date is greater than the initial index level of 5,093.316, the return on your notes will be positive and will equal 1.1 *times* the index return, subject to the maximum settlement amount of \$1,880 for each \$1,000 face amount of your notes. If the final index level declines by up to 25% from the initial index level, you will receive the face amount of your notes.

If the final index level declines by more than 25% from the initial index level, the return on your notes will be negative. **You could lose your entire investment in the notes.**

To determine your payment at maturity, we will calculate the index return, which is the percentage increase or decrease in the final index level from the initial index level. At maturity, for each \$1,000 face amount of your notes, you will receive an amount in cash equal to:

- if the index return is *positive* (the final index level is *greater than* the initial index level), the *sum* of (i) \$1,000 *plus* (ii) the *product* of (a) \$1,000 *times* (b) 1.1 *times* (c) the index return, subject to the maximum settlement amount;
- if the index return is *zero* or *negative* but *not below* -25% (the final index level is *equal to* the initial index level or is *less than* the initial index level, but not by more than 25%), \$1,000; or
- if the index return is *negative* and is *below* -25% (the final index level is *less than* the initial index level by more than 25%), the *sum* of (i) \$1,000 *plus* (ii) the *product* of (a) \$1,000 *times* (b) the index return.

**You should read the disclosure herein to better understand the terms and risks of your investment, including the credit risk of GS Finance Corp. and The Goldman Sachs Group, Inc. See page PS-9.**

*The estimated value of your notes at the time the terms of your notes are set on the trade date is equal to approximately \$970 per \$1,000 face amount. For a discussion of the estimated value and the price at which Goldman Sachs & Co. LLC would initially buy or sell your notes, if it makes a market in the notes, see the following page.*

**Original issue date:** November 29, 2019

**Original issue price:** 100% of the face amount

**Underwriting discount:** 0.3% of the face amount\*

**Net proceeds to the issuer:** 99.7% of the face amount

\*In addition to the 0.3%, the underwriting discount paid by us also includes a structuring fee of up to 0.4% and a marketing fee of 0.5%, in each case, of the face amount. See "Supplemental Plan of Distribution; Conflicts of Interest" on page PS-21.

**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

Pricing Supplement No. 6,820 dated November 22, 2019.

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 pricing supplement, at issue prices and with underwriting discounts and net proceeds that differ from the amounts set forth above. The return (whether positive or negative) on your investment in notes will depend in part on the issue price you pay for such notes.

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

#### Estimated Value of Your Notes

*The estimated value of your notes at the time the terms of your notes are set on the trade date (as determined by reference to pricing models used by Goldman Sachs & Co. LLC (GS&Co.) and taking into account our credit spreads) is equal to approximately \$970 per \$1,000 face amount, which is less than the original issue price. The value of your notes at any time will reflect many factors and cannot be predicted; however, the price (not including GS&Co.'s customary bid and ask spreads) at which GS&Co. would initially buy or sell notes (if it makes a market, which it is not obligated to do) and the value that GS&Co. will initially use for account statements and otherwise is equal to approximately the estimated value of your notes at the time of pricing, plus an additional amount (initially equal to \$21 per \$1,000 face amount).*

*Prior to November 22, 2020, the price (not including GS&Co.'s customary bid and ask spreads) at which GS&Co. would buy or sell your notes (if it makes a market, which it is not obligated to do) will equal approximately the sum of (a) the then-current estimated value of your notes (as determined by reference to GS&Co.'s pricing models) plus (b) any remaining additional amount (the additional amount will decline to zero on a straight-line basis from the time of pricing through November 21, 2020). On and after November 22, 2020, the price (not including GS&Co.'s customary bid and ask spreads) at which GS&Co. would buy or sell your notes (if it makes a market) will equal approximately the then-current estimated value of your notes determined by reference to such pricing models.*

#### About Your Prospectus

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

- General terms supplement no. 1,734 dated July 10, 2017
- Prospectus supplement dated July 10, 2017
- Prospectus dated July 10, 2017

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

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

## TERMS AND CONDITIONS

(Terms From Pricing Supplement No. 6,820 Incorporated Into Master Note No. 2)

*These terms and conditions relate to pricing supplement no. 6,820 dated November 22, 2019 of GS Finance Corp. and The Goldman Sachs Group, Inc. with respect to the issuance by GS Finance Corp. of its Leveraged NASDAQ-100 Technology Sector Index-Linked Notes due 2023 and the guarantee thereof by The Goldman Sachs Group, Inc.*

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

**CUSIP / ISIN:** 40056XKV7 / US40056XKV72

**Company (Issuer):** GS Finance Corp.

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

**Underlier:** the NASDAQ-100 Technology Sector Index (current Bloomberg symbol: “NDXT Index”), or any successor underlier, as it may be modified, replaced or adjusted from time to time as provided herein

**Face amount:** \$146,000 in the aggregate on the original issue date; the aggregate face amount may be increased if the company, at its sole option, decides to sell an additional amount on a date subsequent to the trade date.

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

**Principal amount:** On the stated maturity date, the company will pay, for each \$1,000 of the outstanding face amount, an amount, if any, in cash equal to the cash settlement amount.

**Cash settlement amount:**

- If the final underlier level is *greater than* or *equal to* the cap level, the maximum settlement amount;
- if the final underlier level is *greater than* the initial underlier level but *less than* the cap level, the *sum* of (1) \$1,000 *plus* (2) the *product* of (i) \$1,000 *times* (ii) the upside participation rate *times* (iii) the underlier return;
- if the final underlier level is *equal to* or *less than* the initial underlier level but greater than or equal to the trigger buffer level, \$1,000; or
- if the final underlier level is *less than* the trigger buffer level, the *sum* of (1) \$1,000 *plus* (2) the product of (i) \$1,000 *times* (ii) the underlier return

**Initial underlier level:** 5,093.316

**Final underlier level:** the closing level of the underlier on the determination date, subject to adjustment as provided in “— Consequences of a market disruption event or non-trading day” and “— Discontinuance or modification of the underlier” below

**Cap level:** 180% of the initial underlier level

**Maximum settlement amount:** \$1,880

**Upside participation rate:** 110%

**Underlier return:** the *quotient* of (1) the final underlier level *minus* the initial underlier level *divided by* (2) the initial underlier level, expressed as a percentage

**Trigger buffer Level:** 75% of the initial underlier level

**Trade date:** November 22, 2019

**Original issue date:** November 29, 2019

**Determination date:** November 22, 2023, unless the calculation agent determines that a market disruption event occurs or is continuing on such day or such day is not a trading day. In that event, the determination date will be the first following trading day on which the calculation agent determines that a market disruption event does not occur and is not continuing. However, the determination date will not 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. If a market disruption event occurs or is

continuing on the day that is the last possible determination date or such last possible day is not a trading day, that day will nevertheless be the determination date.

**Stated maturity date:** November 30, 2023, unless that day is not a business day, in which case the stated maturity date will be postponed to the next following business day. The stated maturity date will also be postponed if the determination date is postponed as described under “— Determination date” above. In such a case, 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.

**Closing level:** for any given trading day, the official closing level of the underlier or any successor underlier published by the underlier sponsor on such trading day

**Trading day:** a day on which the respective principal securities markets for all of the underlier stocks are open for trading, the underlier sponsor is open for business and the underlier is calculated and published by the underlier sponsor

**Successor underlier:** any substitute underlier approved by the calculation agent as a successor underlier as provided under “— Discontinuance or modification of the underlier” below

**Underlier sponsor:** at any time, the person or entity, including any successor sponsor, that determines and publishes the underlier as then in effect. The notes are not sponsored, endorsed, sold or promoted by the underlier sponsor or any of its affiliates and the underlier sponsor and its affiliates make no representation regarding the advisability of investing in the notes.

**Underlier stocks:** at any time, the stocks that comprise the underlier as then in effect, after giving effect to any additions, deletions or substitutions

**Market disruption event:** With respect to any given trading day, any of the following will be a market disruption event with respect to the underlier:

- a suspension, absence or material limitation of trading in underlier stocks constituting 20% or more, by weight, of the underlier 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 relating to the underlier or to underlier stocks constituting 20% or more, by weight, of the underlier 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
- underlier stocks constituting 20% or more, by weight, of the underlier, or option or futures contracts, if available, relating to the underlier or to underlier stocks constituting 20% or more, by weight, of the underlier do not trade on what were the respective primary markets for those underlier 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 such event could materially interfere with the ability of the company or any of its affiliates or a similarly situated person to unwind all or a material portion of a hedge that could be effected with respect to this note.

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 the underlier or to any underlier stock.

For this purpose, an “absence of trading” in the primary securities market on which an underlier stock is traded, or on which option or futures contracts relating to the underlier or an underlier 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 underlier stock or in option or futures contracts, if available, relating to the underlier or an underlier 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 underlier stock or those contracts, or
- a disparity in bid and ask quotes relating to that underlier stock or those contracts,

will constitute a suspension or material limitation of trading in that stock or those contracts in that market.

**Consequences of a market disruption event or a non-trading day:** If a market disruption event occurs or is continuing on a day that would otherwise be the determination date or such day is not a trading day, then the determination date will be postponed as described under “— Determination date” above.

If the calculation agent determines that the closing level of the underlier that must be used to determine the cash settlement amount is not available on the postponed determination date because of a market disruption event, a non-trading day or for any other reason (except as described under “— Discontinuance or modification of the underlier” below), the calculation agent will nevertheless determine the closing level of the underlier based on its assessment, made in its sole discretion, of the level of the underlier on that day.

**Discontinuance or modification of the underlier:** If the underlier sponsor discontinues publication of the underlier and the underlier sponsor or any other person or entity publishes a substitute underlier that the calculation agent determines is comparable to the underlier and approves as a successor underlier, or if the calculation agent designates a substitute underlier, then the calculation agent will determine the amount payable on the stated maturity date by reference to such successor underlier.

If the calculation agent determines that the publication of the underlier is discontinued and there is no successor underlier, the calculation agent will determine the amount payable on the stated maturity date by a computation methodology that the calculation agent determines will as closely as reasonably possible replicate the underlier.

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

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

**Calculation agent:** Goldman Sachs & Co. LLC (“GS&Co.”)

**Tax characterization:** The holder, on behalf of itself and any other person having a beneficial interest in this note, hereby agrees with the company (in the absence of a change in law, an administrative determination or a judicial ruling to the contrary) to characterize this note for all U.S. federal income tax purposes as a pre-paid derivative contract in respect of the underlier.

**Overdue principal rate:** the effective Federal Funds rate

## HYPOTHETICAL EXAMPLES

The following examples are provided for purposes of illustration only. They should not be taken as an indication or prediction of future investment results and merely are intended to illustrate the impact that the various hypothetical underlier levels on the determination date could have on the cash settlement amount at maturity assuming all other variables remain constant.

The examples below are based on a range of final underlier levels that are entirely hypothetical; the underlier level on any day throughout the life of the notes, including the final underlier level on the determination date, cannot be predicted. The underlier has been highly volatile in the past — meaning that the underlier level has changed considerably in relatively short periods — and its performance cannot be predicted for any future period.

The information in the following examples reflects hypothetical rates of return on the offered notes assuming that they are purchased on the original issue date at the face amount and held to the stated maturity date. If you sell your notes in a secondary market prior to the stated maturity date, your return will depend upon the market value of your notes at the time of sale, which may be affected by a number of factors that are not reflected in the examples below, such as interest rates, the volatility of the underlier, 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 PS-9 of this pricing supplement. The information in the examples also reflects the key terms and assumptions in the box below.

<b>Key Terms and Assumptions</b>	
Face amount	\$1,000
Cap level	180% of the initial underlier level
Upside participation rate	110%
Maximum settlement amount	\$1,880
Trigger buffer level	75% of the initial underlier level
Neither a market disruption event nor a non-trading day occurs on the originally scheduled determination date	
No change in or affecting any of the underlier stocks or the method by which the underlier sponsor calculates the underlier	
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 underlier over the life of your notes, as well as the amount payable at maturity, if any, may bear little relation to the hypothetical examples shown below or to the historical underlier levels shown elsewhere in this pricing supplement. For information about the historical levels of the underlier during recent periods, see “The Underlier — Historical Closing Levels of the Underlier” below. Before investing in the offered notes, you should consult publicly available information to determine the levels of the underlier between the date of this pricing supplement and the date of your purchase of the offered notes.

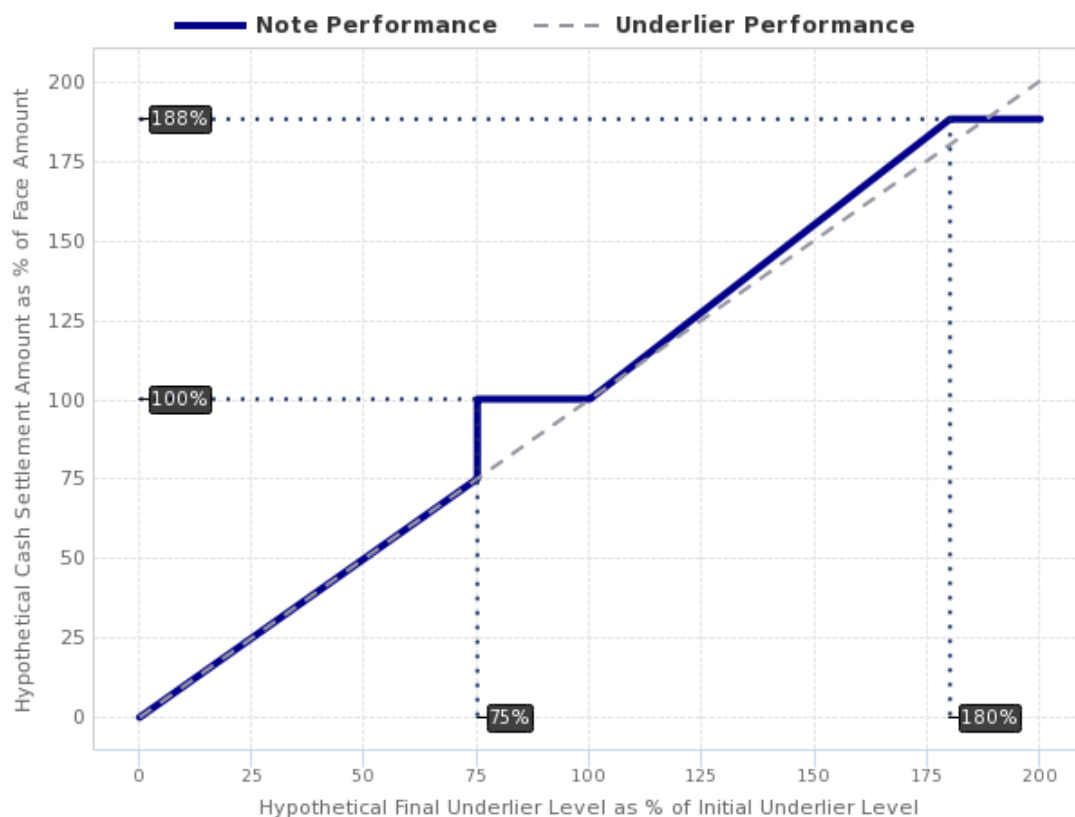
Also, the hypothetical examples shown below do not take into account the effects of applicable taxes. Because of the U.S. tax treatment applicable to your notes, tax liabilities could affect the after-tax rate of return on your notes to a comparatively greater extent than the after-tax return on the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

The levels in the left column of the table below represent hypothetical final underlier levels and are expressed as percentages of the initial underlier level. The amounts in the right column represent the hypothetical cash settlement amounts, based on the corresponding hypothetical final underlier level, 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 \$1,000 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 underlier level and the assumptions noted above.

Hypothetical Final Underlier Level (as Percentage of Initial Underlier Level)	Hypothetical Cash Settlement Amount (as Percentage of Face Amount)
250.000%	188.000%
225.000%	188.000%
200.000%	188.000%
<b>180.000%</b>	<b>188.000%</b>
150.000%	155.000%
125.000%	127.500%
110.000%	111.000%
<b>100.000%</b>	<b>100.000%</b>
90.000%	100.000%
85.000%	100.000%
80.000%	100.000%
<b>75.000%</b>	<b>100.000%</b>
74.999%	74.999%
50.000%	50.000%
25.000%	25.000%
<b>0.000%</b>	<b>0.000%</b>

If, for example, the final underlier level were determined to be 25.000% of the initial underlier 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 (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 underlier level were determined to be 250.000% of the initial underlier level, the cash settlement amount that we would deliver on your notes at maturity would be capped at the maximum settlement amount, or 188.000% of each \$1,000 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 underlier level over 180% of the initial underlier level.

The following chart shows a graphical illustration of the hypothetical cash settlement amounts that we would pay on your notes on the stated maturity date, if the final underlier level were any of the hypothetical levels shown on the horizontal axis. The hypothetical cash settlement amounts in the chart are expressed as percentages of the face amount of your notes and the hypothetical final underlier levels are expressed as percentages of the initial underlier level. The chart shows that any hypothetical final underlier level of less than 75.000% (the section left of the 75.000% marker on the horizontal axis) would result in a hypothetical cash settlement amount of less than 100.000% of the face amount of your notes (the section below the 100.000% marker on the vertical axis) and, accordingly, in a loss of principal to the holder of the notes. The chart also shows that any hypothetical final underlier level of greater than or equal to 180% (the section right of the 180% marker on the horizontal axis) would result in a capped return on your investment.



The cash settlement amounts shown above are entirely hypothetical; they are based on market prices for the underlier 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 the Notes — The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors” on page S-3 of the accompanying general terms supplement no. 1,734.

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 an interest-bearing bond bought by the holder and one or more options entered into between the holder and us (with one or more implicit option premiums paid over time). The discussion in this paragraph does not modify or affect the terms of the notes or the U.S. federal income tax treatment of the notes, as described elsewhere in this pricing supplement.

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



## 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, in the accompanying prospectus supplement and under “Additional Risk Factors Specific to the Notes” in the accompanying general terms supplement no. 1,734. You should carefully review these risks and considerations as well as the terms of the notes described herein and in the accompanying prospectus, the accompanying prospectus supplement and the accompanying general terms supplement no. 1,734. Your notes are a riskier investment than ordinary debt securities. Also, your notes are not equivalent to investing directly in the underlier stocks, i.e., the stocks comprising the underlier to which your notes are linked. You should carefully consider whether the offered notes are suited to your particular circumstances.*

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

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

In estimating the value of your notes as of the time the terms of your notes are set on the trade date, as disclosed above under “Estimated Value of Your Notes”, GS&Co.’s pricing models consider certain variables, including principally our credit spreads, interest rates (forecasted, current and historical rates), volatility, price-sensitivity analysis and the time to maturity of the notes. These pricing models are proprietary and rely in part on certain assumptions about future events, which may prove to be incorrect. As a result, the actual value you would receive if you sold your notes in the secondary market, if any, to others may differ, perhaps materially, from the estimated value of your notes determined by reference to our models due to, among other things, any differences in pricing models or assumptions used by others. See “Additional Risk Factors Specific to the Notes — The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors” on page S-3 of the accompanying general terms supplement no. 1,734.

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

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

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

There is no assurance that GS&Co. or any other party will be willing to purchase your notes at any price and, in this regard, GS&Co. is not obligated to make a market in the notes. See “Additional Risk Factors Specific to the

Underlier-Linked Notes — Your Notes May Not Have an Active Trading Market” on page S-7 of the accompanying general terms supplement no. 1,734.

**The Underwriting Discount and Commissions, Including the Structuring Fee and Marketing Fee, and Other Expenses, Result in Less Favorable Economic Terms of the Notes and Could Adversely Affect Any Secondary Market Price for the Notes**

The economic terms of the notes, as well as 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, take into consideration, among other expenses, the underwriting discount and commissions, including the structuring fee and marketing fee, paid in connection with the notes. Therefore, the economic terms of the notes are less favorable to you than they would have been if these expenses had not been paid or had been lower. Further, the price, if any, at which GS&Co. will buy or sell your notes (if GS&Co. makes a market, which it is not obligated to do) at any time will reflect, among other things, the economic terms of the notes. Therefore, the secondary market price for the notes could also be adversely affected by the underwriting discount and commissions, including the structuring fee and marketing fee, and other expenses paid in connection with the notes. See “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” above.

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

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

**The Amount Payable on Your Notes Is Not Linked to the Level of the Underlier at Any Time Other Than the Determination Date**

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

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

You can lose your entire investment in the notes. The cash payment on your notes, if any, on the stated maturity date will be based on the performance of the underlier as measured from the initial underlier level to the closing level on the determination date. If the final underlier level is *less than* the trigger buffer level, you will have a loss for each \$1,000 of the face amount of your notes equal to the *product* of the underlier return *times* \$1,000. 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 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 Underlier Level**

If the final underlier level is less than the trigger buffer level, 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 decrease in the final underlier level to the trigger buffer level will not result in a loss of principal on the notes, a decrease in the final underlier level to less than the trigger buffer 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 underlier.

## **The NASDAQ-100 Technology Sector Index is Concentrated in the Technology Industry and Does Not Provide Diversified Exposure**

The underlier is not diversified. The underlier's assets are concentrated in the technology industry, which means the underlier is more likely to be more adversely affected by any negative performance of the technology industry than an index that has more diversified holdings across a number of sectors. Market or economic factors impacting technology companies and companies that rely heavily on technological advances could have a major effect on the value of the underlier's constituents. The value of stocks of technology companies and companies that rely heavily on technology are particularly vulnerable to rapid changes in technology product cycles, rapid product obsolescence, government regulation and competition, both domestically and internationally, including competition from foreign competitors with lower production costs. Stocks of technology companies and companies that rely heavily on technology, especially those of smaller, less-seasoned companies, tend to be more volatile than the overall market. Technology companies are heavily dependent on patent and intellectual property rights, the loss or impairment of which may adversely affect profitability. Additionally, companies in the technology industry may face dramatic and often unpredictable changes in growth rates and competition for the services of qualified personnel.

## **As Compared to Other Index Sponsors, Nasdaq, Inc. Retains Significant Control and Discretionary Decision-Making Over the NASDAQ-100 Technology Sector Index, Which May Have an Adverse Effect on the Level of the NASDAQ-100 Technology Sector Index and on Your Notes**

Pursuant to the NASDAQ-100 Technology Sector Index methodology, Nasdaq, Inc. retains the right, from time to time, to exercise reasonable discretion as it deems appropriate in order to ensure NASDAQ-100 Technology Sector Index integrity, including, but not limited to, changes to quantitative inclusion criteria. Nasdaq, Inc. may also, due to special circumstances, apply discretionary adjustments to ensure and maintain quality of the NASDAQ-100 Technology Sector Index. Although it is unclear how and to what extent this discretion could or would be exercised, it is possible that it could be exercised by Nasdaq, Inc. in a manner that materially and adversely affects the level of the NASDAQ-100 Technology Sector Index and therefore your notes. Nasdaq, Inc. is not obligated to, and will not, take account of your interests in exercising the discretion described above.

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

The value of your notes is linked to an underlier that is comprised, in part, of stocks from one or more foreign securities markets. Investments linked to the value of foreign equity securities involve particular risks. Any foreign securities market may be less liquid, more volatile and affected by global or domestic market developments in a different way than are the U.S. securities market or other foreign securities markets. Both government intervention in a foreign securities market, either directly or indirectly, and cross-shareholdings in foreign companies, may affect trading prices and volumes in that market. Also, there is generally less publicly available information about foreign companies than about those U.S. companies that are subject to the reporting requirements of the U.S. Securities and Exchange Commission. Further, foreign companies are subject to accounting, auditing and financial reporting standards and requirements that differ from those applicable to U.S. reporting companies. The prices of securities in a foreign country are subject to political, economic, financial and social factors that are unique to such foreign country's geographical region. These factors include: recent changes, or the possibility of future changes, in the applicable foreign government's economic and fiscal policies; the possible implementation of, or changes in, currency exchange laws or other laws or restrictions applicable to foreign companies or investments in foreign equity securities; fluctuations, or the possibility of fluctuations, in currency exchange rates; and the possibility of outbreaks of hostility, political instability, natural disaster or adverse public health developments. The United Kingdom has voted to leave the European Union (popularly known as "Brexit"). The effect of Brexit is uncertain, and Brexit has and may continue to contribute to volatility in the prices of securities of companies located in Europe and currency exchange rates, including the valuation of the euro and British pound in particular. Any one of these factors, or the combination of more than one of these factors, could negatively affect such foreign securities market and the price of securities therein. Further, geographical regions may react to global factors in different ways, which may cause the prices of securities in a foreign securities market to fluctuate in a way that differs from those of securities in the U.S. securities market or other foreign securities markets. Foreign economies may also differ from the U.S. economy in important respects, including growth of gross national product, rate of inflation, capital reinvestment, resources and self-sufficiency, which may have a positive or negative effect on foreign securities prices.

## **Your Notes Do Not Bear Interest**

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

### **The Potential for the Value of Your Notes to Increase Will Be Limited**

Your ability to participate in any change in the value of the underlier over the life of your notes will be limited because of the cap level. The maximum settlement amount will limit the cash settlement amount you may receive for each of your notes at maturity, no matter how much the level of any underlier may rise beyond its cap level over the life of your notes. Accordingly, the amount payable for each of your notes may be significantly less than it would have been had you invested directly in the underlier.

### **You Have No Shareholder Rights or Rights to Receive Any Underlier Stock**

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

### **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 pricing supplement. The issue price of the notes in the subsequent sale may differ substantially (higher or lower) from the original issue price you paid as provided on the cover of this pricing supplement.

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

The cash settlement amount will not be adjusted based on the issue price you pay for the notes. If you purchase notes at a price that differs from the face amount of the notes, then the return on your investment in such notes held to the stated maturity date will differ from, and may be substantially less than, the return on notes purchased at face amount. If you purchase your notes at a premium to face amount and hold them to the stated maturity date, the return on your investment in the notes will be lower than it would have been had you purchased the notes at face amount or a discount to face amount. In addition, the impact of the trigger buffer level and the cap level on the return on your investment will depend upon the price you pay for your notes relative to face amount. For example, if you purchase your notes at a premium to face amount, the cap level will only permit a lower positive return on your investment in the notes than would have been the case for notes purchased at face amount or a discount to face amount. Similarly, the trigger buffer level, while still providing some protection for the return on the notes, will allow a greater percentage decrease in your investment in the notes than would have been the case for notes purchased at face amount or a discount to face amount.

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

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

The Internal Revenue Service announced on December 7, 2007 that it is considering issuing guidance regarding the tax treatment of an instrument such as your notes, and any such guidance could adversely affect the value and the tax treatment of your notes. Among other things, the Internal Revenue Service may decide to require the holders to accrue ordinary income on a current basis and recognize ordinary income on payment at maturity, and could subject non-U.S. investors to withholding tax. Furthermore, in 2007, legislation was introduced in Congress that, if enacted, would have required holders that acquired instruments such as your notes after the bill was enacted to accrue interest income over the term of such instruments even though there will be no interest payments over the term of such instruments. It is not possible to predict whether a similar or identical bill will be enacted in the future, or whether any such bill would affect the tax treatment of your notes. We describe these developments in more detail under "Supplemental Discussion of U.S. Federal Income Tax Consequences – United States Holders – Possible Change in Law" below. You should consult your tax advisor about this matter. Except to the extent otherwise provided by law, 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 U.S. Federal Income Tax Consequences" on page PS-23 below unless and until such time as Congress, the Treasury Department or the Internal Revenue Service determine that some other treatment is more appropriate. Please also consult your tax advisor concerning the U.S. federal income tax and any other applicable tax consequences to you of owning your notes in your particular circumstances.

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

Please see the discussion under “United States Taxation — Taxation of Debt Securities — Foreign Account Tax Compliance Act (FATCA) Withholding” in the accompanying prospectus for a description of the applicability of FATCA to payments made on your notes. The discussion in that section is hereby modified to reflect regulations proposed by the Treasury Department indicating its intent to eliminate the requirements under FATCA of withholding on gross proceeds from the sale, exchange, maturity or other disposition of relevant financial instruments. The Treasury Department has indicated that taxpayers may rely on these proposed regulations pending their finalization.

## THE UNDERLIER

The NASDAQ-100 Technology Sector Index (the “index”) is an equal weighted index based on technology companies included in the NASDAQ-100 Index®. The NASDAQ-100 Index® includes 100 of the largest domestic and international non-financial stocks listed on The NASDAQ Stock Market based on market capitalization. The stocks in the index are classified as Technology according to the Industry Classification Benchmark (ICB). The index is a “price return” index and is calculated using a modified market capitalization-weighted methodology. The index is calculated, maintained and published by Nasdaq, Inc. The base date for the index is February 22, 2006, with a base value of 1000.00, as adjusted. We have derived all information contained in this pricing supplement regarding the index from publicly available information. Additional information about the index is available on the following website: [indexes.nasdaqomx.com/Index/Overview/NDXT](http://indexes.nasdaqomx.com/Index/Overview/NDXT). We are not incorporating by reference the website or any material it includes in this pricing supplement.

As of November 20, 2019, 39 stocks were included in the index. The top ten constituent stocks of the index as of November 20, 2019, by weight, are: Advanced Micro Devices, Inc. (3.38%), NVIDIA Corp (3.03%), Apple Inc. (2.99%), Skyworks Solutions, Inc. (2.98%), Applied Materials Inc (2.90%), Lam Research Corp (2.88%), Citrix Systems, Inc. (2.88%), Intel Corporation (2.83%), NetApp, Inc, (2.81%) and Qualcomm Inc. (2.77%).

### *NASDAQ-100 Technology Sector Index Calculation*

The index is an equal weighted index. The value of the index equals the aggregate value of the index share weights, also known as the index shares, of each of the index securities multiplied by each such security's last sale price (on The NASDAQ Stock Market), and divided by the divisor of the index. If trading in an index security is halted on its primary listing market, the most recent last sale price for that security is used for all index computations until trading on such market resumes. Likewise, the most recent last sale price is used if trading in a security is halted on its primary listing market before the market is open. The index began on February 22, 2006 at a base value of 1000.00.

The formula for index value is as follows:

$$\text{Aggregate Adjusted Market Value/Divisor}$$

The formula for the divisor is as follows:

$$(\text{Market Value after Adjustments/Market Value before Adjustments}) \times \text{Divisor before Adjustments}$$

The index is calculated during the trading day and is disseminated once per second from 09:30 AM to 5:16 PM ET. The closing value of the index may change up until 5:15 PM ET due to corrections to the last sale price of the index securities.

### *NASDAQ-100 Technology Sector Index Eligibility Criteria*

The index contains securities of the NASDAQ-100 Index® classified as Technology according to the ICB. The eligibility for the index is determined in a two step process and the security has to meet both criteria in order to become eligible for the index.

1. The security must be part of the NASDAQ-100 Index®, which includes 100 of the largest domestic and international non-financial companies listed on The NASDAQ Stock Market.
2. The company must be classified as Technology according to the ICB.

### *NASDAQ-100 Technology Sector Index Maintenance*

Index share changes are not made during the quarter; however, changes arising from stock dividends and stock splits are made to the index on the evening prior to the effective date of such corporate action. In the case of certain spin-offs or rights issuances, the price of the index security is adjusted and a corresponding adjustment is made to the index shares such that the weight of the index security will not change as a result of the action.

In the case of a special cash dividend, a determination is made on an individual basis whether to make a change to the price of an index security in accordance with the index's index dividend policy. If it is determined that a change will be made, a corresponding adjustment will be made to the index shares of the security such that the weight of the index security will not change as a result of the action. Any such change will become effective on the ex-date.

All changes are announced in advance and are reflected in the index prior to market open on the index effective date.

Component changes to the index are handled in the following manner:

- 1) If a component of the NASDAQ-100 Index® that is classified as Technology according to the ICB is removed from the NASDAQ-100, it is also removed from the index and as such, if the replacement company being added to the NASDAQ-100 Index® is classified as Technology according to the ICB, it is added to the index and will assume the weight of the removed company on the index effective date;
- 2) If a component of the NASDAQ-100 Index® that is not classified as Technology according to the ICB is removed and the replacement company being added to the NASDAQ-100 Index® is classified as Technology according to the ICB, the replacement company is added to the index at the next quarterly rebalancing; and
- 3) If a component of the NASDAQ-100 Index® that is classified as Technology according to the ICB is removed from the NASDAQ-100 Index® and the replacement company being added to the NASDAQ-100 Index® is not classified as Technology according to the ICB, the company is removed from the index and the divisor of the index is adjusted to ensure index continuity.

Ordinarily, a security will be removed from the index at its last sale price. If, however, at the time of its removal the index security is halted from trading on its primary listing market and an official closing price cannot readily be determined, the index security may, in NASDAQ's discretion, be removed at a zero price. The zero price will be applied to the index security after the close of the market but prior to the time the official closing value of the index is disseminated, which is ordinarily 5:16 PM ET.

All changes are announced in advance and are reflected in the index prior to market open on the index effective date.

*NASDAQ-100 Technology Sector Index Rebalancing*

The index employs an equal-dollar weighting methodology such that each company's index market value is rebalanced quarterly to an equal-dollar value corresponding to an equal percent weight of the index's aggregate market value. Index shares are calculated by dividing this equal-dollar value for each index security by the corresponding last sale price of the security at the close of trading on the third Friday in March, June, September, and December. In the case of multiple share classes of a company being included in the index, the equal-weighted market value will be divided equally among the securities of that company.

In administering the index, NASDAQ OMX will exercise reasonable discretion as it deems appropriate to ensure index integrity.

**The NASDAQ-100 Index®**

The NASDAQ-100 Index® includes 100 of the largest domestic and international non-financial stocks listed on The NASDAQ Stock Market based on market capitalization. The NASDAQ-100 Index® is a "price return" index and is calculated using a modified market capitalization-weighted methodology. The NASDAQ-100 Index® is calculated, maintained and published by Nasdaq, Inc. The base date for the NASDAQ-100 Index® is January 31, 1985, with a base value of 125.00, as adjusted. We have derived all information contained in this pricing supplement regarding the NASDAQ-100 Index® from publicly available information. Additional information about the NASDAQ-100 Index® is available on the following website: [indexes.nasdaqomx.com/Index/Overview/NDX](http://indexes.nasdaqomx.com/Index/Overview/NDX). We are not incorporating by reference the website or any material it includes in this pricing supplement.

**Construction of the NASDAQ-100 Index®**

The NASDAQ-100 Index® is a modified market capitalization-weighted index. Except under extraordinary circumstances that may result in an interim evaluation, NASDAQ-100 Index® composition is reviewed on an annual basis in December. First, Nasdaq, Inc. determines which stocks meet the applicable eligibility criteria.

### *Selection Criteria for Initial Inclusion in the NASDAQ-100 Index®*

To be eligible for initial inclusion in the NASDAQ-100 Index®, a stock must meet the following criteria:

- the issuer of the stock's primary U.S. listing must be exclusively listed on the NASDAQ Global Select Market or the NASDAQ Global Market (unless the stock was dually listed on another U.S. market prior to January 1, 2004 and has continuously maintained such listing);
- the stock must be issued by a non-financial company. Non-financial companies are those companies that are classified under any Industry Code except 8000 according to the Industry Classification Benchmark (ICB), a product of FTSE International Limited;
- the stock may not be issued by an issuer currently in bankruptcy proceedings;
- the stock must have a minimum three-month average daily trading volume ("ADTV") of 200,000 shares (measured annually during the ranking review process). The ADTV is determined by calculating the average of the sum product of the stock's daily trading volume for each day during the previous three month period;
- if the issuer of the stock is organized under the laws of a jurisdiction outside the U.S., then such stock must have listed options on a recognized options market in the U.S. or be eligible for listed-options trading on a recognized options market in the U.S. (measured annually during the ranking review process);
- the issuer of the stock may not have entered into a definitive agreement or other arrangement which would likely result in the stock no longer being eligible for inclusion in the NASDAQ-100 Index®;
- the issuer of the stock may not have annual financial statements with an audit opinion that is currently withdrawn. This will be determined based upon a stock issuer's public filings with the SEC; and
- the stock must have "seasoned" on Nasdaq, NYSE or NYSE Amex. Generally, a company is considered to be seasoned if it has been listed on a market for at least three full months (excluding the first month of initial listing).

Stock types generally eligible for inclusion in the NASDAQ-100 Index® are common stocks, ordinary shares, ADRs and tracking stocks. Closed-end funds, convertible debentures, exchange traded funds, limited liability companies, limited partnership interests, preferred stocks, rights, shares or units of beneficial interest, warrants, units and other derivative stocks are not eligible for inclusion in the NASDAQ-100 Index®. For purposes of NASDAQ-100 Index® eligibility criteria, if the stock is a depositary receipt representing a stock of a non-U.S. issuer, then references to the "issuer" are references to the issuer of the underlying stock. The NASDAQ-100 Index® does not contain securities of investment companies.

### *Continued Eligibility Criteria*

To be eligible for continued inclusion in the NASDAQ-100 Index®, a NASDAQ-100 Index® stock must meet the following criteria:

- the issuer of the stock's primary U.S. listing must be exclusively listed on the Nasdaq Global Select Market or the Nasdaq Global Market;
- the stock must be issued by a non-financial company;
- the stock may not be issued by an issuer currently in bankruptcy proceedings;
- the stock must have an ADTV of at least 200,000 shares (measured annually during the ranking review process);
- if the issuer of the stock is organized under the laws of a jurisdiction outside the U.S., then such stock must have listed options on a recognized options market in the U.S. or be eligible for listed-options trading on a recognized options market in the U.S.;
- the issuer must have an adjusted market capitalization equal to or exceeding 0.10% of the aggregate adjusted market capitalization of the NASDAQ-100 Index® at each month-end. In the event a company does not meet this criterion for two consecutive month-ends, it is removed from the NASDAQ-100 Index® effective after the close of trading on the third Friday of the following month; and
- the issuer of the stock may not have annual financial statements with an audit opinion that is currently withdrawn.

All stocks meeting the above criteria will be considered eligible for inclusion in the NASDAQ-100 Index®. Those stocks which are found to meet the applicable eligibility criteria during the annual review are then ranked by market capitalization. While there is no minimum market capitalization requirement, inclusion will be determined based on the top 100 issuers with the largest market capitalization meeting all other eligibility requirements. Market capitalization is determined by multiplying a stock's last sale price by its total number of shares outstanding. The last sale price refers to the price at which a stock last traded during regular market hours as reported on such



stock's index market, which may be the Nasdaq Official Closing Price (NOCP). The index market is the index eligible stock market for which the NASDAQ-100 Index® stock's prices are received and used by Nasdaq, Inc. for purposes of calculating the NASDAQ-100 Index®.

NASDAQ-100 Index® eligible stocks which are already in the NASDAQ-100 Index® and whose issuer is ranked in the top 100 eligible companies based on market capitalization are retained in the NASDAQ-100 Index®. An index stock issuer ranking 101 to 125 based on market capitalization will also be retained for inclusion in the NASDAQ-100 Index® if such issuer was previously ranked in the top 100 issuers as of the last annual ranking review or was added to the NASDAQ-100 Index® subsequent to the previous ranking review and continues to meet all eligibility criteria. Index stock issuers not meeting such criteria are replaced. The replacement stocks are those eligible stocks not currently in the NASDAQ-100 Index® whose issuers have the next largest market capitalization.

The data used in the process of ranking by market capitalization includes end of October market data and is updated for total shares outstanding submitted in an index stock issuer's publicly filed SEC document via the Electronic Data Gathering, Analysis and Retrieval system (EDGAR) through the end of November. If a stock is a depositary receipt, the total shares outstanding is the actual depositary shares outstanding as reported by the depositary banks.

The final list of constituents included in the NASDAQ-100 Index®, including any replacements made during the annual review, is made effective after the close of trading on the third Friday in December. Generally, the list of annual additions and deletions as a result of the annual review is publicly announced by Nasdaq, Inc. via a press release in the early part of December, in conjunction with an announcement on Nasdaq, Inc.'s website.

### **NASDAQ-100 Index® Calculation**

The discussion below describes the "price return" calculation of the NASDAQ-100 Index®. As compared to the total return or notional net total return versions of the NASDAQ-100 Index®, the price return version is ordinarily calculated without regard to cash dividends on the NASDAQ-100 Index® stocks. However, all NASDAQ-100 Index® calculations reflect extraordinary cash distributions and special dividends.

The NASDAQ-100 Index® is a modified market capitalization-weighted index. The value of the NASDAQ-100 Index® equals the NASDAQ-100 Index® market value *divided* by the NASDAQ-100 Index® divisor. The overall NASDAQ-100 Index® market value is the aggregate of each NASDAQ-100 Index® stock's market value, as may be adjusted for any corporate actions. A NASDAQ-100 Index® stock's market value is determined by multiplying the last sale price by its index share weight, also known as "index shares". Index shares are equal to the total number of shares outstanding for a NASDAQ-100 Index® stock. In other words, the value of the NASDAQ-100 Index® is equal to (i) the *sum* of the *products* of (a) the index shares of each of the NASDAQ-100 Index® stocks *multiplied* by (b) each such stock's last sale price (adjusted for corporate actions, if any), *divided* by (ii) the divisor of the NASDAQ-100 Index®.

The price return NASDAQ-100 Index® divisor is calculated as the ratio of (i) the start of day market value of the NASDAQ-100 Index® *divided* by (ii) the previous day NASDAQ-100 Index® value.

If trading in a NASDAQ-100 Index® stock is halted on its primary listing market, the most recent last sale price for that stock is used for all NASDAQ-100 Index® computations until trading on such market resumes. Similarly, the most recent last sale price is used if trading in a NASDAQ-100 Index® stock is halted on its primary listing market before the market opens.

The NASDAQ-100 Index® is calculated in U.S. dollars during the U.S. market trading day based on the last sale price and are disseminated once per second from 9:30 AM until 5:16 PM ET. The closing value of the NASDAQ-100 Index® may change up until 5:15 PM ET due to corrections to the last sale price of the NASDAQ-100 Index® stocks. The official closing value of the NASDAQ-100 Index® is ordinarily disseminated at 5:16 PM ET.

## NASDAQ-100 Index® Maintenance

### *Changes to NASDAQ-100 Index® Constituents*

Changes to the NASDAQ-100 Index® constituents may be made during the annual ranking review. In addition, if at any time during the year other than the annual review, it is determined that an index stock issuer no longer meets the criteria for continued inclusion in the NASDAQ-100 Index®, or is otherwise determined to have become ineligible for continued inclusion in the NASDAQ-100 Index®, it is replaced with the largest market capitalization issuer not currently in the NASDAQ-100 Index® that meets the applicable eligibility criteria for initial inclusion in the NASDAQ-100 Index®.

Ordinarily, a stock will be removed from the NASDAQ-100 Index® at its last sale price. However, if at the time of its removal the NASDAQ-100 Index® stock is halted from trading on its primary listing market and an official closing price cannot readily be determined, the NASDAQ-100 Index® stock may, in Nasdaq, Inc.'s discretion, be removed at a price of \$0.00000001 ("zero price"). This zero price will be applied to the NASDAQ-100 Index® stock after the close of the market but prior to the time the official closing value of the NASDAQ-100 Index® is disseminated.

### *Divisor Adjustments*

The divisor is adjusted to ensure that changes in NASDAQ-100 Index® constituents either by corporate actions (that adjust either the price or shares of a NASDAQ-100 Index® stock) or NASDAQ-100 Index® participation outside of trading hours do not affect the value of the NASDAQ-100 Index®. All divisor changes occur after the close of the applicable index stock markets.

### *Quarterly NASDAQ-100 Index® Rebalancing*

On a quarterly basis coinciding with the quarterly scheduled index shares adjustment procedures in March, June and September, as discussed below, the NASDAQ-100 Index® will be rebalanced if it is determined that (1) the current weight of the single NASDAQ-100 Index® stock with the largest market capitalization is greater than 24.0% of the NASDAQ-100 Index® or (2) the collective weight of those stocks whose individual current weights are in excess of 4.5% exceeds 48.0% of the NASDAQ-100 Index®. If either one or both of the above weight distribution conditions are met upon quarterly review, or Nasdaq, Inc. determines that a special rebalancing is necessary, a weight rebalancing will be performed.

If the first weight distribution condition is met and the current weight of the single NASDAQ-100 Index® stock with the largest market capitalization is greater than 24.0%, then the weights of all stocks with weights greater than 4.5% will be scaled down proportionately toward 1.0% until the adjusted weight of the single largest NASDAQ-100 Index® stock reaches 20.0%.

If the second weight distribution condition is met and the collective weight of those stocks whose individual current weights are in excess of 4.5% (or adjusted weights in accordance with the previous step, if applicable) exceeds 48.0% of the NASDAQ-100 Index®, then the weights of all stocks with weights greater than 4.5% in that group will be scaled down proportionately toward 1.0% until their collective weight, so adjusted, is equal to 40.0%.

On an annual basis coinciding with the annual evaluation in December, the NASDAQ-100 Index® will be rebalanced if it is determined that the collective weight of the five largest NASDAQ-100 Index® stocks by weight, when added together, exceeds 40.0% of the NASDAQ-100 Index®. In addition, a special rebalancing of the NASDAQ-100 Index® may be conducted at any time if it is determined necessary to maintain the integrity of the NASDAQ-100 Index®. If the weight distribution requirement is met upon the annual evaluation or it is determined that a special rebalancing is required, a weight rebalancing will be performed. If the collective weight of the five largest NASDAQ-100 Index® stocks by weight, when added together, exceeds 40.0% of the NASDAQ-100 Index® at the time of the annual evaluation, those top five NASDAQ-100 Index® stocks will be scaled down proportionately towards 1.0% for the collective weight, so adjusted, to be set to 38.5%. The excess weight due to capping from the five largest, capped NASDAQ-100 Index® stocks is redistributed to the remaining NASDAQ-100 Index® stocks. Thereafter, all other NASDAQ-100 Index® stocks are capped at 4.5% and the weight is proportionally redistributed to all NASDAQ-100 Index® stocks that have not yet been capped. If, after capping the top five NASDAQ-100 Index® stocks to reduce the aggregate weight to 38.5%, the fifth largest NASDAQ-100 Index® stock has a weight less than 4.5%, all remaining securities are capped at the weight of the fifth largest NASDAQ-100 Index® stock.

In the event of a special rebalance, either coinciding with the quarterly review or annual evaluation (or at any other point in time where necessary), prior month-end shares outstanding and prices for each NASDAQ-100 Index® stock are utilized to calculate the weights that require capping and the associated index shares. If a special rebalance were to occur in accordance with the quarterly scheduled index adjustment or annual evaluation, the index weights will be determined anew based upon the last sale prices and aggregate capitalization of the NASDAQ-100 Index® at the close of trading on the last calendar day in February, May, August and November. Changes to the index shares will be made effective after the close of trading on the third Friday in March, June, September and December, and an adjustment to the divisor is made to ensure continuity of the NASDAQ-100 Index®. Ordinarily, new rebalanced index weights will be determined by applying the above procedures to the current index weights. However, Nasdaq, Inc. may, from time to time, determine rebalanced weights, if necessary, by applying the above procedure to the actual current market capitalization of the NASDAQ-100 Index® components. In such instances, Nasdaq, Inc. would announce the different basis for rebalancing prior to its implementation.

At the quarterly rebalancing, data is cutoff as of the previous month end and no changes are made to the NASDAQ-100 Index® from that cutoff until the quarterly index share change effective date, except in the case of changes due to corporate actions with an ex-date.

#### *Corporate Actions and NASDAQ-100 Index® Adjustments*

Aside from changes resulting from quarterly rebalancing, intra-quarter changes in index shares driven by corporate events can also result from a change in a NASDAQ-100 Index® stock's total shares outstanding that is greater than 10.0%. If a stock is a depositary receipt, the total shares outstanding is the actual depositary shares outstanding as reported by the depositary banks. Changes in the price and/or index shares driven by corporate events such as stock dividends, stock splits and certain spin-offs and rights issuances are adjusted on the ex-date. Changes in total shares outstanding are determined by an index stock issuer's public filings with the SEC. If the change in total shares outstanding arising from other corporate actions is greater than or equal to 10.0%, the change is made as soon as practicable. Otherwise, if the change in total shares outstanding is less than 10.0%, then all such changes are accumulated and made effective at one time on a quarterly basis after the close of trading on the third Friday in each of March, June, September and December. The index shares are derived from the stock's total shares outstanding. The index shares are then adjusted by the same percentage amount by which the total shares outstanding have changed.

The following corporate actions will be made effective on the ex-date. If there is no ex-date announced by the index exchange, there will be no adjustment to the NASDAQ-100 Index® as a result of a corporate action.

*Stock Split and Stock Dividend.* A stock split and stock dividend is the action of a NASDAQ-100 Index® stock in increasing its index shares and decreasing the par value proportionately. There is no flow of capital into or out of the company. The number of index shares in the NASDAQ-100 Index® increases but the market capitalization of the stock remains unchanged. The price of the NASDAQ-100 Index® stock is adjusted to reflect the ratio of a stock split and stock dividend and a corresponding inverse adjustment to the index shares is made.

*Reverse Stock Split.* A reverse stock split is the action of a NASDAQ-100 Index® stock in decreasing its index shares and decreasing the par value in proportion. There is no flow of capital into or out of the company. The number of index shares in the NASDAQ-100 Index® decreases but the market capitalization of the stock remains unchanged. The price of the NASDAQ-100 Index® stock is adjusted to reflect the ratio of the reverse stock split and a corresponding inverse adjustment to the index shares is made.

*Special Cash Dividends.* A dividend is considered "special" if the information provided by the listing exchange in their announcement of the ex-date indicates that the dividend is special. Other nomenclature for a special dividend may include, but is not limited to, "extra", "extraordinary", "non-recurring", "one-time" and "unusual". The price of the NASDAQ-100 Index® stock in the NASDAQ-100 Index® is adjusted for the amount of the special cash dividend.

*Cash and Stock Dividends.* If a NASDAQ-100 Index® stock is paying a cash and stock dividend on the same date, the cash dividend is applied *before* the stock dividend unless otherwise indicated in the information provided by the index exchange. Additionally, in the case of an optional dividend which allows the holder to choose between receiving cash or stock, the adjustment will be made in the manner in which the dividend has been announced by the index exchange.

*Stock Distribution of Another Stock.* If a NASDAQ-100 Index® stock is distributing shares of a different stock, the value of the NASDAQ-100 Index® stock will be adjusted downward to reflect the ratio of the distribution. There is no adjustment to index shares. If the stock being distributed is another class of common shares of the same issuer, the value of the existing NASDAQ-100 Index® stock will be adjusted downward to reflect the ratio of the distribution with no adjustment to index shares, and the new class of shares may be added to the NASDAQ-100 Index® on a pro-rata basis.

*Spin-offs.* If a NASDAQ-100 Index® stock is spinning off a stock, the value of the NASDAQ-100 Index® stock will be adjusted downward to reflect the ratio of the distribution. There is no adjustment to index shares. If a when-issued market is established for the spin-off company, the price of the NASDAQ-100 Index® stock is adjusted downward by the value of the spinoff. The value of the spin-off is determined by multiplying the spin-off ratio by the when-issued price. In the event the value of the spinoff has not been established as indicated above then no price adjustment is made to the NASDAQ-100 Index® stock. The new stock resulting from the spin-off transaction is not added to the NASDAQ-100 Index®.

*Rights Offerings.* The price of a NASDAQ-100 Index® stock is adjusted on the ex-date for rights offerings if the rights are transferable and the offering has a subscription price on an equivalent per share basis that is less than the closing price of the underlying stock (the NASDAQ-100 Index® stock the right entitles a holder to purchase) on the day prior to the ex-date. The price of the NASDAQ-100 Index® stock is adjusted downward for the value of the right. The value of the right is equal to (1) (i) the previous last sale price of the underlying stock *minus* (ii) the *sum* of (a) the subscription price of the right *plus* (b) the cash dividend of the underlying stock, if any, *divided* by (2) the number of rights required to purchase one share *plus* one.

Corporate actions are implemented in the NASDAQ-100 Index® in accordance with the NASDAQ-100 Index® maintenance rules discussed above. The divisor will also be adjusted as a result of corporate actions that adjust either the price or shares of a NASDAQ-100 Index® stock. Nasdaq, Inc. will make announcements prior to the effective date of any corporate actions.

In the case of mergers and acquisitions, the index stock issuer may be removed the day following the shareholder vote or the expected expiration of the tender offer, provided the acquisition is not contested. In the event the acquisition is contested, the removal of the NASDAQ-100 Index® stock will occur as soon as reasonably practicable, once results have been received indicating that the acquisition will likely be successful.

If a company files for bankruptcy, the NASDAQ-100 Index® stock or stocks of the issuer will be removed from the NASDAQ-100 Index® as soon as practicable thereafter. The value of the NASDAQ-100 Index® stock will be considered \$0.00000001 if no other applicable price can be observed on the Nasdaq Global Select Market or the Nasdaq Global Market.

#### *Discretionary Adjustments*

In addition to the above, Nasdaq, Inc. may, from time to time, exercise reasonable discretion as it deems appropriate in order to ensure NASDAQ-100 Index® integrity, including, but not limited to, changes to quantitative inclusion criteria. Nasdaq, Inc. may also, due to special circumstances, if deemed essential, apply discretionary adjustments to ensure and maintain the quality of the NASDAQ-100 Index® construction and calculation.

#### *Market Disruption Events*

If a NASDAQ-100 Index® stock does not trade on its primary listing market on a given day or such index market has not opened for trading, the most recent last sale price from the index market (adjusted for corporate actions, if any) is used. If a NASDAQ-100 Index® stock is halted from trading on its index market during the trading day, the most recent last sale price is used until trading resumes.

### *Corrections and Calculations*

The closing value of the NASDAQ-100 Index® may change up until 5:15 PM ET due to corrections to the last sale price of the NASDAQ-100 Index® stocks. In the event that a change has been made to the NASDAQ-100 Index® intraday, Nasdaq, Inc. will make an announcement describing such change. In the event a NASDAQ-100 Index® calculation has been corrected retroactively, an announcement will be provided.

### *License Agreement between Nasdaq, Inc. and GS Finance Corp.*

The Product(s) is not sponsored, endorsed, sold or promoted by NASDAQ, Inc. or its affiliates (NASDAQ, with its affiliates, are referred to as the "Corporations"). The Corporations have not passed on the legality or suitability of, or the accuracy or adequacy of descriptions and disclosures relating to, the Product(s). The Corporations make no representation or warranty, express or implied to the owners of the Product(s) or any member of the public regarding the advisability of investing in securities generally or in the Product(s) particularly, or the ability of the NASDAQ-100 Technology Sector Index to track general stock market performance. The Corporations' only relationship to GS Finance Corp. ("Licensee") is in the licensing of the Nasdaq®, the NASDAQ-100 Technology Sector Index, NASDAQ-100 Index®, and certain trade names of the Corporations and the use of the NASDAQ-100 Index® which is determined, composed and calculated by NASDAQ without regard to Licensee or the Product(s). NASDAQ has no obligation to take the needs of the Licensee or the owners of the Product(s) into consideration in determining, composing or calculating the NASDAQ-100 Technology Sector Index or the NASDAQ-100 Index®. The Corporations are not responsible for and have not participated in the determination of the timing of, prices at, or quantities of the Product(s) to be issued or in the determination or calculation of the equation by which the Product(s) is to be converted into cash. The Corporations have no liability in connection with the administration, marketing or trading of the Product(s).

The Corporations do not guarantee the accuracy and/or uninterrupted calculation of Nasdaq-100 Index® or any data included therein. The Corporations make no warranty, express or implied, as to results to be obtained by Licensee, owners of the product(s), or any other person or entity from the use of the NASDAQ-100 Technology Sector Index or the Nasdaq-100 Index® or any data included therein. The Corporations make no express or implied warranties, and expressly disclaim all warranties of merchantability or fitness for a particular purpose or use with respect to the Nasdaq-100 Index® or any data included therein. Without limiting any of the foregoing, in no event shall the Corporations have any liability for any lost profits or special, incidental, punitive, indirect, or consequential damages, even if notified of the possibility of such damages.

### Historical Closing Levels of the Underlier

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

**You should not take the historical levels of the underlier as an indication of the future performance of the underlier.** We cannot give you any assurance that the future performance of the underlier or the underlier stocks will result in your receiving an amount greater than 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 underlier. Before investing in the offered notes, you should consult publicly available information to determine the levels of the underlier between the date of this pricing supplement and the date of your purchase of the offered notes. The actual performance of the underlier over the life of the offered notes, as well as the cash settlement amount, may bear little relation to the historical closing levels shown below.

The graph below shows the daily historical closing levels of the underlier from January 1, 2014 through November 22, 2019. As a result, the following graph does not reflect the global financial crisis which began in 2008, which had a materially negative impact on the price of most equity securities and, as a result, the level of most equity indices. We obtained the closing levels in the graph below from Bloomberg Financial Services, without independent verification.

**Historical Performance of the NASDAQ-100 Technology Sector Index**



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

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

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

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

- a dealer in securities or currencies;
- a trader in securities that elects to use a mark-to-market method of accounting for your securities holdings;
- a bank;
- a life insurance company;
- a tax exempt organization;
- a regulated investment company;
- a partnership;
- an accrual method taxpayer subject to special tax accounting rules as a result of its use of financial statements;
- a person that owns a note as a hedge or that is hedged against interest rate risks;
- a person that owns a note as part of a straddle or conversion transaction for tax purposes; or
- a United States holder (as defined below) whose functional currency for tax purposes is not the U.S. dollar.

Although this section is based on the U.S. Internal Revenue Code of 1986, as amended, its legislative history, existing and proposed regulations under the Internal Revenue Code, published rulings and court decisions, all as currently in effect, no statutory, judicial or administrative authority directly addresses how your notes should be treated for U.S. federal income tax purposes, and as a result, the U.S. federal income tax consequences of your investment in your notes are uncertain. Moreover, these laws are subject to change, possibly on a retroactive basis.

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

### United States Holders

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

- a citizen or resident of the United States;
- a domestic corporation;
- an estate whose income is subject to U.S. federal income tax regardless of its source; or
- a trust if a United States court can exercise primary supervision over the trust's administration and one or more United States persons are authorized to control all substantial decisions of the trust.

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

Upon the sale, exchange or maturity of your notes, you should recognize capital gain or loss equal to the difference, if any, between the amount of cash you receive at such time and your tax basis in your notes. Your tax basis in the notes will generally be equal to the amount that you paid for the notes. If you hold your notes for more than one year, the gain or loss generally will be long-term capital gain or loss. If you hold your notes for one year or less, the gain or loss generally will be short-term capital gain or loss. Short-term capital gains are generally subject to tax at the marginal tax rates applicable to ordinary income.

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

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

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

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

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

It is possible that the Internal Revenue Service could seek to characterize your notes in a manner that results in tax consequences to you different from those described above and you should consult your tax advisor with respect to the tax treatment of the notes.

### ***Possible Change in Law***

On December 7, 2007, the Internal Revenue Service released a notice stating that the Internal Revenue Service and the Treasury Department are actively considering issuing guidance regarding the proper U.S. federal income tax treatment of an instrument such as your notes, including whether the holder of an instrument such as your notes 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.

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

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



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

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

### **United States Alien Holders**

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

- a nonresident alien individual;
- a foreign corporation; or
- an estate or trust that in either case is not subject to U.S. federal income tax on a net income basis on income or gain from the notes.

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

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

Furthermore, on December 7, 2007, the Internal Revenue Service released Notice 2008-2 soliciting comments from the public on various issues, including whether instruments such as your notes should be subject to withholding. It is therefore possible that rules will be issued in the future, possibly with retroactive effect, that would cause payments on your notes at maturity to be subject to withholding, even if you comply with certification requirements as to your foreign status.

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 amounts you receive upon the sale, exchange or maturity of your notes, could be collected via withholding. If these regulations were to apply to the notes, we may be required to withhold such taxes if any U.S.-source dividends are paid on the stocks included in the underlier during the term of the notes. We could also require you to make certifications (e.g., an applicable Internal Revenue Service Form W-8) prior to the maturity of the notes in order to avoid or minimize withholding obligations, and we could withhold accordingly (subject to your potential right to claim a refund from the Internal Revenue Service) if such certifications were not received or were not satisfactory. If withholding was required, we would not be required to pay any additional amounts with respect to amounts so withheld. These regulations generally will apply to 871(m) financial instruments (or a combination of financial instruments treated as having been entered into in connection with each other) issued (or significantly modified and treated as retired and reissued) on or after January 1, 2021, but will also apply to certain 871(m) financial instruments (or a combination of financial instruments treated as having been entered into in connection with each other) that have a delta (as defined in the applicable Treasury regulations) of one and are issued (or significantly modified and treated as retired and reissued) on or after January 1, 2017. In addition, these regulations will not apply to financial instruments that reference a “qualified index” (as defined in the regulations). We have determined that, as of the issue date of your notes, your notes will not be subject to withholding under these rules. In certain limited circumstances, however, you should be aware that it is possible for United States alien holders to be liable for tax under these rules with respect to a combination of transactions treated as having been entered into in connection with each other even when no withholding is required. You should consult your tax advisor concerning these regulations, subsequent official guidance and regarding any other possible alternative characterizations of your notes for U.S. federal income tax purposes.

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

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

## **SUPPLEMENTAL PLAN OF DISTRIBUTION; CONFLICTS OF INTEREST**

See “Supplemental Plan of Distribution” on page S-96 of the accompanying general terms supplement no. 1,734 and “Plan of Distribution — Conflicts of Interest” on page 94 of the accompanying prospectus. GS Finance Corp. estimates that its share of the total offering expenses, excluding underwriting discounts and commissions, will be approximately \$10,000.

GS Finance Corp. will sell to GS&Co., and GS&Co. will purchase from GS Finance Corp., the aggregate face amount of the offered notes specified on the front cover of this pricing 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 pricing supplement. Each securities dealer will receive from us a structuring fee of up to 0.4% of the face amount of each such note.

GS&Co. has engaged Incapital LLC to provide certain marketing services from time to time relating to notes of this series. Incapital LLC will receive a fee of 0.5% of the face amount of each note offered hereby from us in connection with such service.

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. We have been advised that GS&Co. will also pay a fee in connection with the distribution of the notes to SIMON Markets LLC, a broker-dealer affiliated with GS Finance Corp.

We will deliver the notes against payment therefor in New York, New York on November 29, 2019. 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.

The notes will not be listed on any securities exchange or interdealer quotation system.

## **VALIDITY OF THE NOTES AND GUARANTEE**

In the opinion of Sidley Austin LLP, as counsel to GS Finance Corp. and The Goldman Sachs Group, Inc., when the notes offered by this pricing supplement have been executed and issued by GS Finance Corp., the related guarantee offered by this pricing supplement has been executed and issued by The Goldman Sachs Group, Inc., and such notes have been authenticated by the trustee pursuant to the indenture, and such notes and the guarantee have been delivered against payment as contemplated herein, (a) such notes will be valid and binding obligations of GS Finance Corp., enforceable in accordance with their terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability (including, without limitation, concepts of good faith, fair dealing and the lack of bad faith), provided that such counsel expresses no opinion as to the effect of fraudulent conveyance, fraudulent transfer or similar provision of applicable law on the conclusions expressed above and (b) such related guarantee will be a valid and binding obligation of The Goldman Sachs Group, Inc., enforceable in accordance with its terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability (including, without limitation, concepts of good faith, fair dealing and the lack of bad faith), provided that such counsel expresses no opinion as to the effect of fraudulent conveyance, fraudulent transfer or similar provision of applicable law on the conclusions expressed above. This opinion is given as of the date hereof and is limited to the laws of the State of New York and the General Corporation Law of the State of Delaware as in effect on the date hereof. In addition, this opinion is subject to customary assumptions about the trustee's authorization, execution and delivery of the indenture and the genuineness of signatures and certain factual matters, all as stated in the letter of such counsel dated July 10, 2017, which has been filed as Exhibit 5.6 to the registration statement on Form S-3 filed with the Securities and Exchange Commission by GS Finance Corp. and The Goldman Sachs Group, Inc. on July 10, 2017.

We have not authorized anyone to provide any information or to make any representations other than those contained or incorporated by reference in this pricing supplement, the accompanying general terms supplement no. 1,734, 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 pricing supplement, the accompanying general terms supplement no. 1,734, 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 pricing supplement, the accompanying general terms supplement no. 1,734, 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.**

Leveraged NASDAQ-100 Technology Sector Index-Linked Notes due 2023

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