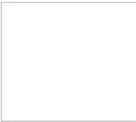


The information in this preliminary pricing supplement is not complete and may be changed. This preliminary pricing supplement is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.



Subject to Completion. Dated October 10, 2024.

GS Finance Corp.

\$

Leveraged Buffered S&P 500® Futures Excess Return Index-Linked Notes due

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 (expected to be October 19, 2029) is based on the performance of the S&P 500® Futures Excess Return Index as measured from the initial index level (set on the trade date, expected to be October 16, 2024, and will be an intra-day level or the closing level of the index on the trade date) to the final index level on the determination date (expected to be October 16, 2029).

**The index tracks the performance of E-mini S&P 500 futures contracts, not the S&P 500® Index. Generally, the return on an investment in a futures contract is correlated with, but not the same as, the return on buying and holding the securities underlying such contract.**

If the index return (the percentage change in the final index level from the initial index level) is *positive* or *zero*, the return on your notes will be *positive* or *zero* and will equal the index return *times* the participation rate of 1.34.

If the index return is *negative* and the final index level is *equal to* or *greater than* 75% of the initial index level, the return on your notes will be equal to the absolute value of the index return (e.g., if the index return is -10%, your return will be +10%).

If the index return is *negative* and the final index level is *less than* 75% of the initial index level, the return on your notes will be negative and will equal the index return *plus* 25%. **You could lose a significant portion of the face amount of your notes.**

**For example, if the index return is -25%, you will receive a positive return of 25% on your notes; however, if the index return is -26%, you will lose 1% of the value of your notes. You could receive significantly less than the face amount of your notes at maturity.**

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* or *zero* (the final index level is *greater than* or *equal to* the initial index level), the *sum* of (i) \$1,000 *plus* (ii) the *product* of (a) \$1,000 *times* (b) the participation rate *times* (c) the index return;
- if the index return is *negative* but not *below* -25% (the final index level is *less than* the initial index level, but not by more than 25%), the *sum* of (i) \$1,000 *plus* (ii) the *product* of \$1,000 *times* the absolute value of the index return; 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 *sum* of the index return *plus* 25%. **You will receive less than the face amount of your notes.**

**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 expected to be between \$885 and \$925 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.*

<b>Original issue date:</b>	expected to be October 21, 2024	<b>Original issue price:</b>	100% of the face amount*
<b>Underwriting discount:</b>	% of the face amount*	<b>Net proceeds to the issuer:</b>	% of the face amount

\* The original issue price will be % for certain investors; see "Supplemental Plan of Distribution; Conflicts of Interest" on page PS-20 for additional information regarding the fees comprising the underwriting discount.

**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.      dated      , 2024.

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 expected to be between \$885 and \$925 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 \$ per \$1,000 face amount).*

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

#### About Your Prospectus

The notes are part of the Medium-Term Notes, Series F 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. 8,999 dated February 13, 2023
- September 2024 S&P 500<sup>®</sup> Futures Excess Return Index supplement dated September 20, 2024
- Underlier supplement no. 41 dated September 20, 2024
- Prospectus supplement dated February 13, 2023
- Prospectus dated February 13, 2023

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 master note no. 3, dated March 22, 2021.

## TERMS AND CONDITIONS

**CUSIP / ISIN:** 40058FJU8 / US40058FJU84

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

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

**Underlier:** the S&P 500® Futures Excess Return Index (current Bloomberg symbol: “SPXFP Index”), or any successor underlier, as it may be modified, replaced or adjusted from time to time as provided herein

**Reference equity index:** with respect to the S&P 500® Futures Excess Return Index, the S&P 500® Index

**Face amount:** \$ 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 in cash equal to the cash settlement amount.

**Cash settlement amount:**

- if the final underlier level is *greater than or equal to* the initial underlier level, the *sum* of (i) \$1,000 *plus* (ii) the *product* of (a) \$1,000 *times* (b) the upside participation rate *times* (c) the underlier return;
- if the final underlier level is *less than* the initial underlier level but *greater than or equal to* the buffer level, the *sum* of (i) \$1,000 *plus* (ii) the *product* of (a) \$1,000 *times* (b) the absolute underlier return; or
- if the final underlier level is *less than* the buffer level, the *sum* of (i) \$1,000 *plus* (ii) the *product* of (a) \$1,000 *times* (b) the *sum* of the underlier return *plus* the buffer amount

**Initial underlier level (set on the trade date):** an intra-day level or the closing level of the underlier on the trade date

**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

**Upside participation rate:** 134%

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

**Absolute underlier return:** the absolute value of the underlier return, expressed as a percentage (e.g., a -10% underlier return will equal a +10% absolute underlier return)

**Buffer level:** 75% of the initial underlier level

**Buffer amount:** 25%

**Trade date:** expected to be October 16, 2024

**Original issue date (set on the trade date):** expected to be October 21, 2024

**Determination date (set on the trade date):** expected to be October 16, 2029, 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 (set on the trade date):** expected to be October 19, 2029, 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 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 reference equity index 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 reference equity index on their respective primary markets, in each case for more than two consecutive hours of trading or during the one-half hour before the close of trading in that market, as determined by the calculation agent in its sole discretion,
- a suspension, absence or material limitation of trading in option or futures contracts relating to the reference equity index or to underlier stocks constituting 20% or more, by weight, of the reference equity index in the respective primary markets for those contracts, in each case for more than two consecutive hours of trading or during the one-half hour before the close of trading in that market, as determined by the calculation agent in its sole discretion, or
- underlier stocks constituting 20% or more, by weight, of the reference equity index, or option or futures contracts, if available, relating to the reference equity index or to underlier stocks constituting 20% or more, by weight, of the reference equity index 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 reference equity index 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 reference equity index 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 reference equity index 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 last possible determination date because of a market disruption event, a non-trading day or for any other reason (other than 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 (i) the underlier, the underlier stocks or the method of calculating the underlier is changed at any time in any respect - including any addition, deletion or substitution and any reweighting or rebalancing of the underlier or 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 or (ii) there has been a split or reverse split 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.

Key Terms and Assumptions	
Face amount	\$1,000
Upside participation rate	134%
Buffer level	75% of the initial underlier level
Buffer amount	25%
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	

Moreover, we have not yet set the initial underlier level that will serve as the baseline for determining the underlier return or the absolute underlier return, as applicable and the amount that we will pay on your notes, if any, at maturity. We will not do so until the trade date. As a result, the actual initial underlier level may differ substantially from the underlier level prior to the trade 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)
200.000%	234.000%
175.000%	200.500%
150.000%	167.000%
125.000%	133.500%
110.000%	113.400%
100.000%	100.000%
95.000%	105.000%
90.000%	110.000%
75.000%	125.000%
74.999%	99.999%
70.000%	95.000%
50.000%	75.000%
25.000%	50.000%
0.000%	25.000%

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 50.000% 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 50.000% of your investment (if you purchased your notes at a premium to face amount you would lose a correspondingly higher percentage of your investment).

If, for example, the final underlier level were determined to be 90.000% of the initial underlier level, the absolute underlier return would be 10.000% and the cash settlement amount that we would deliver on your notes at maturity would be 110.000% of the face amount of your notes, as shown in the table above.

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 Your Notes — The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors" on page PS-10.

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 initial underlier level, which we will set on the trade date, and 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, under "Additional Risk Factors Specific to the Securities" in the accompanying underlier supplement no. 41 and under "Additional Risk Factors Specific to the Notes" in the accompanying general terms supplement no. 8,999. 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, the accompanying underlier supplement no. 41 and the accompanying general terms supplement no. 8,999. 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 reference equity index. You should carefully consider whether the offered notes are appropriate given your particular circumstances.*

### **Risks Related to Structure, Valuation and Secondary Market Sales**

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

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

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

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

In addition to the factors discussed above, the value and quoted price of your notes at any time will reflect many factors and cannot be predicted. If GS&Co. makes a market in the notes, the price quoted by GS&Co. would reflect any changes in market conditions and other relevant factors, including any deterioration in our creditworthiness or perceived creditworthiness or the creditworthiness or perceived creditworthiness of The Goldman Sachs Group, Inc. These changes may adversely affect the value of your notes, including the price you may receive for your notes in any market making transaction. To the extent that GS&Co. makes a market in the notes, the quoted price will reflect the estimated value determined by reference to GS&Co.'s pricing models at

that time, plus or minus its then current bid and ask spread for similar sized trades of structured notes (and subject to the declining excess amount described above).

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

There is no assurance that GS&Co. or any other party will be willing to purchase your notes at any price and, in this regard, GS&Co. is not obligated to make a market in the notes. See "Additional Risk Factors Specific to the Notes — Your Notes May Not Have an Active Trading Market" on page S-7 of the accompanying general terms supplement no. 8,999.

#### **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 F Program — How the Notes Rank Against Other Debt" on page S-5 of the accompanying prospectus supplement and "Description of Debt Securities We May Offer — Guarantee by The Goldman Sachs Group, Inc." on page 67 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 a Substantial Portion of Your Investment in the Notes**

You can lose a substantial portion of your investment in the notes. The cash payment on your notes 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 buffer level, you will have a loss for each \$1,000 of the face amount of your notes equal to the *product* of (i) \$1,000 *times* (ii) the *sum* of the underlier return *plus* the buffer amount. Thus, you may lose a substantial portion of your 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.

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

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

- the level of the underlier;
- the volatility – i.e., the frequency and magnitude of changes – in the closing level of the underlier;
- the dividend rates of the underlier stocks;
- economic, financial, regulatory, political, military, public health and other events that affect stock markets generally and the underlier stocks, and which may affect the closing level of the underlier;
- interest rates and yield rates in the market;
- the time remaining until your notes mature; and
- our creditworthiness and the creditworthiness of The Goldman Sachs Group, Inc., whether actual or perceived, and including actual or anticipated upgrades or downgrades in our credit ratings or the credit ratings of The Goldman Sachs Group, Inc. or changes in other credit measures.

Without limiting the foregoing, the market value of your notes may be negatively impacted by increasing interest rates. Such adverse impact of increasing interest rates could be significantly enhanced in notes with longer-dated maturities, the market values of which are generally more sensitive to increasing interest rates.

These factors may influence the market value of your notes if you sell your notes before maturity, including the price you may receive for your notes in any market making transaction. If you sell your notes prior to maturity, you may receive less than the face amount of your notes. You cannot predict the future performance of the underlier based on its historical performance.

#### **You Have No Rights in Any Futures Contract Tracked by the Underlier**

Investing in your notes will not make you a holder of any futures contract tracked by the underlier. Neither you nor any other holder or owner of your notes will have any rights with respect to the futures contracts tracked by the underlier, including any rights of a holder of the futures contracts. Your notes will be paid in cash and you will have no right to receive delivery of any futures contract tracked by 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 rights 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 buffer level on the return on your investment will depend upon the price you pay for your notes relative to the face amount. For example, if you purchase your notes at a premium to face amount, the 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.

## **Additional Risks Related to the Underlier**

### **Linking to an Equity Futures Contract Is Different From Linking to the Reference Equity Index**

The return on your notes will be related to the performance of an equity futures contract and not the reference equity index. On a given day, a "futures price" is the price at which market participants may agree to buy or sell the asset underlying a futures contract in the future, and the "spot price" is the current price of such underlying asset for immediate delivery. A variety of factors can lead to a disparity between the price of a futures contract at a given point in time and the spot price of its underlying asset, such as the expected dividend yields of any stocks that comprise such underlying asset, the implicit financing cost associated with the futures contract and market expectations related to the future price of the futures contract's underlying asset. Purchasing an equity futures contract is similar to borrowing money to buy the underlying asset of such futures contract because it enables an investor to gain exposure to such underlying asset without having to pay the full cost of such exposure up front, and therefore entails a financing cost. As a result, the underlier is expected to reflect not only the performance of the reference equity index, but also the implicit financing cost in the E-mini S&P 500 futures contract, among other factors. Such implicit financing cost will adversely affect the level of the underlier. Any increase in market interest rates will be expected to further increase this implicit financing cost and will have an adverse effect on the level of the underlier and, therefore, the value of and return on the notes.

The price movement of a futures contract is typically correlated with the movements of the price of its underlying asset, but the correlation is generally imperfect, and price movements in the spot market may not be reflected in the futures market (and vice versa). Accordingly, your notes may underperform a similar investment that more directly reflects the return on the reference equity index.

### **Negative Roll Yields Will Adversely Affect the Level of the Underlier Over Time and Therefore the Amount Payable on the Notes**

The underlier is linked to the E-mini S&P 500 futures contract rather than the reference equity index. Futures contracts normally specify a certain date for cash settlement of a financial future (such as a futures contract on a securities index) or delivery of the underlying physical commodity for a deliverable future. As the exchange-traded futures contract that comprises the underlier approaches expiration, it is replaced by a similar contract that has a later expiration. Thus, for example, a futures contract purchased and held in September may specify a December expiration. As time passes, the contract expiring in December may be replaced by a contract for delivery in March. This process is referred to as "rolling."

As a futures contract approaches expiration, its value will generally approach the spot price of its underlying asset because by expiration it will closely represent a contract to buy or sell such underlying asset for immediate delivery. If the market for a futures contract is in "contango," where the price of the futures contract with a later expiration date during a rolling period is higher than the spot price of its underlying asset, then the value of such futures contract would tend to decline over time (assuming the spot price and other relevant factors remain unchanged), because the higher futures price would decline as it approaches the lower spot price by expiration. This negative effect on the futures price is referred to as a negative "carry" or "roll yield" and is realized over the term of such contract. A negative roll yield will adversely affect the level of the underlier over time and therefore the amount payable on the notes. Because of the potential effects of negative roll yields, it is possible for the level of the underlier to decrease significantly over time even when the level of the reference equity index is stable or increasing.

### **Futures Contracts Are Not Assets with Intrinsic Value**

The underlier is linked to the E-mini S&P 500 futures contract currently listed for trading on the Chicago Mercantile Exchange. Trading in futures contracts transfers the risk of future price movements from one market participant to another. This means that for every gain, there is an equal and offsetting loss. Futures contracts themselves are not assets with intrinsic value, and simply reflect, in the case of cash-settled contracts, certain rights to payment or obligations to make payments to the other party to the contract. Accordingly, market participants taking the opposite side of the E-mini S&P 500 futures contract trades may believe that the level of the reference equity index will move against the interests of the underlier.

### **Owning the Notes Is Not the Same as Directly Owning the Underlier Stocks or Futures Contract Directly or Indirectly Tracked by the Underlier**

Your return on the notes will not reflect the return you would have realized on a direct investment in the E-mini S&P 500 futures contract currently listed for trading on the Chicago Mercantile Exchange or any of the underlier stocks comprising the reference equity index. For example, as an investor in the notes, you will not have rights to receive dividends or other distributions or any other rights, including voting rights, with respect to any underlier stocks comprising the reference equity index. The calculation agent for the notes will calculate the amount payable to you at maturity by reference to the level of the underlier on the determination date, and will not include the amount of any of those dividend payments or other distributions. Therefore, the return on your investment will not be the same as the return based on the purchase of any stocks or futures contracts that are tracked directly or indirectly by the underlier.

### **Suspension or Disruptions of Market Trading in Stocks or Futures Contracts May Adversely Affect the Value of the Notes.**

Securities markets and futures markets are subject to temporary distortions or other disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators, and government regulation and intervention. In addition, futures markets typically have regulations that limit the amount of fluctuation in some futures contract prices that may occur during a single business day. These limits are generally referred to as "daily price fluctuation limits," and the maximum or minimum price of a contract on any given day as a result of these limits is referred to as a "limit price." Once the limit price has been reached in a particular contract, no trades may be made at a price beyond the limit, or trading may be limited for a specified period of time. Limit prices have the effect of precluding trading in a particular contract or forcing the liquidation of contracts at potentially disadvantageous times or prices. These circumstances could affect the level of the underlier and, therefore, could adversely affect the payments on the notes.

### **Risks Related to Tax**

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

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

The Internal Revenue Service announced on December 7, 2007 that it is considering issuing guidance regarding the tax treatment of an instrument such as your notes, and any such guidance could adversely affect the value and the tax treatment of your notes. Among other things, the Internal Revenue Service may decide to require the holders to accrue ordinary income on a current basis and recognize ordinary income on payment at maturity, and could subject non-U.S. investors to withholding tax. Furthermore, in 2007, legislation was introduced in Congress that, if enacted, would have required holders that acquired instruments such as your notes after the bill was enacted to accrue interest income over the term of such instruments 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-16 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 UNDERLIER

The S&P 500<sup>®</sup> Futures Excess Return Index measures the performance of the nearest maturing quarterly E-mini S&P 500 futures contract trading on the Chicago Mercantile Exchange ("CME"). E-mini S&P 500 futures contracts are quarterly contracts to buy or sell standardized trading "units". One trading unit of the E-mini S&P 500 futures contracts equals \$50 multiplied by the S&P 500<sup>®</sup> Index (price return version). The S&P 500<sup>®</sup> Index includes a representative sample of 500 companies in leading industries of the U.S. economy.

For more details about the underlier, the underlier sponsor and license agreement between the underlier sponsor and the issuer, see "The Underliers — S&P 500<sup>®</sup> Futures Excess Return Index" on page S-120 of the accompanying underlier supplement no. 41. Also, see the accompanying September 2024 S&P 500<sup>®</sup> Futures Excess Return Index supplement.

The S&P 500<sup>®</sup> Futures Excess Return Index, the S&P 500<sup>®</sup> Futures Index and the S&P 500<sup>®</sup> Index are products of S&P Dow Jones Indices LLC, and have been licensed for use by GS Finance Corp. ("Goldman"). Standard & Poor's<sup>®</sup> and S&P<sup>®</sup> are registered trademarks of Standard & Poor's Financial Services LLC; Dow Jones<sup>®</sup> is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones") and these trademarks have been licensed for use by S&P Dow Jones Indices LLC and sublicensed for certain purposes by Goldman. Goldman's notes are not sponsored, endorsed, sold or promoted by S&P Dow Jones Indices LLC, Dow Jones, Standard & Poor's Financial Services LLC or any of their respective affiliates and neither S&P Dow Jones Indices LLC, Dow Jones, Standard & Poor's Financial Services LLC or any of their respective affiliates make any representation regarding the advisability of investing in such notes.

#### 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. **In particular, the underlier has recently experienced extreme and unusual volatility.** 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.

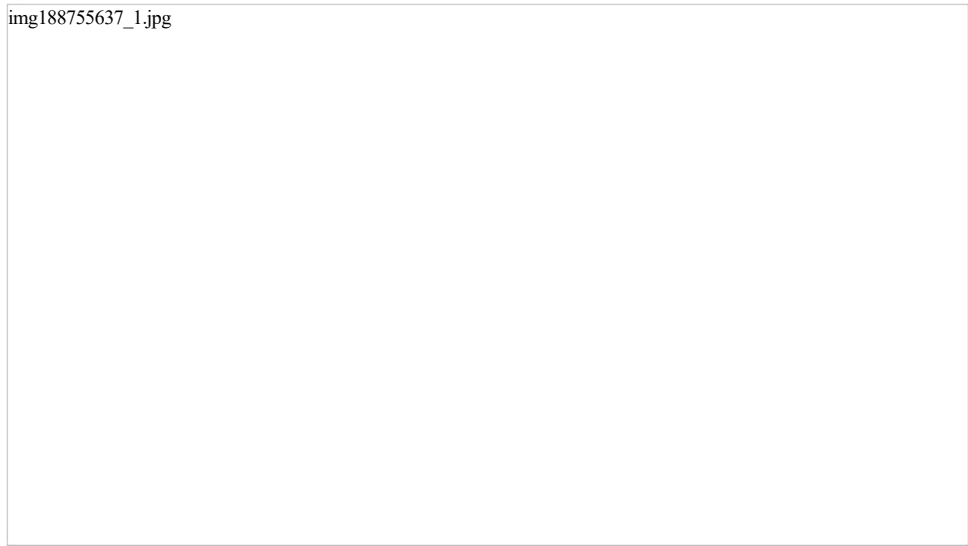
**You should not take the historical levels of the underlier as an indication of the future performance of the underlier, including because of the recent volatility described above.** We cannot give you any assurance that the future performance of the underlier or the underlier stocks will result in you 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 **and, given the recent volatility described above, you should pay particular attention to recent levels of the underlier.** 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, 2019 through October 8, 2024. 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 S&P 500® Futures Excess Return Index

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

The following section supplements the discussion of U.S. federal income taxation in the accompanying prospectus 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 regulated investment company;
- an accrual method taxpayer subject to special tax accounting rules as a result of its use of financial statements;
- a tax exempt organization;
- a partnership;
- a person that owns a note as a hedge or that is hedged against interest rate risks;
- a person that owns a note as part of a straddle or conversion transaction for tax purposes; or
- a United States holder (as defined below) whose functional currency for tax purposes is not the U.S. dollar.

Although this section is based on the U.S. Internal Revenue Code of 1986, as amended, its legislative history, existing and proposed regulations under the Internal Revenue Code, published rulings and court decisions, all as currently in effect, no statutory, judicial or administrative authority directly 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 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, capital loss.

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

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

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

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

On December 7, 2007, the Internal Revenue Service released a notice stating that the Internal Revenue Service and the Treasury Department are actively considering issuing guidance regarding the proper U.S. federal income tax treatment of an instrument such as 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 under “Tax Treatment” unless and until such time as Congress, the Treasury Department or the Internal Revenue Service determine that some other treatment is more appropriate.

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***

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

#### **Non-United States Holders**

This section applies to you only if you are a non-United States holder. You are a non-United States 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 — Non-United States 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 — Non-United States 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 non-United States 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 reference equity index 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, 2027, 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 non-United States 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.

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

See "Supplemental Plan of Distribution" on page S-51 of the accompanying general terms supplement no. 8,999 and "Plan of Distribution — Conflicts of Interest" on page 127 of the accompanying prospectus. GS Finance Corp. estimates that its share of the total offering expenses, excluding underwriting discounts and commissions, will be approximately \$ .

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, and to certain securities dealers at such price less a concession not in excess of % of the face amount. GS&Co. may pay a referral fee of % from the concession to another dealer in connection with its marketing efforts related to the offered notes. The original issue price for notes purchased by certain retirement accounts and certain fee-based advisory accounts will be % of the face amount of the notes, which will reduce the underwriting discount specified on the cover of this pricing supplement with respect to such notes to %. 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 to iCapital Markets LLC, a broker-dealer in which an affiliate of GS Finance Corp. holds an indirect minority equity interest, for services it is providing in connection with this offering.

We expect to deliver the notes against payment therefor in New York, New York on October 21, 2024. Under Rule 15c6-1 of the Securities Exchange Act of 1934, trades in the secondary market generally are required to settle in one business day, unless the parties to any such trade expressly agree otherwise. Accordingly, purchasers who wish to trade notes on any date prior to one business day 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.

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. 8,999, the accompanying September 2024 S&P 500<sup>®</sup> Futures Excess Return Index supplement, the accompanying underlier supplement no. 41, 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. 8,999, the accompanying September 2024 S&P 500<sup>®</sup> Futures Excess Return Index supplement, the accompanying underlier supplement no. 41, 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. 8,999, the accompanying September 2024 S&P 500<sup>®</sup> Futures Excess Return Index supplement, the accompanying underlier supplement no. 41, 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 Buffered S&P 500<sup>®</sup> Futures Excess Return Index-Linked Notes due

guaranteed by

**The Goldman Sachs Group, Inc.**



**Goldman Sachs & Co. LLC**

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