



The Goldman Sachs Group, Inc.

Euro Medium-Term Notes, Series H

TERMS OF SALE

References to the notes refer to the Series H euro medium-term notes. The following terms may apply to the notes that The Goldman Sachs Group, Inc. may sell from time to time. The specific terms of each note will be included in the pricing supplement relating to that note.

- stated maturity of up to 40 years from the date of issue
- fixed or floating interest rate, or issued with original issue discount
- amount of principal or interest may be determined by reference to one or more underlying indices, securities, currencies or other rates, measures or instruments
- may be subject to redemption at the option of The Goldman Sachs Group, Inc. or repayment at the option of the holder
- may be amortized or subject to a sinking fund
- may be convertible, exercisable or exchangeable, at our option or the holder's option, into or for securities of one or more issuers other than The Goldman Sachs Group, Inc.
- may be denominated in U.S. dollars or in other currencies, currency units or composite currencies and payable in the denominated or other currencies
- settlement in immediately available funds

The notes will not be secured by any of our property or assets and will not be subordinated to any of our other debt obligations.

Any of the terms described above may be varied in the applicable pricing supplement.

The Goldman Sachs Group, Inc. (Legal Entity Identifier - 784F5XWPLTWKTBV3E584) may offer and sell these notes to or through one or more underwriters, dealers and agents, including Goldman Sachs International, or directly to purchasers, on a continuous or delayed basis.

This offering circular constitutes a base prospectus for the purpose of Part IV of the Luxembourg law on prospectuses for securities dated July 16, 2019. It may be used only for the purposes for which it has been published. This offering circular is dated June 4, 2024 and supersedes and replaces the offering circular dated June 2, 2023. This offering circular may not be used for the purpose of listing the notes on the Official List of the Luxembourg Stock Exchange and to trading on the Euro MTF Market after June 4, 2025.

Subject to certain exceptions, the notes may not be offered, sold or delivered, directly or indirectly, in the United States of America or to U.S. persons. See "Plan of Distribution". **The notes have not been and will not be registered under the United States Securities Act of 1933, as amended, or under the securities or blue sky laws of any state. Neither the U.S. Securities and Exchange Commission nor any other regulatory body has approved or disapproved of the notes or passed upon the accuracy or inaccuracy of this offering circular. This offering circular is not for use in, and may not be delivered to or inside, the United States.**

For a description of certain other restrictions on offers, sales and deliveries of the notes and the distribution of offering material in certain jurisdictions, see "Plan of Distribution" and the applicable pricing supplement.

The notes we may issue 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.

The Goldman Sachs Group, Inc. may use this offering circular in the initial sale of any note. In addition, Goldman Sachs International or any other affiliate of The Goldman Sachs Group, Inc. may use this offering circular in a market-making transaction in any note after its initial sale. **Unless The Goldman Sachs Group, Inc. or its agent informs the purchaser otherwise in the confirmation of sale, this offering circular is being used in a market-making transaction.**

If the notes are stated in the applicable pricing supplement to be issued under the new safekeeping structure ("NSS"), then we will deliver these notes to a common safekeeper for Euroclear Bank SA/NV ("Euroclear") and Clearstream Banking, *société anonyme* ("Clearstream, Luxembourg"). Global notes which are not issued under NSS will be deposited with a common depository for Euroclear and Clearstream, Luxembourg.

Application has been made to the Luxembourg Stock Exchange for notes issued under the Series H euro medium-term notes program to be listed on the Official List of the Luxembourg Stock Exchange and admitted to trading on the Luxembourg Stock Exchange's Euro MTF market (the "Euro MTF"). The Euro MTF is not a regulated market for the purposes of Directive 2014/65/EU (as amended, "MiFID II"). The relevant pricing supplement will specify whether the applicable notes are to be listed or will be unlisted. The Goldman Sachs Group, Inc. is under no obligation to maintain the listing of any notes that are listed. See "Listing and General Information".

See "Risk Factors" beginning on p. 12 for a discussion of certain risks that should be considered in connection with an investment in certain types of notes which may be offered hereby.

Goldman Sachs International

Offering Circular, dated June 4, 2024

Unless the context otherwise requires, references in this offering circular to “The Goldman Sachs Group, Inc.,” “we,” “our” and “us” mean only The Goldman Sachs Group, Inc. and do not include its consolidated subsidiaries. References to “Goldman Sachs” and the “Goldman Sachs Group” refer to The Goldman Sachs Group, Inc. together with its consolidated subsidiaries. Also, when we refer to “holders” we mean those who own notes registered in their own names, on the books that we or our agents maintain for this purpose; “holders” does not refer to those who own beneficial interests in notes registered in street name or in notes issued in global — *i.e.*, book-entry — form through Euroclear SA/NV, Clearstream Banking, *société anonyme*, or another depository. Prospective owners of beneficial interests in the notes issued in global form should read the section entitled “Description of the Program — Form, Exchange, Registration and Transfer” below.

We have not authorized anyone to provide any information or to make any representations other than those contained or incorporated by reference in this offering circular. Neither this offering circular nor any pricing supplement constitutes an offer to sell or the solicitation of an offer to buy any securities in any jurisdiction where, or to any person to whom, it is unlawful to make such offer or solicitation in that jurisdiction. Neither the delivery of this offering circular, any pricing supplement nor any sale made pursuant to those documents, shall, under any circumstances, create any implication that there has been no change in the affairs or prospects of The Goldman Sachs Group, Inc. since the date of the document or that the information contained within the documents is correct as of any time subsequent to its date.

Responsibility Statement

The Goldman Sachs Group, Inc. accepts responsibility for the information contained in this offering circular. To the best of the knowledge of The Goldman Sachs Group, Inc., the information contained in this offering circular is in accordance with the facts and this offering circular makes no omission likely to affect its import. Where information contained in this offering circular has been sourced from a third party, such information has been accurately reproduced and so far as The Goldman Sachs Group, Inc. is aware and is able to ascertain from information published by that third party, no facts have been omitted which would render the reproduced information inaccurate or misleading.

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

IMPORTANT – PROHIBITION OF SALES TO EEA RETAIL INVESTORS

If the pricing supplement in respect of any notes includes a legend entitled “Prohibition of Sales to EEA Retail Investors”, the notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European

Economic Area (the “EEA”). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of MiFID II; (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the “Insurance Distribution Directive”), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (as amended, the “Prospectus Regulation”). Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended, the “PRIIPs Regulation”) for offering or selling the notes or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

IMPORTANT – PROHIBITION OF SALES TO UK RETAIL INVESTORS

If the pricing supplement in respect of any notes includes a legend entitled “Prohibition of Sales to UK Retail Investors”, the notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the United Kingdom (“UK”). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 (as amended, the “EUWA”); or (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 (the “FSMA”) and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or (iii) not a qualified investor as defined in Article 2 of Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA (the “UK Prospectus Regulation”). Consequently no key information document required by Regulation (EU) No 1286/2014 as it forms part of domestic law by virtue of the EUWA (the “UK PRIIPs Regulation”) for offering or selling the notes or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

Notwithstanding the foregoing paragraphs, if the pricing supplement in respect of the notes includes a legend entitled “Prohibition of Sales to EEA Retail Investors” or “Prohibition of Sales to UK Retail Investors” but the Issuer subsequently prepares and publishes a key information document under the PRIIPs Regulation or the UK PRIIPs Regulation in respect of such notes, then the prohibition on the offering, sale or otherwise making available of the notes to retail investors as described in the above paragraphs shall no longer apply.

EEA MiFID Product Governance / Target Market

The pricing supplement in respect of any notes may include a legend entitled “MiFID II product governance” which will outline the target market assessment in respect of the notes and which channels for distribution of the notes are appropriate. Any person subsequently offering, selling or recommending the notes (a “distributor”) should take into consideration the target market assessment; however, a distributor subject to MiFID II is responsible for undertaking its own target market assessment in respect of the notes (by either adopting or refining the target market assessment) and determining appropriate distribution channels.

A determination will be made in relation to each issue about whether, for the purpose of the MiFID Product Governance rules under EU Delegated Directive 2017/593 (the “MiFID Product Governance Rules”), any Dealer subscribing for any notes is a manufacturer in respect of such notes, but otherwise neither the Arranger nor the Dealers nor any of their respective affiliates will be a manufacturer for the purpose of the MiFID Product Governance Rules.

UK MiFIR Product Governance / Target Market

The pricing supplement in respect of any notes may include a legend entitled “UK MiFIR Product Governance” which will outline the target market assessment in respect of the notes and which channels for distribution of the notes are appropriate. Any person subsequently offering, selling or recommending the notes (a “distributor”) should take into consideration the target market assessment; however, a distributor subject to the FCA Handbook Product Intervention and Product Governance Sourcebook (the “UK MiFIR Product Governance Rules”) is responsible for undertaking its own target market assessment in respect of the notes (by either adopting or refining the target market assessment) and determining appropriate distribution channels.

A determination will be made in relation to each issue about whether, for the purpose of the UK MiFIR Product Governance Rules, any Dealer subscribing for any notes is a manufacturer in respect of such notes, but otherwise neither the Arranger nor the Dealers nor any of their respective affiliates will be a manufacturer for the purpose of the UK MiFIR Product Governance Rules.

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SUMMARY OF THE OFFERING CIRCULAR

The following is a summary of the offering circular and the Series H euro medium-term notes program of The Goldman Sachs Group, Inc. and should be read as an introduction to, and in conjunction with, the remainder of the offering circular, including any documents incorporated by reference therein, and the applicable pricing supplement, and you should base your investment decision on a consideration of the offering circular, including any documents incorporated by reference therein, and the applicable pricing supplement as a whole. No civil liability attaches to us in respect of this summary, including any translation thereof, unless it is misleading, inaccurate or inconsistent when read together with the remainder of the offering circular, including any documents incorporated by reference therein, and the applicable pricing supplement.

The summary is qualified in its entirety by the remainder of this offering circular, including any documents incorporated by reference therein, and the applicable pricing supplement. If there are any differences between your pricing supplement and this offering circular, your pricing supplement will control with regard to your note.

Issuer

The Goldman Sachs Group, Inc.

Description of issuer

The Goldman Sachs Group, Inc. is a leading global investment banking, securities and investment management firm that provides a wide range of financial services to a substantial and diversified client base that includes corporations, financial institutions, governments and individuals. Founded in 1869, the firm is headquartered in New York and maintains offices in all major financial centers around the world. We filed our original certificate of incorporation with the Secretary of State of the State of Delaware on July 21, 1998. Our headquarters are located at 200 West Street, New York, NY 10282, U.S.A., telephone +1 (212) 902-1000. The Goldman Sachs Group, Inc. is a bank holding company and a financial holding company regulated by the Board of Governors of the Federal Reserve System (the "Federal Reserve Board"). Its U.S. depository institution subsidiary, Goldman Sachs Bank USA, is a New York State-chartered bank. The Goldman Sachs Group, Inc. is the parent holding company of the Goldman Sachs Group.

The Goldman Sachs Group's activities are conducted in the following segments:

(1) Global Banking & Markets:

- Advisory, which includes strategic advisory assignments with respect to mergers and acquisitions, divestitures, corporate defense activities, restructurings and spin-offs;
- Underwriting, which includes public offerings and private placements of a wide range of securities and other financial instruments, including local and cross-border transactions and acquisition financing;
- Fixed Income, Currency and Commodities (FICC), which includes client execution activities related to making markets in both cash and derivative instruments (including interest rate products, credit products, mortgages, currencies and commodities), and secured lending to our clients through structured credit and asset-backed lending (including

warehouse loans, corporate loans, consumer loans and resale agreements); and

- Equities, which includes client intermediation activities related to making markets in equity securities, equity-related products and derivatives, and commissions and fees from executing and clearing institutional client transactions on major stock, options and futures exchanges worldwide, as well as over-the-counter transactions. Equities also includes our equities financing business, which includes prime brokerage and other equities financing activities such as securities lending, margin lending and swaps.

(2) Asset & Wealth Management, which provides investment management services for the management of client assets across a broad range of investment strategies and asset classes, investment advisory solutions, wealth advisory services, financial planning and counseling services, and includes private banking and lending activities, as well as investing and lending activities related to our asset management activities.

(3) Platform Solutions, which includes our consumer platforms, such as partnerships offering credit cards and point-of-sale financing, and transaction banking and other platform businesses.

Dealers

We may offer and sell the notes to or through one or more dealers or directly to purchasers on a continuous or delayed basis.

Dealers include Goldman Sachs International and any other dealers we may, from time to time, appoint.

Fiscal agent

The Bank of New York Mellon.

Paying agent

We have initially appointed as paying agent The Bank of New York Mellon, London Branch. We may at any time terminate the appointment of any paying agent and appoint additional or other paying agents.

Calculation agent

We have initially appointed Goldman Sachs International as calculation agent. We may at any time, without your consent and without notifying you, terminate the appointment of any calculation agent and appoint additional calculation agents.

Use of proceeds

We intend to use the net proceeds from the sale of the notes to provide additional funds for our operations and for other general corporate purposes.

Issuance in series

Each of the Series H euro medium-term notes constitute a single, distinct series of notes. We may from time to time issue additional series, which may have different terms.

Currencies	Notes will be denominated in U.S. dollars or other currencies, as specified in the applicable pricing supplement.
Form of notes	<p>We will issue notes as global notes in registered form. If it is stated in the applicable pricing supplement that the notes are to be issued under NSS, the notes will be registered in the name of a nominee for a common safekeeper for Euroclear and Clearstream, Luxembourg, and we will deliver these notes to a common safekeeper for Euroclear and Clearstream, Luxembourg, which is necessary for notes to be eligible collateral for Eurosystem monetary policy, but does not necessarily mean that the notes will then be recognised as eligible collateral for Eurosystem monetary policy and intra-day credit operations by the Eurosystem at any time during their life.</p> <p>Global notes in registered form which are not issued under NSS will be deposited with, and registered in the name of a nominee of, a common depositary for Euroclear and Clearstream, Luxembourg or other clearing system as specified in the applicable pricing supplement.</p>
Types of notes	We may issue fixed rate notes, floating rate notes and indexed notes, including combinations thereof. A note may provide for either cash settlement or physical settlement. Some notes may be convertible, exercisable or exchangeable into or for securities of an issuer other than The Goldman Sachs Group, Inc.
Stated Maturity	In general, notes will have a stated maturity of up to 40 years from the date of issue.
Interest-bearing notes	<p>Notes may bear interest at a fixed or floating rate. Fixed rate notes include zero coupon notes, and other discount securities, which are issued at a price lower than the face amount.</p> <p>Floating rate notes bear interest at rates based on one or more of the base rates specified in the offering circular or the applicable pricing supplement.</p> <p>A base rate may be adjusted by adding or subtracting a specified number of basis points or multiplying it by a specified percentage and may be subject to a minimum rate or a maximum rate, as specified in the applicable pricing supplement.</p>
Indexed notes	Notes may provide that amounts payable on the notes will be determined by reference to one or more indices, to securities of one or more issuers, currencies, one or more credit events, or any other financial, economic or other measure or instrument.
Sinking fund	Unless otherwise indicated in the applicable pricing supplement, the notes will not be entitled to the benefit of a sinking fund.
Redemption at our option	Unless otherwise specified in the applicable pricing supplement, we will not be entitled to redeem the notes before maturity, provided that we may be able to redeem the notes in the event of certain developments involving an original primary rate event and changes in law, as

described below, and, if the applicable pricing supplement provide for the gross-up of any payments due on the notes, we may redeem the notes in the event of changes involving U.S. withholding taxes.

Repayment at your option

You will not be entitled to require us to buy your note from you before maturity, unless otherwise specified in the applicable pricing supplement.

Payment of additional amounts

Unless otherwise specified in the applicable pricing supplement, we will make all payments on the notes without deducting U.S. withholding taxes, unless we are required by law to do so and, if we are required by law to deduct U.S. withholding taxes, we will not pay additional amounts on those payments unless the applicable pricing supplement provide for the gross-up of any payments due on the notes and only under certain circumstances as described below under “Description of the Program — Payment of Additional Amounts.”

Adjustment or redemption upon change in law

If the calculation agent determines that, as a result of a change in law (including a change in interpretation by a relevant authority) (i) the performance by us or our affiliates under the notes and/or any related hedge positions has become unlawful or impractical in whole or in part for any reason or (ii) the performance under the notes will result in materially increased costs to us and/or any of our affiliates, then the calculation agent may determine an adjustment, if any, to be made to any one or more of the terms of the notes as the calculation agent determines appropriate to account for the change in law or, unless the applicable pricing supplement specifies otherwise, we may redeem, as a whole but not in part, any outstanding issuance of notes. We may also take such action if the calculation agent determines that the performance by one of our affiliates under the notes and/or any related hedge positions, assuming such affiliate had been the issuer of the notes or party to any such hedging arrangement, would be unlawful or impractical.

Redemption upon an original primary rate event

We may redeem certain outstanding floating rate notes, if, following the occurrence of an original primary rate event (as defined in Description of the Program — Interest Rates — Floating Rate Notes — Effect of Original Primary Rate Event on Certain Floating Rate Notes” below) (1) the calculation agent determines that it cannot identify a replacement primary rate or determine an adjustment spread on or before the cut-off date, (2) it (A) is or would be unlawful at any time under any applicable law or regulation; or (B) would contravene any applicable licensing requirements, for the calculation agent to perform the actions prescribed in “Description of the Program — Interest Rates — Floating Rate Notes — Effect of Original Primary Rate Event on Certain Floating Rate Notes” below (or it would be unlawful or would contravene those licensing requirements were a determination to be made at such time), (3) the calculation agent determines that an adjustment spread is or would be a benchmark, index or other price source whose production, publication, methodology or governance would subject either us or the calculation agent to material additional regulatory obligations (such as the obligations for administrators under the Benchmark Regulation (as

defined below under “Risk Factors — Risk Factors Related to Notes Linked to Benchmark Underlyers”)) which it is unwilling to undertake or (4) the calculation agent determines that having identified a replacement primary rate and determined an adjustment spread on or before the cut-off date, the adjustments would not achieve a commercially reasonable result for either us, the calculation agent or the holders.

Mergers and similar transactions

We will not merge or consolidate with another corporation or corporate entity, unless certain conditions are met.

Defeasance and covenant defeasance

Unless otherwise specified in the applicable pricing supplement, if there is a change in U.S. federal tax law, we will be entitled, in the case of all fixed rate notes payable in U.S. dollars which do not include the provisions described below under “Description of the Program — Payment of Additional Amounts,” to release ourselves from all obligations under the notes, subject to certain conditions.

Moreover, unless otherwise specified in the applicable pricing supplement, we will be entitled, in the case of all fixed rate notes payable in U.S. dollars, to release ourselves from any restrictive covenants relating to the notes, subject to similar conditions as those referred to above.

Events of default and remedies

Unless otherwise specified in the applicable pricing supplement, if an event of default occurs and is continuing, with respect to your note you may, after giving effect to any applicable grace period, by written notice to us and the fiscal agent, declare the principal of your note to be immediately due and payable.

Meetings, modification and waiver of covenants

The fiscal agency agreement contains provisions for convening meetings of holders to consider matters affecting their interests. Certain changes require each affected holder’s approval, others require no approval by holders and still others require the approval of two-thirds of the holders.

Payment mechanics for notes

Unless otherwise specified in the applicable pricing supplement, all payments on notes will be made in the applicable specified currency, subject to certain exceptions.

We will make payments on a global note in accordance with the applicable policies of the relevant clearing systems which, unless specified in the applicable pricing supplement will be Euroclear and Clearstream, Luxembourg. We will make payments on a note in registered non-global form by paying interest due on an interest payment date to the holder at the address shown on the register for such notes as of the close of business on the regular record date and all other payments by check or via wire transfer at the corporate trust office of the fiscal agent and the office of the paying agent, against surrender of the note.

Governing law

New York.

Listing and admission to trading

Application has been made to the Luxembourg Stock Exchange for notes issued under the Series H euro medium-term notes program to be listed on the Official List of the Luxembourg Stock Exchange and admitted to trading on the Euro MTF. The Euro MTF is not a regulated market for the purposes of MiFID II. The notes may also be listed on any other stock exchange or may be unlisted. The relevant pricing supplement will specify whether the applicable notes are to be listed or will be unlisted. The Goldman Sachs Group, Inc. is under no obligation to maintain the listing of any notes that are listed.

Clearing systems

Unless otherwise specified in the applicable pricing supplement, Euroclear and Clearstream, Luxembourg.

Market-making

This offering circular may be used by Goldman Sachs International in connection with offers and sales of the notes in market-making transactions.

Status of notes under the U.S. securities laws

The notes are not, and will not be, registered under the U.S. Securities Act of 1933 and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except in transactions exempt from the registration requirements.

Selling restrictions

For a description of certain restrictions on offers, sales and deliveries of the notes and the distribution of offering material in certain jurisdictions, see "Plan of Distribution" and the applicable pricing supplement.

Risk factors

We face a variety of risks, including market, credit, liquidity, operational, legal, regulatory, competition, market development and general business environment related risks. In addition, the notes are subject to a number of risks, including those related to credit market conditions, interest rate levels, our credit rating, global market conditions, certain tax-related risks as well as the risk that the notes may not have an active trading market. Notes linked to an underlying asset or underlyer and notes denominated or payable in or linked to foreign currencies are subject to additional risks, including that you may lose all or a portion of the principal invested and may receive no interest, the volatility of the currencies or underlyers (including the underlyer components), and that we may engage in business activities that are adverse to your interests.

For more information see "Risk Factors" on page 12 and the applicable pricing supplement. You should understand these risks before making any investment decision.

RISK FACTORS

Risk Factors in Relation to the Issuer

Market Risks

See the following risk factors as incorporated by reference from the Annual Report on Form 10-K for the fiscal year ended December 31, 2023, dated February 22, 2024 (the “2023 Form 10-K”), in the following order:

(a) Our businesses have been and may in the future be adversely affected by conditions in the global financial markets and broader economic conditions. (pages 33-34 of the 2023 Form 10-K);

(b) Our businesses have been and may in the future be adversely affected by declining asset values, particularly where we have net “long” positions, receive fees based on the value of assets managed, or receive or post collateral. (pages 34-35 of the 2023 Form 10-K);

(c) Our market-making activities have been and may in the future be affected by changes in the levels of market volatility. (page 35 of the 2023 Form 10-K);

(d) Our investment banking, client intermediation, asset management and wealth management businesses have been adversely affected and may in the future be adversely

affected by market uncertainty or lack of confidence among investors and CEOs due to declines in economic activity and other unfavorable economic, geopolitical or market conditions. (page 35 of the 2023 Form 10-K);

(e) Our asset management and wealth management businesses have been and may in the future be adversely affected by the poor investment performance of our investment products or a client preference for products other than those which we offer or for products that generate lower fees. (page 36 of the 2023 Form 10-K); and

(f) Inflation has had, and could continue to have, a negative effect on our business, results of operations and financial condition. (page 36 of the 2023 Form 10-K).

Liquidity Risks

See the following risk factors as incorporated by reference from the 2023 Form 10-K, in the following order:

(a) Our liquidity, profitability and businesses may be adversely affected by an inability to access the debt capital markets or to sell assets. (page 36 of the 2023 Form 10-K);

(b) Our businesses have been and may in the future be adversely affected by disruptions or lack of liquidity in the credit markets, including reduced access to credit and higher costs of obtaining credit. (page 37 of the 2023 Form 10-K);

(c) Reductions in our credit ratings or an increase in our credit spreads may adversely affect our liquidity and cost of funding. (page 37 of the 2023 Form 10-K); and

(d) Group Inc. is a holding company and its liquidity depends on payments and loans from its subsidiaries, many of which are subject to legal, regulatory and other restrictions on providing funds or assets to Group Inc. (page 38 of the 2023 Form 10-K).

Credit Risks

See the following risk factors as incorporated by reference from the 2023 Form 10-K, in the following order:

(a) Our businesses, profitability and liquidity may be adversely affected by deterioration in the credit quality of or defaults by third parties. (pages 38-39 of the 2023 Form 10-K);

(b) Concentration of risk increases the potential for significant losses in our market-making, underwriting, investing and financing activities. (page 39 of the 2023 Form 10-K); and

(c) Derivative transactions and delayed documentation or settlements may expose us to credit risk, unexpected risks and potential losses. (page 40 of the 2023 Form 10-K).

Operational Risks

See the following risk factors as incorporated by reference from the 2023 Form 10-K, in the following order:

(a) A failure in our operational systems or human error, malfeasance or other misconduct, could impair our liquidity, disrupt our businesses, result in the disclosure of confidential information, damage our reputation and cause losses. (pages 40-41 of the 2023 Form 10-K);

(b) A failure or disruption in our infrastructure, or in the operational systems or infrastructure of third parties, could impair our liquidity, disrupt our businesses, damage our reputation and cause losses. (page 42 of the 2023 Form 10-K);

(c) The development and use of artificial intelligence (AI) present risks and challenges that may adversely impact our business. (page 43 of the 2023 Form 10-K);

(d) A failure to protect our computer systems, networks and information, and our clients' information, against cyber attacks and similar threats could impair our ability to conduct our businesses, result in the disclosure, theft or destruction of confidential information, damage our reputation and cause losses. (pages 43-44 of the 2023 Form 10-K); and

(d) We may incur losses as a result of ineffective risk management processes and strategies. (page 45 of the 2023 Form 10-K).

Legal and Regulatory Risks

See the following risk factors as incorporated by reference from the 2023 Form 10-K, in the following order:

(a) Our businesses and those of our clients are subject to extensive and pervasive regulation around the world. (pages 46-48 of the 2023 Form 10-K);

(b) A failure to appropriately identify and address potential conflicts of interest could adversely affect our businesses. (page 48 of the 2023 Form 10-K);

(c) We may be adversely affected by increased governmental and regulatory scrutiny or negative publicity. (page 49 of the 2023 Form 10-K);

(d) Substantial civil or criminal liability or significant regulatory action against us could have material adverse financial effects or cause us significant reputational harm, which in turn could seriously harm our business prospects. (pages 49-50 of the 2023 Form 10-K);

(e) In conducting our businesses around the world, we are subject to political, legal, regulatory and other risks that are inherent in operating in many countries. (pages 50-51 of the 2023 Form 10-K);

(f) The application of regulatory strategies and requirements in the U.S. and in non-U.S. jurisdictions to facilitate the orderly resolution of large financial institutions could create greater risk of loss for Group Inc.'s security holders. (pages 51-52 of the 2023 Form 10-K);

(g) The application of Group Inc.'s proposed resolution strategy could result in greater losses for Group Inc.'s security holders. (pages 52-53 of the 2023 Form 10-K); and

(h) Our commodities activities, particularly our physical commodities activities, subject us to extensive regulation and involve certain potential risks, including environmental, reputational and other risks that may expose us to significant liabilities and costs. (page 53 of the 2023 Form 10-K).

Competition Risks

See the following risk factors as incorporated by reference from the 2023 Form 10-K, in the following order:

(a) Our results have been and may in the future be adversely affected by the composition of our client base. (page 54 of the 2023 Form 10-K);

(b) The financial services industry is highly competitive. (page 54 of the 2023 Form 10-K);

(c) The growth of electronic trading and the introduction of new products and technologies, including trading and distributed ledger technologies, including cryptocurrencies, has increased competition. (page 55 of the 2023 Form 10-K); and

(d) Our businesses would be adversely affected if we are unable to hire and retain qualified employees. (pages 55-56 of the 2023 Form 10-K).

Market Developments and General Business Environment Risks

See the following risk factors as incorporated by reference from the 2023 Form 10-K, in the following order:

(a) Our businesses, financial condition, liquidity and results of operations have been and may in the future be adversely affected by unforeseen or catastrophic events, including pandemics, terrorist attacks, wars, extreme weather events or other natural disasters. (page 56 of the 2023 Form 10-K);

(b) Climate change could disrupt our businesses and adversely affect client activity levels and the creditworthiness of our clients and counterparties, and our actual or perceived action or inaction relating to climate change could result in damage to our reputation. (page 56 of the 2023 Form 10-K);

(c) Our business, financial condition, liquidity and results of operations have been adversely affected by disruptions in the global economy caused by conflicts, and related sanctions and other developments. (page 57 of the 2023 Form 10-K);

(d) Certain of our businesses and our funding instruments may be adversely affected by changes in reference rates, currencies, indexes, baskets or ETFs to which products we offer or funding that we raise are linked. (page 57 of the 2023 Form 10-K);

(e) Our business, financial condition, liquidity and results of operations may be adversely affected by disruptions in the global economy caused by escalating tensions between the U.S. and China. (page 58 of the 2023 Form 10-K);

(f) We face enhanced risks as we operate in new locations and transact with a broader array of clients and counterparties. (pages 58-59 of the 2023 Form 10-K); and

(g) We may not be able to fully realize the expected benefits or synergies from acquisitions or other business initiatives in the time frames we expect, or at all. (page 59 of the 2023 Form 10-K).

Risk Factors in Relation to the Notes

Risk Factors Related to the Value and Liquidity of the Notes

The Market Price of Any Notes We May Issue May Be Influenced by Many Unpredictable Factors and If You Buy a Note and Sell It Prior to the Stated Maturity Date, You May Receive Less Than the Face Amount of Your Note

The following factors, most of which are beyond our control, will influence the market price of any notes we may issue:

- economic, military, financial, regulatory, political, terrorist and other events that affect securities generally;
- interest and yield rates in the market;
- the time remaining until a note matures;
- our creditworthiness, whether actual or perceived, and including actual or anticipated upgrades or downgrades in our credit ratings or changes in other credit measures; and
- in the case of an indexed note, the market price of the relevant underlying or underlyers or, if applicable, underlying components, and the volatility — *i.e.*, the frequency and magnitude of changes in the market price of the relevant underlying or, if applicable, underlying components.

As a result of these and other factors, if you buy a note and sell it prior to maturity, you may receive less than the outstanding face amount of your note. Moreover, these factors interrelate in complex ways, and the effect of one factor may offset or enhance the effect of another factor.

The issue price and/or offer price of the notes may include subscription fees, placement fees, direction fees, structuring fees and/or other additional costs. Any such fees and costs may not be taken into account for the purposes of determining the price of such notes on the secondary market and could result in a difference between the original issue price and/or offer price, the theoretical value of the notes, and/or the actual bid/offer price quoted by any intermediary in the secondary market. Any such difference may have an adverse effect on the value of the notes, particularly immediately following the offer and the issue date relating to such notes, where any such fees and/or costs may be deducted from the price at which such notes can be sold by the initial investor in the secondary market.

Changes in Interest Rates Are Likely to Affect the Market Price of Any Notes We May Issue

We expect that the market price of any notes we may issue will be affected by changes in interest rates, although these changes may affect such notes and a traditional debt security to different degrees. In

general, if interest rates increase, we expect that the market value of a fixed income instrument which paid interest payments and an amount equal to the outstanding face amount of a note you may purchase on the same schedule as that note would decrease, whereas if interest rates decrease, we expect that the market value of such a fixed income instrument would increase.

Any Notes We May Issue May Not Have an Active Trading Market

Even if your notes are listed on a stock exchange, a secondary market for any notes we may issue is unlikely to develop. Even if a secondary market for a note develops, it may not provide significant liquidity and we and/or our affiliates have no obligation to make a market with respect to the note and make no commitment to make a market in or repurchase the note. We expect that transaction costs in any secondary market would be high. As a result, the difference between bid and asked prices for the note in any secondary market could be substantial. There may be less liquidity in the secondary market for the notes if they are exclusively offered to retail investors without any offer to institutional investors.

Changes in Our Credit Ratings May Affect the Market Price of a Note

Our credit ratings are an assessment of our ability to pay our obligations, including those on any notes we may issue. Consequently, actual or anticipated changes in our credit ratings may affect the market price of a note. However, because the return on a note is typically dependent upon certain factors in addition to our ability to pay our obligations on the note, an improvement in our credit ratings will not reduce the other investment risks related to any such notes. See “Credit Ratings” for more information.

Risk Factors Related to Certain Product Terms or Features

If Your Pricing Supplement Specifies That We Have the Right to Redeem Your Note at Our Option, the Value of Your Notes May Be Adversely Affected.

Your pricing supplement may specify that we have the right to redeem your note at our option. Even if we do not exercise this option, our ability to do so may adversely affect the value of your notes.

Holders of Our Notes Could Be at Greater Risk for Being Structurally Subordinated If The Goldman Sachs Group, Inc. Sells or Transfers Its Assets Substantially as an Entirety to One or More of Its Subsidiaries.

With respect to the notes, we may sell or transfer our assets substantially as an entirety, in one or more transactions, to one or more entities, provided that the assets of The Goldman Sachs Group, Inc. and its direct or indirect subsidiaries in which it owns a majority of the combined voting power, taken together, are not sold or transferred substantially as an entirety to one or more entities that are not such subsidiaries. If we sell or transfer our assets substantially as an entirety to our subsidiaries, third-party creditors of our subsidiaries would have additional assets from which to recover on their claims while holders of the notes, in addition to being contractually subordinate and junior in right of payment to senior creditors, would be structurally subordinated to creditors of our subsidiaries with respect to such assets.

The Notes We May Issue Are Not Insured by the Federal Deposit Insurance Corporation

None of the notes offered hereby will be a deposit insured or guaranteed by the Federal Deposit Insurance Corporation (“FDIC”) or any other government authority, and do not benefit from the protections offered by any government or governmental or private agency or deposit protection scheme in any jurisdiction. The Series H euro medium-term notes will rank *pari passu* with all other unsecured and unsubordinated indebtedness of The Goldman Sachs Group, Inc.

Considerations Relating to Floating Rate Notes

A Negative Floating Base Rate May Reduce Any Positive Spread Payable on Your Notes

If your note is a floating rate note, it may bear interest at a rate equal to a specified base rate plus a percentage or a specified number of basis points (called the spread). The specified base rate may be negative for some or all interest periods. For any interest period, if the specified base is negative (except in the case of certain inverse floating rate notes), then it will reduce the interest rate payable for such interest period below the specified spread, potentially to zero. Accordingly, you may receive an interest rate on your notes that is lower than the specified spread, and this would adversely affect the value of and return on your notes.

Considerations Relating to Indexed Notes

We use the term “indexed notes” to mean any notes whose value is linked to any underlying asset or underlyer. Indexed notes may present a high level of risk, and investors in certain indexed notes may lose the value of their entire investment or part of it, as the case may be, depending on the structure as indicated in the pricing supplement. In addition, the treatment of indexed notes for U.S. federal income tax purposes is often unclear due to the absence of any authority specifically addressing the issues presented by any particular indexed note. Thus, if you propose to invest in indexed notes, you should independently evaluate the federal income tax consequences of purchasing an indexed note that apply in your particular circumstances. You should also read “United States Taxation” below for a discussion of U.S. tax matters.

Considerations Relating to Indexed Notes Generally

Investors in Indexed Notes Could Lose Their Investment

The principal amount and/or interest payable on an indexed note, and the cash value or physical settlement value of a physically settled note will be determined by reference to the price, value or level of one or more securities, indices, currencies, rates or other properties, any other financial, economic or other measure or instrument, including the occurrence or non-occurrence of any event or circumstance, and/or one or more of any of these items or baskets of any of these items. We refer to each of these as an “underlyer” or “underlyers”. The direction and magnitude of the change in the value of the relevant underlyer will determine the principal amount of an indexed note payable at maturity and/or the amount of interest payable on each interest payment date and the cash value or physical settlement value in the case of a physically settled note. The terms of a particular indexed note may or may not include a guaranteed return of a percentage of the face amount at maturity or a minimum interest rate. Thus, if you purchase an indexed note that does not guarantee the return of 100% of principal, you may lose all or a portion of the principal invested and may receive no interest on your investment.

The Return on Indexed Notes May Be Below the Return on Similar Securities

Depending on the terms of an indexed note, as specified in the applicable pricing supplement, you may not receive any periodic interest payments or receive only very low payments on the note. As a result, the overall return on a note may be less than the amount you would have earned by investing the face amount of a note in a non-indexed debt security that bears interest at a prevailing market fixed or floating rate.

Payments on Indexed Notes May Be Linked to the Average Performance of the Underlyers and Not the Overall Change in the Underlyer Performance

The formula used to determine the amounts payable on an indexed note may be calculated by reference to the average performance of the underlyer or underlyers over a number of observation dates and not by reference to the overall change in the underlyer or underlyers over the life of your note. In this case, relevant underlyer levels on one or more of these dates may be sufficiently low or high to offset any overall gain or decline in the index, in which case you might receive no payment amount on the note or a payment amount that is less than the amount that would have been paid had the payment amount been

linked to the change in the underlying from the issue date (or other date, as specified in the applicable pricing supplement) to the final observation date or the stated maturity date, as the case may be.

Use of Leverage Factors Over 100 Percent May Result in Disproportionate Exposure to the Negative Performance of the Underlier

Where the applicable pricing supplement of the notes provides that the redemption amount of such note is based upon the performance of the underlying multiplied by a leverage factor which is over 100 percent, a purchaser may participate disproportionately in any positive performance and/or may have a disproportionate exposure to any negative performance of the underlying. Due to this leverage effect, the notes represent a very speculative and risky form of investment since any loss in the value of the underlying carries the risk of a correspondingly higher loss on the notes.

The Issuer of a Security or Currency That Serves as an Underlier Could Take Actions That May Adversely Affect an Indexed Note

The issuer of a security that serves as an underlying or part of an underlying for an indexed note will have no involvement in the offer and sale of the note and no obligations to the holder of the note. The issuer of such security may take actions, such as a merger or sale of assets, without regard to the interests of the holder. Any of these actions could adversely affect the value of a note based on an underlying linked to such security.

If the underlying for an indexed note includes a non-U.S. dollar currency or other asset denominated in a non-U.S. dollar currency, the government that issues that currency will also have no involvement in the offer and sale of the indexed note and no obligations to the holder of that note. That government may take actions that could adversely affect the value of such note. See “— Risk Factors Associated with Foreign Exchange Rates — Government Policy Can Adversely Affect Foreign Currency Exchange Rates and an Investment in a Foreign Currency Note” below for more information about these kinds of notes.

An Indexed Note May Be Linked to a Volatile Underlier, Which May Adversely Affect an Investment

Some underliers are highly volatile, which means that their value may change significantly, up or down, over a short period of time. It is impossible to predict the future performance of an underlying based on its historical performance. The amount of principal or interest that can be expected to become payable on an indexed note may vary substantially from time to time. Because the amount of principal or interest payable on an indexed note is generally calculated based on the value of the relevant underlying on a specified date or over a limited period of time, volatility in the underlying increases the risk that the return on an indexed note may be adversely affected by a fluctuation in the level of the relevant underlying.

The volatility of an underlying may be affected by financial, political, military or economic events, including governmental actions, or by the activities of participants in the relevant markets. Any of these events or activities could adversely affect the value of an indexed note.

Underliers May Move in Opposite Directions, Which May Affect the Amount You Receive on an Indexed Note Linked to a Basket of Underliers

If you purchase an indexed note, the amount you may receive on the note, if any, may be based on the performance of a basket of underliers. The market price for different types of underlying components may move in opposite directions. As a result, the level of the underliers to which the note is linked may move such that the underlying performance of one or more underlying components may offset or be offset by the underlying performance of one or more of the other basket underliers, which ultimately may result in a decrease in the overall return on the note or no payment amount on your note.

If the Level of an Underlyer Changes, the Market Price of an Indexed Note May Not Change in the Same Manner

An indexed note may trade quite differently from the performance of the relevant underlyer or underlyers. Changes in the level of the underlyer may not result in a comparable change in the market price of your note. Some of the other reasons for this disparity are discussed above under “— Considerations Relating to Notes Generally — The Market Price of Any Notes We May Issue May Be Influenced by Many Unpredictable Factors and If You Buy a Note and Sell It Prior to the Stated Maturity Date, You May Receive Less Than the Face Amount of Your Note”.

If You Purchase an Indexed Note, You Will Have No Rights with Respect to any Underlyer Components or Related Contracts to which Your Note is Linked

Investing in an indexed note will not make you a holder of the underlyer, any underlyer components or contracts with respect thereto. As a result, you will not have any voting rights, any right to receive dividends or other distributions or any other rights with respect to any of the underlyer components. Your note will be paid in cash, and you will have no right to receive delivery of any such underlyer components.

Special Considerations Relating to Indexed Notes Linked to Stock or Bond Underlyers

An Underlyer to Which an Indexed Note Is Linked Could Be Changed or Become Unavailable

Some underlyers compiled by us or our affiliates or third parties may consist of or refer to several or many different securities or currencies or other instruments or measures. The compiler of such an underlyer typically reserves the right to alter the composition of the underlyer and the manner in which the value of the underlyer is calculated. An alteration may result in a decrease in the value of or return on an indexed note that is linked to the underlyer. The underlyers for our indexed notes may include published underlyers of this kind or customized underlyers developed by us or our affiliates in connection with particular issues of indexed notes.

A published underlyer may become unavailable, or a customized underlyer may become impossible to calculate in a normal manner, due to events such as war, natural disaster, cessation of publication of the underlyer or a suspension or disruption of trading in one or more securities or currencies or other instruments or measures on which the underlyer is based. If an underlyer becomes unavailable or impossible to calculate in a normal manner, the terms of a particular indexed note may allow us to delay determining the amount payable as principal or interest on an indexed note or may use an alternative method to determine the value of the unavailable underlyer. Alternative methods of valuation are generally intended to produce a value similar to the value resulting from reference to the relevant underlyer. However, it is unlikely that any alternative method of valuation we use will produce a value identical to the value that the actual underlyer would produce. If we use an alternative method of valuation for a note linked to an underlyer of this kind, the value of the note, or the rate of return on it, may be lower than it otherwise would be.

Some indexed notes are linked to underlyers that are not commonly used or have been developed only recently. The lack of a trading history may make it difficult to anticipate the volatility or other risks associated with an indexed note of this kind. In addition, trading in these underlyers or their underlying stocks or currencies or other instruments or measures, or options or futures contracts on these stocks or currencies or other instruments or measures, may be limited, which could increase their volatility and decrease the value of the related indexed notes or the rates of return on them.

If You Purchase an Indexed Note, the Return on the Note Will Not Reflect the Return or Any Distributions, Dividends or Other Payments Made on Any Underlyer Components

In the case of an indexed note, the sponsor of each underlyer to which the note is linked will calculate the level of the relevant underlyer by reference to the market prices of the underlyer components with respect thereto included in that underlyer, without taking account of the value of any distributions, dividends or other payments. As a result, if you invest in an indexed note, the return on your note will not reflect the return you would realize if you actually owned the underlyer components and received the distributions, dividends or other payments made on them.

Underlyers of Emerging Markets May be Volatile and Unstable

Where the applicable pricing supplement of the notes reference one or more emerging market underlyers, purchasers of such notes should be aware that the political and economic situation in countries with emerging economies or stock markets may be undergoing significant evolution and rapid development, and such countries may lack the social, political and economic stability characteristic of more developed countries, including a significant risk of currency value fluctuation. Such instability may result from, among other things, authoritarian governments, or military involvement in political and economic decision-making, including changes or attempted changes in governments through extra-constitutional means; popular unrest associated with demands for improved political, economic or social conditions; internal insurgencies; hostile relations with neighboring countries; and ethnic, religious and racial disaffections or conflict. Certain of such countries may have in the past failed to recognize private property rights and have at times nationalized or expropriated the assets of private companies. As a result, the risks from investing in those countries, including the risks of nationalization or expropriation of assets, may be heightened. In addition, unanticipated political or social developments may affect the values of an underlying asset investment in those countries. The small size and inexperience of the securities markets in certain countries and the limited volume of trading in securities may make the underlying assets illiquid and more volatile than investments in more established markets. There may be little financial or accounting information available with respect to local issuers, and it may be difficult as a result to assess the value or prospects of the underlyers.

The Policies of an Underlyer Sponsor and Changes Affecting an Underlyer or Underlyers or Any of Its Components Could Affect the Amount Payable on an Indexed Note and Its Market Value

The policies of an underlyer sponsor concerning the calculation of the underlyer level, additions, deletions or substitutions of underlyer components and the manner in which changes affecting the underlyer components or their issuers, such as dividends, reorganizations or mergers, are reflected in the underlyer level could affect the underlyer level and, therefore, the amount payable on any indexed notes we may issue on the stated maturity date and the market value of any such notes prior to such date. The amount payable on an indexed note and its market value could also be affected if the underlyer sponsor changes these policies, for example, by changing the manner in which it calculates the underlyer level, or if the underlyer sponsor discontinues or suspends calculation or publication of the underlyer level, in which case it may become difficult to determine the market value of the note. If events such as these occur or if the underlyer level is not available on any relevant observation date because of a market disruption event or for any other reason, the calculation agent — which initially will be Goldman Sachs International, our affiliate — may determine the underlyer level on any such determination date — and thus the amount payable on the stated maturity date — in a manner it considers appropriate, in its sole discretion.

There Is No Affiliation Between the Issuers of Any of the Underlying Securities Contained in an Equity or Debt Underlyer Included in an Indexed Note and Us, and We Are Not Responsible for Any Disclosure by Such Issuers

We are not affiliated with any of the issuers of the securities which are included in any of the equity or debt indices included in an underlyer, or the sponsor of any of these underlyers. We and our affiliates may

currently or from time to time in the future engage in business with the issuers of other underlying securities included in any of the equity or debt underlyers included in an indexed note. Nevertheless, neither we nor any of our affiliates assumes any responsibility for the adequacy or accuracy of any publicly available information about any issuers of underlying securities. You, as an investor in a note, should make your own investigation into the underlyers and the issuers of the underlying securities that make up the relevant underlyer or underlyers. See the applicable pricing supplement for additional information about the relevant underlyer or underlyers to which a particular note is linked.

Neither the sponsors of any of the relevant underlyer or underlyers included in an indexed note nor any of the issuers of the underlying securities other than, where applicable, ourselves and Goldman Sachs & Co. LLC or Goldman Sachs International, as underlyer sponsor of any underlyer published by it are involved in any offering of notes in any way and none of them has any obligation of any sort with respect to an indexed note. Neither the sponsors of the underlyers nor any of the issuers of the underlying securities have any obligation to take your interests into consideration for any reason, including in taking any corporate actions that might affect the market price for your note. Any of the sponsors of any of the underlyers may decide to discontinue calculating and publishing such underlyer, which would mean that the calculation agent, which unless we indicate in the applicable pricing supplement will be one of our affiliates, would have discretion in making determinations with respect to such underlyer.

Payments on Notes That Reference U.S. Equities May be Subject to U.S. Tax

Financial instruments that directly or indirectly reference the performance of U.S. equities (including an underlyer or basket that includes U.S. equities) may be subject to withholding tax under Section 871(m) of the Code. While notes issued pursuant to this offering circular will not be subject to withholding under these rules, a holder may still be subject to Section 871(m) tax in respect of the notes in certain limited circumstances even when no withholding is required. Prospective holders of such notes should consult the discussion below under “United States Taxation – Dividend Equivalent Payments” for further information.

Special Considerations Relating to UDI-Denominated and UDI-Linked Notes

The Final Redemption Amount You Receive on the Stated Maturity Date May Be Less than the Face Amount of Your Note and in the Case of UDI-Linked Amortizing Notes, the Amortizing Payment Amounts May Likewise Be Less Than the Product of the Amortizing Percentage and the Face Amount of Your Note

If your pricing supplement specifies the “UDI-Linked Floor” to be “Not Applicable”, then the amount payable on the stated maturity date on any UDI-linked note will be the final redemption amount, which will be an amount equal to the product of the UDI-Linked Notional Amount times the UDI Index Level for the Observation Date, plus any interest amount payable on the stated maturity date. In addition, for UDI-Linked amortizing notes, each Amortizing Payment Amount will be equal to the product of the applicable Amortizing Percentage times the UDI-Linked Notional Amount times the UDI Index Level for the applicable Observation Date, and this amount may be less than the product of the applicable Amortizing Percentage times the face amount of your note. The UDI is a MXN equivalent unit of account indexed to inflation published by the Index Sponsor. The level of Mexican inflation as reflected in the UDI Index has been volatile historically and a decrease in the level of Mexican inflation as of the Observation Date below the Initial Index Level will adversely affect the amount payable at maturity.

The Final Redemption Amount and Interest Amount on Your Notes Will Not Be Affected by the UDI Index Level for Any Date Other Than for the Observation Date and the Relevant Interest Determination Dates, Respectively

The final redemption amount and any interest amount that may be paid on your UDI-denominated notes or UDI-linked notes will be determined based on the UDI Index Level for the Observation Date and the relevant interest determination dates (if any), respectively. Although the UDI Index Level at other times during the life of your note may be greater than for the Observation Date or any interest determination date,

you will not benefit from the UDI Index Level at any time other than for such dates. A decrease in the UDI Index Level as of an interest determination date below the Initial Index Level may result in low interest payments on the note. In addition, the overall return on the note may be less than the amount you would have earned by investing the face amount of the note in a non-indexed debt security that bears interest at a prevailing market fixed or floating rate.

The Level of Inflation in Mexico May Decrease Below the Current Level Which May Adversely Affect the Payment Amount on Your Notes

The level of inflation in Mexico may decrease below the current level, and historical Mexican inflation trends may not continue. As a result, the UDI Index Level as calculated for the Observation Date or an interest determination date (if any) may be lower than it would have been had historical trends continued, and you may therefore receive a lower payment amount on your note.

Defined terms used in this section “– Special Considerations Relating to UDI-Denominated and UDI-Linked Notes” shall have the meanings set forth under “Description of the Program – Redemption and Repayment – Redemption at Maturity – UDI-Denominated Notes” and “– UDI-Linked Notes” below.

Risk Factors Related to Notes Linked to Benchmark Underlyers

Regulation and reform of “benchmarks”, including EURIBOR and other interest rate, equity, foreign exchange rate and other types of benchmarks may cause such “benchmarks” to perform differently than in the past, or to disappear entirely, or have other consequences which cannot be predicted

The Euro Interbank Offered Rate (“EURIBOR”) and other interest rate underlyers which are deemed to be “benchmarks” are the subject of ongoing national and international regulatory reform. These reforms may cause such “benchmarks” to perform differently than in the past, or to disappear entirely, or have other consequences which cannot be predicted. Any such consequence could have a material adverse effect on the return on, value of and market for any notes linked to such a “benchmark”.

EURIBOR and certain Overnight Rates (as defined in “Description of the Program — Interest Rates — Floating Rate Notes — Base Rates”) are used as the floating leg in the calculation of certain swap rates. Consequently, if the calculation methodologies of EURIBOR and/or the Overnight Rates are reformed or the rate used as the floating leg in the calculation of certain swap rates is discontinued, this could have a material effect on the calculation of the relevant swap rate for CMS Rate Notes. For a further discussion of risks related to Overnight Rates, see “— Certain Risks Related to Overnight Risk Free Rates”.

On 17 May 2016, the Council of the European Union adopted the Benchmark Regulation. The Benchmark Regulation entered into force in June 2016 and became fully applicable in the EU on January 1, 2018. Regulation (EU) 2016/1011 as it forms part of U.K. domestic law by virtue of the EUWA and as amended by the Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019 has applied in the UK since the end of the Brexit transition period on 31 December 2020 (the “UK Benchmark Regulation”). The Benchmark Regulation and the UK Benchmark Regulation apply to the contribution of input data to a “benchmark”, the provision or administration of a “benchmark” and the use of a “benchmark” in the EU and the UK, respectively. Among other things, it (a) requires benchmark administrators to be authorized or registered as such and to comply with extensive requirements relating to the administration of “benchmarks” and (b) prohibits certain uses by EU or UK supervised entities of “benchmarks” provided by EU administrators which are not authorized or registered in accordance with the Benchmark Regulation (or, if located outside of the EU or the UK, deemed equivalent or recognised or endorsed).

The scope of the Benchmark Regulation and the UK Benchmark Regulation is wide and, in addition to so-called “critical benchmark” underlyers such as EURIBOR, will apply to many other interest rate underlyers which are referenced in the notes. The Benchmark Regulation and/or the UK Benchmark Regulation, as applicable, could have a material impact on notes linked to a “benchmark” rate or underlyer, including in any of the following circumstances:

- a rate or underlying which is a “benchmark” may not be used in certain ways by an EU or UK supervised entity if (subject to applicable transitional provisions) its administrator does not obtain authorisation or registration (or, if a non-EU or non-UK entity, does not satisfy the “equivalence” conditions and is not “recognised” pending an equivalence decision). In such event, depending on the particular “benchmark” and the applicable terms of the notes, the notes could be de-listed, adjusted, redeemed prior to maturity or otherwise impacted; and
- the methodology or other terms of the “benchmark” could be changed in order to comply with the terms of the Benchmark Regulation and/or the UK Benchmark Regulation, and such changes could have the effect of reducing or increasing the rate or level or affecting the volatility of the published rate or level, and could lead to adjustments to the terms of the notes, including the calculation agent’s determination of the rate or level in its discretion.

The Benchmark Regulation and/or the UK Benchmark Regulation and any other international, national or other proposals for reform or the general increased regulatory scrutiny of “benchmarks” could increase the costs and risks of administering or otherwise participating in the setting of a “benchmark” and complying with any such regulations or requirements. Such factors may have the effect of discouraging market participants from continuing to administer or contribute to certain “benchmarks”, trigger changes in the rules or methodologies used in certain “benchmarks” or lead to the disappearance of certain “benchmarks”. The disappearance of a “benchmark” or changes in the manner of administration of a “benchmark” could result in adjustment to the terms and conditions, early redemption, discretionary valuation by the calculation agent or change in the relevant benchmark by the calculation agent, delisting or other consequence in relation to notes linked to such “benchmark”. Any such consequence could have a material adverse effect on the return on, value of and market for any such notes.

Certain Risks Related to Overnight Risk Free Rates

We may issue floating rate notes linked to Overnight Rates. Overnight Rates are published and calculated by third parties based on data received from other sources and we have no control over their respective determinations, calculations or publications. The administrators of Overnight Rates may make methodological or other changes that could change the value of the relevant Overnight Rate, including changes related to the method by which such Overnight Rate is calculated, eligibility criteria applicable to the transactions used to calculate such Overnight Rate, or timing related to the publication of such Overnight Rate. In addition, the administrators of Overnight Rates may alter, discontinue or suspend calculation or dissemination of such Overnight Rates at any time without notice. There can be no guarantee that the Overnight Rates will not be discontinued or fundamentally altered in a manner that is materially adverse to the interests of investors in the notes (or that any applicable fallback provisions will provide a rate which is economically equivalent). If the manner in which the Overnight Rates are calculated changes, that change may result in a reduction of the amount of interest payable on Overnight Rate Notes (as defined in “Description of the Program — Interest Rates — Floating Rate Notes — Base Rates”) and the trading price of such notes.

The market continues to develop in relation to Overnight Rates as reference rates in capital markets and their adoption as alternatives to the relevant interbank offered rates (“IBORs”). Overnight Rate Notes may not have an established trading market, and an established trading market may never develop or may not be very liquid. Additionally, the use of Overnight Rates as a base rate for notes is nascent, and may be subject to change and development, both in terms of the substance of the calculation and in the development and adoption of market infrastructure for the issuance and trading of Overnight Rate Notes. Market conventions for calculating the interest rate for notes referencing Overnight Rates continue to evolve and market participants and relevant working groups are exploring alternative reference rates based on risk-free rates. The market or a significant part thereof may adopt an application of Overnight Rates that differs significantly from that set out and used in this offering circular or the applicable pricing supplement relating to Overnight Rates Notes. The use of the specific formula used to calculate the relevant Overnight Rate with respect to a series of notes may not be widely adopted by other market participants, if at all. If the market adopts a different calculation method, that would likely adversely affect the market price of the

applicable series of Overnight Rate Notes. In the future, we may also issue notes referencing Overnight Rates that differ materially in terms of interest determination when compared with any previous notes referencing the relevant Overnight Rate. Market terms for Overnight Rate Notes, such as the spread over the base rate reflected in interest rate provisions, the manner of calculating a forward-looking term rate, or the manner of compounding the base rate, may evolve over time, and trading prices of the relevant notes may be lower than those of later-issued Overnight Rate Notes as a result. Similarly, if the Overnight Rates do not prove to be widely used in notes, the trading price of Overnight Rate Notes may be lower than those of notes linked to rates that are more widely used. Investors in the notes may not be able to sell the notes at all or may not be able to sell the notes at prices that will provide them with a yield comparable to similar investments that have a developed secondary market, and may consequently suffer from increased pricing volatility and market risk.

Overnight Rates have a limited performance history and it is not possible to predict the future performance of such Overnight Rates. As a consequence, no future performance of the relevant Overnight Rate or notes referencing such Overnight Rate may be inferred from any of the hypothetical or actual historical performance data. In addition, the composition and characteristics of the Overnight Rates are not the same and are different from the composition and characteristics of their respective IBOR counterparts. For example, the Overnight Rates are backward-looking overnight rates measuring the rate paid by banks on overnight wholesale funds, compared to IBORs which are forward-looking term rates measuring the cost of borrowing for a future period. Certain Overnight Rates, such as SONIA, €STR and TONA, are unsecured overnight rates, whereas others, such as SOFR and SARON, are secured overnight rates. As a result, there can be no assurance that the Overnight Rates (or any base rate derived from any of them) will perform in the same way as their respective IBOR counterparts would have at any time, including, without limitation, as a result of changes in interest and yield rates in the market, market volatility or global or regional economic, financial, political, regulatory, judicial or other events.

Furthermore, interest on Overnight Rate Notes will be determined on a date near the end of the relevant interest period. Therefore, it may be difficult for investors in Overnight Rate Notes to reliably estimate the amount of interest which will be payable on such notes on the relevant interest payment dates. Further, if such notes become due and payable prior to their stated maturity, the rate of interest payable shall be determined by reference to a shortened period ending prior to the date on which such notes become due and payable or are scheduled for redemption.

In addition, the manner of adoption or application of the Overnight Rates as a base rate for Overnight Rate Notes may differ materially when compared with the application and adoption of such Overnight Rates in other markets, such as the derivatives and loan markets. Investors in the notes should carefully consider how any mismatch between the adoption of Overnight Rates as a reference rate across these markets may impact any hedging or other financial arrangements which they may put in place in connection with any acquisition, holding or disposal of Overnight Rate Notes.

Certain Additional Risks Related to SOFR

On June 22, 2017, the Alternative Reference Rates Committee (“ARRC”) convened by the Board of Governors of the Federal Reserve System and the Federal Reserve Bank of New York identified SOFR, a broad U.S. treasuries repurchase financing rate to be published by the Federal Reserve Bank of New York, as the rate that, in the consensus view of the ARRC, represented best practice for use in certain new U.S. dollar derivatives and other financial contracts. SOFR is a broad measure of the cost of borrowing cash overnight collateralized by U.S. treasury securities and has been published by the Federal Reserve Bank of New York since April 2018. The Federal Reserve Bank of New York has also published historical indicative Secured Overnight Financing Rates going back to 2014. Investors should not rely on any historical changes or trends in SOFR as an indicator of future changes in SOFR.

Because SOFR is published by the Federal Reserve Bank of New York based on data received from other sources, we have no control over its determination, calculation or publication. The Federal Reserve Bank of New York notes on its publication page for SOFR that use of SOFR is subject to important limitations and disclaimers, including that the Federal Reserve Bank of New York may alter the methods of

calculation, publication schedule, rate revision practices or availability of SOFR at any time without notice. There can be no guarantee, particularly given its relatively recent introduction, that SOFR will not be discontinued or fundamentally altered in a manner that is materially adverse to the interests of investors in the notes. If the manner in which SOFR is calculated is changed, that change may result in a reduction of the amount of interest payable on SOFR-linked floating rate notes and the trading prices of such notes. In addition, the Federal Reserve Bank of New York may withdraw, modify or amend published SOFR data in its sole discretion and without notice. The interest rate for any day will not be adjusted for any modifications or amendments to SOFR data that the Federal Reserve Bank of New York may publish after the interest rate for that day has been determined.

Additionally, daily changes in SOFR have, on occasion, been more volatile than daily changes in other benchmark or market rates. Although occasional increased daily volatility in SOFR would not necessarily lead to more volatile interest payments, the return on and value of SOFR-linked floating rate notes may fluctuate more than floating rate notes that are linked to less volatile rates. In addition, the volatility of SOFR has reflected the underlying volatility of the overnight U.S. Treasury repo market. The Federal Reserve Bank of New York has at times conducted operations in the overnight U.S. Treasury repo market in order to help maintain the federal funds rate within a target range. There can be no assurance that the Federal Reserve Bank of New York will continue to conduct such operations in the future, and the duration and extent of any such operations is inherently uncertain. The effect of any such operations, or of the cessation of such operations to the extent they are commenced, is uncertain and could be materially adverse to investors in SOFR-linked floating rate notes.

Since SOFR is a relatively new reference rate, SOFR-linked floating rate notes may not have an established trading market when issued and an established trading market may never develop or may not be very liquid. Market terms for SOFR-linked floating rate notes, such as the spread over the base rate reflected in interest rate provisions, the manner of calculating a forward-looking term rate or the manner of compounding the base rate, may evolve over time, and trading prices of such notes may be lower than those of later-issued SOFR-linked notes as a result. Similarly, if SOFR does not prove to be widely used in notes, the trading price of SOFR-linked notes may be lower than those of notes linked to reference rates that are more widely used. Investors in such notes may not be able to sell such notes at all or may not be able to sell such notes at prices that will provide them with a yield comparable to similar investments that have a developed secondary market, and may consequently suffer from increased pricing volatility and market risk.

Certain Risks Related to the Overnight TIIE

The information regarding Overnight TIIE (which is used in the calculation of the compounded daily Overnight TIIE) that Banco de México makes publicly available is limited.

Banco de México calculates and determines the Tasa de Interés Interbancaria de Equilibrio en moneda nacional ("TIIE") a plazo de un Día Hábil Bancario (Overnight Interbank Equilibrium Interest Rate for Mexican pesos) referred to as TIIE de Fondo (Overnight TIIE) ("Overnight TIIE"), based on transaction data, namely, wholesale overnight repurchase agreement (repo) transactions denominated in Mexican pesos with a period of one Mexican Banking Day, that are settled by banks and Mexican brokerage firms (casas de bolsa) over debt instruments issued by the Mexican Federal Government, the Mexican Bank Savings Protection Institute (IPAB) and Banco de México itself (as provided in the Circular 3/2012 "Provisions applicable to transactions of Credit Institutions, Regulated Financial Entities of Multiple Purpose that have Controlling Interest Relationship with Credit Institutions and the National Financial Institution of Agricultural-Farming, Rural, Forestry and Fishing Development" (Circular 3/2012 Disposiciones Aplicables a las Operaciones de las Instituciones de Crédito, las Sociedades Financieras de Objeto Múltiple que mantengan Vínculos Patrimoniales con Instituciones de Crédito y a la Financiera Nacional de Desarrollo Agropecuario, Rural, Forestal y Pesquero), issued by Banco de México, which was published in the Official Gazette on March 2nd 2012 (as it amended from time to time, the "Circular 3/2012")); however, the detail of such transaction data is not available to the public and as a result, investors in notes linked to the Overnight TIIE ("Overnight TIIE Notes") may find it more difficult to obtain information relating to Overnight

TIIE than certain other reference rates, which could adversely affect the market for the Overnight TIIE Notes.

The characteristics of Overnight TIIE are different as those of TIIE for periods other than overnight.

As of January 16, 2020, Banco de México began to calculate and publish Overnight TIIE, with the purpose of having an interest rate consistent with international standards and principles based on actually observed transactions data, for a near risk free rate. The composition and characteristics of Overnight TIIE are not the same as TIIE rates published by Banco de México for periods other than overnight (28 day TIIE, 91 day TIIE and 182 day TIIE). As previously described, Overnight TIIE is calculated based on transaction data, derived from a base sample of wholesale overnight repurchase agreement transactions denominated in Mexican pesos with a period of one Mexican Banking Day (provided that Circular 3/2012 allows Banco de México to use information obtained from companies that manage systems that facilitate securities transaction that are authorized by the Mexican National Banking and Securities Commission (Comisión Nacional Bancaria y de Valores) or interest rate quotes for repo transactions to create a base sample in case Banco de México is not able to obtain the base sample of settled transactions). On the other hand, the TIIE rates for periods other than overnight are currently calculated using commercial bank quotes as set forth in the Circular 3/2012 (which was recently amended by means of certain Circular 4/2023 published in the "Diario Oficial de la Federación" (Federal Official Gazette) on April 13, 2023 due to the transition for the cessation of TIIE rates for 28-day, 91-day and 182-day periods, whereby, among other things, a new methodology to calculate TIIE rates for periods other than overnight is established, to be effective as of January 1, 2024, with respect to the calculation of 91 day TIIE and 182 day TIIE, and as of January 1, 2025 for the calculation of 28 day TIIE).

Additionally, under those amendments, Mexican banks are required to cease using TIIE rates for 91-day and 182-day periods from January 1, 2024, and TIIE rates for 28-day periods from January 1, 2025. Banco de México will continue publishing TIIE rates for periods other than overnight under the amended methodology after January 1, 2024 and January 1, 2025, respectively, but Mexican banks will only be able to use those rates for financings entered into before those dates that were originally agreed with such rates. While Banco de México has urged Mexican banks to adopt Overnight TIIE in their new financing transactions before the due dates referred to above, during the transition period Mexican banks may continue to use TIIE rates for periods other than overnight, which could lead to a more difficult process of adoption of Overnight TIIE when the due dates become effective.

As a result, there is no assurance that Overnight TIIE will perform in the same way as TIIE rates for periods other than overnight, including, without limitation, as a result of changes in interest and yield rates in the market, bank credit risk, market volatility or global or regional economic, financial, political, regulatory, judicial or other events. In this regard, Overnight TIIE is not expected to be a comparable substitute or replacement for TIIE rates for 28-day, 91-day and 182-day periods. Any failure of Overnight TIIE to gain market acceptance could adversely affect the value of and market for Overnight TIIE notes. Additionally, if Mexican banks fail to timely adequate to transition to Overnight TIIE, they could incur in technical and operational risks with respect to any instruments denominated in Overnight TIIE.

The secondary trading market for Overnight TIIE Notes may be limited.

Considering that Banco de México began publishing Overnight TIIE recently, the trading market in debt securities such as the Overnight TIIE Notes continues to develop and in the future it may not develop or may not be very liquid. Any failure of Overnight TIIE to gain market acceptance could adversely affect the value of and market for the affected notes. As of the date of this offering circular, Overnight TIIE has not been widely used as a reference rate for floating-rate debt securities. If Overnight TIIE does not prove to be as widely used as a benchmark in securities that are similar or comparable to the Overnight TIIE notes, the trading price of the Overnight TIIE notes may be lower than those of debt securities with interest rates based on rates that are more widely used.

Overnight TIIE may be modified or discontinued, which could adversely affect the value of the Overnight TIIE Notes.

Overnight TIIE, which will be used in the calculation of the compounded daily Overnight TIIE, is a relatively new rate published by Banco de México. There can be no assurance, particularly given its relatively recent introduction, that Overnight TIIE will not be discontinued or substantially modified by Banco de México in a manner that is materially adverse to the interests of investors in Overnight TIIE Notes or that the Issuer and other market participants will be adequately prepared for such modifications or cessation.

Benchmark Rate Discontinuance Or Prohibition On Use May Lead to Adjustments To The Terms Of The Notes

If the applicable pricing supplement specifies “Original Primary Rate Fallback” to be “Applicable” and the calculation agent determines that an original primary rate event and its related adjustment date have occurred with respect to the base rate designated as an original primary rate, then the calculation agent may adjust the terms and conditions of the notes (without your consent) to account for such event and select a replacement primary rate as set forth under the section entitled “Description of the Program — Features Common to All Notes — Interest Rates — Floating Rate Notes — Effect of Original Primary Rate Event on Certain Floating Rate Notes”. The selection of a replacement primary rate, any replacement primary rate amendments and decisions, determinations or elections made by the calculation agent in connection with implementing the replacement primary rate, could result in adverse consequences to the return on, value of and market for the notes. There is no assurance that the characteristics of any replacement primary rate will be similar to the relevant original primary rate, or that any replacement primary rate will produce the economic equivalent of such original primary rate. Furthermore, the exercise of discretion by Goldman Sachs International, as calculation agent, may present the Issuer and/or Goldman Sachs International with a conflict of interest.

If, with respect to any note linked to SOFR, the calculation agent determines on or prior to the relevant interest determination date that a benchmark transition event and its related benchmark replacement date have occurred with respect to SOFR, then the benchmark transition provisions will thereafter apply to all determinations of the interest payable on SOFR-linked notes. In accordance with the benchmark transition provisions, after a benchmark transition event and its related benchmark replacement date have occurred, the interest that will be payable for each interest period on SOFR-linked notes will be determined by reference to the benchmark replacement and any applicable spread. If the calculation agent has determined that a benchmark transition event and its related benchmark replacement date have occurred with respect to SOFR, the calculation agent in its sole discretion may determine the benchmark replacement conforming changes in a manner that is consistent with industry-accepted practices for such benchmark replacement (each term as defined under “Description of the Program — Interest Rates — Floating Rate Notes — Effect of Benchmark Transition Event on SOFR Notes”).

Risk Factors Associated with Foreign Exchange Rates

An Investment in a Foreign Currency Note Involves Currency-Related Risks

Investment in a note whose principal and/or interest is payable in a currency other than your own principal currency, which other currency we refer to as a “foreign currency”, or a note for which the amounts you receive may be determined in whole or in part by reference to a foreign currency or property denominated in or otherwise linked to a foreign currency may entail significant risks that may not be associated with a similar investment in a note payable solely in your own principal currency. These risks include the possibility of significant changes in rates of exchange between your currency and the various foreign currencies or composite currencies and the possibility of the imposition or modification of foreign exchange controls or other conditions by foreign governments. These risks generally depend on factors over which we have no control, such as financial, economic, military and political events and the supply of and demand for the relevant currencies in the global markets. Notes of this kind may not be an appropriate investment for investors who are unsophisticated with respect to foreign currency transactions. For example, if the foreign currency in which

your note is payable depreciates against your own currency, the equivalent in your own currency of the amount you receive at maturity may be less than your own currency equivalent of the amount you invested. Furthermore, currency fluctuations during the life of your note may adversely affect the equivalent in your own currency of the value of your note. Interest rates in respect of securities denominated in foreign currencies may fluctuate differently from the way in which interest rates in respect of securities in your own currency fluctuate which may adversely affect the market price of your note. Ultimately, the return on your foreign currency note determined by reference to your own currency may be significantly less than the return had you made your original investment in a security denominated in your own currency.

Changes in Foreign Currency Exchange Rates Can Be Volatile and Unpredictable

Rates of exchange between currencies have been highly volatile, and this volatility may continue and perhaps spread to other currencies in the future. Fluctuations in currency exchange rates could adversely affect an investment in a note denominated in, or whose value is otherwise linked to, a foreign currency. Depreciation of the specified currency against your own principal currency could result in a decrease in the market value of your note, including the equivalent in your own currency of the amount you receive at maturity. Depreciation of the specified currency against your own principal currency could result in a loss to the investor on principal currency equivalent basis.

Exchange rates are the result of the supply of, and the demand for, the relevant currencies. Changes in exchange rates result over time, and may vary considerably during the life of an investment denominated in or otherwise relating to a foreign currency, from the interaction of many factors directly or indirectly affecting economic and political conditions in the country or area of the applicable currency, including economic and political developments in other countries.

Of particular importance to potential currency exchange risk are:

- existing and expected rates of inflation;
- existing and expected interest rate levels;
- the balance of payments;
- the extent of governmental surpluses or deficits in the relevant countries; and
- other financial economic, military and political factors.

All of these factors are, in turn, sensitive to the monetary, fiscal and trade policies pursued by the government of the applicable country and other countries important to international trade and finance.

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

Government Policy Can Adversely Affect Foreign Currency Exchange Rates and an Investment in a Foreign Currency Note

Foreign currency exchange rates can either float or be fixed by sovereign governments. From time to time, governments use a variety of techniques, such as intervention by a country's central bank or

imposition of regulatory controls or taxes, to affect the exchange rate of their currencies. Governments may also issue a new currency to replace an existing currency or alter the exchange rate or exchange characteristics by devaluation or revaluation of a currency. Thus, a special risk in purchasing foreign currency notes may be that their yields or payouts could be significantly and unpredictably affected by governmental actions. Even in the absence of governmental action directly affecting foreign currency exchange rates, political, military or economic developments in the country issuing the specified foreign currency for a note or elsewhere could lead to significant and sudden changes in the foreign currency exchange rate between the foreign currency and your principal currency. These changes could affect your principal currency equivalent value of the note as participants in the global currency markets move to buy or sell the foreign currency or your own principal currency in reaction to these developments.

Governments have imposed from time to time and may in the future impose exchange controls or other conditions, including taxes, with respect to the exchange or transfer of a specified currency that could affect exchange rates as well as the availability of a specified currency for a note at its maturity or on any other payment date. In addition, the ability of a holder to move currency freely out of the country in which payment in the currency is received or to convert the currency at a freely determined market rate could be limited by governmental actions.

We May Not Adjust Any Notes to Compensate for Changes in Foreign Currency Exchange Rates

Except as described below, we will not make any adjustment or change in the terms of any note in the event of any change in exchange rates for the relevant currency, whether in the event of any devaluation, revaluation or imposition of exchange or other regulatory controls or taxes or in the event of other developments affecting that currency or any other currency. Consequently, investors in foreign currency notes will bear the risk that their investment may be adversely affected by these types of events.

Non-U.S. Dollar Notes May Permit Us to Make Payments in U.S. Dollars or Delay Payment If We Are Unable to Obtain the Specified Currency

Notes payable in a currency other than U.S. dollars may provide that, if the other currency (or its successor) is not available to us at or about the time when a payment on the notes comes due because of circumstances beyond our control, we will be entitled to make the payment in U.S. dollars or delay making the payment. These circumstances could include the imposition of exchange controls or our inability to obtain the other currency because of illiquidity, inconvertibility or non-transferability of the other currency or other disruptions in the currency markets. A determination of this kind may be based on limited information and would involve significant discretion on the part of the calculation agent. As a result, the value of the payment in U.S. dollars an investor would receive on the payment date may be less than the value of the payment the investor would have received in the other currency if it had been available, or may be zero. These matters are discussed under “Description of the Program — Features Common to All Notes — Currency of Notes” and “Description of the Program — Payment Mechanics for Notes” below. In addition, the unavailability of the specified non-U.S. currency will expose you to currency risks with respect to the U.S. dollar which would not have existed had the specified non-U.S. currency been available.

In a Lawsuit for Payment on a Non-U.S. Dollar Note, an Investor May Bear Foreign Currency Exchange Risk

The notes will be governed by New York law. Under Section 27 of the New York Judiciary Law, a state court in the State of New York rendering a judgment on a note denominated in a foreign currency other than U.S. dollars would be required to render the judgment in the specified currency; however, the judgment would be converted into U.S. dollars at the exchange rate prevailing on the date of entry of the judgment. Consequently, in a lawsuit for payment on a note denominated in a currency other than U.S. dollars, investors would bear currency exchange risk until judgment is entered, which could be a long time. You will therefore be exposed to currency risk with respect to both the U.S. dollar and, if applicable, the foreign currency.

In courts outside of New York, investors may not be able to obtain judgment in a specified currency other than U.S. dollars. For example, a judgment for money in an action based on a non-U.S. dollar note in many other U.S. federal or state courts ordinarily would be enforced in the United States only in U.S. dollars. The date used to determine the rate of conversion of the currency in which any particular note is denominated into U.S. dollars will depend upon various factors, including which court renders the judgment.

Information About Foreign Currency Exchange Rates May Not Be Indicative of Future Performance

If we issue a note denominated in a specified currency other than U.S. dollars, we may include in the applicable pricing supplement a currency supplement that provides information about historical exchange rates for that currency in relation to the U.S. dollar. Any information about exchange rates that we may provide will be furnished as a matter of information only, and you should not regard the information as indicative of the range of, or trends in, fluctuations in foreign currency exchange rates that may occur in the future. That rate will likely differ from the exchange rate used under the terms that apply to a particular note. In addition, the historical relationship between the U.S. dollar and the specified non-U.S. currency may not be an accurate proxy for the historical relationship between your own principal currency and that currency.

Determinations Made By the Exchange Rate Agent Are Made At Its Sole Discretion and May Adversely Affect the Market Price of the Notes

The exchange rate agent will have discretion in making various determinations that may adversely affect the market price of, or amounts payable under, notes denominated a specified currency other than U.S. dollars, including determinations with respect to any applicable successor currencies or exchange rates when the specified currency is not available (see “Payment Mechanics for Notes - How We Will Make Payments” below). All determinations made by the exchange rate agent shall be at its sole discretion (except to the extent it is expressly provided in this offering circular or in the applicable pricing supplement that any determination is subject to approval by us) and, in the absence of manifest error, shall be conclusive for all purposes and will bind all holders of the notes and us. The exchange rate agent will not have any liability for its determinations.

Risk Factors Associated with Taxation

We Cannot Advise You of All of the Non-U.S. Tax Consequences of Owning or Trading Any Notes We May Issue

The tax consequences of investing in the notes may, in any jurisdiction where you are subject to tax, vary significantly and adversely from the type of taxation described in the summary of the principal U.S. federal income and estate tax consequences of notes to a U.S. alien holder in this Prospectus under “Taxation — United States Taxation” below. You may face significant tax rates on interest, different tax treatment when you transfer your securities, more burdensome reporting obligations and wealth or similar taxes. These tax consequences and others could be material and adverse and therefore you should consult your own legal and tax advisors with respect to the tax characterization in your taxing jurisdiction(s) of an investment in the notes.

Unless Otherwise Specified in the Applicable Pricing Supplement, We Will Not Compensate Holders If We Have to Deduct Taxes from Payments on Any Notes We May Issue

With certain exceptions, as of the date of this offering circular, payments on any notes we may issue are not subject to U.S. federal withholding or other tax provided that the holder is a U.S. alien holder. Withholding from payments on a note may be required if a holder fails to provide a completed United States Internal Revenue Service Form W-8BEN or W-8BEN-E. See the section entitled “United States Taxation” below for more information.

Unless otherwise specified in the applicable pricing supplement, we will not gross up any payments due on the note to which the pricing supplement relates and we will not compensate holders for any amount that may be withheld or due because of any withholding tax. Accordingly, during the term of the note, whether or not due to a change in law, if any withholding or other tax, assessment or other governmental charge is imposed on payments on the note by the United States or any other jurisdiction or any political subdivision or taxing authority thereof or therein (including any payment upon redemption, repurchase or stated maturity of a note), and we are required to deduct that tax, charge or assessment from any payment we make on the note (including any payment upon redemption, repurchase or stated maturity of a note), we will make that payment only after making such deduction and will not pay holders any additional amounts to compensate them for the deduction.

Consequently, if you purchase a note in these circumstances and a deduction is required to be made, you will receive less than what you would otherwise have been entitled to receive as payment on your note on the stated maturity date. We cannot predict whether any such changes in law will occur during the term of any notes we may issue and, if they do occur, the amounts that may have to be deducted.

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.

Your notes could be subject to a U.S. withholding tax of 30% under a law (commonly known as “FATCA”) that was enacted in 2010. This tax could apply if you or any non-U.S. person or entity that receives a payment (directly or indirectly) on your behalf (including a bank, custodian, broker or other payee, at any point in the series of payments made on your notes) does not comply with the U.S. information reporting, withholding, identification, certification, and related requirements imposed by FATCA. The payments potentially subject to this withholding tax include interest (including original issue discount) and other periodic payments on the notes.

You should consult your own tax advisors regarding the relevant U.S. law and other official guidance on FATCA. You could be affected by this withholding if, for example, your bank or broker through which you hold the notes is subject to withholding because it fails to comply with these requirements. This might be the case even if you would not otherwise have been directly subject to withholding. Accordingly, you should consult your bank or broker about the likelihood that payments to it (for credit to you) will become subject to withholding in the payment chain.

We will not pay any additional amounts in respect of this withholding tax, so if this withholding applies, you will receive less than the amount that you would have otherwise received with respect to your notes. Depending on your circumstances, you may be entitled to a refund or credit in respect of some or all of this withholding. However, even if you are entitled to have any such withholding refunded, the required procedures could be cumbersome and significantly delay your receipt of any withheld amounts. For more information, see “United States Taxation – Foreign Account Tax Compliance Withholding (FATCA)”.

In addition, your notes may also be subject to other U.S. withholding tax as described in “United States Taxation”.

If We Redeem Your Notes or There Is an Adjustment upon a Change in Law, You May Receive Less than Your Initial Investment

If the calculation agent determines that, as a result of a change in law (as described under “Description of the Program — Features Common to All Notes — Change in Law”), (i) the performance by us and/or any of our affiliates under the notes and/or any related hedge positions has become unlawful or impractical in whole or in part for any reason or (ii) the performance under the notes will result in materially increased costs to us and/or any of our affiliates, then the calculation agent may determine an adjustment, if any, to be made to any one or more of the terms of the notes as the calculation agent determines appropriate to

account for the change in law, which may result in the amount payable at maturity being reduced to or being valued at an amount less than your initial investment. Furthermore, unless the applicable pricing supplement specifies otherwise, we may cancel such notes and, if permitted by applicable law, upon cancellation will pay the holder of such notes an amount equal to the non-scheduled early repayment amount of such notes, which will be determined by the calculation agent as described under “Description of the Program — Redemption and Repayment — Non-Scheduled Early Repayment Amount”. We may also take such action if the calculation agent determines that the performance by us or by one of our affiliates under the notes and/or any related hedge positions (assuming such affiliate had been the issuer of the notes or party to any such hedging arrangement) would be unlawful or impractical, or if, as a result of certain changes in the laws or regulations of any U.S. taxing authority, at any time on or after the applicable issue date or such other date as specified in the applicable pricing supplement, we are obligated to pay, on the next succeeding interest payment date or maturity date, additional amounts, as described under “Description of the Program — Redemption and Repayment — Payment of Additional Amounts” below, and that obligation cannot be avoided by the use of reasonable measures available to us.

The non-scheduled repayment amount may be less than the price at which you purchased your notes, the face amount of your notes or the market price you would have received for your notes if the change in law had not occurred and you sold your notes in the market on the non-scheduled early redemption date. Furthermore, you may not be able to reinvest the redemption proceeds at any effective interest rate as high as the interest rate or yield on the notes being redeemed. You should consider reinvestment risk in light of other investments available at that time. For more information, see “Description of the Program — Redemption and Repayment — Redemption Upon Change in Law”.

If “Fair Market Value” is specified in your pricing supplement as the “Non-Scheduled Early Repayment Amount”, the calculation agent will have significant discretion in determining the non-scheduled early repayment amount. The calculation agent may take into account such factors as it considers to be appropriate including, without limitation, our internal pricing models. Furthermore, the calculation agent may, in its reasonable discretion, adjust the amount payable to account for any reasonable expenses and costs of (or benefit to) the Issuer and/or its affiliates relating to the early redemption of the notes, including those relating to the unwinding of any underlying and/or related hedging arrangements and the hypothetical cost or benefit of replacing the amount of the funding provided by the notes at a reasonably equivalent maturity and ranking.

Unless stated otherwise in the applicable pricing supplement, the calculation agent in respect of the notes is Goldman Sachs International, which may be presented with a conflict of interest of the kind described below under “— Considerations Relating to the Role of The Goldman Sachs Group, Inc. and its Affiliates — As Calculation Agent, Goldman Sachs International Will Have the Authority to Make Determinations That Could Affect the Market Price of Floating Rate Notes and Indexed Notes, When the Note Matures and the Amount Payable at Maturity” in connection with the determination of the non-scheduled early repayment amount.

Risk Factors Related to Conflicts of Interest Between Goldman Sachs and Purchasers of Notes

As Calculation Agent, Goldman Sachs International Will Have the Authority to Make Determinations That Could Affect the Market Price of Floating Rate Notes and Indexed Notes, When the Note Matures and the Amount Payable at Maturity

As calculation agent, Goldman Sachs International will have discretion in making various determinations that affect the market price of floating rate and indexed notes, including all determinations regarding the relevant underlying or underlyers (including adjustments, rebasing and substitution, among other factors), any successor underlyers, underlying reference prices, contract prices, market disruption events, exchange business days, observation dates, any other factors or events relevant to this calculation of amounts dependent on the performance of the underlying or underlyers, business days, if applicable, interest amounts and interest payment dates, and the stated maturity, which could adversely affect the market price for the note and may present Goldman Sachs International with a conflict of interest of the

kind described above under “— Our Business Activities May Create Conflicts of Interest Between You and Us”. See also “— Benchmark Rate Discontinuance Or Prohibition On Use May Lead To Adjustments To The Terms Of The Notes” for discussion of conflicts of interests that may arise in connection with the selection of replacement primary rates by the calculation agent.

Trading and Other Transactions by Us in Instruments Linked to an Underlyer or the Components of an Underlyer May Impair the Market Price of an Indexed Note

We, through Goldman Sachs International or one or more of our other affiliates, expect to hedge our obligations under an indexed note by purchasing some or all of the following: underlyer components and options or futures on any of the underlyers or underlyer components or other instruments linked to any of the underlyers or underlyer components. We also expect to adjust any such hedges by, among other things, purchasing or selling any of the foregoing, at any time and from time to time and to unwind such hedges by purchasing or selling any of the foregoing at any time. We may also enter into, adjust and unwind hedging transactions relating to other indexed notes whose returns are linked to one or more underlyers. Any of these hedging activities may affect the level of any of the underlyers — directly or indirectly by affecting the price of the underlyer components — and, therefore, may adversely affect the market price of the relevant notes. It is possible that we, through our affiliates, could receive substantial returns with respect to our hedging activities while the market price of the relevant notes may decline. You should read the discussion of use of proceeds in the applicable pricing supplement for more information on the securities transactions in which we or one or more of our affiliates may engage.

Goldman Sachs International and our other affiliates may also engage in trading in one or more of the underlyer components or instruments linked to any of the underlyers or underlyer components included in an indexed note for their proprietary accounts, for other accounts under their management or to facilitate transactions, including, in the case of notes linked to an equity index, block transactions, on behalf of customers. Any of these activities of Goldman Sachs International or our other affiliates could affect the level of any of the underlyers — directly or indirectly by affecting the price of any underlyer components — and, therefore, could adversely affect the market price of the relevant notes. We may also issue, and Goldman Sachs International and our other affiliates may also issue or underwrite, other securities or financial or derivative instruments with returns linked to changes in the level of any of the underlyers or underlyer components. By introducing competing products into the marketplace in this manner, we and our affiliates could adversely affect the market price of the relevant notes.

The fiscal agency agreement governing notes we may issue under this offering circular does not, with respect to indexed notes, impose any restriction on our ability or the ability of any of our affiliates to purchase or sell all or any portion of the underlyer components or instruments linked to those components or the underlyers.

Our Business Activities May Create Conflicts of Interest Between You and Us

As noted above, Goldman Sachs International and our other affiliates expect to engage in trading activities related to one or more of the underlyers included in an indexed note (and the relevant underlyer components, in the case of an underlyer that is an index) that are not for your account or on your behalf. These trading activities may present a conflict between your interest in an indexed note and the interests Goldman Sachs International or our other affiliates have in their proprietary accounts, in facilitating transactions, including, in the case of notes linked to an equity index, block trades, for their customers and in accounts under their management. These trading activities, if they influence the level of the relevant underlyer, could be adverse to your interests as a beneficial owner of an indexed note.

Goldman Sachs International and our other affiliates may, at present or in the future, engage in business with the issuers of the underlying securities contained in an equity or debt underlyer included in an indexed note, including by making loans to or equity investments in those companies or providing advisory services to them. These services could include merger and acquisition advisory services. Any

such activities may present a conflict between the obligations of Goldman Sachs International or another of our affiliates and your interests as a beneficial owner of an indexed note. Moreover, one or more of our affiliates may have published or in the future expect to publish research reports with respect to one or more of the issuers of the underlying components. Any of these activities by any of our affiliates may affect the level of any of the underlyers and, therefore, the market price of the relevant notes.

We or One of Our Affiliates May Be the Underlyer Sponsor of an Underlyer or Underlyers to Which Your Note Is Linked and Will Have the Authority to Make Determinations That Could Materially Affect Your Note in Various Ways and Create Conflicts of Interest

The underlyer or underlyers to which your note is linked may be developed, owned, calculated and maintained by us or one of our affiliates. As underlyer sponsor, we would be responsible for the composition, calculation and maintenance of the underlyer and would have determinative influence over its composition, calculation and maintenance. The judgments that we or our affiliates, as underlyer sponsor, would make in connection with the composition, calculation and maintenance of the underlyer, could affect both the market price of your note and the amount payable at maturity.

We or our affiliates, in our capacity as underlyer sponsor of an underlyer to which your note is linked, would have no obligation to take your interests into consideration for any reason. We or our affiliates may decide to discontinue calculating and publishing the underlyer which could mean that Goldman Sachs International, our affiliate, as calculation agent, would have the discretion to make determinations with respect to the underlyer levels of the underlyer for purposes of calculating the amount payable at maturity.

Risk Factors Related to Regulatory Resolution Strategies and Long-Term Debt Requirements

The Application of Regulatory Resolution Strategies Could Increase the Risk of Loss for Holders of Our Debt Securities in the Event of the Resolution of The Goldman Sachs Group, Inc.

Your ability to recover the full amount that would otherwise be payable on our debt securities in a proceeding under the U.S. Bankruptcy Code may be impaired by the exercise by the FDIC of its powers under the “orderly liquidation authority” under Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd-Frank Act”). In addition, the single point of entry strategy described below is intended to impose losses at the top-tier holding company level in the resolution of a global systemically important bank (“G-SIB”) such as The Goldman Sachs Group, Inc.

Title II of the Dodd-Frank Act created a resolution regime known as the “orderly liquidation authority” to which financial companies, including bank holding companies such as The Goldman Sachs Group, Inc., can be subjected. Under the orderly liquidation authority, the FDIC may be appointed as receiver for a financial company for purposes of liquidating the entity if, upon the recommendation of applicable regulators, the Secretary of the Treasury determines, among other things, that the entity is in severe financial distress, that the entity’s failure would have serious adverse effects on the U.S. financial system and that resolution under the orderly liquidation authority would avoid or mitigate those effects. Absent such determinations, The Goldman Sachs Group, Inc., as a U.S. bank holding company, would remain subject to the U.S. Bankruptcy Code.

If the FDIC is appointed as receiver under the orderly liquidation authority, then the orderly liquidation authority, rather than the U.S. Bankruptcy Code, would determine the powers of the receiver and the rights and obligations of creditors and other parties who have transacted with The Goldman Sachs Group, Inc. There are substantial differences between the rights available to creditors in the orderly liquidation authority and in the U.S. Bankruptcy Code, including the right of the FDIC under the orderly liquidation authority to disregard the strict priority of creditor claims in some circumstances (which would otherwise be respected by a bankruptcy court) and the use of an administrative claims procedure to determine creditors’ claims (as opposed to the judicial procedure utilized in bankruptcy proceedings). In certain circumstances under the orderly liquidation authority, the FDIC could elevate the priority of claims that it determines necessary to facilitate a smooth and orderly liquidation without the need to obtain

creditors' consent or prior court review. In addition, the FDIC has the right to transfer claims to a third party or "bridge" entity under the orderly liquidation authority. The FDIC has announced that a single point of entry strategy may be a desirable strategy to resolve a large financial institution such as The Goldman Sachs Group, Inc. in a manner that would, among other things, impose losses on shareholders, debt holders (including, in our case, holders of our debt securities) and other creditors of the top-tier holding company (in our case, The Goldman Sachs Group, Inc.), while permitting the holding company's subsidiaries to continue to operate. In addition, the Board of Governors of the Federal Reserve System (the "Federal Reserve Board") has adopted requirements that U.S. G-SIBs, including The Goldman Sachs Group, Inc., maintain minimum amounts of long-term debt and total loss-absorbing capacity to facilitate the application of the single point of entry resolution strategy. It is possible that the application of the single point of entry strategy under the orderly liquidation authority—in which The Goldman Sachs Group, Inc. would be the only entity to enter resolution proceedings—would result in greater losses to holders of our debt securities (including holders of our fixed rate, floating rate and indexed debt securities), than the losses that would result from the application of a bankruptcy proceeding or a different resolution strategy, such as a multiple point of entry resolution strategy for The Goldman Sachs Group, Inc. and certain of its material subsidiaries. Assuming The Goldman Sachs Group, Inc. entered resolution proceedings and that support from The Goldman Sachs Group, Inc. or other available resources to its subsidiaries was sufficient to enable the subsidiaries to remain solvent, losses at the subsidiary level would be transferred to The Goldman Sachs Group, Inc. and ultimately borne by The Goldman Sachs Group, Inc.'s security holders, third-party creditors of The Goldman Sachs Group, Inc.'s subsidiaries would receive full recoveries on their claims, and The Goldman Sachs Group, Inc.'s security holders (including holders of our debt securities and other unsecured creditors) could face significant and possibly complete losses. In that case, The Goldman Sachs Group, Inc.'s security holders would face losses while the third-party creditors of The Goldman Sachs Group, Inc.'s subsidiaries would incur no losses because the subsidiaries would continue to operate and would not enter resolution or bankruptcy proceedings. In addition, holders of our eligible LTD (as defined below under "—The Notes Will Provide Only Limited Acceleration and Enforcement Rights") and other debt securities could face losses ahead of our other similarly situated creditors in a resolution under the orderly liquidation authority if the FDIC exercised its right, described above, to disregard the priority of creditor claims.

The orderly liquidation authority also provides the FDIC with authority to cause creditors and shareholders of a financial company such as The Goldman Sachs Group, Inc. in receivership to bear losses before taxpayers are exposed to such losses, and amounts owed to the U.S. government would generally receive a statutory payment priority over the claims of private creditors, including senior creditors. In addition, under the orderly liquidation authority, claims of creditors (including holders of our debt securities) could be satisfied through the issuance of equity or other securities in a bridge entity to which The Goldman Sachs Group, Inc.'s assets are transferred. If such a securities-for-claims exchange were implemented, there can be no assurance that the value of the securities of the bridge entity would be sufficient to repay or satisfy all or any part of the creditor claims for which the securities were exchanged. While the FDIC has issued regulations to implement the orderly liquidation authority, not all aspects of how the FDIC might exercise this authority are known and additional rulemaking is possible. In addition, certain jurisdictions, including the U.K. and the E.U., have implemented, or are considering, changes to resolution regimes to provide resolution authorities with the ability to recapitalize a failing entity by writing down its unsecured debt or converting its unsecured debt into equity. Such "bail-in" powers are intended to enable the recapitalization of a failing institution by allocating losses to its shareholders and unsecured debtholders. For example, the Bank of England requires a certain amount of intercompany funding that we provide to our material U.K. subsidiaries to contain a contractual trigger to expressly permit the Bank of England to exercise such "bail-in" powers in certain circumstances. If the intercompany funding we provide to our subsidiaries is "bailed in," The Goldman Sachs Group, Inc.'s claims on its subsidiaries would be subordinated to the claims of the subsidiaries' third party creditors or written down. U.S. regulators are considering and non-U.S. authorities have adopted requirements that certain subsidiaries of large financial institutions maintain minimum amounts of total loss absorbing capacity that would pass losses up from the subsidiaries to the top-tier BHC and, ultimately, to security holders of the top-tier holding company in the event of failure.

The Application of The Goldman Sachs Group, Inc.'s Proposed Resolution Strategy Could Result in Greater Losses for Holders of Our Debt Securities

As required by the Dodd-Frank Act and regulations issued by the Federal Reserve Board and the FDIC, we are required to provide to the Federal Reserve Board and the FDIC a plan for our rapid and orderly resolution in the event of material financial distress affecting the firm or the failure of The Goldman Sachs Group, Inc. In our resolution plan, The Goldman Sachs Group, Inc. would be resolved under the U.S. Bankruptcy Code. The strategy described in The Goldman Sachs Group, Inc.'s resolution plan is a variant of the single point of entry strategy: The Goldman Sachs Group, Inc. and Goldman Sachs Funding LLC ("Funding IHC"), a wholly-owned, direct subsidiary of The Goldman Sachs Group, Inc., would recapitalize and provide liquidity to certain major subsidiaries, including through the forgiveness of intercompany indebtedness, the extension of the maturities of intercompany indebtedness and the extension of additional intercompany loans. If this strategy were successful, creditors of some or all of The Goldman Sachs Group, Inc.'s major subsidiaries would receive full recoveries on their claims, while holders of The Goldman Sachs Group, Inc.'s debt securities could face significant and possibly complete losses.

To facilitate the execution of our resolution plan, we formed Funding IHC. In exchange for an unsecured subordinated funding note and equity interest, The Goldman Sachs Group, Inc. transferred certain intercompany receivables and substantially all of its global core liquid assets ("GCLA") to Funding IHC, and agreed to transfer additional GCLA above prescribed thresholds.

We also put in place a Capital and Liquidity Support Agreement ("CLSA") among The Goldman Sachs Group, Inc., Funding IHC and our major subsidiaries. Under the CLSA, Funding IHC has provided The Goldman Sachs Group, Inc. with a committed line of credit that allows The Goldman Sachs Group, Inc. to draw sufficient funds to meet its cash needs during the ordinary course of business. In addition, if our financial resources deteriorate so severely that resolution may be imminent, (i) the committed line of credit will automatically terminate and the unsecured subordinated funding note will automatically be forgiven, (ii) all intercompany receivables owed by the major subsidiaries to The Goldman Sachs Group, Inc. will be transferred to Funding IHC or their maturities will be extended to five years, (iii) The Goldman Sachs Group, Inc. will be obligated to transfer substantially all of its remaining intercompany receivables and GCLA (other than an amount to fund anticipated bankruptcy expenses) to Funding IHC, and (iv) Funding IHC will be obligated to provide capital and liquidity support to the major subsidiaries. The Goldman Sachs Group, Inc.'s and Funding IHC's obligations under the CLSA are secured pursuant to a related security agreement. Such actions would materially and adversely affect The Goldman Sachs Group, Inc.'s liquidity. As a result, during a period of severe stress, The Goldman Sachs Group, Inc. might commence bankruptcy proceedings at an earlier time than it otherwise would if the CLSA and related security agreement had not been implemented.

If our proposed resolution strategy were successful, holders of The Goldman Sachs Group, Inc.'s debt securities could face losses while the third-party creditors of The Goldman Sachs Group, Inc.'s major subsidiaries would incur no losses because those subsidiaries would continue to operate and not enter resolution or bankruptcy proceedings. As part of the strategy, The Goldman Sachs Group, Inc. could also seek to elevate the priority of its guarantee obligations relating to its major subsidiaries' derivatives contracts or transfer them to another entity so that cross-default and early termination rights would be stayed under the International Swaps and Derivatives Association Universal Resolution Stay Protocol or International Swaps and Derivatives Association 2018 U.S. Resolution Stay Protocol, as applicable, which would result in holders of our eligible LTD and other debt securities incurring losses ahead of the beneficiaries of those guarantee obligations. It is also possible that holders of our eligible LTD and other debt securities could incur losses ahead of other similarly situated creditors of our major subsidiaries. If The Goldman Sachs Group, Inc.'s preferred resolution strategy were not successful, The Goldman Sachs Group, Inc.'s financial condition would be adversely impacted and holders of our debt securities may as a consequence be in a worse position than if the strategy had not been implemented. In all cases, any payments to holders of our debt securities are dependent on our ability to make such payments and are therefore subject to our credit risk.

The Notes Will Provide Only Limited Acceleration and Enforcement Rights

On December 15, 2016, the Federal Reserve Board adopted rules (the “TLAC Rules”) that require the eight U.S. G-SIBs, including The Goldman Sachs Group, Inc., among other things, to maintain minimum amounts of long-term debt—i.e., debt having a maturity greater than one year from issuance—satisfying certain eligibility criteria (“eligible LTD”). The TLAC Rules disqualify from eligible LTD, among other instruments, senior debt securities issued on or after December 31, 2016 that permit acceleration for reasons other than insolvency or payment default. As a result of the TLAC Rules, unless your pricing supplement says otherwise, the only events of default will be payment defaults that continue for a 30-day grace period and insolvency events as specified herein. Any other default under or breach of the notes will not give rise to an event of default, whether after notice, the passage of time or otherwise. As a consequence, if any such other default or breach occurs, holders of the notes will not be entitled to accelerate the maturity of any notes – that is, they will not be entitled to declare the principal of any notes to be immediately due and payable because of such other default or breach (other than any notes whose terms specify otherwise, as described in the applicable pricing supplement). These other defaults and breaches would include any breach of the covenant described below under “Description of the Program — Mergers and Similar Transactions”.

The limitations on events of default, acceleration rights and other remedies described in the prior paragraph do not apply with regard to all senior debt securities issued by The Goldman Sachs Group, Inc., particularly certain securities issued prior to January 1, 2017. Therefore, if certain defaults or breaches occur, holders of such other debt securities may be able to accelerate their securities so that such securities become immediately due and payable while you may not be able to do so. In such an event, our obligation to repay the accelerated securities in full could adversely affect our ability to make timely payments on your notes thereafter. These limitations on your rights and remedies could adversely affect the market value of your securities, especially during times of financial stress for us or our industry.

Please see “Description of the Program — Events of Default and Remedies” below for an explanation of the term “event of default” and for information regarding acceleration rights and remedies.

DOCUMENTS INCORPORATED BY REFERENCE

The Goldman Sachs Group, Inc. files documents and information with the United States Securities and Exchange Commission, which we refer to as the “SEC”. The following documents, which The Goldman Sachs Group, Inc. has filed with the SEC, are hereby incorporated by reference into this offering circular:

- (1) the Annual Report on Form 10-K for the fiscal year ended December 31, 2023, dated February 22, 2024 (the “2023 Form 10-K”), including Exhibit 21.1 thereto, which we filed with the SEC on February 23, 2024;
- (2) the Proxy Statement relating to our 2024 Annual Meeting of Shareholders on April 24, 2024 which we filed with the SEC on March 15, 2024;
- (3) the Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2024, dated May 2, 2024, which we filed with the SEC on May 3, 2024;
- (4) the Current Report on Form 8-K dated April 25, 2024;
- (5) the terms and conditions of the Notes contained on pages 38 - 96, and the form of pricing supplement contained on S-1 to S-13 of the offering circular dated June 2, 2023; and
- (6) all documents filed by The Goldman Sachs Group, Inc. with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the U.S. Securities Exchange Act of 1934 on or after the date of this offering circular and before the termination of the offering of the notes described in this offering circular.

The Goldman Sachs Group, Inc. will provide without charge to each person to whom this offering circular is delivered, upon his or her written or oral request, a copy of any or all documents referred to above which have been incorporated by reference into this offering circular, excluding exhibits to those documents. Unless otherwise indicated, any exhibits to such documents are not incorporated by reference into, and do not form part of, this offering circular. You can request those documents from Investor Relations, 200 West Street, New York, NY 10282, telephone +1 (212) 902-0300. A copy of those documents can also be obtained without charge from the office of the paying agent listed at the end of this offering circular. Our filings with the SEC are also available through the SEC’s website at <http://www.sec.gov>.

INTRODUCTION

The Goldman Sachs Group, Inc. is a leading global financial institution that provides a broad range of financial services across investment banking, asset and wealth management, equity and debt investments, private banking, lending, consumer platforms and transaction banking to a large and diversified client base that includes corporations, financial institutions, governments and individuals. Founded in 1869, we are one of the oldest and largest investment banking firms. We filed our original certificate of incorporation with the Secretary of State of the State of Delaware on July 21, 1998. Our headquarters are located at 200 West Street, New York, NY 10282, telephone +1 (212) 902-1000. We also maintain offices in all major financial centers around the world.

The Goldman Sachs Group, Inc. has entered into an agreement with Goldman Sachs International, an affiliate of The Goldman Sachs Group, Inc., under which Goldman Sachs International will, and other dealers may, act as agents for the placement, or purchase for resale, of notes issued by The Goldman Sachs Group, Inc.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of the notes to provide additional funds for our operations and for other general corporate purposes.

We will receive the net proceeds only from sales of the notes made in connection with their original issuance. We do not expect to receive any proceeds from resales of the notes by Goldman Sachs International or any of our other affiliates in market-making transactions. We expect our affiliates to retain the proceeds of their market-making resales and not to pay the proceeds to us.

CREDIT RATINGS

The following table sets forth our unsecured corporate credit ratings as of the date of this offering circular:

	Short-Term Debt	Long-Term Debt	Subordinated Debt	Preferred Stock
Dominion Bond Rating Service Limited	R-1 (middle)	A (high)	A	BBB (high)
Fitch, Inc.	F1	A	BBB+	BBB-
Moody's Investors Service	P-1	A2	Baa2	Ba1
Standard & Poor's	A-2	BBB+	BBB	BB+
Rating and Investment Information, Inc.	a-1	A	A-	—

A rating is not a recommendation to buy, sell or hold any of our securities. Any or all of these ratings are subject to revision or withdrawal at any time by the assigning rating organization. Each rating should be evaluated independently of any other rating.

The specific meaning of each of the credit ratings is set out by the relevant credit ratings agency in the applicable web site, as follows: for Dominion Bond Rating Service Limited, see <https://www.dbrs.com/understanding-ratings/#about-ratings>; for Fitch, Inc., see <https://www.fitchratings.com/site/definitions>; for Moody's Investors Service, see http://www.moody.com/researchdocumentcontentpage.aspx?docid=PBC_79004; for Standard & Poor's, see https://www.standardandpoors.com/en_US/web/guest/article/-/view/sourceld/504352 and for Rating and Investment Information, Inc., see <http://www.r-i.co.jp/eng/cfp/about/definition.html>.

DESCRIPTION OF THE PROGRAM

Information About Our Series H Euro Medium-Term Note Program

General Description of the Program

When we refer to “notes” in this offering circular, unless otherwise indicated, we mean the Series H euro medium-term notes. The notes may be issued pursuant to this offering circular and the relevant pricing supplement prepared in connection with a particular issuance of notes. The notes will not be secured by any property or assets and the notes will not be subordinated to any of our other debt obligations. We may offer and sell these notes to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis.

The Notes Will Be Senior

None of the notes will be secured by any property or assets of The Goldman Sachs Group, Inc. or its subsidiaries. Thus, by owning a note, you are one of our unsecured creditors. The notes will constitute part of our senior debt and will rank equally with all of our other unsecured and unsubordinated debt.

The Notes Will Be Issued Under a Fiscal Agency Agreement

The notes will be issued pursuant to a document called a fiscal agency agreement, which is a contract between The Goldman Sachs Group, Inc. and The Bank of New York Mellon, which acts as fiscal agent. The Goldman Sachs Group, Inc. and The Bank of New York Mellon entered into such a fiscal agency agreement on June 11, 2010. This fiscal agency agreement has since been amended and may be further amended from time to time. The fiscal agent performs certain administrative duties for us. The fiscal agent does not act as an indenture trustee on your behalf.

We May Issue Other Series of Debt Securities

The fiscal agency agreement permits us to issue different series of notes from time to time. The Series H euro medium-term notes is a single, distinct series of notes. We may, however, issue notes in such amounts, at such times and on such terms as we wish. The notes will differ from one another, and from other series, in their terms.

When we refer to the “notes” or “these notes”, unless otherwise indicated, we mean the Series H euro medium-term notes. When we refer to a “series” of notes, we mean a series, such as the Series H euro medium-term notes, issued under one of our fiscal agency agreements. When we refer to an “issue” or an “issuance” of notes, we mean an issue of notes having the same terms and conditions, including any reopenings of that issuance, and bearing as applicable the same Common Code or ISIN (or similar type of identifier).

Amounts That We May Issue

The fiscal agency agreement does not limit the aggregate amount of notes that we may issue, nor does it limit the number of series or the aggregate amount of any particular series we may issue. Also, if we issue notes having the same terms in a particular offering, we may “reopen” that offering at any later time and offer additional notes having the same stated maturity date, interest payment dates, if any, and other terms, except for the date of issuance and issue price. See “— Form, Exchange, Registration and Transfer — Extensions for Further Issuances” below.

The fiscal agency agreement and the notes do not limit our ability to incur other indebtedness or to issue other securities. Also, we are not subject to financial or similar restrictions by the terms of the notes or the fiscal agency agreement.

Use of This Offering Circular in Market-Making Transactions

Our affiliates may use this offering circular to resell notes in market-making transactions from time to time, including notes that we have not yet issued. See “Plan of Distribution” below. In this offering circular, the term “this offering” means the initial offering of the notes made in connection with their original issuance. This term does not refer to any subsequent resales of notes in market-making transactions.

We Are a Holding Company

Because our assets consist primarily of interests in the subsidiaries through which we conduct our businesses, our right to participate as an equity holder in any distribution of assets of any of our subsidiaries upon the subsidiary’s liquidation or otherwise, and thus the ability of our note holders to benefit from the distribution, is junior to creditors of the subsidiary, except to the extent that any claims we may have as a creditor of the subsidiary are recognized. Many of our subsidiaries, including our broker-dealer, bank and insurance subsidiaries, are subject to laws that restrict dividend payments or authorize regulatory bodies to block or reduce the flow of funds from those subsidiaries to us. Restrictions or regulatory action of that kind could impede access to funds that we need to make payments on our obligations, including debt obligations. Because some of our subsidiaries, including from time to time some of our principal operating subsidiaries, are partnerships in which we are a general partner or the sole limited partner, we may be liable for their obligations. We also guarantee many of the obligations of our subsidiaries. Any liability we may have for our subsidiaries’ obligations could reduce our assets that are available to satisfy our direct creditors, including investors in our notes.

Governing Law

The fiscal agency agreement and the notes will be governed by New York law. As our headquarters are located in the State of New York, we expect that courts of the State of New York would have jurisdiction in the event of litigation.

This Section Is Only a Summarized Discussion of the Fiscal Agency Agreement and of Certain Terms of Your Note

The fiscal agency agreement, as applicable, and related documents, including your note, contain the full legal text of the matters described in this section and your pricing supplement. A copy of the fiscal agency agreement is available for inspection at the corporate trust office of the fiscal agent in the Borough of Manhattan, New York City and at the office of the paying agent listed at the end of this offering circular.

Investors should carefully read the description of the terms and provisions of the notes and the fiscal agency agreement below. This section and your pricing supplement summarize all the material terms of the fiscal agency agreement and your note. They do not, however, describe every aspect of the fiscal agency agreement and your note. For example, in this section entitled “Description of the Program” and your pricing supplement, we use terms that have been given special meaning in fiscal agency agreement, but we describe the meaning of only the more important of those terms.

As you read this section, please remember that the specific terms of your notes as described in your pricing supplement will supplement and, if applicable, may modify and replace the general terms described in this section and elsewhere in this offering circular. If there are any differences between your pricing supplement and this offering circular, your pricing supplement will control with regard to your note. Thus, the statements we make in this section may not apply to your note.

When we refer to your pricing supplement, we mean the pricing supplement describing the specific terms of the note you purchase. The terms we use in any pricing supplement that we also use in this

document will have the meaning we give them in this document, unless we say otherwise in the applicable pricing supplement.

Features Common to All Notes

Form of Notes

We will issue each note in registered form. If the applicable pricing supplement states that the notes are to be issued under NSS and that they are intended to be recognized as eligible collateral for Eurosystem monetary policy and intra-day credit operations, then the notes will be registered in the name of a nominee for a common safekeeper for Euroclear and Clearstream, Luxembourg and we will deliver these notes to a common safekeeper for Euroclear and Clearstream, Luxembourg. Delivering the notes to a common safekeeper does not necessarily mean that the notes will be recognized as eligible collateral for Eurosystem monetary policy and intra-day credit operations by the Eurosystem either upon issue or at any time or all times during their life.

Global notes in registered form which are not issued under NSS will be deposited with, and registered in the name of a nominee of, a common depository for Euroclear and Clearstream, Luxembourg or other clearing system as specified in the applicable pricing supplement.

For a further discussion of global notes in registered form, see “— Form, Exchange, Registration and Transfer” below.

The address of Euroclear is 1 Boulevard du Roi Albert II, B-1210 Brussels, Belgium and the address of Clearstream, Luxembourg is 42 Avenue JF Kennedy, L-1855 Luxembourg. The address of any alternative clearing system will be specified in the applicable pricing supplement.

Principal Amount, Stated Maturity and Maturity

Unless otherwise stated, the principal amount of a note means the principal amount payable at its stated maturity, unless such amount is not determinable (or unless such note is an amortizing note), in which case the principal amount of a note is its face amount. Any notes owned by us or any of our affiliates are not deemed to be outstanding.

The term “stated maturity” with respect to any note (except for an amortizing note) means the day on which the principal amount of that note is scheduled to become due. With respect to any amortizing note, the term “stated maturity” means the day on which the final amortizing payment amount for such note (representing the aggregate principal amount of the note that remains outstanding) is scheduled to become due. The principal may become due sooner, by reason of redemption or acceleration after a default or otherwise in accordance with the terms of the note or later, due to the automatic extension of the stated maturity or the extension of the stated maturity at our election or the election of the holder, in each case, in accordance with the terms of the note. The day on which the principal actually becomes due (or, with respect to amortizing notes, the day on which the final amortizing payment amount actually becomes due), whether at the stated maturity or otherwise, is called the “maturity” of the principal.

In connection with any tranche of notes, the price and amount of notes to be offered under the program will be determined by us and the relevant dealer at the time of offer in accordance with prevailing market conditions.

Currency of Notes

Each note will be denominated in a currency, composite currency or basket of currencies or currency unit or units that will be specified on the face of the note and in the applicable pricing supplement. We refer to this currency, composite currency, basket of currencies or currency unit or units as a “specified currency”.

Some notes may have different specified currencies for principal and interest. You will have to pay for your note by delivering the requisite amount of the specified currency for the principal to Goldman Sachs International or another firm that we name in your pricing supplement, unless other arrangements have been made between you and us or you and that firm. We will make payments on the notes in the applicable specified currency or in another currency; for a further discussion of payment see “— Payment Mechanics for Notes” below. Unless otherwise specified in the applicable pricing supplement, Goldman Sachs International will be the exchange rate agent for any note denominated in a currency that is not the U.S. dollar.

See “Risk Factors — Considerations Relating to Notes Denominated or Payable in or Linked to Currencies Other Than Your Own Principal Currency” above for more information about the risks of investing in notes denominated in a currency different from your own principal currency.

Types of Notes

We may issue the following three types of notes:

- **Fixed Rate Notes.** A note of this type will bear interest at a fixed rate described in the applicable pricing supplement. This type includes amortizing notes and zero coupon notes, which bear no interest and are instead issued at a price lower than the principal amount. See “— Interest Rates — Fixed Rate Notes” below.
- **Floating Rate Notes.** A note of this type will bear interest at rates that are determined by reference to an interest rate formula. In some cases, the rates may also be adjusted by adding or subtracting a spread or multiplying by a spread multiplier and may be subject to a minimum rate or a maximum rate. The various interest rate formulas and these other features are described below under “— Interest Rates — Floating Rate Notes”. If your note is a floating rate note, the formula and any adjustments that apply to the interest rate will be specified in your pricing supplement.
- **Indexed Notes.** A note of this type provides that either or both of the principal amount payable at its stated maturity and/or the amounts payable during the life of the note (including, with respect to amortizing notes, the amortizing payment amounts) will be determined by reference to, directly or indirectly:
 - securities of one or more issuers,
 - one or more currencies,
 - one or more rates (including interest rates and foreign currency exchange rates),
 - one or more indices (including any consumer price or other inflation index),
 - any other financial, economic or other measure or instrument, including the occurrence or non-occurrence of any event or circumstance and credit events relating to one or more issuers or securities,
 - one or more of the items described above, and/or
 - one or more baskets of the items described above,as specified in the applicable pricing supplement.

A note may have elements of each of the three types of notes listed above. For example, a note may bear interest at a fixed rate (or rates) in some periods and at a floating rate in subsequent interest periods, or may bear interest at a fixed or floating rate. Similarly, a note may provide for a payment of principal at

maturity (or payment of amortizing payment amounts over the life of the note) linked to an underlying and also bear interest at a fixed or floating rate.

If you are a holder of an indexed note, you may receive a principal amount at maturity (including upon acceleration following an event of default) that is less than the outstanding face amount of your note or you may receive no principal amount at all, depending upon the formula used to determine the amount payable and the value of the applicable underlying or underlyers at maturity. The value of the applicable underlying or underlyers may fluctuate over time.

If you purchase an indexed note, your pricing supplement will include information about the relevant underlying or underlyers, about how any amounts that are to become payable will be determined by reference to the price or value of each underlying, about the terms on which the security may be settled physically or in cash, about any additional foreign exchange or other risks and about any additional tax considerations. Unless the pricing supplement otherwise specifies, Goldman Sachs International will be the calculation agent that will calculate the amounts payable with respect to the indexed note and may exercise significant discretion in doing so. You should carefully read “Risk Factors — Considerations Relating to Indexed Notes” above and any risk factors specified in the relevant pricing supplement before you purchase any indexed notes.

If we redeem the notes upon a change in law as described below under “— Redemption and Repayment — Redemption Upon Change in Law”, following certain changes in the laws or regulations of any U.S. taxing authority as described below under “— Redemption and Repayment — Redemption Upon Obligation to Pay Additional Amounts” or following the occurrence of an original primary event as described below under “— Redemption and Repayment — Redemption Upon an Original Primary Rate Event”, we may cancel such notes and, if permitted by applicable law, pay the purchaser of such notes an amount equal to the Non-Scheduled Early Repayment Amount. Additionally, we will also pay the Non-Scheduled Early Repayment Amount if an event of default occurs and the maturity of the note is accelerated. In any situation described in this paragraph, the Non-Scheduled Early Repayment Amount may be less than the outstanding face amount of your note. We describe the Non-Scheduled Early Repayment Amount in greater detail below under “Redemption and Repayment—Non-Scheduled Early Repayment Amount”.

Original Issue Discount Notes, Including Zero Coupon Notes

A fixed rate note, a floating rate note or an indexed note may be an original issue discount note. A note of this type is issued at a price lower than its principal amount or amount payable at maturity and may provide that, upon redemption or acceleration of its maturity, an amount less than its principal amount or amount payable at maturity will be payable. An original issue discount note may be a zero coupon note.

Amortizing Notes

If “Amortizing Notes” is specified in your pricing supplement as being applicable, the notes are amortizing notes. A note of this type will provide for the principal amount to be paid in instalments over the life of the note, together with any interest (if applicable), subject to an amortizing payment schedule specified in the applicable pricing supplement. The aggregate principal amount outstanding (expressed as a percentage) of each amortizing note as of the issue date shall equal 100%. On each amortizing payment date, the notes will pay the applicable amortizing payment amount, and the aggregate principal amount outstanding of the notes shall be reduced by the applicable amortizing percentage, each as set forth in the amortizing schedule contained in your pricing supplement.

Sinking Fund

Unless otherwise indicated in your pricing supplement, the notes will not be entitled to the benefit of any sinking fund — that is, we will not deposit money on a regular basis into a separate custodial account to repay your notes.

Information in the Pricing Supplement

Your pricing supplement will describe the specific terms of your note, which will include some or all of the following terms of your note:

- the specified currency or currencies for principal and interest and, if the specified currency is not U.S. dollars, certain other terms relating to your note;
- the authorized denomination;
- the issue price at which we originally issue your note, expressed as a percentage of the aggregate principal amount;
- the original issue date;
- the stated maturity, which will not be more than 40 years from the original issue date and, if applicable, any provisions for the extension of the stated maturity date;
- whether your note is a fixed rate note, a floating rate note, an indexed note or whether it combines elements of multiple types of notes as described above;
- whether your notes are represented by a global note or a master global note;
- if your note is a fixed rate note, the annual rate at which your note will bear interest for the relevant periods and the interest payment dates, if different from those stated under “— Interest Rates — Fixed Rate Notes” below;
- if your note is a floating rate note, the interest rate basis for the relevant periods, which may be one of the base rates described under “— Interest Rates — Floating Rate Notes” below or any other base rate or interest rate formula as specified in your pricing supplement; any applicable index currency or maturity, spread or spread multiplier or initial base rate, maximum rate or minimum rate; if the interest rate basis for your notes is the CMT rate, the designated CMT Reuters screen page; if the interest rate basis for your notes is the federal funds rate, whether the federal funds rate will be determined by reference to the federal funds (effective) rate or the federal funds open rate; and the interest reset, determination, calculation and payment dates, all of which we describe under “— Interest Rates — Floating Rate Notes” below; the day count convention used to calculate interest payments for any period; the business day convention; and the calculation agent;
- if your note is an indexed note, the principal amount, if any, we will pay you at maturity, the amount of interest, if any, we will pay you on the relevant interest payment date or dates or the formula(e) we will use to calculate these amounts, and the terms on which your note will be exchangeable for or payable in cash, securities of an issuer other than The Goldman Sachs Group, Inc. or other property in addition to certain other information relating to the indexed note;
- whether your note is an original issue discount note and, if so, the yield to maturity;
- whether your note is an amortizing note and if so, the applicable amortizing payment amounts over the life of the note;
- if applicable, or to the extent we want to modify the provisions described in this offering circular, the circumstances under which your note may be redeemed at our option or repaid at the holder’s option before the stated maturity, including any redemption or repayment commencement date, redemption or repayment date(s), redemption or repayment price(s) and redemption or repayment period(s), all of which we describe under “— Redemption and Repayment” below;
- whether admission will be made to the Luxembourg Stock Exchange for your note to be listed on the Official List of the Luxembourg Stock Exchange and admitted to trading on the Euro MTF, and whether the notes will be listed on any other stock exchange; and
- any other terms of your note which could be different from those described in this offering circular.

Notes Offered During Subscription Period

The pricing supplement will also specify if an offering of securities is open for subscription for a specified period of time and, if so, will specify the following:

- if applicable, the process for notification to applicants of the amount allotted and an indication whether dealing in the notes being offered may begin before such notification is made;
- any conditions to which the offer is subject;
- the total amount of the offer and how the amount of notes offered may be increased;
- if applicable, the time period during which the offer will be open and a description of the subscription process;
- if applicable, a description of the possibility to reduce subscriptions and the manner for refunding excess amounts paid by subscribers;
- if applicable, details of the minimum and/or maximum subscription amount;
- if applicable, the method and time limits for paying up the notes being offered;
- if applicable, our ability to extend, postpone, revoke and/or terminate an offer period;
- if applicable, a full description of the manner and date in which results of the offer are to be made public; or
- if applicable, the issue price at which we originally issue your note and the offer price, as determined by the Issuer in light of, among other considerations, prevailing market conditions, such as current interest rates.

Market-Making Transactions

If you purchase your note in a market-making transaction, you will receive information about the issue price, trade and settlement dates in a separate confirmation of sale. A market-making transaction is one in which Goldman Sachs International or another of our affiliates resells a note it has previously acquired from another holder. A market-making transaction in a particular note occurs after the original issuance and sale of the note.

Business Days

The following definitions of “business day” shall apply to the notes:

In relation to any Notes held or to be held in Euroclear and/or Clearstream, Luxembourg, “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday on which Euroclear and/or Clearstream, Luxembourg (as the case may be) is open for business;

In relation to any sum payable in New Zealand dollars (“NZD”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in Auckland, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close;

In relation to any sum payable in renminbi (“RMB”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in Beijing, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close;

In relation to any sum payable in euros (“EUR”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday on which the Trans-European Automated Real-Time Gross Settlement Express Transfer (TARGET) System, or any successor system, is open for business;

In relation to any sum payable in Hong Kong dollars (“HKD”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in Hong Kong, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close;

In relation to any sum payable in Great Britain pounds (“GBP”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in London, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close;

In relation to any sum payable in Mexican pesos (“MXN”), “Business Day” means each day on which commercial banks are open for business (including dealings in foreign exchange and foreign currency deposits) in Mexico City, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement);

In relation to any sum payable in Indian rupee (“INR”), “Business Day” means each day on which commercial banks are open for business (including dealings in foreign exchange and foreign currency deposits) in Mumbai, India, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement);

In relation to any sum payable in US dollars (“USD”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in New York City, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close;

In relation to any sum payable in Norwegian Kroner (“NOK”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in Oslo, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close;

In relation to any sum payable in South Korean won (“KRW”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in Seoul, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close;

In relation to any sum payable in Singapore dollars (“SGD”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in Singapore, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close;

In relation to any sum payable in Australian dollars (“AUD”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in Sydney, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close;

In relation to any sum payable in Taiwan dollars (“TWD”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in Taipei, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close;

In relation to any sum payable in Japanese yen (“JPY”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in Tokyo, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close; and

In relation to any sum payable in Canadian dollars (“CAD”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in Toronto, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close; and

In relation to any sum payable in Swiss Franc (“CHF”), “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in Zurich, and in each Additional Business Centre (if any, as may be specified in the applicable pricing supplement), generally are authorized or obligated by law, regulation or executive order to close.

Notwithstanding the foregoing, in each case, if the relevant pricing supplement specifies “Non-Default Business Day” to be “Applicable”, “Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in each Additional Business Centre (as specified in the applicable pricing supplement) generally are authorized or obligated by law, regulation or executive order to close, provided that if the Additional Business Centre is specified in the relevant pricing supplement to be or to include (i) “TARGET”, then “Business Day” shall mean a day which is also a TARGET Business Day, (ii) “U.S. Government Securities”, then “Business Day” shall mean a day which is also a U.S. Government Securities Business Day”.

Where the applicable pricing supplement specifies “Non-Default Business Day” to be applicable and more than one Additional Business Centre is listed, a day must satisfy all of the relevant conditions in order to be a business day for your notes.

“Additional Business Centre” means the place(s) specified as such in the applicable pricing supplement.

“TARGET Business Day” means each Monday, Tuesday, Wednesday, Thursday and Friday on which the Trans-European Automated Real-Time Gross Settlement Express Transfer (TARGET) System, or any successor system, is open for business.

“U.S. Government Securities Business Day” means each day that is not a Saturday or Sunday or a day on which The Securities Industry and Financial Markets Association’s U.S. holiday schedule recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in U.S. government securities.

Business Day Conventions

As specified in the applicable pricing supplement, the following business day conventions may apply to any note with regard to any relevant date other than one that falls on the stated maturity date or earlier redemption or repayment date:

If the “Business Day Convention” is specified in your pricing supplement to be “Following” or “Following Adjusted” then, for any (i) interest payment date, (ii) interest period start date or interest period end date specified in your pricing supplement or (iii) amortizing payment date, as applicable, other than, in each case, the stated maturity date or earlier redemption or repayment date, if such date would otherwise fall on a day that is not a business day, such date will be postponed to the next day that is a business day.

If the “Business Day Convention” is specified in your pricing supplement to be “Modified Following” or “Modified Following Adjusted” then, for any (i) interest payment date, (ii) interest period start date or interest period end date specified in your pricing supplement or (iii) amortizing payment date, as applicable, other

than, in each case, the stated maturity date or earlier redemption or repayment date, other than the stated maturity date or earlier redemption or repayment date, if such date would otherwise fall on a day that is not a business day, such date will be postponed to the next day that is a business day; *provided* that, if the next business day falls in the next succeeding calendar month, then such date will be advanced to the immediately preceding business day.

If the “Business Day Convention” is specified in your pricing supplement to be “Following Unadjusted” then, (i) for any interest payment date or amortizing payment date, if applicable, other than the stated maturity date or earlier redemption or repayment date, that falls on a day that is not a business day, any payment due on such interest payment date or amortizing payment date, if applicable will be postponed to the next day that is a business day; *provided* that interest due with respect to such interest payment date shall not accrue from and including such interest payment date to and including the date of payment of such interest as so postponed, (ii) for any interest period start date or interest period end date specified in your pricing supplement, if applicable, other than the stated maturity date or earlier redemption or repayment date, if such date falls on a day that is not a business day, such date will not be postponed or advanced, and (iii) with respect to an amortizing note, the aggregate principal amount outstanding shall be deemed to be reduced (by the applicable amortizing percentage) on such originally scheduled amortizing payment date.

If the “Business Day Convention” is specified in your pricing supplement to be “Modified Following Unadjusted” then, (i) for any interest payment date or amortizing payment date, if applicable, other than the stated maturity date or earlier redemption or repayment date, that falls on a day that is not a business day, any payment due on such interest payment date or amortizing payment date, if applicable will be postponed to the next day that is a business day; *provided* that, (1) interest due with respect to such interest payment date shall not accrue from and including such interest payment date to and including the date of payment of such interest as so postponed and (2) with respect to an amortizing note, the aggregate principal amount outstanding shall be deemed to be reduced (by the applicable amortizing percentage) on such originally scheduled amortizing payment date; and *provided further* that if such day would fall in the next succeeding calendar month, the date of payment with respect to such interest payment date or amortizing payment date, if applicable will be advanced to the business day immediately preceding such interest payment date, and (ii) for any interest period start date or interest period end date specified in your pricing supplement, if applicable, other than the stated maturity date or earlier redemption or repayment date, if such date falls on a day that is not a business day, such date will not be postponed or advanced.

In all cases, (1) if the stated maturity date or any earlier redemption or repayment date with respect to a note falls on a day that is not a business day, then any payment of principal (including any amortizing payment amount, if applicable), premium, if any, and interest otherwise due on such day will be made on the next succeeding business day, and (2) if the stated maturity date or any earlier redemption or repayment date with respect to a note falls on a day that is not a business day or is postponed for any other reason as specified in your pricing supplement, then no interest on such payment shall accrue for the period from and after the originally scheduled stated maturity date, redemption date or repayment date, as the case may be. Notwithstanding the foregoing, if your pricing supplement specifies “Final BDC Procedure” to be “Applicable”, then: (i) if the “Business Day Convention” is specified to be “Modified Following Adjusted” or “Modified Following Unadjusted” and if the stated maturity date or any earlier redemption or repayment date, as postponed in accordance with the first sentence of this paragraph, would fall in the next succeeding calendar month, the date of payment with respect to such stated maturity date or earlier redemption or repayment date will be advanced to the business day immediately preceding such date and (ii) if the “Business Day Convention” is specified to be “Modified Following Adjusted” or “Following Adjusted”, then interest shall accrue to the stated maturity date or any earlier redemption or repayment date, as adjusted in accordance with the first sentence of this paragraph.

Calculation of Interest

Calculations relating to floating rate notes and indexed notes that bear interest will be made by the calculation agent, an institution that we appoint as our agent for this purpose. That institution could include

any affiliate of ours, such as Goldman Sachs International. The pricing supplement for a particular note will name the institution that we have appointed to act as the calculation agent for that note as of its original issue date. Unless otherwise specified in the applicable pricing supplement, we have initially appointed Goldman Sachs International as our calculation agent for all the floating rate and indexed notes. We may appoint a different institution to serve as calculation agent from time to time after the original issue date of the notes without your consent and without notifying you of the change. We may also appoint different calculation agents for different notes. Absent manifest error, all determinations of the calculation agent will be final and binding on you and us, without any liability on the part of the calculation agent.

For each floating rate note, the calculation agent will determine, on the corresponding calculation or interest determination date, as described in “— Interest Rates — Floating Rate Notes” below, the interest rate that takes effect on each interest reset date. For each indexed note that bears interest, the calculation agent will determine, on the corresponding calculation or interest determination date the interest rate applicable to each interest period. In addition, the calculation agent will calculate the amount of interest that has accrued during each interest period — *i.e.*, the period from and including the original issue date, or the last date to which interest has been paid or made available for payment, to, but excluding, the payment date.

Day Count Conventions

For each interest period, the calculation agent will calculate the amount of accrued interest as the product of the face amount of the note multiplied by the applicable interest rate multiplied by an accrued interest factor for the interest period (provided that accrued interest with respect to amortizing notes, UDI-linked notes and UDI-denominated notes will also be calculated by reference to the Aggregate Principal Amount Outstanding, the UDI-Linked Notional Amount and/or the UDI Index Level, as applicable, as further described under “– Interest Rates – Fixed Rate Notes” and “– Interest Rates – Indexed Notes – UDI-Denominated and UDI-Linked Notes”). This factor will be determined in accordance with the “Day Count Fraction” specified in the applicable pricing supplement, including the following:

- If “1/1 (ISDA)” is specified, the factor will be equal to 1.
- If “Actual/Actual (ISDA)”, or “Act/Act (ISDA)” is specified, the factor will be equal to the actual number of days in the interest period divided by 365 (or, if any portion of that interest period falls in a leap year, the sum of (1) the actual number of days in that portion of the interest period falling in a leap year divided by 366 and (2) the actual number of days in that portion of the interest period falling in a non-leap year divided by 365).
- If “Actual/Actual (ICMA)” is specified, the factor will be equal to the number of days in the interest period, including February 29 in a leap year, divided by the product of (1) the actual number of days in such interest period and (2) the number of interest periods in the calendar year.
- If “Actual/Actual (Bond)” is specified, the factor will be equal to the number of calendar days in the interest period, divided by the number of calendar days in the interest period multiplied by the number of interest periods in the calendar year.
- If “Actual/Actual (Euro)” is specified, the factor will be equal to the number of calendar days in the interest period divided by 365 or, if the interest period includes February 29, 366.
- If “Actual/365 (Fixed)”, “Act/365 (Fixed)”, “A/365 (Fixed)” or “A365F” is specified, the factor will be equal to the actual number of days in the interest period divided by 365.
- If “Actual/360 (ISDA)”, “Act/360 (ISDA)” or “A/360 (ISDA)” is specified, the factor will be equal to the actual number of days in the interest period divided by 360.
- If “Actual/360 (ICMA)” is specified, the factor will be equal to the number of calendar days in the period, including February 29 in a leap year, divided by 360 days.

- If “30/360 (ISDA)”, “360/360 (ISDA)”, “Bond Basis (ISDA)”, or “30/360” is specified, the factor will be equal to the number of days in the interest period in respect of which payment is being made divided by 360, calculated on a formula basis as follows:

$$\frac{[360 \times (Y(2) - Y(1))] + [30 \times (M(2) - M(1))] + (D(2) - D(1))}{360}$$

where:

“Y(1)” is the year, expressed as a number, in which the first day of the interest period falls;

“Y(2)” is the year, expressed as a number, in which the day immediately following the last day included in the interest period falls;

“M(1)” is the calendar month, expressed as a number, in which the first day of the interest period falls;

“M(2)” is the calendar month, expressed as a number, in which the day immediately following the last day included in the interest period falls;

“D(1)” is the first calendar day, expressed as a number, of the interest period, unless such number would be 31, in which case D(1) will be 30; and

“D(2)” is the calendar day, expressed as a number, immediately following the last day included in the interest period, unless such number would be 31 and D(1) is greater than 29, in which case D(2) will be 30.

- If “30E/360”, “30E/360 (ISDA)” or “Eurobond Basis” is specified, the factor will be equal to the number of days in the interest period in respect of which payment is being made divided by 360, calculated on a formula basis as follows:

$$\frac{[360 \times (Y(2) - Y(1))] + [30 \times (M(2) - M(1))] + (D(2) - D(1))}{360}$$

where:

“Y(1)” is the year, expressed as a number, in which the first day of the interest period falls;

“Y(2)” is the year, expressed as a number, in which the day immediately following the last day included in the interest period falls;

“M(1)” is the calendar month, expressed as a number, in which the first day of the interest period falls;

“M(2)” is the calendar month, expressed as a number, in which the day immediately following the last day included in the interest period falls;

“D(1)” is the first calendar day, expressed as a number, of the interest period, unless (i) such number would be 31, or (ii), if “30E/360 (ISDA)” is specified, that day is the last day of February; in which case D(1) will be 30; and

“D(2)” is the calendar day, expressed as a number, immediately following the last day included in the interest period, unless (i) such number would be 31, or (ii), if “30E/360 (ISDA)” is specified, that day is the last day of February; in which case D(2) will be 30.

Unless otherwise specified in the applicable pricing supplement, commercial paper rate notes, prime rate notes, EURIBOR notes, CD rate notes, federal funds rate notes and 11th district cost of funds rate

notes will be subject to the Actual/360 (ISDA) day count convention, and treasury rate notes, CMT rate notes and CMS rate notes will be subject to the Actual/Actual (ISDA) day count convention.

Upon the request of the holder of any floating rate note, the calculation agent will provide the interest rate then in effect, and, if determined, the interest rate that will become effective on the next interest reset date with respect to such floating rate note. The calculation agent's determination of any interest rate will be conclusive for all purposes and binding in the absence of manifest error.

Unless otherwise specified in the applicable pricing supplement, all percentages resulting from any calculations relating to a note will be rounded upward or downward, as appropriate, to the next higher or lower one hundred-thousandth of a percentage point (e.g., 9.876541% (or .09876541) being rounded down to 9.87654% (or .0987654) and 9.876545% (or .09876545) being rounded up to 9.87655% (or .0987655)). All amounts used in or resulting from any calculations will be rounded upward or downward, as appropriate, to the nearest cent, in the case of U.S. dollars and euros, to the nearest Japanese yen (with fractions equal to less than one-half JPY being rounded downward and fractions equal to or greater than one-half JPY being rounded upward) in the case of Japanese yen, or to the nearest corresponding hundredth of a unit, in the case of any other currency, with one-half of a corresponding hundredth of a unit or more being rounded upward. In determining the interest payments on your note, if your pricing supplement specifies the "Calculation Basis" to be "Per Denomination", then interest payments will be calculated on a per denomination basis and if your pricing supplement specifies the "Calculation Basis" to be "Notional", then interest payments will be calculated on the basis of the outstanding face amount of your notes.

In determining the base rate that applies to a floating rate note during a particular interest period, the calculation agent may obtain rate quotes from various banks or dealers active in the relevant market, as described in the following subsections. Those reference banks and dealers may include the calculation agent itself and its affiliates, as well as any agent participating in the distribution of the relevant floating rate notes and its affiliates, and they may include affiliates of The Goldman Sachs Group, Inc.

Role of Calculation Agent and Exchange Rate Agent

All determinations made by the calculation agent and exchange rate agent will be in their sole discretion unless we state otherwise. In the absence of manifest error, those determinations will be conclusive for all purposes and binding on the holder and on us, without any liability on the part of the calculation agent or exchange rate agent, respectively. Calculations relating to floating rate notes and indexed notes and adjustments with respect to any currencies, underlying or underlying components, as the case may be, will be made by the calculation agent.

We shall take such action as shall be necessary to ensure that there is at all relevant times a financial institution serving as the calculation agent and exchange rate agent, if applicable, under the notes. We may, in our sole discretion at any time and from time to time, upon written notice to the fiscal agent, but without notice to any holder, terminate the appointment of the calculation agent or exchange rate agent, if applicable, and appoint another agent (including any of our affiliates). Insofar as the notes provide for the calculation agent or exchange rate agent, to obtain information from any institution or other source, the calculation agent or exchange rate agent may do so from any source or sources of the kind contemplated or otherwise permitted, notwithstanding that any one or more of such sources are an agent, affiliate of such agent or affiliate of ours. We assume no responsibility to verify the accuracy of such information.

Change in Law

Following the determination by the calculation agent that a change in law (as defined in the following paragraph) has occurred, the calculation agent will determine, acting in good faith and in a commercially reasonable manner, the appropriate adjustment, if any, to be made to any one or more of the terms of the notes, including, without limitation, any term relating to amounts payable on such notes, as the calculation agent determines appropriate to account for the effect of the change in law, and shall determine the effective

date of such adjustments, provided that the calculation agent shall only make such adjustments in order to preserve as closely as commercially practicable the economic objective and rationale of the notes before such adjustments. We may also redeem, in whole but not in part, any outstanding issuance of notes in the event of a change in law, as described under “Redemption and Repayment — Redemption Upon Change in Law” below.

A change in law means that, on or after the settlement date, as a result of (i) the adoption of, or any change in, any applicable law, rule, regulation, judgment, order, sanction, or directive of any governmental, administrative, legislative or judicial authority (“applicable law”) or (ii) the promulgation of, or any change in, the formal or informal interpretation of any applicable law by a court, tribunal or regulatory authority with competent jurisdiction (including any action by a taxing authority), the calculation agent determines that (a) the performance by us and/or any of our affiliates under such notes, (b) the performance by us and/or any of our affiliates under any related hedge positions (whether with respect to the relevant underlying to which such notes are linked or any constituent thereof) or (c) the performance by any of our affiliates under such notes had such affiliate been an issuer of the notes or under any related hedge positions (whether with respect to the relevant underlying to which the notes are linked or any constituent thereof) had such affiliate been a party to any such hedging arrangement, (x) in the case of (a) will, or there is a substantial likelihood in the immediate future that it will, result in a materially increased (including, without limitation, due to any increase in tax liability, decrease in tax benefit, or other adverse effect on its tax position) cost to us or our affiliates in performing our obligations under the notes, or (y) in the case of (a), (b) or (c) has, or there is a substantial likelihood in the immediate future that it will, become unlawful or impractical in whole or in part.

“Hedge positions” means any one or more securities positions, derivatives positions or other instruments or arrangements (howsoever described) purchased, sold, entered into or maintained by the us or any of our affiliates, in order to hedge, or otherwise in connection with, the notes, including, for the avoidance of doubt, any such positions in respect of the assets that may be required to be delivered in connection with any physical settlement of the notes, as specified in the relevant pricing supplement.

Interest Rates

This subsection describes the different kinds of interest rates that may apply to your note, if it bears interest. A note which bears interest at one or more fixed rates for all interest periods is described as a “Fixed Rate Note”. A note which bears interest at one or more floating rates for all interest periods is described as a “Floating Rate Note”. A note which bears interest for some or all interest periods at one or more of the rates determined as described under “ — Indexed Notes” below is described as an “Indexed Note” (although it may bear interest for certain interest periods at a fixed rate or a floating rate).

Fixed Rate Notes

A note of this type will bear interest at a fixed rate, or fixed rates (if different fixed rates are specified for different interest periods), specified in your pricing supplement. This type of note includes notes which bear no interest (which we refer to as “zero coupon notes”) and / or may be instead issued at a price lower than the principal amount (which we refer to as “original issue discount notes” or “discount notes”) and / or pay a multiple of the face amount at maturity. See “ — Features Common to All Notes — Original Issue Discount Notes” above for more information about zero coupon and other original issue discount notes.

Each fixed rate note, except any zero coupon note or discount note, will bear interest from the “Interest Commencement Date” specified in your pricing supplement or from the most recent interest payment date to which interest on the note has been paid or made available for payment. Interest will accrue on the principal (except with respect to amortizing notes, as set forth below) of a fixed rate note at a fixed rate per annum, or at fixed rates per annum, stated in applicable pricing supplement as the “Interest Rate”, until the principal is paid or made available for payment. If “Amortizing Notes” is specified in your pricing supplement as “Applicable”, interest with respect to each interest period will accrue on an amount equal to *the product of* (i) the face amount of the notes *multiplied by* (ii) Aggregate Principal Amount Outstanding (as specified

in the applicable pricing supplement) as of the first day of such interest period, at a fixed rate per annum, or at fixed rates per annum, stated in the applicable pricing supplement as the “Interest Rate”, until the final amortizing payment amount under the notes is paid or made available for payment. Your pricing supplement will describe the interest rates applicable to each interest period if the interest rate changes over the term of the note (as described below), and relevant interest payment dates on which interest on fixed rate notes will be payable. The “interest period” for each payment of interest due on an interest payment date or at maturity (or, where interest is not due at the end of an interest period, for purposes of determining the amount of interest that will accrue over such specified period) will include interest accrued from and including (a) the last date to which interest has been paid or made available for payment (or from the interest commencement date if none has been paid or made available for payment) or (b) the “Interest Period Start Date” specified in your pricing supplement, if applicable (which date need not coincide with any interest payment date), to, but excluding, (x) the interest payment date, the date of maturity or the relevant early redemption date or (y) the “Interest Period End Date” specified in your pricing supplement, if applicable (which date need not coincide with any interest payment date, date of maturity or early redemption date), in each case subject to the business day convention. We will compute interest on fixed rate notes on the basis of the day count convention specified in your pricing supplement; see “— Day Count Conventions” above. We will pay interest on each interest payment date and at maturity as described under “— Payment Mechanics for Notes” below.

If “Original Issue Discount” is specified in your pricing supplement as being applicable, the applicable pricing supplement will specify the “OID” (if applicable), “Accretion Rate” and the “Accretion Day Count Fraction”. An original issue discount note may be a zero coupon note. The “Accreted Value” means an amount in the specified currency determined by the Calculation Agent:

- in accordance with the following formula, if the applicable pricing supplement specifies “Basis of Compounding” to be “Annual”: (1) as of any date prior to the originally scheduled stated maturity date, the *product* of (A) the original issue price of your note, *multiplied by* (B) (x) the *sum of* (i) 100% *plus* (ii) the Accretion Rate (y) *raised to the power of* the applicable Accretion Day Count Fraction (i.e. Original Issue Price x $\{(100\% + \text{Accretion Rate})^{\text{Accretion Day Count Fraction}}\}$); and (2) as of any date on or after the originally scheduled stated maturity date, the amount payable at maturity (final redemption amount); and
- in accordance with the following formula, if the applicable pricing supplement specifies “Basis of Compounding” to be “Daily”: (1) as of any date prior to the originally scheduled stated maturity date, the product of (A) the original issue price of your note, *multiplied by* (B) (x) the *sum of* (i) 100% *plus* (ii) the *quotient of* (1) the Accretion Rate *divided by* (2) 360 (y) *raised to the power of the product of* (i) the applicable Accretion Day Count Fraction *multiplied by* (ii) 360 (i.e. Original Issue Price x $\{(100\% + \text{Accretion Rate} / 360)^{(\text{Accretion Day Count Fraction} \times 360)}\}$); and (2) as of any date on or after the originally scheduled stated maturity date, the amount payable at maturity (final redemption amount).

Floating Rate Notes

*In this subsection, we use several specialized terms relating to the manner in which floating interest rates are calculated. These terms appear in **bold, italicized** type the first time they appear, and we define these terms in “— Special Rate Calculation Terms” at the end of this subsection.*

A note of this type will bear interest at rates that are determined by reference to an interest rate formula specified in the pricing supplement. In some cases, the rates may be adjusted by adding or subtracting a spread or multiplying by a spread multiplier and may be subject to a minimum rate or a maximum rate, as described in greater detail below. If your note is a floating rate note, the formula and any adjustments that apply to the interest rate will be specified in your pricing supplement.

Each floating rate note will bear interest from its original issue date or from the most recent interest payment date to which interest on the note has been paid or made available for payment. Interest will accrue on the principal of a floating rate note at the annual rate determined according to the interest rate formula stated in the note and the applicable pricing supplement, until the principal is paid or made available for payment. We will pay interest on each interest payment date and at maturity as described under “— Payment Mechanics for Notes” below.

Base Rates

We currently expect to issue floating rate notes that bear interest at rates based on one or more of the following base rates:

- the commercial paper rate;
- the prime rate;
- EURIBOR;
- MXN TIIE Banxico;
- the Overnight TIIE;
- the treasury rate;
- the CMT rate;
- the CD rate;
- CMS reference rates;
- AUD BBSW rate;
- the federal funds rate;
- the 11th district cost of funds rate;
- SGD SOR rate;
- SOFR; and/or
- SONIA.

We describe each of these base rates in further detail below in this subsection. We may also issue floating rate notes linked to overnight risk-free rates, such as the Euro Short-Term Rate (“€STR”), the Swiss Average Rate Overnight (“SARON”) and the Tokyo Overnight Rate (“TONA”) in addition to SOFR and SONIA (each an “Overnight Rate” and collectively the “Overnight Rates”, and such notes, the “Overnight Rate Notes”).

If you purchase a floating rate note, your pricing supplement will specify the type of base rate that applies to your note. A floating rate note may bear interest at any of the base rates specified above or at any other rate, as specified in the applicable pricing supplement.

General Floating Rate Terms and Conditions

Initial Base Rate

For any floating rate note, the base rate in effect from and including the original issue date to but excluding the first interest reset date will be the initial base rate. Unless otherwise specified in your pricing supplement, the initial base rate will be the interest rate determined on the first interest determination date.

Spread or Spread Multiplier

In some cases, the base rate for a floating rate note may be adjusted:

- by adding or subtracting a percentage or a specified number of basis points called the spread (with one basis point being 0.01%);
- by multiplying the base rate by a specified percentage, called the spread multiplier, which may be less than one hundred percent or may be negative; or
- by a combination of the foregoing.

If you purchase a floating rate note, your pricing supplement will specify whether a spread or spread multiplier will apply to your note and, if so, the amount of the spread or spread multiplier.

Maximum and Minimum Rates

The actual interest rate, after being adjusted by the spread or spread multiplier, may also be subject to either or both of the following limits:

- a maximum rate — *i.e.*, a specified upper limit that the actual interest rate in effect at any time may not exceed; and/or
- a minimum rate — *i.e.*, a specified lower limit that the actual interest rate in effect at any time may not fall below.

If you purchase a floating rate note, your pricing supplement will specify whether a maximum rate and/or minimum rate will apply to your note and, if so, what those rates are.

Whether or not a maximum rate applies, the interest rate on a floating rate note will in no event be higher than the maximum rate permitted by New York law, as it may be modified by U.S. law of general application. Under current New York law, the maximum rate of interest, with some exceptions, for any loan in an amount less than \$2,500,000 is 25% per year on a simple interest basis. No limits apply to loans of \$2,500,000 or more.

The rest of this subsection describes how the interest rate and the interest payment dates will be determined, and how interest will be calculated, on a floating rate note.

Interest Period

The interest period means the period from and including (a) an interest payment date (or the interest commencement date, in the case of the initial interest period) or (b) "the "Interest Period Start Date" specified in your pricing supplement, if applicable (which date need not coincide with any interest payment date), to but excluding (x) the next succeeding interest payment date (or the stated maturity date (or early redemption date, if applicable), in the case of the final interest period) or (y) the "Interest Period End Date" specified in your pricing supplement, if applicable (which date need not coincide with any interest payment date, stated maturity date or early redemption date), in each case subject to the business day convention.

Interest Reset Dates

The date on which the interest rate on a floating rate note resets is called the interest reset date. Unless otherwise specified in the applicable pricing supplement, the interest reset dates will be the first day of each applicable interest period.

Interest Determination Dates

The interest rate that takes effect on an interest reset date for an interest period will be determined by the calculation agent by reference to a particular date called an interest determination date. The interest determination dates applicable to each interest period will be specified as the “Interest Determination Dates” in the applicable pricing supplement. If any interest determination date would otherwise be a day that is not a business day, the interest determination date will be adjusted in accordance with the applicable business day convention.

Except as otherwise specified in the applicable pricing supplement:

- For treasury rate notes, the interest determination date relating to a particular interest reset date will be the day of the week in which the interest reset date falls on which treasury bills — *i.e.*, direct obligations of the U.S. government — would normally be auctioned. Treasury bills are usually sold at auction on the Monday of each week, unless that day is a legal holiday, in which case the auction is usually held on the following Tuesday, except that the auction may be held on the preceding Friday. If as the result of a legal holiday an auction is held on the preceding Friday, that Friday will be the interest determination date relating to the interest reset date occurring in the next succeeding week. If the auction is held on a day that would otherwise be an interest reset date, then the interest reset date will instead be the first business day following the auction date.
- For 11th district cost of funds rate notes, the interest determination date relating to a particular interest reset date will be the last working day, in the first calendar month before that interest reset date, on which the Federal Home Loan Bank of San Francisco publishes the monthly average cost of funds paid by member institutions of the Eleventh Federal Home Loan Bank District for the second calendar month before that interest reset date. We refer to an interest determination date for an 11th district cost of funds rate note as an 11th district interest determination date.

Interest Calculation Dates

As described above, the interest rate that takes effect on a particular interest reset date will be determined by reference to the corresponding interest determination date. The determination of the rate will actually be made on a day no later than the corresponding interest calculation date. Unless otherwise specified in the applicable pricing supplement, the interest calculation date will be the earlier of the following:

- the tenth calendar day after the interest determination date or, if that tenth calendar day is not a business day, the next succeeding business day; or
- the business day immediately preceding the interest payment date or the maturity date, whichever is the day on which the next payment of interest will be due.

The calculation agent need not wait until the relevant interest calculation date to determine the interest rate if the rate information it needs to make the determination is available from the relevant sources sooner.

Interest Payment Dates

The interest payment dates will be specified in the applicable pricing supplement. If any interest payment date would otherwise be a day that is not a business day, the interest payment date will be adjusted in accordance with the applicable business day convention. If the applicable pricing supplement specifies that the interest payment dates will occur after a specified number of calendar days, the interest payment date will occur on the specified number of calendar days following the previous originally scheduled interest payment date (or the interest commencement date, with respect to the first interest payment date).

Description of Certain Base Rates

Australian Dollar Bills of Exchange Rate Notes

If you purchase an Australian dollar bills of exchange rate note, your note will bear interest at a base rate equal to the average mid rate for Australian dollar bills of exchange and adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

The average mid rate for Australian dollar bills of exchange for a reset date will be the average mid rate for Australian dollar bills of exchange having a tenor of the ***index maturity***, which appears on the Reuters screen BBSW page (or any successor or replacement service or page) at approximately 10:10 a.m., Sydney time, on the applicable interest determination date.

If such rate does not appear on the Reuters screen BBSW page (or any successor or replacement service or page) by 10:30 a.m., Sydney time on such interest determination date, then subject to the terms described below under "Effect of Original Primary Rate Event on Certain Floating Rate Notes", the rate for that reset date will be the arithmetic mean of the mid of the bid and ask rates quoted by five of the financial institutions authorized to quote on the Reuters screen BBSW page to the calculation agent. The quotations will be for rates which the five of the financial institutions authorized to quote on the Reuters screen BBSW page quoted or would have quoted at approximately 10:00 a.m., Sydney time, on the reset date for Australian dollar bills of exchange having a tenor of the index maturity and of the type specified for the purpose of quoting on the Reuters screen BBSW page. If in respect of a reset date the rate for that reset date cannot be determined in accordance with the foregoing procedures, then the rate for that reset date will be the rate determined by the calculation agent having regard to comparable indices then available. The rate calculated or determined by the calculation agent will be expressed as a percentage rate per annum and will be rounded up, if necessary, to the next higher one tenthousandth of a percentage point (0.0001%).

Commercial Paper Rate Notes

If you purchase a commercial paper rate note, your note will bear interest at a base rate equal to the commercial paper rate and adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

The commercial paper rate will be the ***money market yield*** of the rate, for the relevant interest determination date, for commercial paper having the index maturity specified in your pricing supplement, as published in ***H.15 daily update*** opposite the heading "Commercial Paper — Nonfinancial" (or such other recognized electronic source as the calculation agent may determine in its sole discretion). If the commercial paper rate cannot be determined as described above, the following procedures will apply:

- Subject to the terms described below under "Effect of Original Primary Rate Event on Certain Floating Rate Notes", if the rate described above does not appear in H.15 daily update or another recognized electronic source determined by the calculation agent at 3:00 p.m., New York City time, on the relevant interest calculation date, then unless the calculation is made earlier and the rate is available from one of those sources at that time, the commercial paper rate will be the money market yield of the arithmetic mean of the following offered rates for U.S. dollar commercial paper that has the relevant index maturity and is placed for an industrial issuer whose bond rating is "AA", or the equivalent, from a nationally recognized rating agency: the rates offered as of 11:00 A.M., New York City time, on the relevant interest determination date, by three leading U.S. dollar commercial paper dealers in New York City selected by the calculation agent.
- If fewer than three dealers selected by the calculation agent are quoting as described above, the commercial paper rate for the new interest period will be the commercial paper rate in effect for the prior interest period. If the initial base rate has been in effect for the prior interest period, however, it will remain in effect for the new interest period.

CD Rate Notes

If you purchase a CD rate note, your note will bear interest at a base rate equal to the CD rate and adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

The CD rate will be the rate, on the relevant interest determination date, for negotiable U.S. dollar certificates of deposit having the index maturity specified in your pricing supplement, as published by the Federal Reserve System Board of Governors, or its successor, on its website or in another recognized electronic source, in each case as determined by the calculation agent in its sole discretion. If the CD rate cannot be determined in this manner, the following procedures will apply:

- Subject to the terms described below under "Effect of Original Primary Rate Event on Certain Floating Rate Notes", if the rate described above does not appear on the website of the Federal Reserve System Board of Governors or its successor or another recognized electronic source determined by the calculation agent at 3:00 p.m., New York City time, on the relevant interest calculation date, then unless the calculation is made earlier and the rate is available from one of those sources at that time, the CD rate will be the arithmetic mean of the following secondary market offered rates for negotiable U.S. dollar certificates of deposit of major U.S. money center banks with a remaining maturity closest to the specified index maturity and in a **representative amount**: the rates offered as of 10:00 A.M., New York City time, on the relevant interest determination date, by three leading nonbank dealers in negotiable U.S. dollar certificates of deposit in New York City, as selected by the calculation agent.
- If fewer than three dealers selected by the calculation agent are quoting as described in the prior paragraph, the CD rate in effect for the new interest period will be the CD rate in effect for the prior interest period. If the initial base rate has been in effect for the prior interest period, however, it will remain in effect for the new interest period.

CMS Rate Notes

If you purchase a CMS rate note (such notes, "CMS Rate Notes"), your note will bear interest at a base rate equal to a CMS reference rate (as defined below), or the difference between two CMS reference rates, in each case determined by the calculation agent in accordance with the provisions below and adjusted by a spread or spread multiplier, if any, as set forth in your pricing supplement.

Unless another rate is specified in the applicable pricing supplement, the applicable "CMS reference rate" will be determined as follows:

- *Euro CMS Rate*: Where the index currency specified in the applicable pricing supplement is Euro, the mid-market annual swap rate determined on the basis of the arithmetic mean of the bid and offered rates for the annual fixed leg, calculated on a 30/360 day count basis, of a fixed-for-floating euro interest rate swap transaction with a term equal to the index maturity specified in the applicable pricing supplement commencing on the first day of the relevant interest period or on any relevant day and in a representative amount with an acknowledged dealer of good credit in the swap market, where the floating leg, in each case calculated on an Actual/360 day count basis, is equivalent to the annual swap rate for Euro swap transactions with a floating leg of EURIBOR with an index maturity determined by the calculation agent by reference to standard market practice;
- *Sterling CMS Rate*: where the index currency specified in the applicable pricing supplement is Pounds Sterling, the mid-market semi-annual swap rate determined on the basis of the arithmetic mean of the bid and offered rates for the semi-annual fixed leg, calculated on an Actual/365 (Fixed) day count basis, of a fixed-for-floating Sterling interest rate swap transaction with a term equal to the index maturity specified in the applicable pricing supplement commencing on the first day of the relevant interest period or on any relevant day and in a representative amount with an acknowledged dealer of good credit in the swap market, where the floating leg, in each case

calculated on an Actual/365 (Fixed) day count basis, is equivalent to the swap rate for a fixed-for-floating Sterling swap transaction with a floating leg of compounded SONIA with an index maturity determined by the calculation agent by reference to standard market practice;

- *USD CMS Rate*: where the index currency specified in the applicable pricing supplement is U.S. Dollars, the mid-market semi-annual swap rate determined on the basis of the mean of the bid and offered rates for the semi-annual fixed leg, calculated on a 30/360 day count basis, of a fixed-for-floating United States dollar interest rate swap transaction with a term equal to the index maturity specified in the applicable pricing supplement commencing on the first day of the relevant interest period or on any relevant day and in a representative amount with an acknowledged dealer of good credit in the swap market, where the floating leg, calculated on an Actual/360 day count basis, is equivalent to the swap rate for a fixed-for-floating U.S. Dollar swap transaction with a floating leg of compounded SOFR with an index maturity determined by the calculation agent by reference to standard market practice; and
- where the index currency specified in the applicable pricing supplement is any other currency or if the applicable pricing supplement specifies otherwise, the mid-market swap rate as determined by the calculation agent in accordance with standard market practice.

If the CMS reference rate does not appear on the relevant screen page at the relevant time on an interest determination date, then subject to the terms described below under “Effect of Original Primary Rate Event on Certain Floating Rate Notes”, the CMS reference rate for that interest reset date shall be determined by the calculation agent in its discretion, acting in good faith and in a commercially reasonable manner, on the basis of the relevant internally marked mid-rate (derived from externally executable bid and ask prices) of the calculation agent at 11:00 a.m. of the primary financial center of the index currency specified in the applicable pricing supplement as per the applicable Business Day Convention, on the applicable interest determination date, applying principles that are recognized in the financial services industry for determining the value of such rate.

CMT Rate Notes

If you purchase a CMT rate note, your note will bear interest at a base rate equal to the CMT rate and adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

The manner in which the CMT rate is determined for the relevant interest reset date will depend on the designated CMT Reuters screen page that is specified for your notes in the applicable pricing supplement. If no designated CMT Reuters screen page is specified, Reuters screen FRBCMT page (or any successor or replacement service or page) will be the designated CMT Reuters screen page for your notes.

- If the designated CMT Reuters screen page for your notes is FRBCMT, the CMT rate for the relevant interest reset date will be the yield for Treasury securities at “constant maturity” for a period of the designated CMT index maturity as published by the Federal Reserve System Board of Governors, or its successor, on its website or in another recognized electronic source, in each case determined by the calculation agent in its sole discretion, as such yield is displayed on Reuters screen FRBCMT page (or any successor or replacement service or page) on the relevant interest determination date. If the applicable rate described above is not displayed on Reuters screen FRBCMT page, then subject to the terms described below under “Effect of Original Primary Rate Event on Certain Floating Rate Notes”, the CMT rate will be the treasury constant maturity rate for the designated CMT index maturity as published by the Federal Reserve System Board of Governors, or its successor, on its website or in another recognized electronic source, in each case as determined by the calculation agent in its sole discretion.
- If the rate described in the preceding paragraph does not appear on the website of the Federal Reserve System Board of Governors or in another recognized electronic source, in each case as determined by the calculation agent in its sole

discretion, then the CMT rate for the relevant interest reset date will be the treasury constant maturity rate for the designated CMT index maturity that:

- is published by the Board of Governors of the Federal Reserve System or the U.S. Department of the Treasury; and
 - is determined by the calculation agent to be comparable to the applicable rate that would otherwise have been published on the website of the Federal Reserve System Board of Governors or in another recognized electronic source, in each case as determined by the calculation agent in its sole discretion.
- If on the relevant interest determination date, the Board of Governors of the Federal Reserve System or the U.S. Department of the Treasury does not publish a yield on treasury securities at “constant maturity” for the designated CMT index maturity, after consulting such sources as it deems comparable to any of the foregoing display pages, or any such source as it deems reasonable from which to estimate the CMT rate, the calculation agent shall determine the CMT rate in its sole discretion, provided that if the calculation agent determines there is an industry-accepted successor CMT rate, then the calculation agent shall use such successor rate. If the calculation agent has determined a substitute or successor rate in accordance with the foregoing, the calculation agent in its sole discretion may determine the business day convention, the definition of business day and the interest determination date to be used and any other relevant methodology for calculating such substitute or successor rate, including any adjustment factor needed to make such substitute or successor rate comparable to the CMT rate, in a manner that is consistent with any industry-accepted practices for such substitute or successor rate.
 - If the designated CMT Reuters screen page for your notes is FEDCMT, the CMT rate for the relevant interest reset date will be the average of the yields for the five business days for Treasury securities at “constant maturity” for a period of the designated CMT index maturity as set forth on the website of the Federal Reserve System Board of Governors or in another recognized electronic source, in each case as determined by the calculation agent in its sole discretion, as such yields are displayed on Reuters screen FEDCMT page (or any successor or replacement service or page) on the relevant interest determination date.
 - If the applicable average described above is not displayed on Reuters screen FEDCMT page, then subject to the terms described below under "Effect of Original Primary Rate Event on Certain Floating Rate Notes", the CMT rate for the relevant interest reset date will be the average of the yields for the five business days for Treasury securities at “constant maturity” for a period of the relevant index maturity and for the five business days preceding the relevant interest reset date as published on the website of the Federal Reserve System Board of Governors, or in another recognized electronic source, in each case as determined by the calculation agent in its sole discretion.
 - If the applicable average described in the preceding paragraph does not appear on the website of the Federal Reserve System Board of Governors or in another recognized electronic source, in each case as determined by the calculation agent in its sole discretion then the CMT rate for the relevant interest reset date will be the average of the five business days for Treasury securities at “constant maturity” for a period equal to the designated CMT index maturity as otherwise announced

by the Federal Reserve Bank of New York for the five business days preceding the relevant interest reset date.

- If, on the relevant interest determination date, the Board of Governors of the Federal Reserve System or the U.S. Department of the Treasury does not publish a yield on Treasury securities at “constant maturity” for the designated CMT index maturity, after consulting such sources as it deems comparable to any of the foregoing display pages, or any such source as it deems reasonable from which to estimate the CMT rate, the calculation agent shall determine the CMT rate in its sole discretion, provided that if the calculation agent determines there is an industry-accepted successor CMT rate, then the calculation agent shall use such successor rate. If the calculation agent has determined a substitute or successor rate in accordance with the foregoing, the calculation agent in its sole discretion may determine the business day convention, the definition of business day and the interest determination date to be used and any other relevant methodology for calculating such substitute or successor rate, including any adjustment factor needed to make such substitute or successor rate comparable to the CMT rate, in a manner that is consistent with any industry-accepted practices for such substitute or successor rate.

EURIBOR Notes

If you purchase a EURIBOR note, your note will bear interest at a base rate equal to the interest rate for deposits in euros designated as “EURIBOR” and currently administered by the European Money Markets Institute (or its successor) for purposes of compiling and publishing that rate. In addition, the EURIBOR base rate will be adjusted by the spread or spread multiplier, if any, specified in your pricing supplement. EURIBOR will be determined in the following manner:

EURIBOR for the relevant interest reset date will be the offered rate for deposits in euros having the index maturity specified in your pricing supplement, as that rate appears on the Reuters screen EURIBOR01 page (or if specified in your pricing supplement, the **relevant screen page**) (or any successor or replacement service or page) as of approximately 11:00 A.M., Brussels time, on the relevant interest determination date.

If the rate described above does not so appear on the Reuters screen EURIBOR01 page (or if specified in your pricing supplement, the relevant screen page) (or any successor or replacement service or page), then subject to the terms described below under “Effect of Original Primary Rate Event on Certain Floating Rate Notes”, the calculation agent, after consulting such sources as it deems comparable to the foregoing display page, or any such source it deems reasonable, shall determine EURIBOR for that interest reset date in its sole discretion.

Federal Funds Rate Notes

If you purchase a federal funds rate note, your note will bear interest at a base rate equal to the federal funds (effective) rate or the federal funds open rate, as specified in the applicable pricing supplement and adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

The federal funds rate will be the rate for U.S. dollar federal funds on the relevant interest determination date, as set forth in H.15 daily update opposite the heading “Federal funds (effective)” as that rate is displayed on the Reuters screen FEDFUNDS1 page (or any successor or replacement service or page) for that day.

- If the rate described above does not so appear on the Reuters screen FEDFUNDS1 page, then subject to the terms described below under “Effect of Original Primary Rate Event on Certain Floating Rate Notes”, the federal funds (effective) rate for the relevant interest reset date will be

the rate published in H.15 daily update or another recognized electronic source used for displaying that rate, opposite the heading “Federal funds (effective)”.

- If the rate cannot be determined as described in the preceding paragraphs, then the federal funds (effective) rate for the relevant interest reset date will be the rate for the first day preceding the relevant interest determination date for which such rate is set forth in H.15 daily update opposite the heading “Federal funds (effective)”, as such rate is displayed on the Reuters screen FEDFUNDS1 page (or any successor or replacement service or page).

MXN TIIE Banxico

If you purchase an “MXN TIIE Banxico” note (“Base Rate”: MXN TIIE Banxico), your note will bear interest at a base rate equal to the MXN TIIE Banxico, adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

MXN TIIE Banxico shall be the Tasa de Interés Interbancaria de Equilibrio (Interbank Equilibrium Interest Rate) (“TIIE”) for Mexican Pesos having the index maturity specified in the applicable pricing supplement which is published in the “Diario Oficial de la Federación” (Official Gazette of the Federation) by 11.00 a.m., Mexico City time on the relevant interest determination date. The rate may be replicated as set forth under the heading “TIIE” for the index maturity specified in the applicable pricing supplement or its equivalent as published on the Banco de México’s website, or on the Reuters screen MEX06 page (or any successor thereto) across from the caption “TIIE” for the applicable index maturity or its equivalent, in either case as of 2.00 p.m., Mexico City time, on the day that is one Business Day preceding the relevant interest determination date. In the event of any discrepancy between the rate published in the Diario Oficial de la Federación and the rate published on the Banco de México’s website, or on the Reuters screen MEX06 page (or any successor thereto) on the day that is one Business Day preceding the relevant interest determination date, the rate published in the Diario Oficial de la Federación will govern. For the avoidance of doubt, if the rate is not published in the Diario Oficial de la Federación, rates replicated on the Banco de México’s website or on the Reuters screen MEX06 page (or any successor thereto) are not valid.

In the event that the MXN TIIE Banxico rate is not published in the Diario Oficial de la Federación on any interest determination date, the calculation agent, after consulting any source it deems reasonable, shall determine the MXN TIIE Banxico rate with respect to such interest determination date in its sole discretion.

Overnight TIIE

If you purchase an “Overnight TIIE” note (“Base Rate”: Overnight TIIE), your note will bear interest at a base rate equal to the compounded daily Overnight TIIE, adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

Unless otherwise specified in your pricing supplement, compounded daily Overnight TIIE with respect to an interest period will be determined by the calculation agent on the applicable interest determination date using the formula described below:

$$\left[\prod_{i=1}^{d_0} \left(1 + \frac{R_i \times n_i}{D} \right) - 1 \right] \times \frac{D}{d}$$

Where:

"**D**" means 360.

"**d**" means, for the relevant Observation Period, the number of calendar days in such Observation Period.

"**d_o**" means, for the relevant Observation Period, the number of Mexican Banking Days in such Observation Period.

"**i**" means, for the relevant Observation Period, a series of whole numbers from one to **d_o**, each representing the Mexican Banking Day in chronological order from, and including, the first Mexican Banking Day in such Observation Period.

"**n_i**," for any Banking Day "**i**" in the relevant Observation Period, means the number of calendar days from, and including, such Mexican Banking Day "**i**" to but excluding the following Mexican Banking Day.

"**Mexican Banking Day**" means a day on which Mexican banking institutions are not required to close or suspend operations as determined by the general provisions issued by the Mexican National Banking and Securities Commission (Comision Nacional Bancaria y de Valores).

"**Observation Period**" means, in respect of the relevant interest period, the period from, and including, the date falling "**p**" Mexican Banking Days prior to the first day of such interest period to, but excluding, the date which is "**p**" Banking Days prior to the interest payment date for such interest period (or the date falling "**p**" Banking Days prior to such earlier date, if any, on which the notes become due and payable).

"**p**" means, for the relevant interest period, the number of Mexican Banking Days specified to be the Observation Period Shift in the applicable pricing supplement (or, if no such number is specified, two (2) Mexican Banking Days).

"**R_i**" means, for any Mexican Banking Day "**i**" in the relevant Observation Period, the Overnight TIIE in respect of such Mexican Banking Day "**i**" determined by the calculation agent.

"**Overnight TIIE**" means, in respect of any Mexican Banking Day:

(1) the reference rate equal to the *Tasa de Interés Interbancaria de Equilibrio en moneda nacional a plazo de un Día Bancario* (Interbank Equilibrium Interest Rate for Mexican pesos for a period of one Mexican Banking Day) referred to as "TIIE de Fondo" (Overnight TIIE) pursuant to the terms of Circular 3/2012, for such Mexican Banking Day, published by the Banco de México through the "SIACBanxico" system as of 5:00 p.m., Mexico City time, of the day it is determined (or through other electronic, computer or telecommunication means that Banco de México authorizes), as it appears on Banco de México's webpage and which will also be published in the "Diario Oficial de la Federación" (Federal Official Gazette) no later than two Mexican Banking Days after the day it was determined;

(2) if Banco de México does not publish Overnight TIIE on such Mexican Banking Day and such rate does not appear published in the "Diario Oficial de la Federación" (Federal Official Gazette) no later than two Mexican Banking Days after the applicable day of determination as set forth in (1) above, and (where the applicable pricing supplement specifies "Original Primary Rate Fallback" to be "Applicable") unless the calculation agent determines that an original primary rate event and its related adjustment date have occurred with respect to Overnight TIIE, the calculation agent will determine Overnight TIIE for such Mexican Banking Date as being Overnight TIIE in respect of the most recent Mexican Banking Day for which Overnight TIIE was published in accordance with (1) above; or

(3) where the applicable pricing supplement specifies “Original Primary Rate Fallback” to be “Applicable”, if the calculation agent determines that an original primary rate event and its related adjustment date have occurred with respect to Overnight TIE, then the provisions set forth under “Effect of Original Primary Rate Event on Certain Floating Rate Notes” below shall apply with respect to all determinations of the rate of interest payable on the notes.

Prime Rate Notes

If you purchase a prime rate note, your note will bear interest at a base rate equal to the prime rate and adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

The prime rate will be the rate, for the relevant interest determination date, published in H.15 daily update opposite the heading “Bank prime loan” (or in another recognized electronic source determined by the calculation agent in its sole discretion).

If the rate described above does not so appear in H.15 daily update or another recognized electronic source determined by the calculation agent, then subject to the terms described below under “Effect of Original Primary Rate Event on Certain Floating Rate Notes”, the prime rate for the relevant interest reset date will be the rate for the day first preceding the relevant interest determination date for which such rate is set forth in H.15 daily update opposite the heading “Bank prime loan” (or in another recognized electronic source determined by the calculation agent in its sole discretion).

SOFR Notes

If you purchase a “SOFR” note, your note will bear interest at a base rate equal to compounded SOFR, adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

Unless otherwise specified in your pricing supplement, compounded SOFR will be determined by the calculation agent using the formula described below, with the resulting percentage being rounded, if necessary, to the nearest one hundred-thousandth of a percentage point (0.0000005 being rounded upwards):

$$\left[\prod_{i=1}^{d_0} \left(1 + \frac{SOFR_i \times n_i}{360} \right) - 1 \right] \times \frac{360}{d}$$

where for purposes of applying the above formula to the terms of the applicable SOFR note:

“**d**”, for any observation period, is the number of U.S. government securities business days in the relevant observation period;

“**i**” is a series of whole numbers from one to d₀, each representing the relevant U.S. government securities business day in chronological order from, and including, the first U.S. government securities business day in the relevant observation period;

“**SOFR_i**”, for any day “**i**” in the relevant observation period, is equal to the SOFR in respect of that day;

“**n_i**”, for day “**i**” in the relevant observation period, is the number of calendar days from, and including, such U.S. government securities business day “**i**” up to, but excluding, the following U.S. government securities business day; and

“d” is the number of calendar days in the relevant observation period.

Notwithstanding the foregoing, if the calculation agent determines that a benchmark transition event and its related benchmark replacement date have occurred prior to the interest determination date in respect of any interest payment date, the benchmark replacement will replace the then-current benchmark for all purposes relating to the SOFR notes in respect of such determination on such date and all determinations on all subsequent dates.

In connection with the implementation of a benchmark replacement, the calculation agent will have the right to make benchmark replacement conforming changes from time to time.

Any determination, decision or election that may be made by the calculation agent pursuant to the provisions described in this section entitled “— Interest Rates — Floating Rate Notes — SOFR Notes”, including any determination with respect to a rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take or refrain from taking any action or any selection, will be conclusive and binding absent manifest error, may be made in the calculation agent’s sole discretion, and, notwithstanding anything to the contrary in the documentation relating to the SOFR notes, shall become effective without consent from any other party.

The calculation agent’s determination of any benchmark, and its calculation of the amount of interest for any observation period or interest period, will be on file at our principal offices and will be made available to any security holder upon request.

As used in this section entitled “— Interest Rates — Floating Rate Notes — SOFR Notes”:

The term “**SOFR**” means, with respect to any date:

- (1) the Secured Overnight Financing Rate published for such date as such rate appears on the Federal Reserve Bank of New York’s Website at 3:00 p.m. (New York time) on the immediately following U.S. government securities business day.
- (2) if the rate specified in (1) above does not so appear, the Secured Overnight Financing Rate as published in respect of the first preceding U.S. government securities business day for which the Secured Overnight Financing Rate was published on the Federal Reserve Bank of New York’s Website.

The term “**benchmark**” means, initially, compounded SOFR, as defined above; provided that if a benchmark transition event and its related benchmark replacement date have occurred with respect to compounded SOFR or the then-current benchmark, then “benchmark” means the applicable benchmark replacement.

The term “**benchmark replacement**” means the first alternative set forth in the order below that can be determined by the calculation agent as of the benchmark replacement date:

- (1) the sum of: (a) the alternate rate of interest that has been selected or recommended by the relevant governmental body as the replacement for the then-current benchmark and (b) the benchmark replacement adjustment;
- (2) the sum of: (a) the ISDA fallback rate and (b) the benchmark replacement adjustment;
- (3) provided that if (i) the benchmark replacement cannot be determined in accordance with clause (1) or (2) above as of the benchmark replacement date or (ii) the calculation agent shall have determined that the ISDA fallback rate determined in accordance with clause (2) above is not an industry-accepted rate of interest as a replacement for the then-current benchmark for U.S.

dollar-denominated floating rate debt securities at such time, then the benchmark replacement shall be the sum of: (a) the alternate rate of interest that has been selected by the calculation agent as the replacement for the then-current benchmark giving due consideration to any industry-accepted rate of interest as a replacement for the then-current benchmark for U.S. dollar-denominated floating rate debt securities at such time and (b) the benchmark replacement adjustment.

The term “**benchmark replacement adjustment**” means the first alternative set forth in the order below that can be determined by the calculation agent as of the benchmark replacement date:

- (1) the spread adjustment (which may be a positive or negative value or zero), or method for calculating or determining such spread adjustment, that has been selected or recommended by the relevant governmental body for the applicable unadjusted benchmark replacement;
- (2) if the applicable unadjusted benchmark replacement is equivalent to the ISDA fallback rate, then the ISDA fallback adjustment;
- (3) the spread adjustment (which may be a positive or negative value or zero) that has been selected by the calculation agent giving due consideration to any industry-accepted spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the then-current benchmark with the applicable unadjusted benchmark replacement for U.S. dollar-denominated floating rate debt securities at such time.

The term “**benchmark replacement conforming changes**” means, with respect to any benchmark replacement, any technical, administrative or operational changes (including changes to the definitions of “interest period”, “interest determination date” and “observation period”, timing and frequency of determining rates and making payments of interest, and other administrative matters) that the calculation agent decides may be appropriate to reflect the adoption of such benchmark replacement in a manner substantially consistent with market practice (or, if the calculation agent decides that adoption of any portion of such market practice is not administratively feasible or if the calculation agent determines that no market practice for use of the benchmark replacement exists, in such other manner as the calculation agent determines is reasonably necessary).

The term “**benchmark replacement date**” means the earliest to occur of the following events with respect to the then-current benchmark:

- (1) in the case of clause (1) or (2) of the definition of “benchmark transition event,” the later of (a) the date of the public statement or publication of information referenced therein and (b) the date on which the administrator of the benchmark permanently or indefinitely ceases to provide the benchmark; or
- (2) in the case of clause (3) of the definition of “benchmark transition event,” the date of the public statement or publication of information referenced therein.

For the avoidance of doubt, if the event giving rise to the benchmark replacement date occurs on the same day as the interest determination date, but earlier than the reference time on that date, the benchmark replacement date will be deemed to have occurred prior to the reference time for such determination.

For the avoidance of doubt, for purposes of the definitions of benchmark replacement date and benchmark transition event in this section entitled “— Interest Rates — Floating Rate Notes — SOFR Notes”, references to benchmark also include any reference rate underlying such benchmark.

The term “**benchmark transition event**” means the occurrence of one or more of the following events with respect to the then-current benchmark:

- (1) a public statement or publication of information by or on behalf of the administrator of the benchmark announcing that such administrator has ceased or will cease to provide the benchmark, permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the benchmark;
- (2) a public statement or publication of information by the regulatory supervisor for the administrator of the benchmark, the central bank for the currency of the benchmark, an insolvency official with jurisdiction over the administrator for the benchmark, a resolution authority with jurisdiction over the administrator for the benchmark or a court or an entity with similar insolvency or resolution authority over the administrator for the benchmark, which states that the administrator of the benchmark has ceased or will cease to provide the benchmark permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the benchmark; or
- (3) a public statement or publication of information by the regulatory supervisor for the administrator of the benchmark announcing that the benchmark is no longer representative.

The term “**Federal Reserve Bank of New York’s Website**” means the website of the Federal Reserve Bank of New York at <http://www.newyorkfed.org>, or any successor source.

The term “**interest determination date**” means the date falling the number of U.S. government securities business days equal to the observation period offset preceding each interest payment date.

The term “**ISDA definitions**” means the 2021 ISDA definitions published by the International Swaps and Derivatives Association, Inc. or any successor thereto, as amended or supplemented from time to time, or any successor definitional booklet for interest rate derivatives published from time to time.

The term “**ISDA fallback adjustment**” means the spread adjustment (which may be a positive or negative value or zero) that would apply for derivatives transactions referencing the ISDA definitions to be determined upon the occurrence of an index cessation event with respect to the benchmark for the applicable tenor.

The term “**ISDA fallback rate**” means the rate that would apply for derivatives transactions referencing the ISDA definitions to be effective upon the occurrence of an index cessation date with respect to the benchmark for the applicable tenor excluding the applicable ISDA fallback adjustment.

The term “**observation period**” means, in respect of each interest period, the period from, and including, (i) the date falling the number of U.S. government securities business days equal to the observation period offset preceding the first date in such interest period to, but excluding, (ii) the date falling the number of U.S. government securities business days equal to the observation period offset preceding the interest payment date for such interest period.

The term “**observation period offset**” means five (5) U.S. government securities business days, or such other number of U.S. government securities business days as specified in the applicable pricing supplement.

The term “**reference time**” with respect to any determination of the benchmark means (1) if the benchmark is compounded SOFR, 3:00 p.m. (New York time) on the date of such determination, and (2) if the benchmark is not compounded SOFR, the time determined by the calculation agent in accordance with the benchmark replacement conforming changes.

The term “**relevant governmental body**” means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York or any successor thereto.

The term “**unadjusted benchmark replacement**” means the benchmark replacement excluding the benchmark replacement adjustment.

The term “**U.S. government securities business day**” means any day other than a Saturday, a Sunday or a day on which the Securities Industry and Financial Markets Association recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in U.S. government securities.

SONIA Notes

If you purchase a “SONIA” note, your note will bear interest at a base rate equal to compounded SONIA, adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

Unless otherwise specified in your pricing supplement, compounded SONIA will be determined by the calculation agent using the formula described below, with the resulting percentage being rounded, if necessary, to the fourth decimal place (with 0.00005% being rounded upwards to the nearest one ten-thousandth of a percentage point):

$$\left[\prod_{i=1}^{d_0} \left(1 + \frac{SONIA_i \times n_i}{365} \right) - 1 \right] \times \frac{365}{d}$$

where for purposes of applying the above formula to the terms of the applicable SONIA note:

“**d₀**”, for any observation period, is the number of London Banking Days in the relevant observation period;

“**i**” is a series of whole numbers from one to **d₀**, each representing the relevant London Banking Day in chronological order from, and including, the first London Banking Day in the relevant observation period;

“**SONIA_i**”, for any day “**i**” in the relevant observation period, is equal to SONIA in respect of that day;

“**n_i**”, for day “**i**” in the relevant observation period, is the number of calendar days from, and including, such London Banking Day “**i**” up to, but excluding, the following London Banking Day; and

“**d**” is the number of calendar days in the relevant observation period.

If the calculation agent determines, in its discretion and acting in good faith and in a commercially reasonable manner, that an original primary rate event has occurred in respect of the SONIA base rate prior to the interest determination date in respect of any interest payment date, which may adversely affect the interest of holders (including but not limited to the fact that the SONIA base rate, as the case may be, is no longer relevant to and does not reflect the original economic objective and rationale of the notes), then the calculation agent will select a replacement primary rate as described under “Effect of Original Primary Rate Event on Certain Floating Rate Notes” below.

As used in this section entitled “—Interest Rates — Floating Rate Notes — SONIA Notes”:

The term “**SONIA**” means, with respect to any date:

- (1) the daily Sterling Overnight Index Average Rate for such date as provided by the Bank of England, as the administrator of the SONIA rate (or a successor administrator) to authorized distributors and as then published on the relevant screen page (or, if the

relevant screen page is unavailable, as otherwise published by such authorized distributors), in each case at 12:00 p.m. (London time) on the immediately following London Banking Day.

- (2) if the rate specified in (1) above does not so appear:
- (a) the Bank of England's bank rate (the "Bank Rate") prevailing at 5:00 p.m. (London time) on such date *plus* the mean of the spread of the SONIA rate to the Bank Rate over the previous five London Banking Days on which a SONIA Rate has been published, excluding the highest spread (or, if there is more than one highest spread, one only of those highest spreads) and the lowest spread (or, if there is more than one lowest spread, one only of those lowest spreads); or
 - (b) if such Bank Rate is not available, the SONIA rate published on the relevant screen page (or otherwise published by the relevant authorized distributors) for the first preceding London Banking Day on which a SONIA rate was published on the relevant screen page (or otherwise published by the relevant authorized distributors).

The term "**interest determination date**" means the date falling the number of London Banking Days equal to the observation period offset preceding each interest payment date.

The term "**London Banking Day**" means any day on which commercial banks are open for general business (including dealing in foreign exchange and foreign currency deposits) in London.

The term "**relevant screen page**" means Reuters Screen SONIA Page ("SONIAOSR=") or Bloomberg Page ("SONIO/N Index"), or such other page, section or other part as may replace it as may be nominated by the person providing or sponsoring the information appearing there for the purpose of displaying rates or prices comparable to SONIA.

The term "**observation period**" means, in respect of each interest period, the period from, and including, (i) the date falling the number of London Banking Days equal to the observation period offset preceding the first date in such interest period to, but excluding, (ii) the date falling the number of London Banking Days equal to the observation period offset preceding the interest payment date for such interest period.

The term "**observation period offset**" means five (5) London Banking Days, or such other number of London Banking Days as specified in the applicable pricing supplement.

Treasury Rate Notes

If you purchase a treasury rate note, your note will bear interest at a base rate equal to the treasury rate and adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

The treasury rate for the relevant interest reset date will be the rate for U.S. government treasury bills, as that rate appears on the Reuters screen USAUCTION10 page (or any successor or replacement service or page) or USAUCTION11 page (or any successor or replacement service or page) on the relevant interest determination date, opposite the index maturity specified in your pricing supplement under the heading "INVEST RATE".

- Subject to the terms described below under "Effect of Original Primary Rate Event on Certain Floating Rate Notes", if the rate described above does not appear on either page on the relevant interest calculation date, unless the calculation is made earlier and the rate is available from one of those sources at that time, but U.S. government treasury bills having the specified index maturity have been auctioned during the relevant interest period, then the treasury rate will be the bond equivalent yield of the rate, for the relevant interest reset date, as published in H.15 daily update,

or another recognized electronic source used for displaying that rate, for that day and for the specified index maturity, under a heading indicating that such rate is the “auction high” rate for United States treasury bills.

- If the rate cannot be determined as described in the preceding paragraph, then the treasury rate will be the bond equivalent yield of the auction rate for treasury bills with a remaining maturity equal to the specified index maturity as announced by the United States Treasury.
- If no such auction is held for the relevant week, then the treasury rate will be the rate, for the relevant interest reset date and for treasury bills having the specified index maturity, as published in H.15 daily update, or another recognized electronic source used for displaying that rate, under the heading “U.S. government securities/ Treasury bills (secondary market)”.
- If the rate described in the prior paragraph does not appear in H.15 daily update or in another recognized electronic source on the relevant interest calculation date (unless the calculation is made earlier and the rate is available from one of those sources at that time), then the calculation agent, after consulting such sources as it deems comparable to any display page or other U.S. government publication or source, or any other source as it deems reasonable from which to estimate the treasury bills auction rate, shall determine the treasury rate in its sole discretion, provided that if the calculation agent determines there is an industry-accepted successor treasury rate, then the calculation agent shall use such successor rate. If the calculation agent has determined a substitute or successor rate in accordance with the foregoing, the calculation agent in its sole discretion may determine the business day convention, the definition of business day and the interest reset date to be used and any other relevant methodology for calculating such substitute or successor rate, including any adjustment factor needed to make such substitute or successor rate comparable to the treasury rate, in a manner that is consistent with any industry-accepted practices for such substitute or successor rate.

11th District Cost of Funds Rate Notes

If you purchase an 11th district cost of funds rate note, your note will bear interest at a base rate equal to the 11th district cost of funds rate and adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

The 11th district cost of funds rate will be the rate equal to the monthly weighted average cost of funds for the calendar month immediately before the relevant reset date set forth opposite the caption “11TH Dist COFI:” as displayed on the Reuters screen COFI/ ARMS page (or any successor or replacement service or page) as of approximately 11:00 A.M., San Francisco time, on the relevant interest determination date.

If the rate described above does not so appear on the Reuters screen COFI/ARMS page (or any successor or replacement service or page), then subject to the terms described below under “Effect of Original Primary Rate Event on Certain Floating Rate Notes”, the 11th district cost of funds rate for such interest reset date will be the monthly weighted average cost of funds paid by institutions that are members of the Eleventh Federal Home Loan Bank District for the calendar month immediately before the relevant interest reset date, as most recently announced by the Federal Home Loan Bank of San Francisco as that cost of funds.

If the Federal Home Loan Bank of San Francisco fails to announce the cost of funds described in the prior paragraph on or before the relevant interest reset date, the 11th district cost of funds rate in effect for the new interest period will be the 11th district cost of funds rate in effect for the prior interest period. If the initial base rate has been in effect for the prior interest period, however, it will remain in effect for the new interest period.

SGD SOR Rate Notes

If you purchase an SGD SOR rate note, your note will bear interest at a base rate equal to the synthetic rate for deposits in Singapore dollars and adjusted by the spread or spread multiplier, if any, specified in your pricing supplement.

The synthetic rate for deposits in Singapore dollars will be the rate equal to the synthetic rate for deposits in Singapore dollars for a period of the index maturity which appears on the Reuters screen ABSIRFIX01 page (or any successor or replacement service or page) under the heading "SOD SWAP OFFER" as of 11:00 a.m., Singapore time, on the day that is the second Singapore Business Day and London Business Day preceding that reset date.

If such rate does not so appear on the Reuters screen ABSIRFIX01 page (or any successor or replacement service or page), then subject to the terms described below under "Effect of Original Primary Rate Event on Certain Floating Rate Notes", the rate for that reset date will be any substitute rate announced by the Association of Banks in Singapore ("ABS"). If ABS does not announce such rate by 4:00 p.m., Singapore time, on the day that is two Singapore Business Days preceding the relevant reset date, the applicable floating rate for that reset date will be determined on the basis of the rates at which deposits in Singapore dollars are offered by four major banks in the Singapore interbank market at approximately 11:00 a.m., Singapore time, on the day that is two Singapore Business Days preceding that reset date to prime banks in the Singapore interbank market for a period of the index maturity commencing on that reset date and in a representative amount. The calculation agent will request the principal Singapore office of each of the four major banks in the Singapore interbank market to provide a quotation of its rate. If at least two quotations are provided, the rate for that reset date will be the arithmetic mean of the quotations. If fewer than two quotations are provided as requested, the rate for that reset date will be the arithmetic mean of the rates quoted by major banks in Singapore, selected by the calculation agent, at approximately 11:00 a.m., Singapore time, on that reset date for loans in Singapore dollars to leading banks in Singapore for a period of the index maturity commencing on that reset date and in a representative amount. If no quotation is provided as described in this paragraph, then the calculation agent, after consulting such sources as it deems comparable to any of the foregoing quotations or display page, or any such source as it deems reasonable from which to estimate the SGD SOR rate or any of the foregoing lending rates, shall determine the SGD SOR rate for that interest reset date in its sole discretion.

Other Rates

If you purchase a floating rate note which bears interest at a rate determined by reference to a rate other than the rates set forth above, the source of the base rate and the manner in which it is determined will be set forth in the applicable pricing supplement. If the base rate cannot be determined in the manner specified in the applicable pricing supplement at the relevant time specified in the applicable pricing supplement, then unless otherwise specified in the applicable pricing supplement, the base rate on the calculation date corresponding to the relevant determination date specified in the applicable pricing supplement, shall be determined by the calculation agent in its sole discretion.

Effect of Original Primary Rate Event on Certain Floating Rate Notes

The following provisions will apply to any floating rate note (other than SOFR Notes) for which the applicable pricing supplement specifies "Original Primary Rate Fallback" to be "Applicable". If the Original Primary Rate Fallback is applicable, then if the calculation agent determines that an original primary rate event and its related adjustment date have occurred in respect of an original primary rate prior to the reference time in respect of any determination of the original primary rate on any date, the replacement primary rate plus adjustment spread will replace the then-current original primary rate for all purposes relating to such note, in respect of such determination on such date and all determinations on all subsequent dates. In connection with the implementation of the replacement primary rate, the calculation agent will have the right to make replacement primary rate amendments from time to time.

If the calculation agent determines, in its discretion and acting in good faith and in a commercially reasonable manner, that an original primary rate event has occurred in respect of an original primary rate which may adversely affect the interests of the holders (including but not limited to the fact that such original primary rate, as the case may be, is no longer relevant to and does not reflect the original economic objective and rationale of the notes):

- (1) the calculation agent shall attempt to identify a replacement primary rate, as the case may be;
- (2) the calculation agent shall attempt to determine the adjustment spread;
- (3) if the calculation agent identifies a replacement primary rate pursuant to paragraph (1) above and determines an Adjustment Spread pursuant to paragraph (2) above, then:
 - (A) the terms of the notes shall, without the consent of the holders, be amended so that each reference to the original primary rate shall be replaced by a reference to “replacement primary rate plus the adjustment spread” (provided that the result of the replacement primary rate plus the adjustment spread plus or minus (as indicated in the relevant pricing supplement) the margin, may not be less than zero) with effect from the adjustment date;
 - (B) the calculation agent shall, without the consent of the holders, make such other adjustments (the “replacement primary rate amendments”) to the conditions (including, but not limited to, any business day, business day convention, day count fraction, interest determination date, interest amount, interest payment date, interest period and rate of interest) with effect from the adjustment date as it determines necessary or appropriate in order to account for the effect of the replacement of the original primary rate with the replacement primary rate plus the adjustment spread and/or to preserve as nearly as practicable the economic equivalence of the notes before and after the replacement of the original primary rate with the replacement primary rate plus the adjustment spread; and
 - (C) the calculation agent shall deliver a notice to the holders as soon as practicable in the manner described under “— Notices” which shall specify any replacement primary rate, adjustment spread, adjustment date and the specific terms of any replacement primary rate amendments and such notice shall be irrevocable. Any replacement primary rate, adjustment spread and replacement primary rate amendments will be binding on us, the registrar, the paying and transfer agent and the holders.

Neither the calculation agent nor The Goldman Sachs Group, Inc. shall have any duty to monitor, enquire or satisfy itself as to whether any original primary rate event has occurred.

If the definition, methodology or formula for an original primary rate, or other means of calculating such original primary rate, is changed or modified (irrespective of the materiality of any such change or changes), then references to that original primary rate shall be to the original primary rate as changed and modified.

Defined terms used above:

The term “**adjustment date**” means, in respect of an original primary rate event, the later of:

- (1) the first date on which the calculation agent had identified a replacement primary rate and determined an adjustment spread, as applicable; and

- (2) the first to occur of: (A) the first date on which the original primary rate is no longer available following an original primary rate cessation, or (B) the administrator/benchmark event date, as relevant in relation to such original primary rate event;

The term “**adjustment spread**” means, in respect of a replacement primary rate, the adjustment, if any, to such replacement primary rate that the calculation agent determines, acting in good faith and in a commercially reasonable manner, is required in order to reduce or eliminate, to the extent reasonably practicable, any transfer of economic value from us to the holders (or vice versa) as a result of the replacement of the original primary rate with such replacement primary rate. Any such adjustment may take account of, without limitation, any transfer of economic value as a result of any difference in the term structure or tenor of the replacement primary rate by comparison to the original primary rate. The adjustment spread may be positive, negative or zero, or determined pursuant to a formula or methodology. If a spread or formula or methodology for calculating a spread has been formally designated, nominated or recommended by any relevant nominating body in relation to the replacement of the original primary rate with such replacement primary rate, that spread shall apply or that formula or methodology shall be used to determine the adjustment spread (as the case may be), and such spread, formula or methodology (as the case may be) shall be adjusted as necessary to reflect the fact that the spread, formula or methodology (as the case may be) is used in the context of the notes. If the calculation agent is required to determine the adjustment spread, it shall consider the spread or formula or methodology for calculating a spread or payment (as applicable), that is, in the determination of the calculation agent, recognised or acknowledged as being the industry standard (or otherwise customarily widely adopted) for over-the-counter derivative transactions which reference such original primary rate.

The term “**administrator/benchmark event**” means the occurrence of a non-approval event, a rejection event or a suspension/withdrawal event, in each case being treated as having occurred on the administrator/benchmark event date.

The term “**administrator/benchmark event date**” means, in respect of an original primary rate, the date determined by the calculation agent to be:

- (1) in respect of a non-approval event, the date on which the relevant authorisation, registration, recognition, endorsement, equivalence decision, approval, inclusion in any official register or similar regulatory or legal requirement is required under any applicable law or regulation for the use of such original primary rate in respect of the notes;
- (2) in respect of a rejection event, the date on which following the rejection or refusal of the relevant application for authorisation, registration, recognition, endorsement, an equivalence decision, approval or inclusion in any official register, either The Goldman Sachs Group, Inc. or the calculation agent is not, or will not be, permitted under any applicable law or regulation to use such original primary rate or to perform its or their respective obligations under the notes; and
- (3) in respect of a suspension/withdrawal event, the date on which following (A) the suspension or withdrawal by the relevant competent authority or other relevant official body of the authorisation, registration, recognition, endorsement, equivalence decision or approval, or (B) the date on which such original primary rate or the administrator or sponsor of such original primary rate is removed from the official register, as applicable, either The Goldman Sachs Group, Inc. or the calculation agent is not, or will not be, permitted under any applicable law or regulation to use such original primary rate or to perform its or their respective obligations under the notes.

The term “**alternative post-nominated primary rate**” means, in respect of an original primary rate, any index, benchmark or other price source which is formally designated, nominated or recommended by:

- (1) any relevant nominating body; or
- (2) the administrator or sponsor of the original primary rate, provided that such index, benchmark or other price source is substantially the same as the original primary rate,

in each case, to replace such original primary rate. If a replacement index, benchmark or other price source is designated, nominated or recommended under both paragraphs (1) and (2) above, then the replacement index, benchmark or other price source designated, nominated or recommended under paragraph (1) shall be the alternative post-nominated primary rate.

The term “**non-approval event**” means, in respect of an original primary rate, the determination by the calculation agent that one or more of the following events has occurred:

- (1) any authorisation, registration, recognition, endorsement, equivalence decision or approval in respect of such original primary rate or the administrator or sponsor of such original primary rate is not obtained;
- (2) such original primary rate or the administrator or sponsor of such original primary rate is not included in an official register; or
- (3) such original primary rate or the administrator or sponsor of such original primary rate does not fulfil any legal or regulatory requirement applicable to The Goldman Sachs Group, Inc. or the calculation agent or such original primary rate,

in each case, with the effect that either The Goldman Sachs Group, Inc. or the calculation agent is not, or will not be, permitted under any applicable law or regulation to use such original primary rate to perform its or their respective obligations under the notes, provided that a non-approval event shall not occur if such original primary rate or the administrator or sponsor of such original primary rate is not included in an official register because its authorisation, registration, recognition, endorsement, equivalence decision or approval is suspended if, at the time of such suspension, the continued provision and use of such original primary rate is permitted in respect of the notes under the applicable law or regulation.

The term “**original primary rate**” means, initially the relevant base rate specified in the applicable pricing supplement; provided, that if an original primary rate event and its related adjustment date have occurred with respect to such initial rate (or any successor original primary rate) the “original primary rate” means the applicable replacement primary rate plus adjustment spread.

The term “**original primary rate cessation**” means, in respect of an original primary rate, the determination by the calculation agent that one or more of the following events has occurred:

- (1) a public statement or publication of information by or on behalf of the administrator of such original primary rate announcing that it has ceased or will cease to provide such original primary rate permanently or indefinitely, provided that, at the time of such public statement or publication, there is no successor administrator that will continue to provide such original primary rate;
- (2) a public statement or publication of information by the supervisory authority of the administrator of such original primary rate, the central bank for the currency of such original primary rate, an insolvency official with jurisdiction over the administrator of such original primary rate, a resolution authority with jurisdiction over the administrator of such original primary rate or a court or an entity with similar insolvency or resolution authority over the administrator of such original primary rate announcing that the administrator has ceased or will cease to provide such original primary rate permanently or indefinitely, provided that, at the time of such public statement or

publication, there is no successor administrator that will continue to provide such original primary rate; or

- (3) any event which otherwise constitutes an “index cessation event” in the definition of such original primary rate (regardless of how it is actually defined or described in the definition of such original primary rate in the 2021 ISDA definitions published by the International Swaps and Derivatives Association, Inc.) in relation to which the priority fallback(s) specified (if any) fail to provide appropriate means of determining the rate of interest,

provided that, in each case, an original primary rate cessation shall only occur if the first day on which such original primary rate is no longer available falls on or before the maturity date.

The term “**original primary rate event**” means, in respect of an original primary rate, the determination by the calculation agent that one or more of the following events has occurred:

- (1) an original primary rate cessation; and
- (2) an administrator/benchmark event.

The term “**priority fallback**” means, in respect of an original primary rate, if the definition of such original primary rate includes a reference to a concept defined or otherwise described as an “index cessation event” (regardless of the contents of that definition or description), any fallback specified in that definition or description to apply following the occurrence of such an event.

The term “**rejection event**” means, in respect of an original primary rate, the determination by the calculation agent that the relevant competent authority or other relevant official body has rejected or refused any application for authorisation, registration, recognition, endorsement, an equivalence decision, approval or inclusion in any official register in relation to such original primary rate or the administrator or sponsor of such original primary rate, with the effect that either The Goldman Sachs Group, Inc. or the calculation agent is not, or will not be, permitted under any applicable law or regulation to use such original primary rate to perform its or their respective obligations under the notes.

The term “**relevant nominating body**” means, in respect of an original primary rate:

- (1) the central bank for the currency in which such original primary rate is denominated or any central bank or other supervisory authority which is responsible for supervising such original primary rate or the administrator of such original primary rate; or
- (2) any working group or committee officially endorsed or convened by (A) the central bank for the currency in which such original primary rate is denominated, (B) any central bank or other supervisory authority which is responsible for supervising such original primary rate or the administrator of such original primary rate, (C) a group of those central banks or other supervisory authorities, or (D) the Financial Stability Board or any part thereof.

The term “**replacement primary rate**” means, in respect of an original primary rate, the alternative post-nominated primary rate, provided that if more than one relevant nominating body formally designates, nominates or recommends an alternative post-nominated primary rate, and those designations, nominations or recommendations are not the same, then the calculation agent shall select the alternative post-nominated primary rate in its discretion, acting in good faith and in a commercially reasonable manner.

If the calculation agent determines that (A) there is no alternative post-nominated primary rate, or (B) the alternative post-nominated primary rate is not a suitable replacement for the original primary rate and/or the replacement of the original primary rate with the alternative post-nominated primary rate will not achieve

a commercially reasonable result, the replacement primary rate shall be such other rate, index, benchmark or other price source selected by the calculation agent, in its discretion, acting in good faith and in a commercially reasonable manner. If the calculation agent is required to select the replacement primary rate as a result of there being no alternative post-nominated primary rate, it may take into account the rate that is, in the determination of the calculation agent, recognised or acknowledged as being the industry standard (or otherwise customarily widely adopted) replacement rate for over-the-counter derivative transactions which reference such original primary rate.

The term “**suspension/withdrawal event**” means, in respect of an original primary rate, the determination by the calculation agent that one or more of the following events has occurred:

- (1) the relevant competent authority or other relevant official body suspends or withdraws any authorisation, registration, recognition, endorsement, equivalence decision or approval in relation to such original primary rate or the administrator or sponsor of such original primary rate; or
- (2) such original primary rate or the administrator or sponsor of such original primary rate is removed from any official register,

in each case, with the effect that either The Goldman Sachs Group, Inc. or the calculation agent is not, or will not be, permitted under any applicable law or regulation to use such original primary rate to perform its or their respective obligations under the notes, provided that a suspension/withdrawal event shall not occur if such authorisation, registration, recognition, endorsement, equivalence decision or approval is suspended or where inclusion in any official register is withdrawn if, at the time of such suspension or withdrawal, the continued provision and use of such original primary rate is permitted in respect of the notes under the applicable law or regulation.

Special Rate Calculation Terms

In this subsection entitled “— Interest Rates — Floating Rate Notes”, we use several terms that have special meanings relevant to calculating floating interest rates. We define these terms as follows:

The term “**Bloomberg Page**” means, in respect of an applicable reference rate and any designated page, the display page so designated on the Bloomberg® service (or such other page as may replace that page on that service (or replace such services) for the purpose of displaying a rate comparable to such applicable reference rate, as determined by the calculation agent).

The term “**bond equivalent yield**” means a yield expressed as a percentage and calculated in accordance with the following formula:

$$\text{bond equivalent yield} = \frac{D \times N}{360 - (D \times M)} \times 100$$

where

- “D” means the annual rate for treasury bills quoted on a bank discount basis and expressed as a decimal;
- “N” means 365 or 366, as the case may be; and
- “M” means the actual number of days in the interest reset period.

The term “**designated CMT index maturity**” means the index maturity for a CMT rate note and will be the original period to maturity of a U.S. treasury security — either 1, 2, 3, 5, 7, 10, 20 or 30 years —

specified in the applicable pricing supplement. If no original maturity period is specified, the designated CMT index maturity will be 2 years.

The term “**designated CMT Reuters screen page**” means the Reuters screen page specified in the applicable pricing supplement that displays treasury constant maturities as published by the Federal Reserve System Board of Governors, or its successor, on its website. If no Reuters screen page is so specified, then the applicable page will be the Reuters screen FEDCMT page. If the Reuters screen FEDCMT page applies but the applicable pricing supplement do not specify whether the weekly or monthly average applies, the weekly average will apply.

The term “**H.15 daily update**” means the daily statistical release designated as such published by the Federal Reserve System Board of Governors, or its successor, available through the website of the Board of Governors of the Federal Reserve System at <http://www.federalreserve.gov/releases/h15>, or any successor site or publication.

The term “**index currency**” means the currency specified as such in the applicable pricing supplement.

The term “**index maturity**” means, with respect to a floating rate note, the period to maturity of the instrument or obligation on which the interest rate formula is based, as specified in the applicable pricing supplement.

The term “**money market yield**” means a yield expressed as a percentage and calculated in accordance with the following formula:

$$\text{money market yield} = \frac{D \times 360}{360 - (D \times M)} \times 100$$

where

- “D” means the annual rate for commercial paper quoted on a bank discount basis and expressed as a decimal; and
- “M” means the actual number of days in the relevant interest reset period.

The term “**representative amount**” means an amount that, in the calculation agent’s judgment, is representative of a single transaction in the relevant market at the relevant time.

The term “**relevant screen page**” means the Bloomberg Page or the Reuters Screen (or both) specified as the relevant screen page or the relevant screen pages in the applicable pricing supplement. If, when we refer to any relevant screen page, we refer to a particular heading or headings on such page, those references include any successor or replacement heading or headings as determined by the calculation agent.

The term “**Reuters screen**” means the display on the Reuters 3000 Xtra service or any successor or replacement service, on the page or pages specified in the applicable pricing supplement, or any replacement page or pages on that service, as determined by the calculation agent.

If, when we use the terms designated CMT Reuters screen page, H.15 daily update, Reuters screen BBSW page, Reuters screen ABSIRFIX01 page, Reuters screen COFI/ARMS page, Reuters screen EURIBOR01 page, Reuters screen FEDCMT page, Reuters screen FRBCMT page, Reuters screen MEX06 page, Reuters screen USAUCTION10 page or Reuters screen USAUCTION11 page, we refer to a particular heading or headings on any of those pages, those references include any successor or replacement heading or headings as determined by the calculation agent.

Indexed Notes

This subsection provides information that may be relevant to your note if it is linked to an underlying. The applicable pricing supplement may provide additional information, including information that may modify the information below, and may specify that your note is linked to a different underlying than those referred to below. In addition, the applicable pricing supplement will contain disclosure with respect to any licensing arrangements we have entered or may enter into with the relevant underlying sponsor. We do not intend to provide post-issuance information with respect to any underlying, unless otherwise required by applicable laws and regulations.

Whether or not a maximum rate applies, the interest rate on an indexed note will in no event be higher than the maximum rate permitted by New York law, as it may be modified by U.S. law of general application. Under current New York law, the maximum rate of interest, with some exceptions, for any loan in an amount less than \$2,500,000 is 25% per year on a simple interest basis. No limits apply to loans of \$2,500,000 or more.

UDI-Denominated and UDI-Linked Notes

UDI-Denominated Notes

If your pricing supplement specifies that “Interest Rate Note Provisions” is Applicable and “UDI-Denominated” is Applicable for any interest period, then each UDI-denominated note will bear interest from the “Interest Commencement Date” specified in your pricing supplement or from the most recent interest payment date to which interest on the note has been paid or made available for payment.

If your pricing supplement specifies that Amortizing Notes is “Not Applicable”, your UDI-denominated note will bear interest at an amount equal to the product of (i) a fixed rate per annum, or at fixed rates per annum, stated in applicable pricing supplement as the “Interest Rate” *times* (ii) the face amount of the notes *times* (iii) the UDI Index Level for the relevant observation date.

If your pricing supplement specifies that Amortizing Notes is “Applicable”, your UDI-denominated note will bear interest at an amount equal to the product of (1) a fixed rate per annum, or at fixed rates per annum, stated in applicable pricing supplement as the “Interest Rate” *times* (2) (a) the face amount of the notes *times* (b) the Aggregate Principal Amount Outstanding (as specified in the applicable pricing supplement) as of the first day of the applicable interest period, *times* (3) the UDI Index Level for the relevant interest determination date.

UDI-Linked Notes

If your pricing supplement specifies that “Interest Rate Note Provisions” is Applicable and “UDI-Linked” is Applicable for any interest period, then your note will bear interest from the “Interest Commencement Date” specified in your pricing supplement, or from the most recent interest payment date to which interest on the note has been paid or made available for payment.

If your pricing supplement specifies that Amortizing Notes is “Not Applicable”, your UDI-linked note will bear interest at an amount equal to the product of (1) a fixed rate per annum, or at fixed rates per annum, stated in applicable pricing supplement as the “Interest Rate” *times* (2) the UDI-Linked Notional Amount *times* (3) the UDI Index Level for the relevant interest determination date.

If your pricing supplement specifies that Amortizing Notes is “Applicable”, your UDI-linked note will bear interest at an amount equal to the product of (1) a fixed rate per annum, or at fixed rates per annum, stated in applicable pricing supplement as the “Interest Rate” *times* (2) (a) the UDI-Linked Notional Amount *times* (b) the Aggregate Principal Amount Outstanding (as specified in the applicable pricing supplement) as of the first day of the applicable interest period, *times* (3) the UDI Index Level for the relevant interest

determination date. The terms “UDI Linked Notional Amount” and “UDI Index Level” shall have the meanings set forth under “– Redemption and Repayment – Redemption at Maturity – UDI-Linked Notes” below.

With respect to UDI-denominated and UDI-linked notes, the interest amount payable on an interest payment date with respect to an interest period will be determined by the calculation agent by reference to a particular date called an interest determination date. The interest determination dates applicable to each interest period will be specified as the “Interest Determination Dates” in the applicable pricing supplement. If any interest determination date would otherwise be a day that is not a business day, the interest determination date will be adjusted in accordance with the applicable business day convention. The interest period for each payment of interest due on an interest payment date or at maturity will include interest accrued from and including the last date to which interest has been paid or made available for payment, or from the interest commencement date if none has been paid or made available for payment, to, but excluding, the interest payment date, the date of maturity or the relevant early redemption date, in each case subject to the business day convention. We will compute interest on UDI-linked notes on the basis of the day count convention specified in your pricing supplement; see “— Day Count Conventions” above. We will pay interest on each interest payment date and at maturity as described under “— Payment Mechanics for Notes” below.

Currencies and Foreign Currency Exchange Rates

Exchange Business Days

An exchange business day with respect to a foreign exchange rate is a day on which either (1) an entity responsible for setting the official exchange rate, a spot exchange rate or other specified exchange rate publishes such rate or (2) transactions in the official exchange rate, spot exchange rate or other specified exchange rate are occurring in the global foreign exchange spot markets and foreign exchange markets are settling payments in the specified principal financial centers of the relevant currencies, and, in each case, a market disruption event with respect to a foreign currency exchange rate has not occurred or is not continuing.

Market Disruption Events

A market disruption event with respect to a foreign currency exchange rate will be deemed to have occurred if an event has occurred or is continuing which makes it impossible for the calculation to obtain such relevant official exchange rate, spot exchange rate or other specified exchange rate.

Adjustments

Non-Exchange Business Days

If any observation date with respect to a foreign currency exchange rate falls on a day that is not an exchange business day, the relevant observation date with respect to such rate will be postponed to the next following exchange business day. However, in no event will any observation date with respect to a foreign exchange rate be postponed by more than eight business days after the scheduled date for that observation date. If an observation date immediately preceding the stated maturity date or any payment date for the relevant note is postponed, the stated maturity date or payment date will be postponed by the same number of business day(s) from and excluding the originally scheduled observation date to and including the actual observation date, subject to a maximum of eight business days; provided, however, that if the rescheduled observation date is more than five business days prior to the stated maturity date or payment date, then such stated maturity date or payment date shall not be postponed. In the event that an observation date has been postponed to the last date possible and such postponed date is not an exchange business day, the calculation agent shall determine the relevant official exchange rate, spot exchange rate or other specified exchange rate in a commercially reasonable manner in its sole discretion.

Hedging in Connection with Issuance of Indexed Notes

In anticipation of the sale of indexed notes, we and/or our affiliates may enter into hedging transactions involving purchases of instruments linked to the relevant underlying or underlyers on the trade date. In addition, from time to time after we issue the offered notes, we and/or our affiliates may enter into additional hedging transactions and unwind those hedging transactions we have entered into, in connection with such notes and perhaps in connection with other notes we issue, some of which may have returns linked to the relevant underlying or underlyers or all or a portion of the underlying components. Consequently, with regard to indexed notes, from time to time, we and/or our affiliates:

- expect to acquire and dispose of positions in listed or over-the-counter options, futures, swaps or other instruments linked to the relevant underlying or underlyers or some or all of the underlying components,
- may take or dispose of positions in the securities of the issuers of securities included in such underlyers,
- may take or dispose of positions in listed or over-the-counter options or other instruments based on underlyers designed to track the performance of relevant equity markets or components of such markets, and/or
- may take short positions in any of the underlying components described above.

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

In the future, we and/or our affiliates would expect to close out any hedge positions relating to your note and perhaps hedge positions relating to the underlying and other notes with returns linked to the underlying components. Those steps are likely to involve sales and/or purchases of listed or over-the-counter options, futures or other instruments linked to the underlying or perhaps to some or all of the underlying components. They may also involve sales and/or purchases of some or all of the underlying components as well as listed or over-the-counter options, futures or other instruments linked to the underlying.

The hedging activity discussed above may adversely affect the market price of your note from time to time and the supplemental payment amount, if any, we will pay on your note. See “Risk Factors — Considerations Relating to Indexed Notes — Trading and Other Transactions by Us in Instruments Linked to an Underlyer or the Components of an Underlyer May Impair the Market Price of an Indexed Note” and “Risk Factors — Considerations Relating to Indexed Notes — Our Business Activities May Create Conflicts of Interest Between You and Us” for a discussion of these adverse effects.

Indexed Notes Terms

In this subsection entitled “Indexed Notes”, we use several terms that have special meanings relevant to indexed notes. We define these terms as follows:

The term “**underlyer**” means any security, currency, rate (including interest rates and foreign currency exchange rates), index (including any consumer price or other inflation index), or other financial, economic or other measure or instrument (including the occurrence or non-occurrence of any event or circumstance and credit events relating to one or more issuers or securities) and/or one or more of the foregoing items or baskets of any of these items specified as such in the applicable pricing supplement, and any successor underlyer, in each case as it may be modified, replaced or adjusted from time to time.

The term “**underlyer sponsor**” means, at any time, the person or other entity, including any successor sponsor, that is (i) responsible for setting and reviewing the rules and procedures for the methods of

calculation and adjustments, if any, related to the relevant underlying and (ii) announces (directly or through an agent) the level of the relevant underlying on a regular basis, all as determined by the calculation agent.

The term “**observation date**” means with respect to an underlying the date specified as such in the applicable pricing supplement, subject to any relevant adjustments as described above or in the applicable pricing supplement.

The term “**reference price**” means the official closing level of the relevant underlying as of the relevant observation date as published by the underlying sponsor.

Redemption and Repayment

Redemption at Maturity

Unless previously redeemed, or purchased and cancelled as specified below, or unless otherwise specified in the applicable pricing supplement, the notes will be redeemed by us by payment of the Amount Payable At Maturity (Final Redemption Amount) on the Maturity Date. In determining the Amount Payable At Maturity on your note, if the applicable pricing supplement specifies the “Calculation Basis” to be “Per Denomination”, then the amount payable at maturity will be calculated on a per denomination basis and if the applicable pricing supplement specifies the “Calculation Basis” to be “Notional”, then the amount payable at maturity will be calculated on the basis of the outstanding face amount of your notes.

Amortizing Notes

If “Amortizing Notes” is specified in the applicable pricing supplement as “Applicable”, then the principal amount of the notes will be paid in instalments on each “Amortizing Payment Date”, in accordance with an “Amortizing Schedule” as set forth in the applicable pricing supplement. On each Amortizing Payment Date, the notes shall pay the applicable Amortizing Payment Amount set forth in your pricing supplement.

If the notes are fixed rate notes, the Amortizing Payment Amount payable on each Amortizing Payment Date shall be equal to the product of (A) the Amortizing Percentage for the applicable Amortizing Payment Date (as set forth in the Amortizing Schedule in the applicable pricing supplement) *multiplied by* (B) the face amount of the notes.

If the notes are UDI-denominated notes, the Amortizing Payment Amount payable on each Amortizing Payment Date shall be an amount in MXN to equal to the product of (1) the Amortizing Percentage for the applicable Amortizing Payment Date (as set forth in the Amortizing Schedule in the applicable pricing supplement) *multiplied by* (2) the face amount of the notes, *multiplied by* (3) the UDI Index Level as of the applicable Observation Date.

If the notes are UDI-linked notes, the Amortizing Payment Amount payable on each Amortizing Payment Date shall be an amount in MXN to equal to the product of (1) the Amortizing Percentage for the applicable Amortizing Payment Date (as set forth in the Amortizing Schedule in the applicable pricing supplement) *times* (2) the UDI-Linked Notional Amount *times* (3) the UDI Index Level on the applicable Observation Date; *provided that* if such amount is less than the product of (1) the Amortizing Percentage for the applicable Amortizing Payment Date *times* (2) the face amount of your notes, and your pricing supplement specifies the “UDI-Linked Floor” to be “100% of the Face Amount”, the Amortizing Payment Amount payable on such Amortizing Payment Date shall be an amount in MXN equal to (1) the Amortizing Percentage for the applicable Amortizing Payment Date *times* (2) the face amount of your notes.

In connection with the payment of each Amortizing Payment Amount, the Aggregate Principal Amount Outstanding (expressed as a percentage) will be reduced on the applicable Amortizing Payment Date, subject to the business day convention, as set forth in the applicable Amortizing Schedule. The Amount Payable at Maturity (Final Redemption Amount) payable in respect of any amortizing note shall be an

amount equal to the Amortizing Payment Amount for the Amortizing Payment Date that falls on the stated maturity date, each as specified in the applicable pricing supplement.

UDI-Denominated Notes

If the Amount Payable at Maturity (Final Redemption Amount) row indicates “UDI-Denominated Notes” is Applicable, and if “Amortizing Notes” is Not Applicable, then the Amount Payable at Maturity (Final Redemption Amount) payable in respect of the notes shall be equal to an amount in MXN equal to the *product of* (1) the face amount of the notes *times* (2) the UDI Index Level on the Observation Date *times* (3) a fixed percentage which may be 100%, or may be some other fixed multiple of the face amount of your notes (greater than 100%).

If the Amount Payable at Maturity (Final Redemption Amount) row indicates “UDI-Denominated Notes” is Applicable, and if “Amortizing Notes” is Applicable, the Amount Payable at Maturity (Final Redemption Amount) shall be equal to the Amortizing Payment Amount for the Amortizing Payment Date that falls on the stated maturity date.

UDI-Linked Notes

If the Amount Payable at Maturity (Final Redemption Amount) row indicates “UDI-Linked Notes” is Applicable, and if “Amortizing Notes” is Not Applicable, then the Amount Payable at Maturity (Final Redemption Amount) payable in respect of the notes shall be equal to an amount in MXN equal to the *product of* (1) the UDI-Linked Notional Amount *times* (2) the UDI Index Level on the Observation Date *times* (3) a fixed percentage which may be 100%, or may be some other fixed multiple of the face amount of your notes (greater than 100%); *provided that* if such amount is less than the face amount of your notes, and your pricing supplement specifies the “UDI-Linked Floor” to be “100% of the Face Amount”, the Amount Payable at Maturity (Final Redemption Amount) shall be an amount in MXN equal to 100% of the face amount of your notes.

If the Amount Payable at Maturity (Final Redemption Amount) row indicates “UDI-Linked Notes” is Applicable, and if “Amortizing Notes” is Applicable, then the Amount Payable at Maturity (Final Redemption Amount) shall be equal to the Amortizing Payment Amount for the Amortizing Payment Date that falls on the stated maturity date.

Defined terms used in the sub-sections “— Amortizing Notes”, “— UDI-Denominated Notes” and “— UDI-Linked Notes”:

Observation Date: means the number of Business Days prior to the Amortizing Payment Date or Stated Maturity Date, as applicable, specified in the applicable pricing supplement.

Index: means Unidades de Inversión (UDI) or any successor or replacement index.

Index Sponsor(s): means Banco de Mexico or any successor Index Sponsor.

Initial Index Level: means an amount specified as such in the applicable pricing supplement.

UDI-Linked Notional Amount: means the face amount of the note, as specified in the applicable pricing supplement, *divided* by the Initial Index Level, rounded as specified in your pricing supplement.

UDI Index Level: means the official value of the Index, a MXN equivalent unit of account indexed to inflation on a daily basis, as measured by the change in the Mexican National Consumer Price Index (Indice Nacional de Precios al Consumidor) pursuant to the Decree approved by the Congress of Mexico and published in the Official Daily of the Federation on April 1, 1995, as amended from time to time, for purposes of determining the inflation-adjusted value of MXN and published by the index sponsor on its website <http://www.banxico.org.mx/> (or any successor or replacement website); provided, however, that, if for any

reason the UDI Index Level is not determined and published by the Index Sponsor for the applicable Observation Date or, if applicable, an Interest Determination Date, or if UDI is replaced by another inflation-indexed unit of account that is reported, sanctioned, recognized, published, announced or adopted (or other similar action) by the relevant governmental authority and such event makes the inflation-indexed replacement unit of account impossible to obtain, the calculation agent will determine the UDI Index Level, or its replacement as the case may be, for the relevant date in its sole discretion acting in good faith and a commercially reasonable manner.

Redemption at the Option of The Goldman Sachs Group, Inc.

We will not be entitled to redeem your note before its stated maturity date unless your pricing supplement specifies a redemption commencement date, except in the event of certain developments involving a change in law (including a change in tax law), in connection with the imposition of United States withholding taxes for which we have agreed to pay Additional Amounts as described in this subsection under “— Redemption Upon Change in Law” and “— Redemption Upon Obligation to Pay Additional Amounts” below, or following an original primary rate event as described in this subsection under “— Redemption Upon an Original Primary Rate Event” below. If your pricing supplement specifies a redemption commencement date, it will also specify one or more redemption prices. Your pricing supplement may also specify one or more redemption periods during which the specified redemption prices relating to a redemption of notes during those periods will apply.

If your pricing supplement specifies a redemption commencement date, your note will be redeemable at our option, in whole or in part, on or after that date as specified in your pricing supplement or at the time or times specified in your pricing supplement. If we redeem your note, we will do so at the redemption amounts specified in the applicable pricing supplement. The redemption amount will be specified in the applicable pricing supplement, and may be (i) the Make-Whole Redemption Amount (as defined below), (ii) the Accreted Value (as defined above under “Description of the Program – Interest Rates – Fixed Rate Notes”) as of the applicable early redemption date, (iii) a percentage of the face amount of your note, plus, if applicable, interest accrued to the redemption date or (iv) any other amount specified in the applicable pricing supplement. For the avoidance of doubt, if the applicable redemption date is an interest payment date, the holder will receive only the applicable redemption amount on such redemption commencement date and there will be no double payment of accrued interest on the notes. If different prices are specified for different redemption periods, the price we pay will be the price that applies to the redemption period during which your note is redeemed in accordance with the applicable rules of Euroclear and Clearstream, Luxembourg. In the case of a partial redemption of notes of any issuance, such partial redemption will be reflected in the records of Euroclear and Clearstream, Luxembourg as either a pool factor or a reduction in nominal amount, at their discretion in accordance with the applicable rules of Euroclear and Clearstream, Luxembourg.

“Make-Whole Redemption Amount” means an amount equal to the sum of:

- (a) 100 per cent. of the face amount of the notes to be redeemed, *plus*
- (b) the excess, if any, of (i) the then current values of the remaining scheduled payments of principal and interest, up to but not including the stated maturity date (or, if earlier, to the “Par Call Redemption Date” specified in the applicable pricing supplement), discounted to the applicable redemption date on the Make-Whole Calculation Basis specified in the applicable pricing supplement (based on the relevant Make-Whole Day Count Fraction specified in the applicable pricing supplement) at a discount rate equal to the Reference Dealer Rate *plus* the Redemption Margin specified in the applicable pricing supplement, in each case as determined by the Make-Whole Calculation Agent over (ii) 100 per cent. of the face amount of the notes to be redeemed.

Unless otherwise specified in the applicable pricing supplement, if we exercise an option to redeem any note, we will give to the holder written notice (the “Issuer’s Redemption Notice”) of the principal amount

of the note to be redeemed, which shall in no case be fewer than five (5) Business Days before the applicable redemption date.

We or our affiliates may purchase notes from investors who are willing to sell from time to time, either in the open market at prevailing prices or in private transactions at negotiated prices. Notes that we or they purchase may, at our discretion, be held, resold or canceled.

Defined terms used above:

“Make-Whole Calculation Agent” means a leading investment, merchant or commercial bank appointed by us for the purposes of calculating the Make-Whole Redemption Amount, and notified to the holder in the applicable Issuer’s Redemption Notice.

“Reference Dealers” means five (or, in the circumstances set out in the definition of “Reference Security” below, three or four) credit institutions or financial services institutions that regularly deal in bonds and other debt securities as selected by the Make-Whole Calculation Agent after consultation with us.

“Reference Dealer Rate” means, with respect to the applicable redemption date, the average of the five quotations of the mid-market annual yield to maturity of the Reference Security at the Quotation Time as specified in the applicable pricing supplement on the third business day in the Quotation Jurisdiction as specified in the relevant pricing supplement preceding the applicable redemption date provided in writing to the Make-Whole Calculation Agent by the five Reference Dealers.

“Reference Security” means (a) any Reference Bond specified in the applicable pricing supplement or (b) if no Reference Bond has been specified in the applicable pricing supplement or if, at the Quotation Time on the third business day in the Quotation Jurisdiction as specified in the relevant pricing supplement preceding the applicable redemption date, the Reference Bond is no longer outstanding, such other central bank or government security that, in the majority opinion of three Reference Dealers (one of whom shall be the Make-Whole Calculation Agent) (i) has a maturity comparable to the remaining term of the note (or, if earlier, to the maturity at the Par Call Redemption Date specified in the applicable pricing supplement) and (ii) would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the note (or, if earlier, to the maturity at the Par Call Redemption Date specified in the applicable pricing supplement). In the event that each such Reference Dealer selects a different central bank or government security, the Make-Whole Calculation Agent after consultation with us shall approach a fourth Reference Dealer and, from the three different central bank or government securities selected by the other Reference Dealers, such fourth Reference Dealer shall select as the Reference Security the central bank or government security which, in its opinion (i) has a maturity comparable to the remaining term of the notes (or, if earlier, to the maturity at the Par Call Redemption Date specified in the applicable pricing supplement) and (ii) would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the notes (or, if earlier, to the maturity at the Par Call Redemption Date specified in the applicable pricing supplement). The central bank or government security so selected by the fourth Reference Dealer shall then be the Reference Security.

Repayment at the Option of the Holder

You will not be entitled to require us to buy your note from you before its stated maturity, unless the applicable pricing supplement specifies “Repurchase at the Holder’s Option” to be applicable. If the applicable pricing supplement specifies “Repurchase at the Holder’s Option” to be applicable, it will also specify one or more repayment dates one or more repayment amounts, which will be an amount equal to a percentage of the face amount of your note plus interest accrued but unpaid to the applicable repayment date.

If your pricing supplement specifies a repayment date, your note will be repayable at the holder's option on the specified repayment date at a percentage of the face amount of your note plus interest accrued but unpaid to the applicable repayment date. For the avoidance of doubt, if the applicable repayment date is an interest payment date, the holder will receive only the applicable repayment amount on such repayment date and there will be no double payment of accrued interest on the notes.

If a holder of a note wishes to exercise its option to redeem any note, the holder will need to deliver notice to a paying agent of The Goldman Sachs Group, Inc., at least 30 days but not more than 45 days before the repayment date. Exercise of the repayment option by the holder of a note will be irrevocable. The holder of a note may not exercise the repayment option for less than the entire principal amount of its note.

If a note represented by a global note is subject to repayment at the holder's option, the depositary or its nominee, as the holder, will be the only person that can exercise the right of repayment. Any indirect owners who own beneficial interests in the global note and wish to exercise a repayment right must give proper and timely instructions to their banks or brokers through which they hold their interests, requesting that they notify the depositary to exercise the repayment right on their behalf. Different firms have different deadlines for accepting instructions from their customers, and you should take care to act promptly enough to ensure that your request is given effect by the depositary before the applicable deadline for exercise.

Street name and other indirect owners should contact their banks or brokers for information about how to exercise a repayment right in a timely manner.

Redemption Upon Change in Law

Unless we say otherwise in your pricing supplement, the following redemption provisions will apply to the notes.

We may redeem, as a whole but not in part, any outstanding issuance of notes, if, at any time on or after the settlement date, a change in law has occurred with respect to such issuance, as described under "Description of the Program — Features Common to All Notes — Change in Law".

This right to redemption is exclusive of and in addition to the right to redemption described under "— Redemption Upon Obligation to Pay Additional Amounts" below.

If we exercise the option to redeem, we will give to the holders of notes, not less than 30 nor more than 60 days' notice before the specified redemption date (unless otherwise required by law). The amount payable to the holders upon such redemption will be the Non-Scheduled Early Repayment Amount, which will be calculated as described under "— Non Scheduled Early Repayment Amount" below. In the event of a change in law due to illegality, we will pay the Non-Scheduled Repayment Amount only to the extent permitted by applicable law.

We must deliver to the fiscal agent a certificate affirming that we are entitled to exercise the right of redemption and setting forth in reasonable detail a statement of facts showing that the conditions precedent to the right to redeem the notes have occurred.

Redemption Upon Obligation to Pay Additional Amounts

Unless we say otherwise in your pricing supplement, the following redemption provisions will apply to the notes.

We may redeem, as a whole but not in part, any outstanding notes of an issuance, if, as a result of certain changes in the laws or regulations of any U.S. taxing authority, at any time on or after the settlement date or such other date specified in the applicable pricing supplement, we are obligated to pay, on the next succeeding interest payment date or maturity date, additional amounts, as described under “— Payment of Additional Amounts” below, and that obligation cannot be avoided by the use of reasonable measures available to us. If we exercise the option to redeem, we will give to the holders of notes to be redeemed, not less than 30 nor more than 60 days’ notice before the specified redemption date. The amount payable to the holders upon such redemption will be the Non-Scheduled Early Repayment Amount, which will be calculated as described under “— Non Scheduled Early Repayment Amount”.

The obligation to pay additional amounts must remain in effect at the time we give notice of redemption, and that notice of redemption must be given no earlier than 90 days before the date on which we would be obligated to pay additional amounts, if a payment in respect of the notes were then due. In addition, we must deliver to the fiscal agent a certificate affirming that we are entitled to exercise the right of redemption and setting forth in reasonable detail a statement of facts showing that the conditions precedent to the right to redeem the notes have occurred.

Redemption Upon an Original Primary Rate Event

If, following the occurrence of an original primary rate event:

- (1) the calculation agent determines that it cannot identify a replacement primary rate or determine an adjustment spread on or before the Cut-off date;
- (2) it (A) is or would be unlawful at any time under any applicable law or regulation; or (B) would contravene any applicable licensing requirements, for the calculation agent to perform the actions prescribed in “Effect of Original Primary Rate Event on Certain Floating Rate Notes” (or it would be unlawful or would contravene those licensing requirements were a determination to be made at such time);
- (3) the calculation agent determines that an adjustment spread is or would be a benchmark, index or other price source whose production, publication, methodology or governance would subject either The Goldman Sachs Group, Inc. or the calculation agent to material additional regulatory obligations (such as the obligations for administrators under the Benchmark Regulation) which it is unwilling to undertake; or
- (4) the calculation agent determines that having identified a replacement primary rate and determined an adjustment spread on or before the cut-off date, the adjustments provided for in “Effect of Original Primary Rate Event on Certain Floating Rate Notes” would not achieve a commercially reasonable result for either the Issuer, calculation agent or the holders,

then we may redeem the notes on such day as shall be notified to the holders in accordance with the notice provisions set forth above in “Redemption at the Option of the Goldman Sachs Group, Inc.” The amount payable to the holders upon such redemption will be the Non-Scheduled Early Repayment Amount, which will be calculated as described under “— Non-Scheduled Early Repayment Amount” below.

“**Cut-off date**” means, in respect of an original primary rate and:

- (1) an original primary rate cessation, the later of (a) the date that falls the number of business days specified in the relevant pricing supplement (or, if not so specified, the 30th business day following the occurrence of such original primary rate cessation, and (b) the first day on which the original primary rate is no longer available following such original primary rate cessation; or

- (2) an administrator/benchmark event, the later of (a) the date that falls the number of business days specified in the relevant pricing supplement (or, if not so specified, 30th business day following the occurrence of such administrator/benchmark event, and (b) the administrator/benchmark event date.

Non-Scheduled Early Repayment Amount

If we redeem notes prior to the stated maturity date following a change in law or an original primary rate event or upon becoming obliged to pay additional amounts, or if the maturity of the notes is accelerated following an event of default, the amount payable to the holders upon such redemption or acceleration will be the Non-Scheduled Early Repayment Amount. In determining the Non-Scheduled Early Repayment Amount on your note, if your pricing supplement specifies the “Calculation Basis” to be “Per Denomination”, then the Non-Scheduled Early Repayment Amount will be calculated on a per denomination basis and if your pricing supplement specifies the “Calculation Basis” to be “Notional”, then the Non-Scheduled Early Repayment Amount will be calculated on the basis of the outstanding face amount of your notes. The Non-Scheduled Early Repayment Amount will be calculated as follows, unless we say otherwise in your pricing supplement:

- For fixed rate notes (other than original issue discount notes and zero coupon notes) and floating rate notes, an amount equal to 100% of the principal of the notes *plus* accrued but unpaid interest to the date of redemption or acceleration;
- For original issue discount notes and zero coupon notes, an amount equal to 100% of the accreted value (as defined above under “— Interest Rates — Fixed Rate Notes”) as of the date of redemption or acceleration *plus*, if applicable, accrued but unpaid interest to the date of redemption or acceleration;
- For indexed notes:
 - In case of a redemption following a change in law or upon becoming obliged to pay additional amounts, an amount equal to the fair market value of the notes on the second Business Day prior to the date of redemption, determined by the calculation agent by reference to such factors as the calculation agent considers to be appropriate, including, without limitation (a) market prices or values for the underlying or underlyers and other relevant economic variables (such as interest rates and, if applicable, exchange rates) at the relevant time taking into account the bid or offer prices of the underlying or underlyers (as relevant); (b) the remaining term of the notes had they remained outstanding to the stated maturity date and/or any optional early redemption date; (c) if applicable, accrued interest to the date of redemption; and (d) internal pricing models of The Goldman Sachs Group, Inc. and its affiliates. The calculation agent may, in its reasonable discretion, adjust the Fair Market Value to account for any reasonable expenses and costs of (or benefit to) The Goldman Sachs Group, Inc. and/or its affiliates relating to the early redemption of the notes, including those relating to the unwinding of any underlying and/or related hedging arrangements and the hypothetical cost (or benefit) of replacing the amount of the funding provided by the notes at a reasonably equivalent maturity and ranking, in each case as determined by the calculation agent in its reasonable discretion.
 - In case of acceleration of the maturity of the notes following an event of default, an amount equal to the fair market value of the notes as of the date of acceleration, determined by the calculation agent by reference to such factors as the calculation agent considers to be appropriate, including, without limitation (a) market prices or values for the underlying or underlyers and other relevant economic variables (such as interest rates and, if applicable, exchange rates) at the relevant time taking into

account the bid or offer prices of the underlyer or underlyers (as relevant); (b) the remaining term of the notes had they remained outstanding to the stated maturity date and/or any optional early redemption date; (c) if applicable, accrued interest to the date of acceleration; and (d) internal pricing models of The Goldman Sachs Group, Inc. and its affiliates. In calculating the Fair Market Value, the calculation agent shall assume that The Goldman Sachs Group, Inc. is a Qualified Financial Institution (as defined below) or, if the calculation agent determines that no Qualified Financial Institution exists, the calculation agent shall assume The Goldman Sachs Group, Inc. is an Eligible Financial Institution (as defined below) with the highest rating of all Eligible Financial Institutions in respect of outstanding debt obligations with a stated maturity of one year or less from the date of issue, such rating assigned by Standard & Poor's Ratings Group or any successor, or if such entity no longer exists, an entity selected by the calculation agent in its reasonable discretion.

Defined terms used above:

“**Linearly Accreted Value**” means, for any given date, an amount in the specified currency determined by the calculation agent in accordance with the following formula:

$$\text{Prior Fixed Recovery Amount (t)} + \frac{\text{Future Fixed Recovery Amount (t)} - \text{DCF (Prior Fixed Recovery Date (t),t)}}{\text{DCF (Prior Fixed Recovery Date (t), Future Fixed Recovery Date (t))}} \times \text{Prior Fixed Recovery Amount (t)}$$

where:

Prior Fixed Recovery Amount (t) means, in respect of calendar day (t), (i) the amount payable in respect of the first originally scheduled Early Redemption Date as defined in the applicable pricing supplement falling prior to such day (t) or if no such Early Redemption Date exists, the original issue price or (ii) the original issue price, as specified in the applicable pricing supplement.

Future Fixed Recovery Amount (t) means, in respect of calendar day (t), (i) the amount payable in respect of the first originally scheduled Early Redemption Date falling on or after such day (t) or if no such Early Redemption Date exists, the amount payable at maturity (final redemption amount) or (ii) the amount payable at maturity (final redemption amount), as specified in the applicable pricing supplement.

DCF (Prior Fixed Recovery Date (t),t) means, in respect of calendar day (t), (i) the number of calendar days from (but excluding) the first originally scheduled Early Redemption Date falling prior to such day (t) (or if no such Early Redemption Date exists, the original issue date) to (and including) such date (t) or (ii) the number of calendar days from (but excluding) the original issue date to (and including) such date (t), as specified in the applicable pricing supplement.

DCF (Prior Fixed Recovery Date (t), Future Fixed Recovery Date (t)) means, in respect of calendar day (t), (i) the number of calendar days from (but excluding) the first originally scheduled Early Redemption Date falling prior to such day (t) (or if no such Early Redemption Date exists, the original issue date) to (and including) the first originally scheduled Early Redemption Date falling on or after such day (t) (or if no such Early Redemption Date exists, the originally scheduled stated maturity date) or (ii) the number of calendar days from (but excluding) the original issue date to (and including) the originally scheduled stated maturity date, as specified in the applicable pricing supplement.

“**UDI-Denominated Accreted Value**” means, for any given date, an amount in MXN, determined by the calculation agent, equal to the *product* of (A) the face amount of the note, as specified in the applicable pricing supplement, times (B) (i) the *sum* of (x) 1, *plus* (y) the *product* of (a) the Implied ZC Rate times (b) the *quotient* of 182 *divided* by 360, and such sum *raised to the power* of (ii) the *quotient* of the number of calendar days from and including the issue date to but excluding the date of redemption or acceleration *divided* by 182, times (C) the UDI Index Level as of the date of redemption or acceleration. Expressed formulaically, for any given date, an amount in MXN equal to:

$$\text{Accreted Notional Amount}_t = \text{Face Amount} \times \left(1 + \text{Implied ZC Rate} \times \frac{182}{360} \right)^{\left(\frac{\text{Date}_t - \text{IssueDate}}{182} \right)} \times \text{UDI Index Level}_t$$

“**UDI-Linked Accreted Value**” means, for any given date, an amount in MXN, determined by the calculation agent, equal to the *product* of (A) the face amount of the note, as specified in the applicable pricing supplement, times (B) (i) the *sum* of (x) 1, *plus* (y) the *product* of (a) the Implied ZC Rate *times* (b) the *quotient* of 182 *divided* by 360, and such sum *raised to the power* of (ii) the *quotient* of the number of calendar days from and including the issue date to but excluding the date of redemption or acceleration *divided* by 182, *times* (C) the *quotient* of the UDI Index Level as of the date of redemption or acceleration, *divided* by the Initial Index Level. Expressed formulaically, for any given date, an amount in MXN equal to:

$$\text{Accreted Notional Amount}_t = \text{Face Amount} \times \left(1 + \text{Implied ZC Rate} \times \frac{182}{360} \right)^{\left(\frac{\text{Date}_t - \text{IssueDate}}{182} \right)} \times \frac{\text{UDI Index Level}_t}{\text{Initial Index Level}}$$

For purposes of the definitions of “UDI-Denominated Accreted Value” and “UDI-Linked Accreted Value”:

Date_t is the date of redemption or acceleration, if any.

Date_t – Issue Date is the number of calendar days from and including the issue date to but excluding Date_t.

Implied ZC Rate is the rate specified as such in the relevant pricing supplement.

Initial Index Level has the meaning set forth under “– Redemption and Repayment – Redemption at Maturity – UDI-Linked Notes” above.

UDI Index Level_t is the UDI Index Level (as defined under “– Redemption and Repayment – Redemption at Maturity – UDI-Linked Notes” above) on Date_t.

“**Qualified Financial Institution**” means an Eligible Financial Institution, which at the time of calculation of the Non-Scheduled Early Repayment Amount has outstanding debt obligations with a stated maturity of one year or less from the date of issue and rated either: (i) A-1 or higher by Standard & Poor's Ratings Group or any successor, or any other comparable rating then used by that rating agency; or (ii) P-1 or higher by Moody's Investors Service, Inc. or any successor, or any other comparable rating then used by that rating agency.

“**Eligible Financial Institution**” means a financial institution organized under the laws of any jurisdiction in the United States of America, the United Kingdom or the European Union.

The fiscal agent has no duty to determine any amount payable in connection with a redemption.

Payment of Additional Amounts

Unless we say otherwise in your pricing supplement and unless required by law, we intend to make all payments on the notes without deducting U.S. withholding taxes. If we are required by law to withhold payments to non-U.S. investors, however, we will not pay additional amounts on those payments. Only if the applicable pricing supplement explicitly states that the gross-up of any payments due on the notes is applicable will we pay additional amounts on payments that are required to be withheld and only to the extent described in this subsection. The following discussion in this subsection applies only if the applicable pricing supplement provides for the gross-up of payments due on the notes and describes the conditions in respect of such a gross-up.

We will pay additional amounts on a note only if the beneficial owner of the notes is a United States alien. The term “United States alien” means any person who, for U.S. federal income tax purposes is:

- a nonresident alien individual;
- a foreign corporation;
- a foreign partnership one or more of the members of which, for U.S. federal income tax purposes, is a foreign corporation, a nonresident alien individual or a nonresident alien fiduciary of a foreign estate or trust; or
- a nonresident alien fiduciary of an estate or trust that is not subject to U.S. federal income tax on a net income basis on income or gain from a note.

If the beneficial owner of a note is a United States alien, we will pay all additional amounts that may be necessary so that every net payment of interest, premium, if any, or principal on that note will not be less than the amount provided for in that note. By net payment, we mean the amount we or our paying agent pays after deducting or withholding an amount for or on account of any present or future tax, assessment or other governmental charge imposed with respect to that payment by a U.S. taxing authority.

Our obligation to pay additional amounts is subject to several important exceptions, however. We will **not** pay additional amounts for or on account of any of the following:

- any tax, assessment or other governmental charge imposed solely because of any time there is or was a connection between the beneficial owner — or between a fiduciary, settler, beneficiary, shareholder or member of the beneficial owner, if the beneficial owner is an estate, trust or partnership or corporation — and the United States (other than the mere receipt of a payment or the ownership or holding of a note), including because the beneficial owner — or the fiduciary, settler, beneficiary, shareholder or member — at any time, for U.S. federal income tax purposes:
 - is or was a citizen or resident or is or was treated as a resident of the United States;
 - is or was present in the United States;
 - is or was engaged in a trade or business in the United States;
 - has or had a permanent establishment in the United States;
 - is or was a passive foreign investment company or a controlled foreign corporation;
 - is or was a corporation that accumulates earnings to avoid U.S. federal income tax; or
 - is or was the owner or deemed owner of ten percent or more of the total combined voting power of all classes of the stock of The Goldman Sachs Group, Inc. entitled to vote;
- any estate, inheritance, gift, sales, excise, transfer, wealth or personal property or any similar tax, assessment or other governmental charge;
- any tax, assessment or other governmental charge imposed solely because the holder or any other person fails to comply with any certification, identification or other reporting requirement concerning the nationality, residence, identity or connection with the United States of the holder or beneficial owner of such note, if compliance is required by statute or by regulation of the U.S. Treasury Department or by an applicable income tax treaty to which the United States is a party, as a precondition to exemption from such tax, assessment or other governmental charge;
- any tax, assessment or other governmental charge which is payable otherwise than by deduction or withholding from payments of principal of, premium, if any, or interest on such notes;

- any tax, assessment or other governmental charge imposed solely because the payment is to be made by a particular paying agent (including The Goldman Sachs Group, Inc.) and would not be imposed if made by another paying agent;
- any tax, assessment or other governmental charge imposed solely because the holder (1) is a bank purchasing the note in the ordinary course of its lending business or (2) is a bank that is neither (A) buying the note for investment purposes only nor (B) buying the note for resale to a third party that either is not a bank or holding the note for investment purposes only;
- any tax, assessment or other governmental charge imposed under Section 871(m) of the Code, and any current or future regulations or official interpretations thereof; or
- any combination of the taxes, assessments or other governmental charges described above.

In addition, any amounts to be paid on the notes will be paid net of any deduction or withholding imposed or required pursuant to Sections 1471 through 1474 of the Code, any current or future regulations or official interpretations thereof, any agreement entered into pursuant to Section 1471(b) of the Code, or any fiscal or regulatory legislation, rules or practices adopted pursuant to any intergovernmental agreement entered into in connection with the implementation of such Sections of the Code, and no additional amounts will be required to be paid on account of any such deduction or withholding.

In addition, we will not pay additional amounts with respect to any payment of principal, premium, if any, or interest to any United States alien who is a fiduciary or a partnership, or who is not the sole beneficial owner of the payment, to the extent that we would not have to pay additional amounts to any beneficiary or settlor of the fiduciary or any member of the partnership, or to any beneficial owner of the payment, if that person or entity were treated as the beneficial owner of the note for this purposes.

When we refer to a “U.S. taxing authority” in this subsection and “— Redemption and Repayment — Redemption Upon Obligation to Pay Additional Amounts” above, we mean the United States of America or any state, other jurisdiction or taxing authority in the United States. When we refer to the “United States”, we mean the United States of America, including the states and the District of Columbia, together with the territories, possessions and all those areas subject to the jurisdiction of the United States of America.

When we refer to any payment of interest or principal on a note, this includes any additional amount that may be payable as described above in respect of that payment.

Mergers and Similar Transactions

We are generally permitted to merge or consolidate with another corporation or other entity. We are also permitted to sell our assets substantially as an entirety to another corporation or other entity. With regard to your note, however, we may not take any of these actions unless all of the following conditions are met:

- if the successor entity in the transaction is not The Goldman Sachs Group, Inc., the successor entity must be organized as a corporation, partnership or trust and must expressly assume our obligations under the notes and the fiscal agency agreement with respect to that series. The successor entity may be organized under the laws of any jurisdiction, whether in the United States or elsewhere; and
- immediately after the transaction, no covenant breach or default under the notes of that issuance has occurred and is continuing. For this purpose, “covenant breach or default under the notes of that issuance” means an event of default with respect to that issuance or any event that would be a covenant breach or event of default with respect to that issuance if the requirements for giving us notice of such breach or default and for our default having to continue for a specific period of time were disregarded.

If the conditions described above are satisfied, we will not need to obtain the approval of the holders of the notes in order to merge or consolidate or to sell our assets. Also, these conditions will apply only if we wish to merge or consolidate with another entity or sell our assets substantially as an entirety to another entity. We will not need to satisfy these conditions if we enter into other types of transactions, including any transaction in which we acquire the stock or assets of another entity, any transaction that involves a change of control of The Goldman Sachs Group, Inc. but in which we do not merge or consolidate and any transaction in which we sell less than substantially all our assets. For the avoidance of doubt, a violation of these conditions, when applicable, will not constitute an event of default.

Also, if we merge, consolidate or sell our assets substantially as an entirety and the successor is a non-U.S. entity, neither we nor any successor would have any obligation to compensate you for any resulting adverse tax consequences relating to the notes.

Notwithstanding the foregoing and for the avoidance of doubt, we may also sell or transfer our assets substantially as an entirety, in one or more transactions, to one or more entities, provided that the assets of The Goldman Sachs Group, Inc. and its direct or indirect subsidiaries in which it owns a majority of the combined voting power, taken together, are not sold or transferred substantially as an entirety to one or more entities that are not such subsidiaries.

Defeasance and Covenant Defeasance

Full Defeasance

Unless we say otherwise in your pricing supplement, the provisions for full defeasance will apply to any fixed rate note, the principal of (and premium, if any) and interest on which is payable in U.S. dollars, so long as the note does not include the provisions discussed under “— Payment of Additional Amounts” above.

If there is a change in applicable U.S. federal tax law, as described below, we can legally release ourselves from all payment and other obligations on any notes. This is called full defeasance. For us to do so, each of the following must occur:

- we must deposit in trust for the benefit of all holders of those notes a combination of money and/or U.S. government or U.S. government agency notes or bonds that will generate enough cash to make interest, principal and any other payments on those notes on their various due dates or, if we choose, on redemption;
- such deposit must be held in a non-interest bearing segregated trust account designated as a special deposit account pursuant to a written agreement, to be governed by the laws of the State of New York, between us and the defeasance trustee whereby title of such account is in the name of the defeasance trustee solely in its capacity as defeasance trustee and not in its capacity as a deposit bank;
- there must be a change in current U.S. federal tax law or a United States Internal Revenue Service ruling that lets us make the above deposit without causing the holders to be taxed on those notes any differently than if we do not make the deposit and just repaid those notes ourselves. Under current U.S. federal tax law, the deposit and our legal release from your note would be treated as though we took back your note and gave you your share of the cash and notes or bonds deposited in trust. In that event, you could recognize gain or loss on your note; and
- we must deliver to the fiscal agent and the defeasance trustee a legal opinion of our counsel confirming the tax law change described above.

Any right we have to redeem any notes will survive full defeasance with respect to those notes.

If we ever fully defeased your note, you would have to rely solely on the trust deposit for payments of your note. You would not be able to look to us for payment in the event of any shortfall.

Covenant Defeasance

Unless we say otherwise in your pricing supplement, the provisions for covenant defeasance will apply to any fixed rate note, the principal of (and premium, if any) and interest on which is payable in U.S. dollars.

Under current U.S. federal tax law, we can make the same type of deposit described in this subsection under “— Full Defeasance” above and be released from our obligations described under “— Mergers and Similar Transactions” above and any other covenants relating to your note that may be described in your pricing supplement. This is called covenant defeasance. In that event, you would lose the protection of those restrictive covenants. In order to achieve covenant defeasance for any notes, we must do both of the following:

- we must deposit in trust for the benefit of the holders of those notes a combination of money and/or U.S. government or U.S. government agency notes or bonds that will generate enough cash to make interest, principal and any other payments on those notes on their various due dates or, if we choose, on redemption;
- such deposit must be held in a non-interest bearing segregated trust account designated as a special deposit account pursuant to a written agreement, to be governed by the laws of the State of New York, between us and the defeasance trustee whereby title of such account is in the name of the defeasance trustee solely in its capacity as defeasance trustee and not in its capacity as a deposit bank; and
- we must deliver to the fiscal agent and the defeasance trustee a legal opinion of our counsel confirming that under current U.S. federal income tax law we may make the above deposit without causing the holders to be taxed on those notes any differently than if we do not make the deposit and just repaid those notes ourselves.

Any right we have to redeem the notes will survive covenant defeasance with respect to those notes.

If we accomplish covenant defeasance on your note, you can still look to us for repayment of your note in the event of any shortfall in the trust deposit. You should note, however, that if one of the remaining events of default occurred, such as our bankruptcy, and your note became immediately due and payable, there may be a shortfall. Depending on the event causing the default, you may not be able to obtain payment of the shortfall.

Events of Default and Remedies

Unless your pricing supplement says otherwise, when we refer to an event of default with respect to any issuance of notes, we mean any of the following:

- we do not pay the principal or any premium on any such notes within 30 days after the due date;
- we do not pay interest on any such notes within 30 days after the due date;
- we file for bankruptcy or other events of bankruptcy, insolvency or reorganization relating to The Goldman Sachs Group, Inc. occur. Those events must arise under U.S. federal or state law, unless we merge, consolidate or sell our assets as described under “Description of the Program—Mergers and Similar Transactions” above and the successor firm is a non-U.S. entity. If that happens, then those events must arise under U.S. federal or state law or the law of the jurisdiction in which the successor firm is legally organized; or
- if the applicable pricing supplement states that any additional event of default applies to the notes, that event of default occurs.

No other defaults under or breaches of the notes will result in an event of default, whether after notice, the passage of time or otherwise. However, certain events may give rise to a covenant breach, as described below under “— Covenant Breaches and Related Remedy”.

We may change, eliminate or add to the events of default with respect to any particular series of notes, as indicated in the applicable pricing supplement.

Covenant Breaches and Related Remedy

Unless your pricing supplement says otherwise, when we refer to a covenant breach with respect to the notes, we mean that we are in breach of our obligations described under “Description of the Program — Mergers and Similar Transactions” above or any other covenants relating to your note that may be described in your pricing supplement. You may bring a lawsuit or other formal action against us for a covenant breach only if we remain in covenant breach more than 60 days after we receive a notice of such breach sent by the holders of at least 10% in principal amount of the notes then outstanding stating that we are in breach and requiring us to remedy the breach.

We may change the definition of covenant breach with respect to any particular series of notes, as indicated in the applicable pricing supplement. For the avoidance of doubt, a covenant breach shall not be an event of default with respect to any note.

Remedies

If an event of default occurs and is continuing (the default not having been cured or waived as provided under “— Meetings, Modification and Waiver of Covenants” below), the holder of an affected note may, at its option, by written notice to us and the fiscal agent, declare the principal amount of its note to be immediately due and payable, except as provided in the applicable pricing supplement. If the event of default occurs because of events in bankruptcy, insolvency or reorganization relating to the Goldman Sachs Group, Inc., the principal amount of the notes of that series will be automatically accelerated, without any action by the fiscal agent or any holder.

For the purpose of determining whether the holders of our notes are entitled to take any action under the fiscal agency agreement, we will treat the outstanding face amount of each such note as the outstanding principal amount of that note. Although the terms of each note may differ from those of the other notes of the same series, holders of specified percentages in principal amount of all notes of each such series will be able to take action affecting all notes of such series. This action may involve changing some of the terms that apply to the notes of the relevant series, accelerating the stated maturity date of the notes of the relevant series after a default or waiving some of our obligations under the fiscal agency agreement. These matters are discussed below under “— Events of Default and Remedies” and “— Meetings, Modification and Waiver of Covenants”.

Amount Payable on Default

If an event of default occurs and the maturity of a note is accelerated, we will pay the applicable Non-Scheduled Early Repayment Amount, which will be calculated as described above under “— Redemption and Repayment — Non-Scheduled Early Repayment Amount”.

Meetings, Modification and Waiver of Covenants

The fiscal agency agreement contains provisions for convening meetings of the holders of notes to consider matters affecting their interests. There are three types of changes which we can make to either the fiscal agency agreement or any issuance of notes issued under that agreement.

Changes Requiring Each Holder's Approval

First, there are changes that cannot be made without the approval of each holder of the note affected by the change under the fiscal agency agreement. Here is a list of those types of changes:

- change the due date for the payment of principal of (or premium, if any) or any installment of interest on any note;
- reduce the principal amount of any note, the portion of the principal amount which is payable upon acceleration of the maturity of the note, the interest rate or the premium payable upon redemption of the note;
- change the currency of payment in which the principal, premium or interest of any note is payable;
- change our obligation, if any, to pay additional amounts;
- shorten the period during which redemption of the notes is not permitted or permit redemption during a period when not previously permitted;
- modify our obligation to maintain required offices at which any payments on the notes are payable;
- reduce the percentage in principal amount of the notes outstanding necessary to modify, amend or supplement the fiscal agency agreement or the terms and conditions of the notes or to waive any past default or future compliance; or
- reduce the percentage of aggregate principal amount of the notes outstanding required for the adoption of a resolution or the quorum required at any meeting of holders of notes at which a resolution is adopted.

For the avoidance of doubt, we may make any change to a note where we have the consent of the holder of the note affected by the change and any such consent given by the holder will be binding on any successor holder of such note.

Changes Not Requiring Approval

The second type of change does not require any approval by holders of the notes of an affected issuance. This type of change is limited to the following:

- for the purpose of adding to our covenants for the benefit of any holders of any notes;
- for the purpose of surrendering any right or power conferred upon us in any notes;
- for the purpose of evidencing the succession of another person or entity to us and the assumption by any such successor of our covenants and obligations in any notes or the fiscal agency agreement;
- for the purpose of curing any ambiguity in, or of curing, correcting or supplementing any defective provision of, any note or the fiscal agency agreement; or
- for the purpose of amending any note or the fiscal agency agreement in any other manner which we and the fiscal agent may determine, provided that such amendment shall not be inconsistent with the notes of such series and shall not adversely affect the interest of any holder of any note of such series in any material respect.

We may also make changes or obtain waivers that do not adversely affect a particular issuance of notes, even if they affect other issuances of notes. In those cases, we do not need to obtain the approval of the holder of the unaffected notes; we need only obtain any required approvals from the holders of affected notes.

Changes Requiring the Approval of 66 2/3% of the Holders

Any other change to a particular issuance of notes would require the consent of at least 66 2/3% in aggregate principal amount of the affected notes at the time outstanding or the adoption of a resolution at a meeting of holders of the affected notes at which a quorum is present by 66 2/3% in aggregate principal amount of the affected notes then outstanding represented at such meeting. The same approval of 66 2/3% in aggregate principal amount of the affected notes then outstanding would be required for us to obtain a waiver of an event of default (including an event which is, or after lapse of time would become, an event of default), any of our covenants where we make promises about merging, which we describe under “— Mergers and Similar Transactions” above, and any other covenants in the fiscal agency agreement or pricing supplement.

Special Rules for Action by Holders

When holders take any action under the notes or the fiscal agency agreement, such as giving a notice of default or of covenant breach, declaring an acceleration, or approving any change or waiver, we will apply the following rules.

Only Outstanding Notes Are Eligible

Only holders of outstanding notes of the applicable issuance will be eligible to participate in any action by holders of notes of that issuance. Also, we will count only outstanding notes in determining whether the various percentage requirements for taking action have been met. For these purposes, a note will not be “outstanding”:

- if it has been surrendered for cancellation;
- if it is being held by the fiscal agent for re-issuance but has not yet been re-issued;
- if notes in lieu of or for substitution of the original notes have been authenticated and delivered;
- if we have deposited or set aside, in trust for its holder, money for its payment or redemption;
- if we have fully defeased it as described under “— Defeasance and Covenant Defeasance — Full Defeasance” above; or
- if we or one of our affiliates, such as Goldman Sachs International, is the owner.

Meetings and other Actions

The quorum at any meeting called to adopt a resolution with respect to an issuance of notes will be persons holding or representing a majority in aggregate principal amount of that issuance of notes outstanding at the time and, at any reconvened meeting adjourned for lack of a quorum, 25% of the aggregate principal amount outstanding of that issuance of notes. For purposes of determining whether holders of the aggregate principal amount of notes required for any action or vote, or for any quorum, have taken such action or vote, or constitute such quorum, the principal amount of any particular note may differ from its principal amount at stated maturity but will not exceed its stated face amount upon original issuance, in each case if and as indicated in your pricing supplement. Holders may be entitled to make, take or give certain requests, demands, authorizations, directions, notices, consents, waivers or other action, or to vote on certain actions, authorized or permitted by the fiscal agency agreement with respect to the notes in accordance with the applicable procedures of the clearing systems and in accordance with such other reasonable procedures as we and the fiscal agent may agree.

Determining Record Dates for Action by Holders

Unless we say otherwise in your pricing supplement, we will be entitled to set any day as a record date for determining which holders or beneficial owners of notes in global form will be entitled to make, take or

give certain requests, demands, authorizations, directions, notices, consents, waivers or other action, or to vote on certain actions, authorized or permitted by the fiscal agency agreement with respect to the notes. In addition, record dates for any note in global form may be set in accordance with procedures established by the relevant common depository or common safekeeper, as applicable, from time to time. Accordingly, record dates for notes in global form may differ from those for other notes.

Payment Mechanics for Notes

Who Receives Payment?

Unless we say otherwise in your pricing supplement, interest will be payable to the person in whose name a registered note is registered at the close of business on the regular record date for the relevant interest payment date. However, interest payable at maturity but on a day that is not an interest payment date will be payable to the person to whom principal is payable. The first payment of interest on any registered note originally issued after a regular record date and before the next interest payment date will be made on the interest payment date following the next regular record date to the person in whose name the note is registered at the close of business on such next succeeding regular record date. Unless we say otherwise in your pricing supplement, the “regular record date” with respect to any global note will be the first business day prior to each interest payment date (as such payment date may be adjusted in accordance with the business day convention) and the “regular record date” with respect to any non-global registered rate note will be the date 15 calendar days prior to each interest payment date, whether or not such date is a business day.

How We Will Make Payments

Unless we say otherwise in your pricing supplement, payments of principal of (and premium, if any) and interest on all notes will be made in the applicable specified currency at the offices and agencies described below. If the exchange rate agent determines, in respect of any payment of principal of (and premium, if any) or interest on a note, that the applicable specified currency has been lawfully eliminated, converted, redenominated or exchanged for a successor currency, then such payment will be made in such successor currency in effect in the relevant country on the relevant payment date. Any calculations under the notes shall be adjusted accordingly by the calculation agent, acting in its sole discretion. In addition, payments of principal of (and premium, if any) and interest on notes denominated in a currency other than U.S. dollars, however, will nevertheless be made in U.S. dollars at our option in the case of imposition of exchange controls or other circumstances beyond our control as described in this subsection under “— When the Specified Currency Is Not Available” below. In the case of an indexed note, the amount of principal payable on such note may be determined by reference to an underlying asset, such as an index or other measure described in the applicable pricing supplement.

Payment on Global Notes

We will make payments on a global note in accordance with the applicable policies of each of Euroclear and Clearstream, Luxembourg or some other depository or common safekeeper, as applicable, as in effect from time to time. Under those policies, we will pay directly to Euroclear and Clearstream, Luxembourg, and not to any indirect owners who own beneficial interests in the global note. An indirect owner’s right to receive those payments will be governed by the rules and practices of Euroclear and Clearstream, Luxembourg and their participants, as described under “— Form, Exchange, Registration and Transfer” below.

Payment on Registered Notes

We will make payments on a note in registered non-global form as follows. We will pay interest that is due on an interest payment date to the holder at his or her address shown on the register for such notes as of the close of business on the regular record date. We will make all other payments by check or via wire

transfer at the corporate trust office of the fiscal agent in the Borough of Manhattan, New York City and at the office of the paying agent, against surrender of the note.

When the Specified Currency Is Not Available

If we are obligated to make any payment in a specified currency other than U.S. dollars and the specified currency or any successor currency is not available to us due to circumstances beyond our control — such as the imposition of exchange controls or a disruption in the currency markets — we will be entitled to satisfy our obligation to make the payment in that specified currency by making the payment in U.S. dollars, on the basis of the exchange rate determined by the exchange rate agent described below, in its discretion.

The foregoing will apply to any note, whether in global or non-global form, and to any payment, including a payment at maturity. Any payments made under the circumstances and in a manner described above will not result in a default under any note.

In addition, if your pricing supplement specifies “Postponement Following FX Disruption Event and Payments in USD” to be applicable, the following paragraph will apply to your notes. We will be entitled to postpone any payment date and satisfy our payment obligations as described below. If an FX disruption event has occurred and is continuing with respect to any payment date, such payment date shall be postponed until the earlier of (A) the second business day following the day on which such FX disruption event ceases to exist and (B) the second business day following the FX disruption event cut-off date. If an FX disruption event is continuing with respect to the FX disruption event cut-off date of such payment date as so postponed, we may determine that the USD shall be the settlement currency for all amounts payable on such payment date as postponed, using the USD/specified currency exchange rate, as determined by the calculation agent by requesting each of the reference dealers to provide a firm quotation of the rate (expressed as an amount of USD/specified currency) at which the calculation agent is able to buy the relevant amount of USD for the amount of specified currency payable on such payment date as postponed, based upon each reference dealer’s experience in the foreign exchange market for the specified currency and the general activity in such market on the FX disruption event cut-off date. If at least two quotations are provided, the relevant rate will be the arithmetic mean of such quotations. If fewer than two quotations are provided, the calculation agent may request each of the major banks (as selected by the calculation agent) in the relevant market to provide a quotation of the rate (expressed as an amount of USD/specified currency) at which the calculation agent is able to buy the relevant amount of USD for the amount of specified currency payable on such payment date as postponed. If fewer than two quotations are provided, then the calculation agent shall determine the USD/specified currency exchange rate on such day in its discretion, acting in good faith and in a commercially reasonable manner. No amount of interest shall be payable in respect of the delay in payment of any amount due to the postponement of any payment date due to the occurrence of an FX disruption event.

The foregoing paragraph (if applicable) will apply to any note, whether in global or non-global form, and to any payment, including a payment at maturity. Any payments made under the circumstances and in a manner described above will not result in a default under any note.

Defined terms used above:

The term “**FX disruption event**” means the determination by the calculation agent, in its sole discretion, that it is not possible or practicable for us to pay any amount in the specified currency payable in respect of the notes on any payment date due to illiquidity, inconvertibility or non-transferability of the specified currency or due to our inability to obtain sufficient amount of the specified currency in a timely manner due to the exchange controls and restrictions applicable to the specified currency or any other event beyond our control.

The term “**FX disruption event cut-off date**” means the date which is fifteen (15) business days after the originally scheduled payment date or such other period if specified in your pricing supplement.

The term “**reference dealers**” means four leading dealers in the relevant foreign exchange market, as determined by the calculation agent.

The term “**specified currency**” means the currency specified as such in the relevant pricing supplement.

Exchange Rate Agent

If we issue a note in a specified currency other than U.S. dollars, we will appoint a financial institution to act as the exchange rate agent. Unless otherwise specified in the applicable pricing supplement, the exchange rate agent will initially be Goldman Sachs International. We may select Goldman Sachs International or another of our affiliates to perform this role. We may change the exchange rate agent from time to time after the original issue date of the notes without your consent and without notifying you of the change.

All determinations made by the exchange rate agent will be in its sole discretion unless we state in the applicable pricing supplement that any determination requires our approval. In the absence of manifest error, those determinations will be conclusive for all purposes and binding on you and us, without any liability on the part of the exchange rate agent.

Payment When Offices Are Closed

If any payment is due on a note on a day that is not a business day, we will make the payment on the next day that is a business day. Payments postponed to the next business day in this situation will be treated under the applicable note as if they were made on the due date. Postponement of this kind will not result in a default under any note, and no interest will accrue on the postponed amount from the due date to the next day that is a business day. The term business day has a special meaning which we describe under “— Features Common to All Notes — Business Days” above.

The Paying Agent

We have initially appointed as paying agent The Bank of New York Mellon, London Branch. We may at any time terminate the appointment of any paying agent and appoint additional or other paying agents.

Unclaimed Payments

All money paid by us to a paying agent that remains unclaimed at the end of two years after the amount is due and payable (whether it be principal (and premium, if any) or interest) to a holder will be paid to us. After that two-year period, the holder may look only to us for payment and not to the fiscal agent, any other paying agent or anyone else.

Form, Exchange, Registration and Transfer

Registered Notes

We will issue notes as global notes in registered form. If it is stated in the applicable pricing supplement that the notes are to be issued under NSS, then the notes will be registered in the name of a nominee for a common safekeeper for Euroclear and Clearstream, Luxembourg and we will deliver these notes to a common safekeeper for Euroclear and Clearstream, Luxembourg, which is necessary for notes to be eligible collateral for Eurosystem monetary policy, but does not necessarily mean that the notes will then

be recognised as eligible collateral for Eurosystem monetary policy and intra-day credit operations by the Eurosystem at any time during their life.

Global notes in registered form which are not issued under NSS will be deposited with, and registered in the name of a nominee of, a common depository for Euroclear and Clearstream, Luxembourg or other clearing system as specified in the applicable pricing supplement.

Investors may hold book-entry interests in a global note through organizations that participate, directly or indirectly, in the Euroclear and Clearstream, Luxembourg systems. Book-entry interests in the registered notes and all transfers relating to the registered notes will be reflected in the book-entry records of Euroclear and Clearstream, Luxembourg. The initial common depository for Euroclear and Clearstream, Luxembourg will be The Bank of New York Mellon, London Branch. The Depository Trust Company will not be the depository for the notes.

The distribution of the registered notes will be cleared through Euroclear and Clearstream, Luxembourg. Any secondary market trading of book-entry interests in the registered notes will take place through Euroclear and Clearstream, Luxembourg participants and will settle in same-day funds.

Euroclear and Clearstream, Luxembourg have established electronic securities and payment transfer, processing, depository and custodial links among themselves and others, either directly or through custodians and depositories. These links allow securities to be issued, held and transferred among the clearing systems without the physical transfer of certificates. Special procedures to facilitate clearance and settlement have been established among these clearing systems to trade securities across borders in the secondary market.

The policies of Euroclear and Clearstream, Luxembourg will govern payments, transfers, exchanges, setting of record dates and other matters relating to the investor's interest in securities held by them. We have no responsibility for any aspect of the records kept by Euroclear and Clearstream, Luxembourg or any of their direct or indirect participants. We also do not supervise these systems in any way.

Euroclear and Clearstream, Luxembourg and their participants perform these clearance and settlement functions under agreements they have made with one another or with their customers. You should be aware that they are not obligated to perform or continue to perform these procedures and may modify or discontinue them at any time.

Except as provided below, owners of beneficial interests in the registered notes will not be entitled to have the notes registered in their names, will not be entitled to receive physical delivery of the notes in definitive form and will not be considered the owners or holders of the registered notes under the fiscal agency agreement governing the notes. Accordingly, each person owning a beneficial interest in a registered note must rely on the procedures of the depository and, if such person is not a participant, on the procedures of the participant through which such person owns its interest, in order to exercise any rights of a holder of notes.

Any note we issue may be represented by a master global note.

Certificated Notes

We will issue notes to you or your nominees, in fully certificated registered form, only if (1) we advise the fiscal agent in writing that both Euroclear and Clearstream, Luxembourg are no longer willing or able to discharge their responsibilities properly, and the fiscal agent or we are unable to locate qualified successors within 60 days; (2) an event of default with respect to the notes has occurred and is continuing under the notes; or (3) we, at our option, elect to terminate the book-entry system. If any of the three above events occurs, we will reissue the notes (as authenticated by the fiscal agent) in fully certificated, registered form

and will recognize the registered holders of the certificated notes as holders under the fiscal agent agreement.

In the event individual certificates for the notes are issued, the holders of such notes will be able to receive payment on the notes, effect transfers and exchanges of the notes and replace lost, stolen, destroyed or mutilated notes at the offices of the Luxembourg paying and transfer agent. We have appointed Banque Internationale à Luxembourg, *société anonyme* as paying and transfer agent in Luxembourg with respect to the notes in individual certificated form. If we add, replace or terminate a paying and transfer agent or fiscal agent, we will give notice in the manner described below.

Unless and until we issue the notes in fully certificated, registered form, (1) you will not be entitled to receive a certificate representing your interest in the notes; (2) all references in this offering circular to actions by holders will refer to actions taken by the depositary, which may act upon instructions from direct participants in Euroclear or Clearstream, Luxembourg; and (3) all references in this offering circular to payments and notices to holders will refer to payments and notices to the depositary, as the registered holder of the notes, which may distribute them to you in accordance with its policies and procedures.

The fiscal agent will mail notices by first class mail, postage prepaid, to each holder's last known address as it appears in the security register that the fiscal agent maintains. The fiscal agent will only mail these notices to the registered holder of the notes, unless we reissue the notes to you or your nominees in fully certificated form.

Extensions for Further Issuances

Without the consent of any holders or the fiscal agent, Goldman Sachs International or any other underwriter, dealer or agent or any other person, we may issue additional notes identical to a prior issue from time to time.

Other Exchanges

Owners of certificated registered notes will be able to exchange them for registered notes of smaller denominations or combined into notes of larger denominations, as long as the total principal amount is not changed. If any registered note is partially redeemed, the owner may similarly exchange the unredeemed portion of a note.

Each note authenticated and delivered upon any transfer or exchange of any note (whether in whole or in part) will carry the same rights to future accrued interest and to interest accrued and unpaid that was carried by the surrendered note (or part thereof).

Special Considerations for Global Securities

As an indirect owner, an investor's rights relating to a global security will be governed by the account rules of the depositary and those of the investor's financial institution or other intermediary through which it holds its interest (*e.g.*, if Euroclear or Clearstream, Luxembourg is the depositary or common safekeeper), as well as general laws relating to securities transfers. We do not recognize this type of investor or any intermediary as a holder of securities and instead deal only with the depositary or common safekeeper that holds the general security.

If securities are issued only in the form of a global security, an investor should be aware of the following:

- an investor cannot cause the securities to be registered in his or her own name, and cannot obtain non-global certificates for his or her interest in the securities, except in the special situations we describe above;

- an investor will be an indirect holder and must look to his or her own bank or broker for payments on the securities and protection of his or her legal rights relating to the securities;
- an investor may not be able to sell interests in the securities to some insurance companies and other institutions that are required by law to own their securities in non-book-entry form;
- an investor may not be able to pledge his or her interest in a global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective;
- the depositary's or common safekeeper's policies will govern payments, deliveries, transfers, exchanges, notices and other matters relating to an investor's interest in a global security, and those policies may change from time to time. We, the fiscal agent and any agent will have no responsibility for any aspect of the depositary's or common safekeeper's policies, actions or records of ownership interests in a global security. We, the fiscal agent and any agent also do not supervise the depositary or common safekeeper in any way;
- the depositary or common safekeeper will require that those who purchase and sell interests in a global security within its book-entry system use immediately available funds and your broker or bank may require you to do so as well; and
- financial institutions that participate in the depositary's or common safekeeper's book-entry system and through which an investor holds its interest in the global securities, directly or indirectly, may also have their own policies affecting payments, deliveries, transfers, exchanges, notices and other matters relating to the securities, and those policies may change from time to time. There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the policies or actions or records of ownership interests of any of those intermediaries.

Considerations Relating to Euroclear and Clearstream, Luxembourg

Euroclear and Clearstream, Luxembourg are securities clearing systems in Europe. Both systems clear and settle securities transactions between their participants through electronic, book-entry delivery of securities against payment. In addition, Euroclear and Clearstream, Luxembourg may be depositaries for a global security.

As long as a global note is held by Euroclear and Clearstream, Luxembourg, you may hold an interest in the global note only through an organization that participates, directly or indirectly, in Euroclear or Clearstream, Luxembourg.

As noted above, payments, deliveries, transfers, exchanges, notices and other matters relating to the notes made through Euroclear and Clearstream, Luxembourg must comply with the rules and procedures of those clearing systems. Those clearing systems could change their rules and procedures at any time. We have no control over those systems or their participants and we take no responsibility for their activities.

In addition, we may provide for other securities clearing systems and other depositaries or common safekeepers in the applicable pricing supplement.

Registration of Transfer

Holders of registered notes may present them for registration of transfer (with the form of transfer properly executed and endorsed) or exchange at the corporate trust office of the fiscal agent or at the office of any transfer agent that we designate for that purpose. Holders will not be required to pay a service charge, but they may be required to pay for any tax or other governmental charge associated with the transfer or exchange, and as described in the fiscal agency agreement. Unless we say otherwise in the applicable pricing supplement, the transfer or exchange, and any replacement, will be made only if our fiscal agent or transfer agent, as the case may be, is satisfied with the documents of title and the identity of

the person making the request. The transfer or exchange may also be subject to reasonable regulations that we may from time to time agree upon with the fiscal agent and any transfer agent.

We have initially appointed as security registrar and transfer agent, the fiscal agent acting through its corporate trust office in the Borough of Manhattan, New York City. We have also appointed the paying agent listed at the end of this offering circular as a transfer agent of registered notes. We will name any additional initial transfer agents for any issuance of notes in the applicable pricing supplement. We reserve the right to vary or terminate the appointment of the fiscal agent as security registrar or of any transfer agent or to appoint additional or other registrars or transfer agents or to approve any change in the office through which any registrar or any transfer agent acts. However, there will be at all times a registrar and transfer agent in the Borough of Manhattan, New York City.

If any issuance of notes is redeemable and we redeem less than all those notes, we may block the transfer or exchange of those notes during the period beginning 15 days before the day we mail the notice of redemption and ending on the day of that mailing, in order to freeze the list of holders to prepare the mailing. We may also refuse to register transfers of or exchange any notes selected for redemption, except that we will continue to permit transfers and exchanges of the unredeemed portion of any notes being partially redeemed.

Payment of Stamp and Other Taxes

We shall pay all stamp and other duties, if any, which may be imposed by the United States or any U.S. political subdivision or taxing authority with respect to the fiscal agency agreement or the issuance of the notes. Except as described under “— Payment of Additional Amounts” above, we will not be required to make any payment with respect to any tax, assessment or governmental charge imposed by any government or any political subdivision or taxing authority.

Notices

As long as any notes are listed on the Official List of the Luxembourg Stock Exchange and its rules require, notices to holders of notes will be given by publication in a daily newspaper of general circulation in Luxembourg, which we expect to be the *Luxemburger Wort*, or on the website of the Luxembourg Stock Exchange at <http://www.luxse.com>. The term “daily newspaper” means a newspaper that is published on each day, other than a Saturday, Sunday or holiday, in Luxembourg or, when applicable, elsewhere in Western Europe. A notice will be considered received on the date it is first published. If notice cannot be given as described in this paragraph because the publication of any newspaper is suspended or it is otherwise impractical to publish the notice, then notice will be given in another form. That alternate form of notice will be sufficient notice to each holder. Notices to be given to holders of notes in registered form will be sent by mail to the respective addresses of the holders as they appear in the security register and will be deemed delivered when mailed. Neither the failure to give notice to a particular holder, nor any defect in a notice given to a particular holder, will affect the sufficiency of any notice given to another holder.

Title

We, the fiscal agent and any of our agents or the fiscal agent may deem and treat the registered owner of any registered note as the absolute owner (whether or not the note is overdue and notwithstanding any notice to the contrary) for the purpose of making payment and for all other purposes.

Replacement of Notes

If your notes become mutilated, destroyed, stolen or lost, we will replace them at your expense upon the delivery to the fiscal agent or the paying agent of the mutilated notes or evidence of the loss, theft or destruction satisfactory to the fiscal agent or the paying agent and us. In the case of a lost, stolen or destroyed note, an indemnity satisfactory to the fiscal agent or the paying agent and us may be required at

your expense before a replacement note will be issued, and we may require that you pay any taxes and other governmental charges payable in connection with the replacement of notes and any other expenses (including the fees and expenses of the fiscal agent) connected with the replacement.

UNITED STATES TAXATION

The following is a summary of the principal United States federal income and estate tax consequences to a United States alien holder. You are a United States alien holder if you are the beneficial owner of a note and are, for United States federal income tax purposes:

- a nonresident alien individual;
- a foreign corporation;
- a foreign partnership; or
- an estate or trust that in either case is not subject to United States federal income tax on a net income basis on income or gain for a note

that does not hold the note in connection with the conduct of a trade or business within the United States.

This summary deals only with notes that are properly treated as debt for U.S. federal income tax purposes. The United States federal income tax consequences of owning notes that may not be so treated will be discussed in the applicable pricing supplement.

This discussion assumes that the note is not subject to the rules of Section 871(h)(4)(A) of the Code, relating to interest payments that are determined by reference to the income, profits, changes in the value of property or other attributes of the debtor or a related party. If we issue any notes that are subject to such rules, the United States federal income tax treatment of the notes will be discussed in the applicable pricing supplement.

Prospective purchasers of notes should be advised that any bank which purchases a note will be deemed to represent that it is not purchasing the note in the ordinary course of its lending business and that it is buying the note either (1) for investment purposes only or (2) for resale to a third party that either is not a bank or is holding the note for investment purposes only.

Please consult your own tax advisor concerning the consequences of owning these notes in your particular circumstances under the Internal Revenue Code and the laws of any other taxing jurisdiction.

Under United States federal income and estate tax law, and subject to the discussions below under “—Foreign Account Tax Compliance Withholding”, “—Dividend Equivalent Payments” and “—Backup Withholding and Information Reporting”, if you are a United States alien holder of a note:

(1) we and other U.S. payors generally will not be required to deduct United States federal withholding tax from payments of principal and premium (if any) and interest, including original issue discount, to you if, in the case of payments of interest:

(a) you do not actually or constructively own 10% or more of the total combined voting power of all classes of our stock entitled to vote;

(b) you are not a controlled foreign corporation that is related to us through stock ownership; and

(c) the U.S. payor does not have actual knowledge or reason to know that you are a United States person and:

(A) you have furnished to the U.S. payor a United States Internal Revenue Service Form W-8BEN, Form W-8BEN-E or an acceptable substitute form upon which you certify, under penalties of perjury, that you are not a United States person;

(B) in the case of payments made outside the United States to you at an offshore account (generally, an account maintained by you at a bank or other financial institution at any location outside the United States), you have furnished to the U.S. payor documentation that establishes your identity and your status as the beneficial owner of the payment for United States federal income tax purposes and as a person who is not a United States person;

(C) the U.S. payor has received a withholding certificate (furnished on an appropriate United States Internal Revenue Service Form W-8 or an acceptable substitute form) from a person claiming to be:

(x) a withholding foreign partnership (generally a foreign partnership that has entered into an agreement with the United States Internal Revenue Service to assume primary withholding responsibility with respect to distributions and guaranteed payments it makes to its partners);

(y) a qualified intermediary (generally a non-United States financial institution or clearing organization or a non-United States branch or office of a United States financial institution or clearing organization that is a party to a withholding agreement with the United States Internal Revenue Service); or

(z) a United States branch of a non-United States bank or of a non-United States insurance company;

and the withholding foreign partnership, qualified intermediary or United States branch has received documentation upon which it may rely to treat the payment as made to a person who is not a United States person that is, for United States federal income tax purposes, the beneficial owner of the payments on the notes in accordance with United States Treasury regulations (or, in the case of a qualified intermediary, in accordance with its agreement with the United States Internal Revenue Service);

(D) the U.S. payor receives a statement from a securities clearing organization, bank or other financial institution that holds customers' securities in the ordinary course of its trade or business:

(x) certifying to the U.S. payor under penalties of perjury that a United States Internal Revenue Service Form W-8BEN, Form W-8BEN-E or an acceptable substitute form has been received from you by it or by a similar financial institution between it and you; and

(y) to which is attached a copy of the United States Internal Revenue Service Form W-8BEN, Form W-8BEN-E or acceptable substitute form; or

(E) the U.S. payor otherwise possesses documentation upon which it may rely to treat the payment as made to a person who is not a United States person that is, for United States federal income tax purposes, the beneficial owner of the payments on the notes in accordance with United States Treasury regulations;

(2) no deduction for any United States federal withholding tax will be made from any gain that you realize on the sale or exchange of your note; and

(3) a note held by an individual who at death is not a citizen or resident of the United States will not be includible in the individual's gross estate for purposes of the United States federal estate tax if:

(a) the decedent did not actually or constructively own 10% or more of the total combined voting power of all classes of our stock entitled to vote at the time of death; and

(b) the income on the note would not have been effectively connected with a United States trade or business of the decedent at the time of death.

Foreign Account Tax Compliance Withholding (FATCA)

A U.S. law enacted in 2010 (commonly known as “FATCA”) could impose a withholding tax of 30% on interest income (including original issue discount) and other periodic payments on notes paid to you or any non-U.S. person or entity that receives such income (a “non-U.S. payee”) on your behalf, unless you and each such non-U.S. payee in the payment chain comply with the applicable information reporting, account identification, withholding, certification and other FATCA-related requirements. In the case of a payee that is a non-U.S. financial institution (for example, a clearing system, custodian, nominee or broker), withholding generally will not be imposed if the financial institution complies with the requirements imposed by FATCA to collect and report (to the U.S. or another relevant taxing authority) substantial information regarding such institution’s U.S. account holders (which would include some account holders that are non-U.S. entities but have U.S. owners). Other payees, including individuals, may be required to provide proof of tax residence or waivers of confidentiality laws and/or, in the case of non-U.S. entities, certification or information relating to their U.S. ownership.

Withholding may be imposed at any point in a chain of payments if the payee is not compliant. A chain may work as follows, for example: The payment is transferred through a paying agent to a clearing system, the clearing system makes a payment to each of the clearing system’s participants, and finally the clearing system participant makes a payment to a non-U.S. bank or broker through which you hold the notes, who credits the payment to your account. Accordingly, if you receive payments through a chain that includes one or more non-U.S. payees, such as a non-U.S. bank or broker, the payment could be subject to withholding if, for example, your non-U.S. bank or broker through which you hold the notes fails to comply with the FATCA requirements and is subject to withholding. This would be the case even if you would not otherwise have been directly subject to withholding.

A number of countries have entered into, and other countries are expected to enter into, agreements with the U.S. to facilitate the type of information reporting required under FATCA. While the existence of such agreements will not eliminate the risk that notes will be subject to the withholding described above, these agreements are expected to reduce the risk of the withholding for investors in (or investors that indirectly hold notes through financial institutions in) those countries.

We will not pay any additional amounts in respect of this withholding tax, so if this withholding applies, you will receive less than the amount that you would have otherwise received.

Depending on your circumstances, you may be entitled to a refund or credit in respect of some or all of this withholding. However, even if you are entitled to have any such withholding refunded, the required procedures could be cumbersome and significantly delay your receipt of any withheld amounts. You should consult your own tax advisors regarding FATCA. You should also consult your bank or broker through which you would hold the notes about the likelihood that payments to it (for credit to you) may become subject to withholding in the payment chain.

Dividend Equivalent Payments

Section 871(m) of the Code provides for a 30% withholding tax (subject to reduction under an applicable treaty) on “dividend equivalents” that are paid to foreign investors with respect to certain financial instruments that reference the performance of a U.S. equity. Under these rules, if a note provides for “delta-one” exposure to the performance of shares of a U.S. corporation, we will be obligated to impose U.S. withholding tax in respect of the actual dividends that are paid on the shares of the corporation (or corporations) that are referenced by the note even if we do not actually transmit such amounts to you. This tax will also apply if a note provides for delta-one exposure to an index or basket that includes shares of a

U.S. corporation, unless the index or basket constitutes a “qualified index”. If the basket or index is not a “qualified index”, the tax will only apply to the dividends on shares of the U.S. corporations that are included in the index. A note will generally be treated as providing for a “delta-one” position if it provides for 100% participation in all of the appreciation and depreciation in the performance of the shares that are referenced by the note during the term of the note.

Notes issued pursuant to this offering circular will not be subject to withholding under the rules described above. However, a holder may be subject to Section 871(m) even if it holds a note that is not a “delta-one” note under the rules described above if (a) the holder’s position under the note would be “delta-one” when combined with other related positions that are held by the holder or (b) if a principal purpose for the holder’s investment in the note is to avoid the application of Section 871(m), in which case a special Section 871(m) anti-abuse rule could apply to the holder’s investment in the notes. In such a case, a United States alien holder may be liable for Section 871(m) tax in respect of its notes even when no withholding is required in respect of the notes.

Furthermore, notes that are issued on or after January 1, 2027 may be subject to Section 871(m) even if they are not a “delta-one” note under the rules described above. It is possible that the IRS could assert that a note that is issued before such date could be deemed to be reissued for tax purposes after January 1, 2027 upon a rebalancing or adjustment of the asset, position, index or basket that is referenced by the note. In such a case, a note that is originally issued before January 1, 2027 and is not “delta-one” (and is thus originally not subject to Section 871(m)) could be subject to Section 871(m) after the deemed reissuance.

The application of Section 871(m) to the notes is complex, and there may be uncertainties regarding the application of Section 871(m) to the notes. If you are a United States alien holder, you should consult your tax advisor about the application of Section 871(m) to your notes.

Backup Withholding and Information Reporting

In general, we and other payors are required to report payments of interest on your notes on IRS Form 1042-S. Payments of principal, premium or interest, including OID, made by us and other payors to you would otherwise not be subject to information reporting and backup withholding, provided that the certification requirements described in clause (1)(c) above are satisfied or you otherwise establish an exemption.

In addition, payment of the proceeds from the sale of notes effected at a United States office of a broker will not be subject to backup withholding and information reporting if (i) the payor or broker does not have actual knowledge or reason to know that you are a United States person and (ii) you have furnished to the payor or broker an appropriate IRS Form W-8, an acceptable substitute form or other documentation upon which it may rely to treat the payment as made to a non-United States person.

In general, payment of the proceeds from the sale of notes effected at a foreign office of a broker will not be subject to information reporting or backup withholding. However, a sale effected at a foreign office of a broker could be subject to information reporting in the same manner as a sale within the United States (and in certain cases may be subject to backup withholding as well) if (i) the broker has certain connections to the United States, (ii) the proceeds or confirmation are sent to the United States or (iii) the sale has certain other specified connections with the United States. In addition, certain foreign brokers may be required to report the amount of gross proceeds from the sale or other disposition of notes under FATCA if you are, or are presumed to be, a United States person.

You generally may obtain a refund of any amounts withheld under the backup withholding rules that exceed your income tax liability by filing a refund claim with the IRS.

PLAN OF DISTRIBUTION

We and Goldman Sachs International, as the agent, have entered into a distribution agreement with respect to the notes. Subject to certain conditions, the agent has agreed to use its reasonable efforts to solicit purchases of notes. We have the right to accept offers to purchase notes and may reject any proposed purchase of the notes. The agent may also reject any offer to purchase notes.

We may also sell notes to the agent who will purchase the notes as principal for its own account. In that case, the agent will purchase the notes at a price equal to the issue price specified in the applicable pricing supplement, less a discount. The discount will equal the applicable commission on an agency sale of the notes with the same stated maturity.

The agent may resell any notes it purchases as principal to other brokers or dealers at a discount, which may include all or part of the discount the agent received from us. If all the notes are not sold at the initial offering price, the agent may change the offering price and the other selling terms.

We may also sell notes directly to investors. We will not pay commissions on notes we sell directly. In addition, we may enter into further distribution agreements with agents other than Goldman Sachs International with respect to the notes.

The notes are not, and will not be, registered under the United States Securities Act of 1933, as amended, and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except in certain transactions exempt from the registration requirements of the Securities Act. (Terms used in this paragraph have the meanings given to them by Regulation S under the Securities Act.)

The notes are a new issue of securities, and there will be no established trading market for any note before its original issue date. We have been advised by Goldman Sachs International that it intends to make a market in the notes. However, neither Goldman Sachs International nor any of our other affiliates nor any other agent named in your pricing supplement 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.

We may use this offering circular in the initial sale of any note. In addition, Goldman Sachs International or any of our other affiliates may use this offering circular in a market-making transaction in any note after its initial sale. Unless we (or our agent) inform the purchaser otherwise in the confirmation of sale, this offering circular is being used in a market-making transaction.

Goldman Sachs International has agreed in the distribution agreement that, with respect to all notes issued as a part of the same tranche (within the meaning of Regulation S under the Securities Act), it will not offer, sell or deliver such notes, (1) as part of their distribution at any time or (2) otherwise until 40 days after the later of (A) the completion of the distribution of such tranche of notes as determined by Goldman Sachs International and (B) the closing date of such tranche of notes (or such other date as The Goldman Sachs Group, Inc. may, in its sole discretion, deem necessary to comply with Regulation S) within the United States or to, or for the account or benefit of, U.S. persons except, in either case, in accordance with Regulation S under the Securities Act, and it will have sent to each dealer to which it sells such notes during the restricted period a confirmation or other notice describing the restrictions on offers and sales of notes within the United States or to, or for the account or benefit of, U.S. persons.

Selling Restrictions

Prohibition of Sales to EEA Retail Investors

Unless the pricing supplement in respect of any notes specifies the "Prohibition of Sales to EEA Retail Investors" as "Not Applicable", Goldman Sachs International has represented and agreed, and each further

dealer or offeror of the notes under the program will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any notes which are the subject of the offering contemplated by this offering circular as completed by the pricing supplement in relation thereto to any retail investor in the EEA.

For purposes of this provision:

- (a) the expression “retail investor” means a person who is one (or more) of the following:
 - (i) a retail client as defined in point (11) of Article 4(1) of MiFID II;
 - (ii) a customer within the meaning of the Insurance Distribution Directive, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or
 - (iii) not a qualified investor as defined in the Prospectus Regulation; and
- (b) the expression an “offer” includes the communication in any form and by any means of sufficient information on the terms of the offer and the notes to be offered so as to enable an investor to decide to purchase or subscribe for the notes.

If the pricing supplement in respect of any notes specifies the “Prohibition of Sales to EEA Retail Investors” as “Not Applicable”, in relation to each Member State of the EEA, Goldman Sachs International has represented and agreed, and each further dealer or offeror of the notes under the program will be required to represent and agree, that it has not made and will not make an offer of notes which are the subject of the offering contemplated by this offering circular as completed by the pricing supplement in relation thereto to the public in that Member State except that it may make an offer of such notes to the public in that Member State:

- (a) if the pricing supplement in relation to the notes specify that an offer of those notes may be made other than pursuant to Article 1(4) of the Prospectus Regulation in that Relevant State, which we refer to as a Non-exempt Offer, following the date of publication of a prospectus in relation to such notes which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, provided that any such prospectus has subsequently been completed by the pricing supplement contemplating such Non-exempt Offer, in accordance with the Prospectus Regulation, in the period beginning and ending on the dates specified in such prospectus or pricing supplement, as applicable, and the Goldman Sachs Group, Inc. has consented in writing to its use for the purpose of that Non-exempt Offer;
- (b) at any time to any legal entity which is a qualified investor as defined in the Prospectus Regulation;
- (c) at any time to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Regulation) subject to obtaining the prior consent of Goldman Sachs International nominated by The Goldman Sachs Group, Inc. for any such offer; or
- (d) at any time in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of notes referred to in (b) to (d) above shall require The Goldman Sachs Group, Inc. or Goldman Sachs International to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of the foregoing, the expression an “offer of notes to the public” in relation to any notes in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the notes to be offered so as to enable an investor to decide to purchase or subscribe for the notes.

Goldman Sachs International has represented and agreed, and each further dealer appointed under the Program will be required to represent and agree that, in relation to any offering of notes to which MiFID II applies, that such offering is in accordance with the applicable rules set out in MiFID II (including any applicable national transposition of MiFID II), including that any commission, fee or non-monetary benefit received from The Goldman Sachs Group, Inc. complies with such rules.

Notwithstanding the above, in the case where the pricing supplement in respect of any notes does not specify “Prohibition of Sales to EEA Retail Investors” to be not applicable but where The Goldman Sachs Group, Inc. subsequently prepares and publishes a key information document under the PRIIPs Regulation in respect of such notes, then following such publication, the prohibition on the offering, sale or otherwise making available the notes to a retail investor as described above shall no longer apply.

Other Selling Restrictions for Member States of the EEA

Austria

In addition to the selling restrictions described in the section headed "Prohibition of Sales to EEA Retail Investors" (in particular the restrictions/requirements stipulated by the Prospectus Regulation), the notes may be offered in Austria only in compliance with the provisions of the Austrian Capital Market Act 2019 (*Kapitalmarktgesetz 2019*, Federal Law Gazette No 62/2019, as amended, the "KMG 2019"), which may require the filing of a notification pursuant to section 24 of the KMG 2019 with the Austrian Control Bank (*Oesterreichische Kontrollbank Aktiengesellschaft*) as soon as possible, but in any event prior to the commencement of the relevant offer of the notes.

In addition, any offer and sale of the notes must be made in compliance with the provisions of the Austrian Securities Supervision Act 2018 (*Wertpapieraufsichtsgesetz 2018*, Federal Law Gazette No 107/2017, as amended) and all other applicable legislation and regulations in Austria.

Belgium

For selling restrictions in respect of Belgium, please see “Prohibition of Sales to EEA Retail Investors” above.

This offering circular has not been submitted for approval to the Financial Services and Markets Authority. Accordingly, investment instruments (as defined in the law of 11 July 2018 on offerings to the public of investment instruments and the admission of investment instruments to trading on regulated markets, as amended or replaced from time to time (the "Prospectus Law")) that do not qualify as securities (as defined in the Prospectus Regulation), including notes that have a maturity of less than 12 months and qualify as money market instruments, and that therefore fall outside the scope of the Prospectus Regulation, may not be distributed in Belgium by way of an offering to the public, as defined in and subject to the exemptions set out in the Prospectus Law.

Any offeror of notes will be required to represent and agree that it will not offer for sale, sell or market notes to any person qualifying as a consumer within the meaning of Article I.1.2 of the Belgian Code of Economic Law, as amended from time to time, unless such offer, sale or marketing is made in compliance with this Code and its implementing regulation.

Bulgaria

For selling restrictions in respect of Bulgaria, please see “Prohibition of Sales to EEA Retail Investors” above. Moreover,

(1) in addition to the exemptions under Article 1(4) of the Prospectus Regulation in relation to securities as defined under the Prospectus Regulation, Goldman Sachs International and each further dealer or offeror may make an offer of securities to the public in the Republic of Bulgaria without publication of a prospectus, under the following exemptions:

- (i) Article 89c of the Bulgarian Public Offering of Securities Act, at any time where the total consideration of each offer of securities to the public is less than EUR 8,000,000 calculated over a period of 12 months, where admission is requested to trading on a multilateral trading facility as defined in point (22) of Article 4(1) of Directive 2014/65/EU (“MTF”), and
- (ii) Article 89d of the Bulgarian Public Offering of Securities Act, at any time where the total consideration of each offer of securities to the public is less EUR 8,000,000 calculated over a period of 12 months, where admission to trading on a regulated market or an MTF is not requested, subject to the approval and publication of a document for public offering by the Bulgarian Financial Supervision Commission.

(2) no initial offering of securities which qualify as bonds or other forms of securitised debt is or will be made in the Republic of Bulgaria to more than 30 persons who are not institutional investors as listed in point (1) of Section I of Annex II to Directive 2014/65/EU, provided that:

- (a) the Issuer is not a bank licensed in the Republic of Bulgaria, a bank licensed in another Member State which provides services in the Republic of Bulgaria through a branch under the freedom of establishment or directly under the freedom to provide services, a branch of a bank from a non-member state which is licensed in the Republic of Bulgaria;
- (b) the issuance of securities is one of the Issuer’s main activities; and
- (c) the Issuer professionally grants credits or provides other financial services,

unless the offer of such securities to the public in the Republic of Bulgaria, or the admission to trading of such securities on a regulated market in Bulgaria, is sought in accordance with the Prospectus Regulation and the Bulgarian Public Offering of Securities Act.

Croatia

For selling restrictions in respect of Croatia, please see also "Prohibition of Sales to EEA Retail Investors" above.

This offering circular has not been approved by the Croatian Financial Services Supervisory Authority. Notes may not be offered and/or sold in Croatia on the basis of this offering circular as a prospectus for purposes of offer of notes to the public unless the offering circular is (i) approved by the Croatian Financial Services Supervisory Authority and published pursuant to the Prospectus Regulation and the Croatian Capital Market Act (Official Gazette No 65/2018, as may be further amended; the “Croatian Capital Market Act”), or (ii) approved by the competent authority in another EEA Member State, published and passported into Croatia in accordance with the Prospectus Regulation and the Croatian Capital Market Act. In case an offer and/or sale of notes in Croatia is made in reliance on one of the exemptions from the duty of publication of a prospectus pursuant to the Prospectus Regulation and/or Croatian Capital Market Act, such an offer and/or sale shall be notified to the Croatian Financial Services Supervisory Authority in accordance with the Croatian Capital Market Act.

No action has been taken that would constitute a public offering of the securities or distribution of any offering material in relation to the notes in Croatia. Goldman Sachs International and each further dealer or offeror of the notes has represented and agreed, and each further dealer appointed under this program will be required to represent and agree, that it will offer or distribute the notes in Croatia only in compliance with the terms of the Prospectus Regulation, the ZTK and all other laws and regulations applicable to the offer and sale of the notes in Croatia as amended from time to time.

Czech Republic

For selling restrictions in respect of the Czech Republic, please see “Prohibition of Sales to EEA Retail Investors” above, with the following exceptions:

“Qualified investors” for the purpose of a Czech offering are (a) persons specified in Article 2a paragraph 1 and 2 of Act No. 256/2004 Coll., on Capital Markets Undertakings, as amended (the “Czech Capital Markets Act”) and/or (b) persons who are considered as professional customers under Article 2b of the Czech Capital Markets Act, to the extent of trading or investment instruments relating to the offered notes.

The monetary amount relevant for the exemption from the obligation to publish a prospectus under Article 1(4)(c) and 1(4)(d) of the Prospectus Regulation is determined by the applicable governmental regulations, as amended and/or replaced from time to time.

Denmark

This offering circular has not been filed with or approved by the Danish Financial Supervisory Authority or any other regulatory authority in the Kingdom of Denmark. The notes have not been offered or sold and may not be offered, sold or delivered directly or indirectly in Denmark, unless in compliance with, as applicable, the Prospectus Regulation, the Danish Consolidated Act No. 198 of February 26, 2024 on Capital Markets and Executive Orders issued thereunder and in compliance with Executive Order No. 191 of 31 January 2022 on investor protection in connection with securities trading, issued pursuant to the Danish Consolidated Act No. 1731 of December 5, 2023 on Financial Business, all as amended, supplemented or replaced from time to time.

Finland

For selling restrictions in respect of Finland, please see “Prohibition of Sales to EEA Retail Investors” above.

This offering circular has not been submitted for approval to the Finnish Financial Supervisory Authority. The notes may only be marketed, offered or sold in compliance with all applicable provisions of the laws of Finland, especially the Finnish Securities Market Act (arvopaperimarkkinalaki (746/2012), as amended) and any regulations, guidelines or decisions issued thereunder, as supplemented and amended from time to time.

France

For selling restrictions in respect of France, please see “Prohibition of Sales to EEA Retail Investors” above.

Germany

For selling restrictions in respect of Germany, please see “Prohibition of Sales to EEA Retail Investors” above.

Greece

This offering circular (and/or any supplement and/or the pricing supplement thereto) has not been approved by the Hellenic Capital Markets Commission for the offer, distribution, marketing or sale of the notes in Greece. For selling restrictions in respect of Greece, please see general provisions of the section "Prohibition of Sales to EEA Retail Investors" above, with the below specifications:

Under Greek Law 4706/2020, as in force, implementing the Prospectus Regulation (as amended and in force) into the national legislation, the following are provided:

1. The publication of a prospectus is not required, according to the specific provisions of the Prospectus Regulation, in case of public offers of securities with a total consideration in the European Union lower than Euro five million (€5,000,000), calculated over a period of twelve (12) months.

2. The publication of an information circular (in accordance with the directions, circulars and decisions issued by the Hellenic Capital Market Commission) is required in connection with public offers of securities with a total consideration ranging from Euro five hundred thousand (€500,000) to five million (€5,000,000) calculated over a period of twelve (12) months. Exceptionally, the publication of the information circular is not needed provided that the conditions of Regulation (EU) 2020/1503, regarding public offers of securities from an authorized European crowdfunding service provider, are met.

This offering circular (and/or any amendment and/or the pricing supplement thereto) has not been approved by the Hellenic Capital Market Commission and no approval has been sought or obtained from the Hellenic Capital Market Commission for the offer, distribution and marketing or sale of the notes in Greece.

Any offer or sale of notes as per the present may only be made if in compliance with all applicable requirements and provisions of the laws of Greece, as supplemented and amended from time to time, with any applicable European or international legislation and with any relevant applicable regulation or rule or instruction or guideline (including but not limited to the Hellenic Capital Market Commission's instructions, decisions and guidelines), as each time in force. Similarly, any related advertisement, notification or other declaration or announcement is subject to the abovementioned framework. Neither this offering circular nor any other document connected therewith (including any amendment and/or the pricing supplement thereto) may be distributed, passed on or disclosed to any person in Greece, unless it has been approved by the competent authority and published pursuant to the applicable law and validly passported to Greece.

Hungary

This offering circular has not been approved by the *Magyar Nemzeti Bank (Hungarian National Bank)*.

In addition to any other general selling restrictions in this offering circular (including, but not limited to restrictions under the heading "Prohibition of Sales to EEA Retail Investors" above), the following restrictions also apply to an offer of notes to the public in Hungary of contemplated by this offering circular as completed by the relevant pricing supplement. The expression an "offer of notes to the public" shall have the same meaning as defined under the heading "Prohibition of Sales to EEA Retail Investors".

Any offer of notes to the public in Hungary is authorized only if all rules specified in the laws and regulation of Hungary and the European Union (especially, but not limited to the Prospectus Regulation and Sections 13 to 51 of Hungarian Act CXX of 2001 on the Capital Market (the "**Capital Market Act**"), as amended from time to time) are fully complied with and no further obligations or sanctions arise for the Issuer, The Goldman Sachs Group, Inc.

Private placement

A placement of such notes in Hungary that is

- (i) neither an offer of securities to the public pursuant to the Prospectus Regulation
- (ii) nor the admission of such notes to trading on a regulated market;

qualifies as a private placement (*zártkörű forgalombahozatal*) in Hungary.

An offer of notes in Hungary by way of a private placement is authorized only (and without prejudice to compliance with any other applicable restriction) if all rules specified in the Capital Market Act are complied with, which requires, among others,

- in Section 16 of the Capital Market Act, the equal distribution (by the issuer or the dealer) of information to all investors on the material information of the market, economic, financial and legal situation and prospects of the issuer and the information necessary to assess the rights attaching to the underlying instruments (including information raised in personal discussions with investors)

- in Section 17 of the Capital Market Act, that the private placement in Hungary is subsequently notified to the Hungarian National Bank within 15 days of completion by the issuer (The Goldman Sachs Group, Inc.);

- in Section 18 of the Capital Market Act, that each and any written document related to the offer of notes must clearly indicate that such offer is a private placement.

Additional obligations in respect of exempt offers of notes to the public

An offer of notes to the public that is falling within any of paragraphs a), b), c), d), e) or j) of Article 1(4) of the Prospectus Regulation is only authorized in Hungary if the rules specified in Section 16 of the Capital Market Act (applicable through Section 21 (1c) of the Capital Market Act and partially summarized above) are fully complied with (without prejudice to compliance with any other applicable restriction).

An offer of notes to the public that is falling within Article 1(4) or any of paragraphs a) – h) of Article 1(5) of the Prospectus Regulation is only authorized in Hungary if the Issuer, The Goldman Sachs Group, Inc. agrees and undertakes to duly notify the Hungarian National Bank about the Offer in Hungary subsequently within 15 days of completion (pursuant to Section 17 of the Capital Market Act; applicable through Section 21 (1c) of the Capital Market Act) (without prejudice to compliance with any other applicable restriction).

If the offer of notes to the public in Hungary is not exempt from the obligation of the issuer to engage an appropriately licensed investment service provider under Section 23 (1) of the Capital Market Act, any offer of notes to the public is only authorized in Hungary if the Issuer, The Goldman Sachs Group, Inc. agreed and engaged an investment service provider fully in accordance with Section 23 (1) of the Capital Market Act.

Registration in a multilateral trading facility

The registration of notes which are the subject of the offering contemplated by this offering circular as completed by the relevant pricing supplement in a multilateral trading facility or the publication of selling and purchase prices is not authorized in Hungary unless in compliance the Capital Markets Act and other Hungarian laws and regulations as amended from time to time.

Ireland

In addition to the circumstances referred to in the section entitled “Prohibition of Sales to EEA Retail Investors”, Goldman Sachs International will be required to represent, warrant and agree that it has not

offered, sold, placed or underwritten and that it will not offer, sell, place or underwrite the notes, or do anything in Ireland in respect of the notes, otherwise than in conformity with the provisions of:

- (i) Regulation (EU) 2017/1129 (the Prospectus Regulation), Commission Delegated Regulation (EU) 2019/980 (PR Regulation), Commission Delegated Regulation (EU) 2019/989 (RTS Regulation) and Central Bank of Ireland (“Central Bank”) rules issued and / or in force pursuant to Section 1363 of the Companies Act 2014 (as amended);
- (ii) the Companies Act 2014 (as amended);
- (iii) the European Union (Markets in Financial Securities) Regulations 2017 (as amended) and it will conduct itself in accordance with any rules or codes of conduct and any conditions or requirements, or any other enactment, imposed or approved by the Central Bank;
- (iv) Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse, the European Union (Market Abuse Regulations 2016 and any Central Bank rules issued and / or in force pursuant to Section 1370 of the Companies Act 2014 (as amended), and will assist The Goldman Sachs Group, Inc. in complying with its obligations thereunder;
- (v) the Central Bank Acts 1942 to 2018 (as amended) and any codes of conduct rules made under Section 117(1) of the Central Bank Act 1989; and
- (vi) the PRIIPs Regulation.

Italy

The below selling restrictions shall apply unless the pricing supplement in respect of any notes specifies the “Prohibition of Sales to EEA Retail Investors” as “Not Applicable”. Please see the section “Prohibition of Sales to EEA Retail Investors” above.

In addition to the restrictions under section “Prohibition of Sales to EEA Retail Investors” above, the offering of the notes has not been registered pursuant to Italian securities legislation and, accordingly, no notes may be offered, sold or delivered, nor may copies of this offering circular, of any pricing supplement or of any other document relating to the notes be distributed in the Republic of Italy, except:

- (i) to qualified investors (*investitori qualificati*), as defined under Article 2, paragraph 1, letter e), of Regulation (EU) No. 1129 of 14 June 2017 (the “**Prospectus Regulation**”) and any applicable provision of Legislative Decree No. 58 of 24 February 1998, as amended from time to time (the “**Financial Services Act**”) and/or Italian CONSOB regulations; or
- (ii) in other circumstances which are exempted from the rules on public offerings pursuant to Article 1 of the Prospectus Regulation, Article 34-*ter* of CONSOB regulation No. 11971 of 14 May 1999, as amended from time to time (the “**CONSOB Regulation No. 11971**”), and in accordance with any applicable Italian laws and regulations.

Any offer, sale or delivery of the notes or distribution of copies of this offering circular, any pricing supplement or any other document relating to the notes in the Republic of Italy must be made in compliance with the section “Prohibition of Sales to EEA Retail Investors” above and/or the selling restrictions under points (i) or (ii) above and must be made:

- (a) by *soggetti abilitati* (including investment firms, banks or financial intermediaries), as defined by Article 1, first paragraph, letter r), of the Financial Services Act, permitted to conduct such activities in the Republic of Italy in accordance with the relevant provisions of the Financial Services Act, CONSOB regulation No. 20307 of 15 February 2018, as

amended from time to time, and Legislative Decree No. 385 of 1 September 1993, as amended from time to time (the “**Banking Act**”) and any other applicable laws and regulations;

- (b) in compliance with Article 129 of the Banking Act, as amended from time to time, and the implementing guidelines of the Bank of Italy issued on 25 August 2015 and amended on 10 August 2016, as further amended from time to time, pursuant to which the Bank of Italy may request periodic reporting, data and information on the issue or the offer of securities in the Republic of Italy; and
- (c) in compliance with any other applicable laws and regulations or requirement imposed by CONSOB, the Bank of Italy and/or any other competent authority.

Please note that in accordance with Article 100-bis of the Financial Services Act, where no exemption from the rules on public offerings applies under (i) and (ii) above, the subsequent resale of the notes on the secondary market in the Republic of Italy must be made in compliance with the public offer and the prospectus requirement rules provided under the Financial Services Act and CONSOB Regulation No. 11971. For these purposes, a public offer occurs also where the notes which are initially offered and placed in the Republic of Italy or abroad to qualified investors only but, at any time in the 12 months following such placing, are regularly (“sistematicamente”) resold on the secondary market in the Republic of Italy to non-qualified investors. Where no exemption from the rules on public offerings applies, failure to comply with the prospectus requirement rules provided under the Financial Services Act and CONSOB Regulation No. 11971 may result in the purchasers of the notes who are acting outside of the course of their business or profession being entitled to declare such purchase void and to claim damages from any authorized intermediary from which the notes were purchased.

Liechtenstein

For selling restrictions in respect of Liechtenstein, please see “Prohibition of Sales to EEA Retail Investors” above.

Luxembourg

For selling restrictions in respect of Luxembourg, please see “Prohibition of Sales to EEA Retail Investors” above.

Norway

For selling restrictions in respect of Norway, please see “Prohibition of Sales to EEA Retail Investors” above.

In no circumstances may an offer of notes denominated in NOK be made in the Norwegian market without the notes being initially recorded with Verdipapirsentralen ASA (trading as Euronext Securities Oslo) in dematerialised form or in another central securities depository which is properly authorized or recognised as being entitled to register the notes pursuant to Regulation (EU) No 909/2014, to the extent such notes must be registered according to the Norwegian Central Securities Depositories Act (Nw. Verdipapirsentralloven 2019) and ancillary regulations.

Poland

In addition to provisions applicable to the "Prohibition of Sales to EEA Retail Investors" stated above, the following applies:

With respect to the offer, delivery, advertisement or sale of the notes no approval has been sought or obtained from the Polish Financial Supervision Authority (*Komisja Nadzoru Finansowego*) and the offer,

delivery, advertisement or sale of the notes was not notified to the Polish Financial Supervision Authority (*Komisja Nadzoru Finansowego*).

Any offer, delivery, advertisement or sale of the notes or distribution of copies of this offering circular, any pricing supplement or any other document relating to the notes to the public in Poland must be made in accordance with:

- (a) the Prospectus Regulation;
- (b) the Polish Act on Public Offers and Conditions of Introducing Financial Instruments to Organised Trading and on Public Companies of 29 July 2005 (as amended) ("**Act on Public Offers**");
- (c) the Polish Act on Trading in Financial Instruments of 29 July 2005 (as amended); and
- (d) any other applicable laws and regulations or requirement imposed by the Polish Financial Supervision Authority (*Komisja Nadzoru Finansowego*) or other Polish authority.

In particular, according to Article 3 Section 1(a) of the Act on Public Offers, an offer of securities to the public referred to in Article 1 Section 4(b) of the Prospectus Regulation, in the case of which the number of persons to whom it is directed together with the number of persons to whom public offers referred to in Article 1 Section 4(b) of Prospectus Regulation were directed, of the same type of securities, carried out over the past 12 months, exceeds 149, requires that an information memorandum referred to in Article 38b of the Polish Act on Public Offers shall be published, which is subject to the Polish Financial Supervision Authority's (*Komisja Nadzoru Finansowego*) approval.

According to Article 37b Section 3a the issuer or the offeror should notify the Polish Financial Supervision Authority (*Komisja Nadzoru Finansowego*) of their intention to make an offer of securities to the public no later than seven (7) business days before the date on which the information memorandum is made available.

The provision under Article 3 Section 1(a) of the Act on Public Offers is not applicable if the offer is directed solely to the holders of the same type of securities of the same issuer or to entities which were offered the issuer's securities by way of exchanging receivables from the redemption of the previously issued securities of the issuer.

Moreover, according to the Act on Public Offers, advertisements of an offer of securities to the public referred to in Article 1 Section 4(b) of the Prospectus Regulation may only be disseminated to less than 150 persons in the territory of one Member State and cannot be made available to an unknown recipient.

If, pursuant to the provisions of the Prospectus Regulation, it is not required to make the prospectus available, the advertisements should be consistent with the information included in the information memorandum or any other document required under the Act on Public Offers or the Prospectus Regulation, made available to the public, or with information which should be included in the memorandum or in the document pursuant to the provisions of the Act on Public Offers, the Prospectus Regulation and delegated and implementing acts issued on the basis thereof, if the information memorandum or such document have not yet been made available to the public, and they cannot mislead investors in respect of the issuer's situation and the assessment of the securities.

Portugal

The notes may only be offered in Portugal in compliance with the provisions of the Portuguese Securities Code (*Código dos Valores Mobiliários*, approved by the Decree-Law 486/99, of November 13, as amended) and other laws and regulations applicable to the offer and sale of the Securities in Portugal. This offering circular has not been verified by the Portuguese Securities Exchange Commission (*Comissão*

do Mercado de Valores Mobiliários, or the "CMVM") and the notes are not registered therewith for public offer in Portugal. The recipients of this offering circular and other offering materials in respect of the notes are professional investors, targeted exclusively on the basis of a private placement, all as defined in and in accordance with articles 30 and 109 of the Portuguese Securities Code. Accordingly, the notes must not be, and are not being, offered or advertised, and no offering or marketing materials relating to the notes may be made available or distributed in any way that would constitute a public offer under the Portuguese Securities Code (whether at present or in the future).

Romania

For selling restrictions in respect of Romania, please see "Prohibition of Sales to EEA Retail Investors" above.

The offering circular has not been subject to the approval of the Romanian Financial Supervisory Authority ("**ASF**") or any other competent Romanian authority. Accordingly, the Goldman Sachs Group, Inc. and each Dealer have represented and agreed that they have not offered, sold or delivered, and will not offer, sell or deliver, any notes in Romania ("**Romania**") in a solicitation to the public, and that sales of the notes in Romania shall be effected in accordance with all Romanian securities, tax and exchange control and other applicable laws and regulations.

For the cases when a valid passporting procedure to Romania in relation to the offering circular has not been successfully enacted, the Goldman Sachs Group, Inc. and each of the Dealers have represented and agreed that they will not offer, sell or deliver any notes or distribute copies of the offering circular or any other document relating to the notes in Romania except for the cases when the offering circular and any related documents relating to the notes will be offered in Romania observing the following cumulative conditions:

- (a) it is addressed only to investors who are "**qualified investors**" within the meaning of Article 2 letter e) of the Prospectus Regulation;
- (b) it complies with all applicable laws and regulations in Romania, including the Prospectus Regulation, the provisions of Law No. 24/2017 as regards Issuers of Financial Instruments and Market Operations, the provisions of Regulation No. 5/2018 on Issuers of Financial Instruments and Market Operations issued by the Romanian Financial Supervisory Authority, and any norms and decisions issued or approved by the Romanian Financial Supervisory Authority or any other competent Romanian authority, as well as any other applicable EU and Romanian legislation.

Slovakia

For selling restrictions in respect of Slovakia, please see "Prohibition of Sales to EEA Retail Investors" above, provided that:

"Qualified investors" (*in Slovak "profesionálny klient"*) for the purpose of a Slovak offering are persons specified in Article 8a paragraph 2 of Act No. 566/2001 Coll., on securities and investment services, as amended (the "**Slovak Securities Act**").

The notes may only be offered or sold in compliance with all applicable provisions of the laws of Slovakia and especially in compliance with the Slovak Securities Act, as amended and any regulation or rule made thereunder, as supplemented and amended from time to time.

Spain

Neither the notes nor this offering circular have been, and they are not envisaged to be approved by, registered or filed with, or notified to the Spanish Securities Market Commission (*Comisión Nacional del Mercado de Valores*).

The notes may not be listed, offered, sold or distributed, nor may any subsequent resale of notes be carried out in, Spain except in circumstances which do not require registration of a prospectus in Spain or without complying with the requirements set out in the Prospectus Regulation, Law 6/2023, of 17 March, of the Securities Market (Ley 6/2023, de 17 de marzo, de los Mercados de Valores y de los Servicios de Inversión), as amended and restated, Royal Decree 815/2023, of 8 november, developing the Spanish Market Law (Real Decreto 815/2023, de 8 de noviembre, por el que se desarrolla la Ley 6/2023, de 17 de marzo, de los Mercados de Valores y de los Servicios de Inversión, en relación con los registros oficiales de la Comisión Nacional del Mercado de Valores, la cooperación con otras autoridades y la supervisión de empresas de servicios de inversión), as amended and restated, or any other related regulations that may be in force from time to time, as further amended, supplemented or restated. No publicity or marketing of any kind shall be made in Spain in relation to the notes.

Sweden

For selling restrictions in respect of Sweden, please see "Prohibition of Sales to EEA Retail Investors" above.

The Netherlands

For selling restrictions in respect of The Netherlands, please see "Prohibition of Sales to EEA Retail Investors" above.

Other Selling Restrictions for Non-Member States

Abu Dhabi Global Market

This offering circular relates to notes which constitute an Exempt Offer (for the purposes of section 61(3)(a) of Financial Services and Markets Regulations 2015, as amended ("FSMR") and as defined in Rule 4.3.1(1) of the ADGM Market Rules as amended, issued for the purposes of the FSMR ("ADGM Market Rules") and are thus not subject to any form of regulation or approval by the FSRA of the Abu Dhabi Global Market ("ADGM"). The FSRA has not approved this offering circular nor has any responsibility for reviewing or verifying any document in connection with the Securities. The Securities have not been offered and will not be offered to any persons in the ADGM except on the basis that an offer is an "Exempt Offer" in accordance with the FSMR and ADGM Markets Rules. This offering circular must not be disclosed by the recipient to any other person and may not be reproduced or used for any other purpose. This offering circular is only intended for distribution only to Professional Clients (as defined in Rule 4.3.1(1) of the ADGM Market Rules) who are not natural persons. It must not be delivered to, or relied on by, any other person. The Securities to which this offering circular relates may be illiquid and/or subject to restrictions on their resale. You should conduct your own due diligence on the Securities. If you do not understand the contents of this offering circular or are unsure whether the Securities to which this offering circular relates are suitable for your individual investment objectives and circumstances, you should consult an authorised financial adviser.

Argentina

The offering of the notes has not been registered with the Argentine Securities and Exchange Commission (Comisión Nacional de Valores, hereinafter "CNV"). The CNV has neither approved nor disapproved the notes, nor has the CNV passed upon or endorsed the merits of any offering or the accuracy

or adequacy of this offering circular. As a result, the notes may not be publicly offered or sold within Argentina (within the meaning of Sections 2 and 82 of Argentine Capital Markets Law No. 26,831 and any rule or regulation to be issued by the CNV in the future), and, accordingly, any transaction involving the notes within Argentina must be done in a manner that does not constitute a public offering or a public distribution of the notes under Argentine laws (within the meaning of Sections 2 and 82 of Argentine Capital Markets Law No. 26,831). This offering circular does not constitute an offer to sell any of the notes referred to herein to any prospective purchaser of the notes in Argentina, nor does it constitute a solicitation of any prospective purchaser of the notes in Argentina of an offer to buy any of the notes referred to herein, under circumstances in which such offer or solicitation (as applicable) would be unlawful.

Brazil

The notes may not be offered or sold to the general public in Brazil, except for professional investors or in circumstances that do not constitute a public offering or unauthorized distribution of securities in Brazil or an undue solicitation of investors under Brazilian laws and regulation. Accordingly, the notes have not been and will not be registered with the Brazilian Securities and Exchange Commission (Comissão de Valores Mobiliários), nor have they been submitted to the foregoing agency for approval. Documents relating to the notes, as well as the information contained therein, may not be supplied to the general public in Brazil, as the offering of notes is not a public offering of securities in Brazil, nor used in connection with any offer for subscription or sale of securities to the general public in Brazil, with the exception of offerings directed to professional investors. A seller of the notes may be asked by the purchaser to comply with procedural requirements to evidence previous title to the notes and may be subject to Brazilian tax on capital gains which may be withheld from the sale price. Persons wishing to offer or acquire the notes within Brazil should consult with their own counsel as to the applicability of these registration requirements or any exemption therefrom.

British Virgin Islands (“BVI”)

This offering circular is not an offer to sell, or a solicitation or invitation to make offers to purchase or subscribe for, the notes or any other securities or investment business services in the BVI. This offering circular may not be sent or distributed to persons in the BVI and the notes are not available to, and no invitation or offer to subscribe, purchase or otherwise acquire the notes will be made to, persons in the BVI. However, the notes may be offered and sold to business companies incorporated in the BVI and international limited partnerships formed in the BVI, provided that any such offering and sale is made outside the BVI or the notes may be offered and sold as is otherwise permitted by BVI legislation.

Although not currently in force, it is possible that Part II of the Securities and Investment Business Act, 2010 of the BVI (“SIBA”) will be brought into force and become law in the BVI in the near future. Upon Part II of SIBA coming into force, the notes may not, and will not, be offered to the public or to any person in the BVI for purchase or subscription by or on behalf of The Goldman Sachs Group, Inc. The notes may continue to be offered to business companies incorporated in the BVI and international limited partnerships formed in the BVI, but only where the offer will be made to, and received by, the relevant company or limited partnership outside of the BVI. Once Part II of SIBA comes into force, the notes may also be offered to persons located in the BVI who are “qualified investors” for the purposes of SIBA.

This offering circular has not been reviewed or approved by, or registered with, the Financial Services Commission of the BVI and will not be so registered upon Part II of SIBA coming into force.

Cayman Islands

Goldman Sachs International and each further dealer or offeror of the notes has represented and agreed, and each further dealer appointed under the program will be required to represent and agree, that it shall not offer and sell notes from a place of business within the Cayman Islands (including an offering from an internet or other electronic service provider located in the Cayman Islands) or in a manner constituting the establishment of a place of business or the commencement of business in the Cayman

Islands unless it is appropriately registered and licensed or otherwise permitted to undertake such an offer or sale under applicable laws (including, without limitation, the Securities Investment Business Act (As Revised) of the Cayman Islands).

Goldman Sachs International and each further dealer or offeror of the notes may therefore offer and sell notes to investors registered and incorporated in the Cayman Islands without restriction on such dealer or The Goldman Sachs Group, Inc. if such dealer and The Goldman Sachs Group, Inc. is, according to applicable Cayman Islands law, not located in the Cayman Islands (as a branch, an incorporated entity, a resident or otherwise) and does not have a place of business in and/or has not commenced the carrying on of business in the Cayman Islands.

No notes may be sold by or on behalf of The Goldman Sachs Group, Inc. within the Cayman Islands if such sale would require The Goldman Sachs Group, Inc. to be registered as a foreign company under the Companies Act (As Revised) of the Cayman Islands.

None of the notes shall be sold to or offered by way of subscription to any member of the public in the Cayman Islands whether directly or indirectly.

Chile

The Goldman Sachs Group, Inc. and the notes have not been, and will not be, registered with the Chilean Commission for the Financial Market (Comisión para el Mercado Financiero, "CMF") pursuant to Law No. 18.045 (Ley de Mercado de Valores, "Securities Market Act"), as amended, of the Republic of Chile and, accordingly, no person shall offer or sell the notes within Chile or to, or for the account or benefit of, persons in Chile except in circumstances which have not resulted and will not result in a public offering and/or in the conduct of intermediation (funciones de intermediación) within the meaning of Chilean law.

The offer of any notes pursuant to this offering circular begins on the date of issuance of the relevant pricing supplement. Any such offer of notes in Chile will be subject to General Rule N°. 336 of the CMF. Since the notes to which an offer relates have not been registered in the Foreign Securities Registry of the CMF, they are not subject to the supervision of such entity. As any offer of notes pursuant to this offering circular does not relate to registered securities, there is no obligation on The Goldman Sachs Group, Inc. to deliver in Chile public information regarding the notes. The notes may not be publicly offered in Chile as long as they are not registered in the corresponding Securities Registry.

Colombia

This offering circular, together with the pricing supplement for each issue of notes, is for the sole and exclusive use of the addressee as a determined individual/entity, and cannot be understood as addressed or be used by any third party, including but not limited to third parties for which the addressee can legally or contractually represent, nor any of its shareholders, administrators or by any of the employees of the addressee. Any material to be delivered in Colombia or to any person located, domiciled or established in Colombia, shall be for the sole and exclusive use of the recipient.

This offering circular, together with the pricing supplement for each issue of notes, has not been and will not be filed with or approved by the Colombian Financial Superintendency or any other regulatory authority in Colombia. The Issuer is not subject to the supervision of the Colombian Financial Superintendency.

The issuance of the notes, its trading and payment shall occur outside Colombia; therefore the notes have not been and will not be registered before the Colombian National Registry of Issuers and Securities ("RNVE" by its Spanish acronym), have not been approved or otherwise reviewed by the Colombian Financial Superintendency and have not and will not be listed nor approved by the Colombian Stock Exchange or any other trading system registered and approved in Colombia. The delivery of this offering

circular or the pricing supplement for each issue of notes does not constitute and is not intended to constitute a public offer of securities under the laws of Colombia. This offering circular, together with the pricing supplement for each issue of notes, does not constitute and may not be used for, or in connection with, a public offering as defined under Colombian law and shall be valid in Colombia only to the extent permitted by Colombian law. Under Colombian regulations, any offering addressed to an undetermined number of recipients or to 100 or more named individuals or companies shall be deemed to be an offering to the public requiring the prior approval of the Colombian Financial Superintendency and listing on the Colombian National Registry of Issuers and Securities.

The notes may not be solicited, publicly offered, transferred, sold or delivered, whether directly or indirectly, to any individual or legal entity in Colombia.

The information contained in this offering circular is provided for illustrative purposes only and no representation or warranty is made as to the accuracy or completeness of the information contained herein by any Colombian authority or entity. The addressee acknowledges the Colombian laws and regulations (including but not limited to foreign exchange and tax regulations) applicable to any transaction or investment made in connection with this offering circular or the pricing supplement for each issue of notes and acknowledges and represents that it is the sole responsible party for full compliance with any such laws and regulations. Additionally, Colombian investors are solely liable for conducting an investment suitability analysis as per their applicable investment regime.

The addressee also represents that investment in foreign securities is a permitted investment for them under their corporate bylaws and/or particular investment regime that may be applicable.

Costa Rica

Any offer of notes under this offering circular shall occur outside of Costa Rica, will not be registered in the National Registry of Securities and has not been approved nor registered by the General Superintendence of Securities (“SUGEVAL”). The addressee acknowledges that it has approached the seller of the notes on a reverse inquiry basis and subjects itself to the laws of the jurisdiction of the Issuer.

This offering is not a public or private offering of securities in Costa Rica.

The product being offered is not intended for the Costa Rican public or market and neither is it registered or will be registered before the SUGEVAL, nor can it be traded in the secondary market.

Pursuant to the Regulation of Public Offering of Securities in Costa Rica, public offerings of securities made in Costa Rica must be registered before SUGEVAL while private offerings must be accredited before SUGEVAL whenever the total amount of fundraising exceeds one million dollars (\$1,000,000.00 USD).

Dominican Republic

The issuance, circulation and offering of the notes has a strictly private character according to the laws of the Dominican Republic, falling beyond the scope of articles 1 numeral (31), 46 et al of Law 249-17 dated 19 December 2017, as amended. Since no governmental authorizations are required in this issuance, circulation and offering, the notes under this offering circular have not been and will not be registered with the Superintendency of the Stock Market of the Dominican Republic (*Superintendencia del Mercado de Valores de la República Dominicana*) nor disclosure of relevant information requirements established in the aforementioned regulation shall be complied with, and notes will only be circulated, offered and sold in the Dominican Republic in a private manner based on the criteria established under Dominican laws and regulations.

Dubai International Financial Centre

This offering circular relates to an Exempt Offer of notes in accordance with the Markets Rules of the Dubai Financial Services Authority ("DFSA") ("**DIFC Market Rules**"), as amended issued for the purposes of DIFC Law No.1 of 2012. This offering circular is intended for distribution only persons who meet the Professional Client criteria set out in the DFSA Market Rules.

- (i) Professional Clients who are not natural persons;
- (ii) a specific group of investors who are not natural persons and who number less than 50 ;
or
- (iii) investors who are paying at least USD 100,000 or an equivalent amount in another currency to acquire the Securities,

and it must not be delivered to, or relied on by, any other person.

This offering circular must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with the Exempt Offers under the offering circular. Accordingly, the DFSA has not approved this offering circular or any other associated document nor taken steps to verify the information set out in them, and has no responsibility for them.

The Securities to which this offering circular relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers and/or distributors of the Securities offered and the interests therein should conduct their own due diligence on the Securities.

If you do not understand the contents of this offering circular you should consult an authorised financial advisor.

In relation to its use in the Dubai International Financial Centre, this offering circular is strictly private and confidential and is being distributed to a limited number of investors and must not be provided to any person other than the original recipient, and may not be reproduced or used for any other purpose. The interests in the Securities may not be offered or sold directly or indirectly to the public in the Dubai International Financial Centre.

El Salvador

This offering circular has been provided to the recipient under the recipient's express request and instructions, and on a **private placement basis**.

Hong Kong

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

Unless (a) the notes are not linked to an underlying asset or do not otherwise include a derivative and/or (b) you are an institution or are otherwise an institutional or an eligible corporate professional investor which satisfies requirements under the Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission for whom an assessment of the suitability of the notes for you by the selling intermediary is not required under applicable Hong Kong laws, regulations and rules, you should take note of the following warning:

This is a structured product involving derivatives. The investment decision is yours but you should not invest in the notes unless the intermediary who sells it to you has explained to you that the product is suitable for you having regard to your financial situation, investment experience and investment objectives.

Where the notes are not linked to any underlying asset or do not otherwise include a derivative, if you are not an institution or an institutional or an eligible corporate professional investor which satisfies requirements under the Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission for whom an assessment of the suitability of the notes for you by the selling intermediary is not required under applicable Hong Kong laws, regulations and rules, you should take note of the following warning:

This is an investment product. The investment decision is yours but you should not invest in the notes unless the intermediary who sells it to you has explained to you that the product is suitable for you having regard to your financial situation, investment experience and investment objectives.

In either case, you should also take note of the following warning:

The contents of this document have not been reviewed by any regulatory authority in Hong Kong. You are advised to exercise caution in relation to the offer. If you are in any doubt about any of the contents of this document, you should obtain independent professional advice.

The Issuer does not accept any responsibility for any acts or omissions of any such intermediary.

Japan

The notes have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Law No. 25 of 1948, as amended, the "FIEA") and, accordingly, Goldman Sachs International and each further dealer or offeror of the notes has agreed and each further dealer to be appointed under the program will be required to agree that it will not offer or sell any notes, directly or indirectly, in Japan, or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organised under the laws of Japan), or to others for reoffering or resale, directly or indirectly, in Japan or to any resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the FIEA and any other applicable laws, regulations and ministerial guidelines of Japan.

Jersey

No consent of the Jersey Financial Services Commission under Article 8(2) of the Control of Borrowing (Jersey) Order 1958 has been obtained for the circulation in Jersey of any offer for subscription, sale or exchange of notes and any such offer must be addressed exclusively to a restricted circle of persons in Jersey. For these purposes an offer is not addressed exclusively to a restricted circle of persons unless (i) the offer is addressed to an identifiable category of persons to whom it is directly communicated by the offeror or the offeror's appointed agent, (ii) the members of that category are the only persons who may accept the offer and they are in possession of sufficient information to be able to make a reasonable evaluation of the offer and (iii) the number of persons in Jersey to whom the offer is so communicated does not exceed 50.

Mexico

The notes have not been and will not be registered with the Mexican National Securities Registry (*Registro Nacional de Valores*), maintained by the Mexican National Banking and Securities Commission (*Comisión Nacional Bancaria de Valores, the "CNBV"*), and may not be offered or sold publicly in Mexico. The notes may be sold in Mexico, by any person, including The Goldman Sachs Group, Inc., to investors that qualify as institutional or accredited investors in Mexico, pursuant to the private placement exemption set forth in Article 8 of the Mexican Securities Market Law (*Ley del Mercado de Valores*) and regulations thereunder. This offering circular is not required to be reviewed, and has not been submitted for review or reviewed, by the CNBV.

Panama

The notes have not been and will not be Registered with the Superintendence of Capital Markets of the Republic of Panama under Decree Law No.1 of July 8, 1999 (as amended to date, the "Panamanian Securities Act") and may not be publicly offered or sold within Panama, except in certain limited transactions exempt from the registration requirements of the Panamanian Securities Act. These notes do not benefit from the tax incentives provided by the Panamanian Securities Act and are not subject to regulation or supervision by the Superintendence of Capital Markets of the Republic of Panama.

Institutional investors that purchase the notes pursuant to the institutional investor exemption must hold the notes for a year and during that period may only sell these notes to other institutional investors.

Neither the notes nor the offer, sale or transactions related to the same have been registered with the Superintendence of Capital Markets. The exemption from registration is based on paragraph (3) of Article 129 of the Amended and Restated Text of Law Decree N°1 of July 8, 1999 (institutional investors). Accordingly, the tax treatment set forth in Articles 334 thru 336 of said Amended and Restated Text of Law Decree N°1 of July 8, 1999 is not applicable. The notes are not subject to the supervision of the Superintendence of Capital Markets.

Paraguay

The notes and the information contained in this offering circular have not been and will not be registered with or approved by the Paraguayan Securities Exchange Superintendence (or Superintendencia *de Valores*, hereinafter "SIV"). Accordingly, the notes may not be and will not be publicly offered in or into Paraguay. The Issuer is not registered with the SIV.

Law No. 5810/2017 on Securities Market and Regulation No. 35/2023 of the SIV (as amended by Regulation No. 39/2023) establish that any offer to carry out any legal action with regard to securities made to a general public or to a particular group, personally or via any means of communication, will be deemed to be a public offering of securities. Therefore, any action that would constitute a public offering of the notes or distribution of any offering materials in relation to the notes (even if it is done on a private one-on-one basis) is prohibited without previous registration with the SIV. The relevant regulation does not distinguish between activities made on-shore or off-shore. Consequently, the restrictions will apply, and licensing requirements will be triggered, whether an offering is made in or into Paraguay.

The offering of notes through this offering circular does not constitute a public offering of notes or other financial products and services in Paraguay. Each purchaser of notes acknowledges that the notes and financial products to be offered under this offering circular will be issued outside of Paraguay and not publicly offered in or into Paraguay. Each purchaser of notes acknowledges that any legal matter arising from any offer of notes shall not be submitted to any Paraguayan government authority. Each purchaser of notes acknowledges as well that the Paraguayan Deposit Insurance legislation does not cover the products offered hereby or assets or funds allocated for these purposes. The Paraguayan Central Bank, the Paraguayan National Stock Exchange Superintendence and the Paraguayan Banking Superintendence do not regulate the offering of these products or their undertaking. Each purchaser of notes should make his

own decision whether this offering meets his investment objectives and risk tolerance level. Each purchaser of notes understands that securities that are not registered with the SIV do not enjoy tax benefits in Paraguay, are not negotiable through the local Stock Exchange, are not covered by Paraguayan laws nor supervised by SIV.

Peru

The notes and this offering circular have not been registered in Peru under the *Decreto Supremo N° 020-2023-EF: Texto Único Ordenado de la Ley del Mercado de Valores* (the "Peruvian Securities Law") nor have they been approved by the *Superintendencia del Mercado de Valores* and cannot be offered or sold in Peru except in a private offering under the meaning of the Peruvian Securities Law. The Peruvian Securities Law provides that an offering directed exclusively to "institutional investors" (as defined in the Institutional Investors Market Regulations) qualifies as a private offering. The notes acquired by institutional investors in Peru cannot be transferred to a third party, unless such transfer is made to another institutional investor or the notes have been previously registered with the *Registro Público del Mercado de Valores* maintained by the *Superintendencia del Mercado de Valores*.

Saudi Arabia

No action has been or will be taken in the Kingdom of Saudi Arabia that would permit a public offering of the notes. Any investor in the Kingdom of Saudi Arabia or who is a Saudi person (a "Saudi Investor") who acquires any notes pursuant to any offering should note that the offer of notes is a private placement under Article 8 or Article 9, or Article 10, or Article 11 or Article 12 of the "Rules on the Offer of Securities and Continuing Obligations" as issued by the Board of the CMA pursuant to its resolution number 3-123-2017 dated 9/4/1439H corresponding to 27/12/2017G amended by Resolution of the Board of the CMA number 8-5-2023 dated 25/06/1444H corresponding to 18/01/2023G (the "**KSA Regulations**") for the purposes of Article 10 of the KSA Regulations through a capital market institution licensed by the CMA to carry on the securities activity of arranging and following a notification to the CMA under the KSA Regulations.

The notes may thus not be advertised, offered or sold to any person in the Kingdom of Saudi Arabia other than to "institutional and qualified clients" under Article 9 of the KSA Regulations or by way of a limited offer under Article 9 of the KSA Regulations. Goldman Sachs International and each further dealer or offeror of the notes has represented and agreed, and each further dealer appointed under the program will be required to represent and agree, that any offer of notes will comply with the KSA Regulations.

Each offer of notes shall not therefore constitute a "public offer" pursuant to the KSA Regulations, but is subject to the restrictions on secondary market activity under Article 14 of the KSA Regulations. Any Saudi Investor who has acquired notes pursuant to a private placement under Article 9 or Article 10 or is an Exempt offer under Article 6 of the KSA Regulations may not offer or sell those notes to any person unless the offer or sale is made through a capital market institution appropriately licensed by the CMA and where one of the following requirements is met:

- (a) An offer of securities is a limited offer if at the subscription is limited to no more than 100 offerees (excluding institutional and qualified clients) and the minimum amount payable per offeree does not exceed SR 200,000 or an equivalent amount.
- (b) Securities of the same class may not be offered as a limited offer under paragraph (a) of this Article more than once in a twelve-month period ending with the date of the offer in question;
- (c) the offer is an exempt offer;
- (d) the securities are offered or sold to institutional and qualified clients; or
- (e) the securities are being offered or sold in such other circumstances as the CMA may prescribe for these purposes.

All the above restrictions shall cease to apply upon approval of listing on the Saudi Stock Exchange of securities of the same class as the securities that are subject to such restrictions.

If the requirement in paragraph (a) above cannot be fulfilled because the price of the notes being offered or sold to the transferee has declined since the date of the original private placement, the transferor may offer or sell the notes to the transferee if their purchase price during the period of the original private placement has exceeded 200,000 Saudi Riyals or an equivalent amount. If this requirement cannot be fulfilled, a Saudi Investor may offer or sell the notes if he sells his entire holding of such notes to one person.

All the above provisions shall apply to all subsequent transferees of such notes.

Singapore

This offering circular has not been registered as a prospectus with the Monetary Authority of Singapore (the "MAS") under the Securities and Futures Act 2001, as amended or modified (the "SFA").

Where the notes are:

- (i) linked to underlying assets which are shares (other than units of a collective investment scheme) of a corporation (whether incorporated in Singapore or elsewhere), debentures of an entity, units in a business trust or any instrument conferring or representing a legal or beneficial ownership interest in a corporation, partnership or limited liability partnership formed in Singapore or elsewhere (each of the foregoing, an "SFA security"), or any derivatives contract of which the underlying thing or any of the underlying things is a SFA security or a SFA securities index, or such other product or class of products prescribed by the MAS ("Non-CIS Reference Items"); or
- (ii) linked to underlying assets which fall within the ambit of a "collective investment scheme" (as defined in the SFA) (the "CIS Reference Items"),

this offering circular and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the notes or the Non-CIS Reference Items may not be circulated or distributed, nor may the notes or the Non-CIS Reference Items be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor (as defined in the SFA) under Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275 of the SFA, and where applicable, the conditions specified in Regulation 3 of the Securities and Futures (Classes of Investors) Regulations 2018 or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where notes or Non-CIS Reference Items are subscribed for or purchased under Section 275 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trustee of a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities (as defined in Section 2(1) of the SFA) or securities-based derivatives contracts (as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever

described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the notes or Non-CIS Reference Items pursuant to an offer made under Section 275 of the SFA except:

- 1) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(c)(ii) of the SFA;
- 2) where no consideration is or will be given for the transfer;
- 3) where the transfer is by operation of law;
- 4) as specified in Section 276(7) of the SFA; or
- 5) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018.

Notes Linked to CIS Reference Items with Physical Delivery

- (A) Notes linked to CIS Reference Items where the notes do not provide for a right or interest (including an option) in respect of units in a CIS Reference Item

Where the notes are linked to CIS Reference Items and do provide for a right to physical delivery of the CIS Reference Items (whether such right is contingent on the fulfilment of any condition or not), the selling restriction applicable to notes as specified above will apply to such notes linked to CIS Reference Items, and additionally, the offer or invitation of the notes and CIS Reference Items, which is the subject of this offering circular, does not relate to a collective investment scheme which is authorized under Section 286 of the SFA or recognized under Section 287 of the SFA. The Goldman Sachs Group, Inc. is not authorized or recognized by the MAS and the notes and the CIS Reference Items are not allowed to be offered to the retail public. This offering circular and any other document or material issued in connection with the offer or sale is not a prospectus as defined in the SFA, and accordingly, statutory liability under the SFA in relation to the content of prospectuses does not apply, and you should consider carefully whether the investment is suitable for you.

This offering circular and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the CIS Reference Items may not be circulated or distributed, nor may the CIS Reference Items be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor (as defined in the SFA) under Section 304 of the SFA, (ii) to a relevant person (as defined in Section 305(5) of the SFA) pursuant to Section 305(1) or any person pursuant to Section 305(2), and in accordance with the conditions specified in Section 305 of the SFA, and where applicable, the conditions specified in Regulation 3 of the Securities and Futures (Classes of Investors) Regulations 2018 or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where CIS Reference Items are subscribed for or purchased under Section 305 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trustee of a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities (as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation

or that trust has acquired the CIS Reference Items pursuant to an offer made under Section 305 of the SFA except:

- 1) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 305A(3)(c)(ii) of the SFA;
 - 2) where no consideration is or will be given for the transfer;
 - 3) where the transfer is by operation of law;
 - 4) as specified in Section 305A(5) of the SFA; or
 - 5) as specified in Regulation 36A of the Securities and Futures (Offers of Investments) (Collective Investment Schemes) Regulations 2005 of Singapore.
- (B) Notes Linked to CIS Reference Items where the notes provide for a right or interest (including an option) in respect of units in a CIS Reference Item

Where the notes are linked to CIS Reference Items and do provide for a right to physical delivery of the CIS Reference Items (whether such right is contingent on the fulfilment of any condition or not), and additionally, the notes provide for a right or interest (including an option) in respect of units in a CIS Reference Item, the offer or invitation of the notes and CIS Reference Items, which is the subject of this offering circular, does not relate to a collective investment scheme which is authorised under Section 286 of the SFA or recognised under Section 287 of the SFA. The Program and the Issuers are not authorised or recognised by the MAS and the notes and the CIS Reference Items are not allowed to be offered to the retail public. This offering circular and any other document or material issued in connection with the offer or sale is not a prospectus as defined in the SFA, and accordingly, statutory liability under the SFA in relation to the content of prospectuses does not apply, and you should consider carefully whether the investment is suitable for you.

This offering circular and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the notes or CIS Reference Items may not be circulated or distributed, nor may the notes or CIS Reference Items be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor (as defined in the SFA) under Section 304 of the SFA, (ii) to a relevant person (as defined in Section 305(5) of the SFA) pursuant to Section 305(1) or any person pursuant to Section 305(2), and in accordance with the conditions specified in Section 305 of the SFA, and where applicable, the conditions specified in Regulation 3 of the Securities and Futures (Classes of Investors) Regulations 2018 or, (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where notes or CIS Reference Items are subscribed for or purchased under Section 305 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trustee of a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities (as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the notes or CIS Reference Items pursuant to an offer made under Section 305 of the SFA except:

- 1) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 305A(3)(c)(ii) of the SFA;
- 2) where no consideration is or will be given for the transfer;
- 3) where the transfer is by operation of law;
- 4) as specified in Section 305A(5) of the SFA; or
- 5) as specified in Regulation 36A of the Securities and Futures (Offers of Investments) (Collective Investment Schemes) Regulations 2005 of Singapore.

Any reference to the "SFA" is a reference to the Securities and Futures Act 2001 and a reference to any term as defined in the SFA or any provision in the SFA is a reference to that term as modified or amended from time to time including by such of its subsidiary legislation as may be applicable at the relevant time.

South Africa

No South African resident and/or its offshore subsidiaries may, without such person obtaining the prior written approval of the Financial Surveillance Department of the South African Reserve Bank (the "Exchange Control Authorities"), subscribe for or purchase any note or beneficially hold or own any note; provided that qualifying South African institutional investors with sufficient foreign portfolio capacity may, without the prior written approval of the Exchange Control Authorities, utilize their pre-approved prudential offshore allowances to subscribe for or purchase any notes.

Each of Goldman Sachs International and each further dealer or offeror of the note has (or will have) severally represented, warranted and agreed that it (i) will not offer notes for subscription, (ii) will not solicit any offers for subscription for or sale of the notes, and (iii) will itself not sell or offer the notes in South Africa in contravention of the Companies Act, 2008 (the "South African Companies Act"), the Banks Act, 1990 (the "South African Banks Act"), the Exchange Control Regulations, 1961, promulgated pursuant to the Currency and Exchanges Act, 1933 (the "South African Exchange Control Regulations") and/or any other applicable laws and regulations of South Africa in force from time to time.

Prior to the issue of any notes under the program, each of Goldman Sachs International and each further dealer or offeror of the notes who has (or will have) agreed to place those notes will be required to severally represent and agree that it will not make an "offer to the public" (as such expression is defined in the South African Companies Act, 2008, and which expression includes any section of the public) of notes (whether for subscription, purchase or sale) in South Africa. This offering circular does not, nor is it intended to, constitute a "*registered prospectus*" (as defined in the South African Companies Act) prepared and registered under the South African Companies Act. Information made available in this offering circular should not be considered as "*advice*" as defined in the Financial Advisory and Intermediary Services Act, 2002.

Offers not deemed to be offers to the public

Offers for subscription for, or sale of, notes are not deemed to be offers to the public if:

- (a) made only to certain investors contemplated in section 96(1)(a) of the South African Companies Act; or
- (b) the total contemplated acquisition cost of notes, for any single addressee acting as principal, is equal to or greater than ZAR1,000,000, or such higher amount as may be promulgated by notice in the Government Gazette of South Africa pursuant to section 96(2)(a) of the South African Companies Act.

Switzerland

Each offeror of notes represents and agrees that it has not made and will not make an offer of notes to the public in Switzerland, except that it may make an offer of such notes to the public in Switzerland in any circumstances falling within the exemptions listed in article 36 para. 1 of the Swiss Federal Financial Services Act ("FinSA"), provided that no offer of notes shall require the Issuer or any offeror to publish a prospectus pursuant to article 35 FinSA. The Goldman Sachs Group, Inc. has not authorized and does not authorize any offer of notes which would require The Goldman Sachs Group, Inc. or any offeror to publish a prospectus pursuant to article 35 FinSA in respect of such offer. For the purposes of this provision, the expression "offer to the public" refers to the respective definitions in article 3 lit. g and h FinSA and as further detailed in the FinSO.

Prohibition of Offer to Private Clients in Switzerland

Unless the relevant pricing supplement in respect of any notes specifies the "Prohibition of Offer to Private Clients in Switzerland" to be "Not Applicable", each purchaser and/or offeror of the notes represents and agrees that it has not offered and will not offer any notes to any Private Client in Switzerland.

For the purposes of this provision:

1. the expression "Private Client" means a person who is not one (or more) of the following:
 - (i) a professional client as defined in article 4 para. 3 FinSA (not having opted-in on the basis of article 5 para. 5 FinSA) or article 5 para. 1 FinSA; or
 - (ii) an institutional client as defined in article 4 para. 4 FinSA; or
 - (iii) a private client according to article 58 para. 2 FinSA.
2. the expression "offer" refers to the interpretation of such expression in article 58 FinSA.

Notwithstanding the above, in the case where the relevant pricing supplement in respect of any notes specifies the "Prohibition of Offer to Private Clients in Switzerland" to be applicable but where subsequently a key information document under article 58 FinSA (Basisinformationsblatt für Finanzinstrumente) or article 59 para. 2 FinSA in respect of the notes is published, then, following such publication, the prohibition on the offering of the notes to Private Clients in Switzerland as described above shall no longer apply.

The Bahamas

The notes may not be offered or sold in or from within The Bahamas unless the offer or sale is made by a person appropriately licensed or registered to conduct securities business in or from within The Bahamas.

The notes may not be offered or sold to persons or entities designated or deemed resident in The Bahamas pursuant to the Exchange Control Regulations, 1956 of The Bahamas unless the prior approval of the Central Bank of The Bahamas is obtained.

No offer or sale of the notes may be made in The Bahamas unless a preliminary offering circular and an offering circular have been filed with the Securities Commission of The Bahamas and the Securities Commission of The Bahamas has issued a receipt for each document, unless such offering is exempted pursuant to the Securities Industry Act, 2011 and the Securities Industry Regulations, 2012. This offering circular has not been registered with the Securities Commission of The Bahamas, nor have any applications been made to exempt such offer from the filing of an offering circular with the Securities Commission of The Bahamas under the Securities Industry Act, 2011. No offer or sale of any notes of the Goldman Sachs Group, Inc. can be made in The Bahamas unless the offer of the notes is made by or through a firm which is registered with the Securities Commission of The Bahamas to engage in the business of dealing in securities in The Bahamas and in compliance with Bahamian Exchange Control Regulations.

United Arab Emirates (UAE)

These Securities have not been and will not be offered, sold or publicly promoted or advertised in the United Arab Emirates ("UAE") other than in compliance with any laws, rules and regulations applicable in the UAE, governing the issue of, offering and sale of securities. The offering of the Securities to be issued has not been approved or licensed by or registered with the UAE Central Bank, the UAE Securities and Commodities Authority (the "SCA") or any other relevant licensing authorities in the UAE, and accordingly does not constitute an offer of securities for public subscription in the UAE in accordance with the Commercial Companies Law, Federal Decree-Law No. 32 of 2021 (as amended), SCA Resolution No. 9 R.M. of 2016 Concerning the Regulation of Mutual Funds (as amended), SCA Resolution No. 11 R.M. of 2016 Concerning the Regulation of Offering and Issuing Shares in Public Joint-Stock Companies (as amended) or SCA Resolution No. 3 R.M. of 2017 Concerning the Organisation of Promotion and Introductions (or otherwise (together, the "SCA Resolutions"). Accordingly, the Securities to be issued hereunder may not be offered to the public in the UAE (including the DIFC or the ADGM). The offering of these Securities is strictly private and confidential and is only to a limited number of institutions and individual investors in the UAE: (i) who fall within the exceptions to the SCA Resolutions and who qualify as Qualified Investors as defined under the SCA Resolutions, (ii) upon their request and confirmation that they understand that the Securities have not been approved or licensed by or registered with the UAE Central Bank, the SCA or any other relevant licensing authorities or governmental agencies in the UAE; and (iii) must not be provided to any person other than the original recipient, and may not be reproduced or used for any other purpose

United Kingdom

Unless the pricing supplement in respect of any notes specifies the "Prohibition of Sales to UK Retail Investors" as "Not Applicable", Goldman Sachs International has represented and agreed, and each further dealer or offeror of the notes appointed under the program will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any notes which are the subject of the offering contemplated by this offering circular as completed by the pricing supplement in relation thereto to any retail investor in the UK.

For the purposes of this provision:

(a) the expression "retail investor" means a person who is one (or more) of the following:

(i) a retail client as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the EUWA;

(ii) a customer within the meaning of the provisions of the FSMA and any rules or regulations made under the FSMA to implement the Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or

(iii) not a qualified investor as defined in Article 2 of the UK Prospectus Regulation; and

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

If the pricing supplement in respect of any notes specifies the "Prohibition of Sales to UK Retail Investors" as "Not Applicable", Goldman Sachs International has represented and agreed, and each further dealer or offeror of the notes appointed under the program will be required to represent and agree, that it has not made and will not make an offer of notes which are the subject of the offering contemplated by this offering circular as completed by the pricing supplement in relation thereto to the public in UK except that it may make an offer of such notes to the public in the UK:

(a) at any time to any legal entity which is a qualified investor as defined in Article 2 of the UK Prospectus Regulation;

(b) at any time to fewer than 150 natural or legal persons (other than qualified investors as defined in Article 2 of the UK Prospectus Regulation) in the UK subject to obtaining the prior consent of Goldman Sachs International as nominated by The Goldman Sachs Group, Inc. for any such offer; or

(c) at any time in any other circumstances falling within section 86 of the FSMA,

provided that no such offer of notes referred to in (a) to (c) above shall require The Goldman Sachs Group, Inc. or Goldman Sachs International to publish a prospectus pursuant to section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

For purposes of the foregoing, the expression an “offer of notes to the public” in relation to any notes in the UK means the communication in any form and by any means of sufficient information on the terms of the offer and the notes to be offered so as to enable an investor to decide to purchase or subscribe for the notes and the expression “UK Prospectus Regulation” means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA.

Notwithstanding the above, in the case where the pricing supplement in respect of any notes does not specify “Prohibition of Sales to UK Retail Investors” to be not applicable but where The Goldman Sachs Group, Inc. subsequently prepares and publishes a key information document under the UK PRIIPs Regulation in respect of such notes, then following such publication, the prohibition on the offering, sale or otherwise making available the notes to a retail investor as described above shall no longer apply.

Goldman Sachs International has represented and agreed, and each further dealer or offeror of the notes appointed under the program will be required to represent and agree, that:

- (a) in relation to any notes which have a maturity of less than one year, (i) it is a person whose ordinary activities involve it in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of its business and (ii) it has not offered or sold and will not offer or sell any notes other than to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or as agent) for the purposes of their businesses or who it is reasonable to expect will acquire, hold, manage or dispose of investments (as principal or agent) for the purposes of their businesses where the issue of the notes would otherwise constitute a contravention of Section 19 of the FSMA by The Goldman Sachs Group, Inc.;
- (b) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) received by it in connection with the issue or sale of any notes in circumstances in which Section 21(1) of the FSMA does not apply to The Goldman Sachs Group, Inc.; and
- (c) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to any notes in, from or otherwise involving the UK.

Uruguay

The notes have not been registered with the Central Bank of Uruguay and will not be offered or sold in Uruguay through public offerings.

Venezuela

The notes may not be offered to the public in Venezuela and may not be sold or offered in Venezuela in any manner that may be construed as a public offering, as determined under Venezuelan securities laws. The notes may be sold by means of a private offer through sales that do not constitute a public offering, as determined under Venezuelan securities laws.

Market-Making Resales by Affiliates

This offering circular may be used by Goldman Sachs International in connection with offers and sales of the notes in market-making transactions. In a market-making transaction, Goldman Sachs International may resell a note it acquires from other holders, after the original offering and sale of the note. Resales of this kind may occur in the open market or may be privately negotiated, at prevailing market prices at the time of resale or at related or negotiated prices. In these transactions, Goldman Sachs International may act as principal or agent, including as agent for the counterparty in a transaction in which Goldman Sachs International acts as principal, or as agent for both counterparties in a transaction in which Goldman Sachs International does not act as principal. Goldman Sachs International may receive compensation in the form of discounts and commissions, including from both counterparties in some cases. Other affiliates of The Goldman Sachs Group, Inc. may also engage in transactions of this kind and may use this offering circular for this purpose.

The aggregate initial offering price specified on the cover of this offering circular relates to the initial offering of the notes not yet issued as of the date of this offering circular. This amount does not include the notes to be sold in market-making transactions. The latter include notes to be issued after the date of this offering circular, as well as notes previously issued.

The Goldman Sachs Group, Inc. does not expect to receive any proceeds from market-making transactions. The Goldman Sachs Group, Inc. does not expect that Goldman Sachs International or any other affiliate that engages in these transactions will pay any proceeds from its market-making resales to The Goldman Sachs Group, Inc.

Information about the trade and settlement dates, as well as the purchase, for a market-making transaction will be provided to the purchaser in a separate confirmation of sale.

Unless The Goldman Sachs Group, Inc. or an agent informs you in your confirmation of sale that your note is being purchased in its original offering and sale, you may assume that you are purchasing your note in a market-making transaction.

Matters Relating to Initial Offering and Market-Making Resales

Each issuance of notes will be a new issuance, and there will be no established trading market for any note prior to its original issue date. We may not list any particular issuance on a securities exchange or quotation system. We have been advised by Goldman Sachs International that it intends to make a market in the notes, and any underwriters to whom we sell notes for public offering may also make a market in those notes. However, neither Goldman Sachs International nor any underwriter 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 any of the notes.

EMPLOYEE RETIREMENT INCOME SECURITY ACT

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

ERISA and the Code prohibit certain transactions (“prohibited transactions”) involving the assets of an employee benefit plan that is subject to the fiduciary responsibility provisions of ERISA or Section 4975 of the Code (including individual retirement accounts, Keogh plans, and other plans described in Section 4975(e)(1) of the Code) (each, a “Plan”) and certain persons who are “parties in interest” (within the meaning of ERISA) or “disqualified persons” (within the meaning of the Code) with respect to the Plan; governmental plans may be subject to similar prohibitions unless an exemption applies to the transaction. The assets of a Plan may include assets held in the general account of an insurance company that are deemed to be “plan assets” under ERISA or assets of certain investment vehicles in which the Plan invests.

The Goldman Sachs Group, Inc. and certain of its affiliates each may be considered a “party in interest” or a “disqualified person” with respect to many Plans, and, accordingly, prohibited transactions may arise if the notes are acquired or held by or on behalf of a Plan unless those notes are acquired and held pursuant to an available exemption. In general, available exemptions include: transactions effected on behalf of that Plan by a “qualified professional asset manager” (prohibited transaction exemption 84-14) or an “in-house asset manager” (prohibited transaction exemption 96-23), transactions involving insurance company general accounts (prohibited transaction exemption 95-60), transactions involving insurance company pooled separate accounts (prohibited transaction exemption 90-1), transactions involving bank collective investment funds (prohibited transaction exemption 91-38), and transactions with service providers under Section 408(b)(17) of ERISA and Section 4975(d)(20) of the Code where the Plan receives no less and pays no more than “adequate consideration” (within the meaning of Section 408(b)(17) of ERISA and Section 4975(f)(10) of the Code). The person making the decision on behalf of a Plan or a governmental plan shall be deemed, on behalf of itself and the plan, by purchasing and holding the notes, or exercising any rights related thereto, to represent that (a) the plan will receive no less and pay no more than “adequate consideration” (within the meaning of Section 408(b)(17) of ERISA and Section 4975(f)(10) of the Code) in connection with the purchase and holding of the notes, (b) none of the purchase, holding or disposition of the notes or the exercise of any rights related to the notes will result in a non-exempt prohibited transaction under ERISA or the Code (or, with respect to a governmental plan, under any similar applicable law or regulation), and (c) neither The Goldman Sachs Group, Inc. nor any of its affiliates is a “fiduciary” (within the meaning of Section 3(21) of ERISA (or any regulations thereunder) or, with respect to a governmental plan, under any similar applicable law or regulation) with respect to the purchaser or holder in connection with such person’s acquisition, disposition or holding of the notes, or as a result of any exercise by The Goldman Sachs Group, Inc. or any of its affiliates of any rights in connection with the notes, and neither The Goldman Sachs Group, Inc. nor any of its affiliates has provided investment advice in connection with such person’s acquisition, disposition or holding of the notes.

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

LISTING AND GENERAL INFORMATION

Application has been made to the Luxembourg Stock Exchange for notes issued under the Series H euro medium-term notes program to be listed on the Official List of the Luxembourg Stock Exchange and admitted to trading on the Euro MTF. The Euro MTF is not a regulated market for the purposes of Prospectus Regulation 2017/1129. The relevant pricing supplement will specify whether the applicable notes are to be listed or will be unlisted. The Goldman Sachs Group, Inc. is under no obligation to maintain the listing of any notes that are listed.

As long as any notes remain outstanding, copies of The Goldman Sachs Group, Inc. Restated Certificate of Incorporation, Amended and Restated By-laws, fiscal agency agreement dated June 11, 2010, as amended on November 28, 2012, February 4, 2013, March 7, 2014, March 7, 2016, June 20, 2016, December 14, 2016, August 31, 2017 and May 22, 2018 and the most recent Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K may be obtained during normal

business hours on any weekday (*i.e.*, except Saturdays, Sundays and public holidays) at the specified office of, or upon written request to, the fiscal agent. In addition, a copy of each fiscal agency agreement and any amendments thereto will be available for inspection at those offices during those hours.

Issues of notes denominated in Swiss francs will be effected in compliance with the relevant regulations of the Swiss National Bank.

The issuance of the notes has been authorized by resolutions adopted by the Board of Directors of The Goldman Sachs Group, Inc. on October 28, 2011 and a Determination of the Global Treasurer, dated October 6, 2021.

As of the date of this offering circular, the Board of Directors of The Goldman Sachs Group, Inc. comprises Mr. David M. Solomon, Ms. M. Michele Burns, Mr. Mark A. Flaherty, Ms. Kimberley D. Harris, Mr. Kevin R. Johnson, Ms. Ellen J. Kullman, Mr. Lakshmi N. Mittal, Mr. Thomas K. Montag, Mr. Peter Oppenheimer, Ms. Jan E. Tighe and Mr. David A. Viniar.

Independent Registered Public Accounting Firm

Our consolidated statements of financial condition as of December 31, 2022 and December 31, 2023, the related consolidated statements of earnings, cash flows and changes in shareholders' equity for the fiscal years ended December 31, 2021, December 31, 2022 and December 31, 2023, and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2023 (which is included in management's report on internal control over financial reporting) are incorporated herein by reference to our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 and have been audited by PricewaterhouseCoopers LLP, as stated in their report incorporated by reference herein. No other information in this offering circular has been audited by PricewaterhouseCoopers LLP.

PricewaterhouseCoopers LLP, is an independent registered public accounting firm under the rules of the Public Company Accounting Oversight Board, of 300 Madison Avenue, New York, New York 10017, U.S.A., and a member of the American Institute of Certified Public Accountants.

We are registered in the State of Delaware in the United States. The Goldman Sachs Group, Inc. is organized and exists under the Delaware General Corporation Law. We filed our original certificate of incorporation with the Secretary of State of the State of Delaware on July 21, 1998. Pursuant to the laws of the State of Delaware, the duration of our company is unlimited. Our registration number is 2923466. Pursuant to the paragraph headed "Third" of the second clause our Restated Certificate of Incorporation, the purpose of our company is to engage in any lawful act or activity for which corporations may be organized under the Delaware General Corporation Law.

The business address of the directors of The Goldman Sachs Group, Inc. is the address of our headquarters.

General information about our capital

The most recent information about our capital, including, for example, descriptions of the amount and classes of our issued capital and of any convertible or similar debt securities, as well as information about our largest shareholders, can be found in the following sections of the annual and quarterly reports incorporated herein by reference: (i) Part II – Item 8 – Consolidated Statements of Changes in Shareholders' Equity of each of our Forms 10-K; (ii) Part II – Item 8 – Notes to Consolidated Financial Statements – Shareholders' Equity of each of our Forms 10-K; (iii) Part I – Item 1 – Condensed Consolidated Statements of Changes in Shareholders' Equity of each of our Forms 10-Q; and (iv) Part I – Item 1 – Notes to Condensed Consolidated Financial Statements – Shareholders' Equity of each our Forms 10-Q.

Selected financial information

Our most recent selected annual and interim financial information can be found in the following sections of the annual and current reports incorporated herein by reference: (i) Part II – Item 8 – Supplemental Financial Information – Selected Financial Data of each of our Forms 10-K; and (ii) Item 9.01 – Financial Statements and Exhibits – Consolidated Statements of Earnings (Unaudited) of each relevant Form 8-K.

[PROHIBITION OF SALES TO EEA RETAIL INVESTORS - The notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area (the “EEA”). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, “MiFID II”); (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the “Insurance Distribution Directive”), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (as amended, the “Prospectus Regulation”). Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended, the “PRIIPs Regulation”) for offering or selling the notes or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.]

[PROHIBITION OF SALES TO UK RETAIL INVESTORS – The notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the United Kingdom (the “UK”). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 (as amended, the “EUWA”); or (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 (as amended, the “FSMA”) and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or (iii) not a qualified investor as defined in Article 2 of Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA. Consequently no key information document required by Regulation (EU) No 1286/2014 as it forms part of domestic law by virtue of the EUWA (the “UK PRIIPs Regulation”) for offering or selling the notes or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.]

[Notwithstanding the foregoing, if the Issuer subsequently prepares and publishes a key information document under the PRIIPs Regulation or the UK PRIIPs Regulation in respect of the notes, then the prohibition on the offering, sale or otherwise making available of the notes to retail investors as described above shall no longer apply.]

Pricing Supplement No. • to the offering circular dated June 4, 2024 [,
as amended]



The Goldman Sachs Group, Inc.

Euro Medium-Term Notes, Series H

[Title of [Fixed rate] [Floating rate] [Fixed/Floating rate] [Zero coupon] [UDI-Denominated] [UDI-Linked] [(Amortizing)] [Discount] notes]

The terms of the notes being offered are as follows:

Issuer: The Goldman Sachs Group, Inc.

Face Amount:

Denomination:

Minimum Investment:

Type of Note: [Fixed rate] [Floating rate] [Fixed/Floating rate] [Zero coupon] [Discount] [UDI-Denominated] [UDI-Linked] [Amortizing] note

Specified Currency:

Trade Date:

Original Issue Date (Settlement Date):

ISIN Code:

Common Code:

Valoren Number:

Stated Maturity Date: *[If applicable, provisions for the extension of maturity automatically or at the holder's option]*

Original Issue Price: %

[Original Issue Discount (OID): *If applicable, OID as a percentage* %
[If issued at 100%: Not applicable]

[Accretion Rate: ●]

[Accretion Day Count Fraction: ●]

[Basis of Compounding: ●]

Net Proceeds to Issuer: %

[Amortizing Notes: ●]

Amount Payable at Maturity: [100% of the Face Amount outstanding on the Stated Maturity Date]

Yield to Maturity:

[Accreted Value: [●] [Linearly Accreted Value]]

Interest Rate: *[For fixed rate notes: ●% per annum] [For floating rate notes: A rate per annum equal to the Base Rate [plus the Spread] [multiplied by the Spread Multiplier, if any]] [Modify as appropriate.] [For notes that do not bear interest: Not applicable]*

[Base Rate(s): *For floating rate notes, the base rate or rates*

[Initial Base Rate: *For floating rate notes, if applicable: The [Index maturity] [Index currency] [Base rate] on [First interest determination date]*

[Relevant Screen Page: [Specify]]

[Index Maturity: *For floating rate notes, the index maturity*

[Index Currency: *For floating rate notes, the index currency*

[Spread: *For floating rate notes, the spread*

[Spread Multiplier: *For floating rate notes, the spread multiplier*

[Minimum Rate: *For floating rate notes, the minimum rate*

[Maximum Rate: *For floating rate notes, the maximum rate*

[Original Primary Rate Fallback: *For floating rate notes: [Applicable][Not Applicable]. See "Effect of Original Primary Rate Event on Certain Floating Rate Notes" in the offering circular.]*

[Day Count Fraction: *For floating and fixed rate notes, the day count fraction*

Calculation Basis: Interest and redemption payments will be calculated on a [per denomination] [notional] basis

[Interest Commencement Date: *For fixed and floating rate notes, the interest commencement date*

[Interest Period: *For fixed and floating rate notes: Each period from and including an [originally scheduled] Interest Payment Date (or the Original Issue Date, in the case of the initial Interest Period) to but excluding the next succeeding [originally scheduled] Interest Payment Date (or the [originally scheduled] Stated Maturity Date [(or the [originally scheduled] early redemption date, in the event of a redemption at the Issuer's option)), in the case of the final Interest Period)] /*

[each period from and including an Interest Period Start Date (or the Interest Commencement Date, in the case of the initial Interest Period) to but excluding the next succeeding Interest Period End Date (or the [originally scheduled] Stated Maturity Date [(or the [originally scheduled] early redemption date, in the event of a redemption at the Issuer's option)), in the case of the final Interest Period), as set forth in the table below.

Interest Period Start Date	Interest Period End Date
[*]	[*]

[Interest Determination Dates: *For floating rate notes: For each Interest Period, the Interest Determination Date shall be the [first] [second] [Euro] [London] Business Day preceding the first day of such Interest Period [Modify as appropriate]*

[Observation Period Offset: *For overnight rate notes, the number of U.S. government securities business days or London banking days, as applicable, if other than 5]*

[Interest Reset Dates: *For floating rate notes: For each Interest Period, the Interest Reset Date shall be the first day of such Interest Period [Modify as appropriate]*

[Interest Payment Dates: *For fixed and floating rate notes: [●[●, and ●] of each year[, beginning with ● and ending with ●]][every ● days][on the ● day following the previous originally scheduled Interest Payment Date (or the Interest Commencement Date with respect to the first Interest Payment Date)], subject to the Business Day Convention]*

Regular Record Dates: The Regular Record Date for each interest payment date will be the date [●][for registered notes under NSS: 1] Business Days prior to such Interest Payment Date [●]], as it may be adjusted in accordance with the Business Day Convention

Additional Redemption Rights at the Option of the Issuer: *[For notes subject to redemption at the option of the issuer, a plain English description of the redemption feature] [For all other notes: None]*

[For notes subject to redemption at the option of the issuer, if "Make-Whole Redemption Amount" is specified as the redemption amount, include the text below:

Redemption Margin: ●

Reference Bond: ●

Quotation Time: ●

Quotation Jurisdiction: ●

Par Call Redemption Date: [Not Applicable] [Specify]

Make-Whole Day Count Fraction: [1/1 (ISDA)] [Actual/Actual (ISDA)] [Actual/Actual (ICMA)] [Actual/Actual (Bond)] [Actual/Actual (Euro)] [Actual/365 (Fixed)] [Actual/360 (ISDA)] [Actual/360 (ICMA)] [30/360 (ISDA)]

Make-Whole Calculation Basis: The Make-Whole Redemption Amount shall be calculated by discounting to the applicable redemption commencement date on [a/an][annual][semi-annual][quarterly][other] basis]

Repurchase at the Holder's Option: *[For notes subject to redemption at the option of the issuer, a plain English description of the repurchase feature; otherwise: Not applicable]*

[Non-Scheduled Early Repayment Amount: ●]

Non-Default Business Day: [Applicable][Not Applicable]

Additional Business Centre: [Specify]

Business Day Convention: *[For interest-bearing notes: [Following [adjusted] [unadjusted]] [Modified Following [adjusted] [unadjusted]]; see "Description of the Program — Features Common to All Notes — Business Day Conventions" in the offering circular] [For notes that do not bear interest: Not applicable]*

Final BDC Procedure: [Not Applicable] [Applicable]

Form of Notes: Registered global notes only, registered in the name of a nominee for a [for notes not issued under NSS: common depository][for notes issued under NSS: common safekeeper] for Euroclear and Clearstream, Luxembourg; see "Description of the Program — Form, Exchange, Registration and Transfer" in the offering circular]

[Intended to be held in a manner which would allow Eurosystem eligibility: [Yes. Note that the designation "yes" simply means that the notes are intended upon issue to be deposited with one of the ICSDs as common safekeeper], and registered in the name of a nominee of one of the ICSDs acting as common safekeeper] *[include this text for Registered Notes which are to be held under the NSS] and does not necessarily mean that the notes will be recognised as eligible collateral for Eurosystem monetary policy and intra-day credit operations by the Eurosystem either upon issue or at any or all times during their life. Such recognition will depend upon the ECB being satisfied that Eurosystem eligibility criteria have been met. [As of the Original Issue Date, such criteria were not met].]*

[No. Whilst the designation is specified as "no" at the date of this Pricing

Supplement, should the Eurosystem eligibility criteria be amended in the future such that the notes are capable of meeting them the notes may then be deposited with one of the ICSDs as common safekeeper [, and registered in the name of a nominee of one of the ICSDs acting as common safekeeper] [include this text for Registered Notes]. Note that this does not necessarily mean that the notes will then be recognised as eligible collateral for Eurosystem monetary policy and intra-day credit operations by the Eurosystem at any time during their life. Such recognition will depend upon the ECB being satisfied that Eurosystem eligibility criteria have been met.]

Clearing: [Euroclear Bank SA/NV and Clearstream Banking, *société anonyme*] [other applicable clearing system]

Gross-up and Call in the Case of Tax Law Changes: [For notes subject to gross-up and call in the case of tax law changes: Applicable; see “Description of the Program — Payment of Additional Amounts” and “— Redemption and Repayment — Redemption Upon Obligation to Pay Additional Amounts” in the offering circular] [For all other notes: The Issuer will not gross up any payments due on the notes and will not compensate the Holder for any amount that may be withheld or due because of tax law changes with regard to withholding tax or certain reporting requirements nor therefore will the right of the Issuer to redeem the notes arising from the payment of additional amounts be applicable; see “Description of the Program — Payment of Additional Amounts” and “— Redemption and Repayment” in the offering circular]

Calculation Agent: Goldman Sachs International

Underwriter: [Name, address, description] [None]

Guarantor: None

Listing: [Application has been made to the Luxembourg Stock Exchange for the notes to be listed on the Official List of the Luxembourg Stock Exchange and admitted to trading on the Euro MTF. See “Listing and General Information” in the offering circular.] [Other] [For all other notes: None: no application has been made or will be made to list the notes for trading on a regulated market.]

[Section 871(m): [The Issuer has determined that the notes will not be subject to withholding under Section 871(m) of the U.S. Internal Revenue Code] [Other]]

Prohibition of Sales to EEA Retail Investors: [Applicable/Not Applicable]

Prohibition of Sales to UK Retail Investors: [Applicable/Not Applicable]

Prohibition of Offer to Private Clients in Switzerland: [Applicable/Not Applicable]

[Cut-off Date: [Applicable/Not Applicable] [If applicable - [●] Business Days]]

[Postponement Following FX Disruption Event and Payments in USD: [Applicable/Not Applicable] [If applicable, number of business days (if other than 15) in the definition of FX Disruption Event Cut-Off Date]]

Your investment in your note involves risks. In particular, assuming no changes in market conditions or our creditworthiness and other relevant factors, the value of your note on the date of this Pricing Supplement (as determined by reference to pricing models used by Goldman Sachs and taking into account our credit spreads) may be significantly less than the original issue price. We encourage you to read “Risk Factors” on page 12 of the offering circular, so that you may better understand those risks.

Any offered notes sold by Goldman Sachs International to dealers may be resold by such dealers in negotiated transactions or otherwise at varying prices determined at the time of sale, which prices may be different from the original issue price. [The original issue price reflects a discount representing a fee payable to ●.] [Goldman Sachs International may [also] pay a commission to ● in connection with the sale of the notes. See “Additional Information About the Plan of Distribution” below]

This Pricing Supplement should be read in conjunction with the offering circular, including [all amendments to the offering circular and] all documents incorporated by reference therein, and you should base your investment decision on a consideration of this Pricing Supplement and the offering circular, including [all amendments thereto and all] documents incorporated by reference therein, as a whole.

The notes have not been registered under the U.S. Securities Act of 1933, as amended (the “Securities Act”) and may not be offered or sold in the United States or to U.S. persons (as those terms are defined in Regulation S under the Securities Act) unless an exemption from the registration requirements of the Securities Act is available. See “Notice to Investors” below. This Pricing Supplement is not for use in, and may not be delivered to or inside, the United States.

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 may use this Pricing Supplement in the initial sale of the notes. In addition, Goldman Sachs International or other affiliates of The Goldman Sachs Group, Inc. may use this Pricing Supplement in a market-making transaction in a note after its initial sale. ***Unless Goldman Sachs International or another affiliate of The Goldman Sachs Group, Inc. or their respective agents inform the purchaser otherwise in the confirmation of sale, this Pricing Supplement is being used in a market-making transaction.***

Goldman Sachs International

Pricing Supplement, dated ●

NOTICE TO INVESTORS

The notes have not been registered under the Securities Act and may not be offered or sold in the United States or to U.S. persons (as those terms are defined in Regulation S under the Securities Act) unless an exemption from the registration requirements of the Securities Act is available. In particular, hedging transactions involving the notes may not be conducted other than in compliance with the Securities Act. Each purchaser of a note is deemed to agree to comply with the foregoing.

Except in certain limited circumstances, owners of beneficial interests in the notes will not be entitled to have the notes registered in their names, will not be entitled to receive physical delivery of the notes in definitive form except in limited circumstances and will not be considered the owners or holders of the notes under the fiscal agency agreement governing the notes.

Unless the context otherwise requires, references to “The Goldman Sachs Group, Inc.,” “we,” “our” and “us” mean only The Goldman Sachs Group, Inc. and do not include its consolidated subsidiaries. References to “Goldman Sachs” mean The Goldman Sachs Group, Inc. together with its consolidated subsidiaries, and the “Goldman Sachs Group” refers to The Goldman Sachs Group, Inc. and its consolidated subsidiaries. Also, references to the “offering circular” mean the offering circular, dated June 4, 2024, of The Goldman Sachs Group, Inc. [, as amended.]

In this Pricing Supplement, references to “holder” or “holders” mean only those who have notes registered in their own names and not indirect owners who own beneficial interests in notes of which others are the registered holders. The latter include those who own beneficial interests in notes issued in global — *i.e.*, book-entry — form through Euroclear Bank SA/NV, Clearstream Banking, *société anonyme* or another depository (“global note”). Owners of beneficial interests in notes issued in global form should read the section entitled “Description of the Program — Form, Exchange, Registration and Transfer” in the offering circular. Also, references in this Pricing Supplement to “you” mean those who invest in the notes, whether they are the actual registered holder of the global notes or only owners of beneficial interests in global notes. References to “your note” mean the notes in which you hold a direct or indirect interest.

Responsibility Statement

The Goldman Sachs Group, Inc. accepts responsibility for the information contained in this Pricing Supplement. To the best of the knowledge of The Goldman Sachs Group, Inc., the information contained in this Pricing Supplement is in accordance with the facts and the Pricing Supplement makes no omission likely to affect its import. Where information contained in this Pricing Supplement has been sourced from a third party, such information has been accurately reproduced and so far as The Goldman Sachs Group, Inc. is aware and is able to ascertain from information published by that third party, no facts have been omitted which would render the reproduced information inaccurate or misleading.

We have not authorized anyone to provide any information or to make any representations other than those contained or incorporated by reference in this offering circular. Neither this Pricing Supplement nor the offering circular constitutes an offer to sell or the solicitation of an offer to buy

any securities in any jurisdiction where, or to any person to whom, it is unlawful to make such offer or solicitation. Neither the delivery of this Pricing Supplement or the offering circular, nor any sale made hereunder or thereunder, shall, under any circumstances, create any implication that there has been no change in the affairs of The Goldman Sachs Group, Inc. since the date hereof or thereof or that the information contained herein or therein is correct as of any time subsequent to its date.

Any person making the decision to acquire the notes shall be deemed, on behalf of itself and the holder, by acquiring and holding the notes or exercising any rights related thereto, to represent that:

(i) the funds that the holder is using to acquire the notes are not the assets of an employee benefit plan subject to Title I of the Employee Retirement Income Security Act of 1974, as amended (“ERISA”), a plan described in and subject to Section 4975 of the Internal Revenue Code of 1986, as amended (the “Code”), a governmental plan subject to any federal, state or local law that is similar to the provisions of Section 406 of ERISA or Section 4975 of the Code, or an entity whose underlying assets include “plan assets” by reason of Department of Labor regulation section 2510.3-101, as modified by Section 3(42) of ERISA, or otherwise; or

(ii)(A) the holder will receive no less and pay no more than “adequate consideration” (within the meaning of Section 408(B)(17) of ERISA and Section 4975(f)(10) of the Code) in connection with the purchase and holding of the notes; (B) none of the purchase, holding or disposition of the notes or the exercise of any rights related to the notes will result in a non-exempt prohibited transaction under ERISA or the Code (or with respect to a governmental plan, under any similar applicable law or regulation); and (C) neither The Goldman Sachs Group, Inc. nor any of its affiliates is a “fiduciary” (within the meaning of Section 3(21) of ERISA (or any regulations thereunder) or, with respect to a governmental plan, under any similar applicable law or regulation) with respect to the purchaser or holder in connection with such person’s acquisition, disposition or holding of the notes, or as a result of any exercise by The Goldman Sachs Group, Inc. or any of its affiliates of any rights in connection with the notes, and neither The Goldman Sachs Group, Inc. nor any of its affiliates provided investment advice in connection with such holder’s acquisition, disposition or holding of the notes.

[ADDITIONAL INFORMATION ABOUT THE PLAN OF DISTRIBUTION

[For non-syndicated offerings: We have agreed to sell to [Goldman Sachs International], and [Goldman Sachs International] has agreed to buy from us, the aggregate face amount of the notes specified on the front cover of this Pricing Supplement. [Goldman Sachs International] intends to resell the notes at the original issue price applicable to the notes to be resold in offshore transactions in reliance upon Regulation S under the Securities Act. Any notes sold by [Goldman Sachs International] to dealers may be resold by such dealers in negotiated transactions or otherwise, at varying prices determined at the time of sale, which prices may be different from the original issue price. In the future, [Goldman Sachs International] and our other affiliates may repurchase and resell the notes in market-making transactions, with resales being made at prices related to prevailing market prices at the time of resale or at negotiated prices.

The notes have not been registered under the Securities Act and may not be offered or sold in the United States or to U.S. persons (as those terms are defined in Regulation S under the Securities Act) unless an exemption from the registration requirements of the Securities Act is available. In particular, hedging transactions involving the notes may not be conducted other than in compliance with the Securities Act. Each purchaser of a note is deemed to agree to comply with the foregoing.

The address of Goldman Sachs International is Plumtree Court, 25 Shoe Lane, London EC4A 4AU, United Kingdom.

[The original issue price reflects a discount of ●% representing a fee payable to ●.] [Goldman Sachs International may [also] pay an [additional] commission of ●% of the principal amount of the notes to ● in connection with the sale of the notes.]]

[For syndicated offerings: Subject to the Terms Agreement, dated ●, between us on the one hand and the Purchasing Agents named below (collectively, the "Purchasing Agents") on the other, which incorporates certain provisions of the Distribution Agreement, dated [●] between us and Goldman Sachs International, as amended or restated, if applicable, we have agreed to sell, and

each of the Purchasing Agents has agreed to purchase, severally but not jointly, at a price of ●% of the principal amount of the notes, the principal amount of the notes set forth opposite their names in the table below:

Purchasing Agent	Principal amount of notes
Goldman Sachs International.....	●
●.....	●
●.....	●

Each of the Purchasing Agents will receive underwriting discounts and commissions in the amount of ●% of the principal amount of the notes underwritten by it. [A selling concession of ●% will be paid in respect of the aggregate principal amount of the notes sold by a Purchasing Agent.] The Purchasing Agents may pay a distribution fee for the placement of the notes.

[Include address of lead Purchasing Agent(s)]

The Purchasing Agents propose to offer the notes at the original issue price set forth on the cover page of this Pricing Supplement in offshore transactions in reliance upon Regulation S under the Securities Act. After the notes have been released to investors, the offering price and other selling terms may from time to time be varied by the Purchasing Agents.

The notes are new issue securities with no established trading market. Goldman Sachs International or other affiliates of us, and the other Purchasing Agents, may repurchase and resell the notes in market-making transactions, with resales being made at prices related to prevailing market prices at the time of resale or at negotiated prices. None of them, however, is obligated to do so and any of them may discontinue market-making at any time without notice.

Each of the Purchasing Agents has agreed with us that:

- [Applicable selling restrictions.]]

For more information about the plan of distribution and possible market-making activities, see "Plan of Distribution" in the offering circular.



[PROHIBITION OF SALES TO EEA RETAIL INVESTORS - The notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area (the “EEA”). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, “MiFID II”); (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the “Insurance Distribution Directive”), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (as amended, the “Prospectus Regulation”). Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended, the “PRIIPs Regulation”) for offering or selling the notes or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.]

[PROHIBITION OF SALES TO UK RETAIL INVESTORS – The notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the United Kingdom (the “UK”). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 (as amended, the “EUWA”); or (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 (as amended, the “FSMA”) and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or (iii) not a qualified investor as defined in Article 2 of Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA. Consequently no key information document required by Regulation (EU) No 1286/2014 as it forms part of domestic law by virtue of the EUWA (the “UK PRIIPs Regulation”) for offering or selling the notes or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.]

[Notwithstanding the foregoing, if the Issuer subsequently prepares and publishes a key information document under the PRIIPs Regulation or UK PRIIPs Regulation in respect of the notes, then the prohibition on the offering, sale or otherwise making available of the notes to retail investors as described above shall no longer apply.]

Pricing Supplement No. • to the offering circular dated June 4, 2024 [, as amended]



The Goldman Sachs Group, Inc.
Euro Medium-Term Notes, Series H

[Title of Indexed Notes]

[A brief description of the notes.]

Your investment in your note involves risks. We encourage you to read “Risk Factors” on page 12 of the offering circular [and “Additional Investment Considerations Specific to Your Note” on page S-•], so that you may better understand those risks.

Any offered notes sold by Goldman Sachs International to dealers may be resold by such dealers in negotiated transactions or otherwise at varying prices determined at the time of sale, which prices may be different from the original issue price. [The original issue price reflects a discount representing a fee payable to •.] [Goldman Sachs International may [also] pay a commission to • in connection with the sale of the notes. See “Additional Information About the Plan of Distribution” below]

This Pricing Supplement should be read in conjunction with the offering circular, [including all amendment to the offering circular and] all documents incorporated by reference therein, and you should base your investment decision on a consideration of this Pricing Supplement and the offering circular, [including all amendments to the offering circular and] all documents incorporated by reference therein, as a whole

The notes have not been registered under the U.S. Securities Act of 1933, as amended (the “Securities Act”) and may not be offered or sold in the United States or to U.S. persons (as those terms are defined in Regulation S under the Securities Act) unless an exemption from the registration requirements of the Securities Act is available. See “Notice to Investors” below. This Pricing Supplement is not for use in, and may not be delivered to or inside, the United States.

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 may use this Pricing Supplement in the initial sale of the notes. In addition, Goldman Sachs International or other affiliates of The Goldman Sachs Group, Inc. may use this Pricing Supplement in a market-making transaction in a note after its initial sale. ***Unless Goldman Sachs International or another affiliate of The Goldman Sachs Group, Inc. or their respective agents inform the purchaser otherwise in the confirmation of sale, this Pricing Supplement is being used in a market-making transaction.***

Goldman Sachs International

Pricing Supplement, dated •
[Add short-form index disclaimers.]

NOTICE TO INVESTORS

The notes have not been registered under the Securities Act and may not be offered or sold in the United States or to U.S. persons (as those terms are defined in Regulation S under the Securities Act) unless an exemption from the registration requirements of the Securities Act is available. In particular, hedging transactions involving the notes may not be conducted other than in compliance with the Securities Act. Each purchaser of a note is deemed to agree to comply with the foregoing.

Except in certain limited circumstances, owners of beneficial interests in the notes will not be entitled to have the notes registered in their names, will not be entitled to receive physical delivery of the notes in definitive form except in limited circumstances and will not be considered the owners or holders of the notes under the fiscal agency agreement governing the notes.

Unless the context otherwise requires, references to “The Goldman Sachs Group, Inc.,” “we,” “our” and “us” mean only The Goldman Sachs Group, Inc. and do not include its consolidated subsidiaries. References to “Goldman Sachs” mean The Goldman Sachs Group, Inc. together with its consolidated subsidiaries, and the “Goldman Sachs Group” refers to The Goldman Sachs Group, Inc. and its consolidated subsidiaries. Also, references to the “offering circular” mean the offering circular, dated June 4, 2024 of The Goldman Sachs Group, Inc.[, as amended.]

In this Pricing Supplement, references to “holder” or “holders” mean only those who have notes registered in their own names and not indirect owners who own beneficial interests in notes of which others are the registered holders. The latter include those who own beneficial interests in notes issued in global — *i.e.*, book-entry — form through Euroclear Bank SA/NV, Clearstream Banking, *société anonyme* or another depository (“global note”). Owners of beneficial interests in notes issued in global form should read the section entitled “Description of the Program — Form, Exchange, Registration and Transfer” in the offering circular. Also, references in this Pricing Supplement to “you” mean those who invest in the notes, whether they are the actual registered holder of the global notes or only owners of beneficial interests in global notes. References to “your note” mean the notes in which you hold a direct or indirect interest.

Responsibility Statement

The Goldman Sachs Group, Inc. accepts responsibility for the information contained in this Pricing Supplement. To the best of the knowledge of The Goldman Sachs Group, Inc., the information contained in this Pricing Supplement is in accordance with the facts and the Pricing Supplement makes no omission likely to affect its import. Where information contained in this Pricing Supplement has been sourced from a third party, such information has been accurately reproduced and so far as The Goldman Sachs Group, Inc. is aware and is able to ascertain from information published by that third party, no facts have been omitted which would render the reproduced information inaccurate or misleading.

We have not authorized anyone to provide any information or to make any representations other than those contained or incorporated by reference in this offering circular. Neither this Pricing Supplement nor the offering circular constitutes an offer to sell or the solicitation of an offer to buy any securities in any jurisdiction where, or to any person to whom, it is unlawful to make such offer

or solicitation. Neither the delivery of this Pricing Supplement or the offering circular, nor any sale made hereunder or thereunder, shall, under any circumstances, create any implication that there has been no change in the affairs of The Goldman Sachs Group, Inc. since the date hereof or thereof or that the information contained herein or therein is correct as of any time subsequent to its date.

Neither the U.S. Securities and Exchange Commission (the "SEC") nor the regulatory authority of any other jurisdiction has passed upon the accuracy or adequacy of this Pricing Supplement or the offering circular.

Any person making the decision to acquire the notes shall be deemed, on behalf of itself and the holder, by acquiring and holding the notes or exercising any rights related thereto, to represent that:

(i) the funds that the holder is using to acquire the notes are not the assets of an employee benefit plan subject to Title I of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), a plan described in and subject to Section 4975 of the Internal Revenue Code of 1986, as amended (the "Code"), a governmental plan subject to any federal, state or local law that is similar to the provisions of Section 406 of ERISA or Section 4975 of the Code, or an entity whose underlying assets include "plan assets" by reason of Department of Labor regulation section 2510.3-101, as modified by Section 3(42) of ERISA, or otherwise; or

(ii)(A) the holder will receive no less and pay no more than "adequate consideration" (within the meaning of Section 408(B)(17) of ERISA and Section 4975(f)(10) of the Code) in connection with the purchase and holding of the notes; (B) none of the purchase, holding or disposition of the notes or the exercise of any rights related to the notes will result in a non-exempt prohibited transaction under ERISA or the Code (or with respect to a governmental plan, under any similar applicable law or regulation); and (C) neither The Goldman Sachs Group, Inc. nor any of its affiliates is a "fiduciary" (within the meaning of Section 3(21) of ERISA (or any regulations thereunder) or, with respect to a governmental plan, under any similar applicable law or regulation) with respect to the purchaser or holder in connection with such person's acquisition, disposition or holding of the notes, or as a result of any exercise by The Goldman Sachs Group, Inc. or any of its affiliates of any rights in connection with the notes, and neither The Goldman Sachs Group, Inc. nor any of its affiliates provided investment advice in connection with such holder's acquisition, disposition or holding of the notes.

KEY TERMS

The terms of the notes being offered are as follows:

Issuer: The Goldman Sachs Group, Inc.

Face Amount:

Denomination:

[Minimum Investment:]

Type of Note: Indexed note

Specified Currency:

Trade Date:

Original Issue Date (Settlement Date):

ISIN Code:

Common Code:

Valoren Number:

Stated Maturity Date:

Original Issue Price:

[Accretion Rate: •]

[Accretion Day Count Fraction: •]

[Basis of Compounding: •]

Net Proceeds to Issuer:

[Amortizing Notes: •]

Amount Payable at Maturity: [A plain English description of the payment amount formula]

Yield to Maturity:

Interest Rate:

[Day Count Fraction: *The day count fraction*]

Calculation Basis: Interest and redemption payments will be calculated on a [per denomination] [notional] basis

[Interest Period: Each period from and including an [originally scheduled] Interest Payment Date (or the Original Issue Date, in the case of the initial Interest Period) to but excluding the next succeeding [originally scheduled] Interest Payment Date (or the [originally scheduled] Stated Maturity Date [(or the [originally scheduled] early redemption date, in the event of a redemption at the Issuer's option)], in the case of the final Interest Period)] /

[each period from and including an Interest Period Start Date (or the Interest Commencement Date, in the case of the initial Interest Period) to but excluding the next succeeding Interest Period End Date (or the [originally scheduled] Stated Maturity Date [(or the [originally scheduled] early redemption date, in the event of a redemption at the Issuer's option)], in the case of the final Interest Period), as set forth in the table below.

Interest Period Start Date	Interest Period End Date
[•]	[•]

]

[Interest Payment Dates: [•][•, and •] of each year[, beginning with • and ending with •]][every • days][on the • day following the previous originally scheduled Interest Payment Date (or the Interest Commencement Date with respect to the first Interest Payment Date)], subject to the Business Day Convention]

The Underlyer: [For each underlyer: [Underlyer] ([Underlyer abbreviation (use only abbreviation, omit "underlyer")]); where

appropriate, the caption may be replaced by "Underlying Stock"]

Underlyer Sponsor(s): [The sponsor of each underlyer; where appropriate, the caption may be replaced by "Underlying Stock Issuer"]

[Principal Stock Exchange: For notes linked to a stock, the stock exchange on which the stock is listed]

[Supplemental Payment Amount: A plain English description of the supplemental payment amount formula]

[Total Underlyer Return: A plain English description of the total underlyer return; where appropriate, the caption may be replaced by "Total [Adjusted] Underlyer Return"]

[Participation Rate: The participation rate as a percentage]

[Underlyer Return: A plain English description of the underlyer return; where appropriate, the caption may be replaced by "[Adjusted] [Underlyer] Return"]

[Initial Underlyer Level: A plain English description of the initial underlyer level formula, including, where appropriate, a quantification of the initial underlyer level for each underlyer; where appropriate, the caption may be replaced by "Initial [Stock] Level"]

[Final Underlyer Level: A plain English description of the final underlyer level formula]

[Basket Return: *The basket return formula*]

[Basket: *List each underlyer contained in the basket:*]

[Initial Basket Level: A plain English description of the initial basket level formula, including, where appropriate, a quantification of the initial basket level for each underlyer basket]

[Final Basket Level: A plain English description of the final basket level formula]

[Exchange Rate: For notes exchangeable into stock, the applicable exchange rate]

[Reference Price(s): With respect to each underlyer, the official closing level of [such] [the] Underlyer on each relevant date, as determined and published by the Underlyer Sponsor on [Reuters][Bloomberg] page (or any successor or replacement page)]

[Strike Fixing Date(s): *The strike date or dates*]

Observation Date(s): [The observation date or dates;], [provided that, with respect to each •, each Observation Date may be postponed in the event the relevant date is not an Exchange Business Day with respect to such • or on the relevant date a Market Disruption Event occurs or is continuing with respect to such • and provided further that no Observation Date will be extended by more than eight business days; see "Description of the Program — Indexed Notes — •" in the offering circular] [for notes linked to baskets of indices, specify whether common exchange business days but individual market disruption events apply or whether common exchange business days and common market disruption events apply]

Regular Record Dates: The Regular Record Date for each Interest Payment Date will be the date [•][for registered notes under NSS: 1] Business Days prior to such Interest Payment

Date [●], as it may be adjusted in accordance with the Business Day Convention

Additional Redemption Rights at the Option of the Issuer: [For notes subject to redemption at the option of the issuer, a plain English description of the redemption feature] [For all other notes: None]

Repurchase at the Holder's Option: [For notes subject to redemption at the option of the issuer, a plain English description of the repurchase feature; otherwise: Not applicable]

[Non-Scheduled Early Repayment Amount: ●]

Non-Default Business Day: [Applicable][Not Applicable]

Additional Business Centre: [Specify]

Business Day Convention: [[Following [adjusted] [unadjusted]] [Modified Following [adjusted] [unadjusted]]; see "Description of the Program — Features Common to All Notes — Business Day Conventions" in the offering circular] [Not applicable]

Final BDC Procedure: [Not Applicable] [Applicable]

Form of Notes: Registered global notes only, registered in the name of a nominee for a [for notes not issued under NSS: common depository][for notes issued under NSS: common safekeeper] for Euroclear and Clearstream, Luxembourg; see "Description of the Program — Form, Exchange, Registration and Transfer" in the offering circular]

[Intended to be held in a manner which would allow Eurosystem eligibility: [Yes. Note that the designation "yes" simply means that the notes are intended upon issue to be deposited with one of the ICSDs as common safekeeper[, and registered in the name of a nominee of one of the ICSDs acting as common safekeeper] [include this text for Registered Notes which are to be held under the NSS] and does not necessarily mean that the notes will be recognised as eligible collateral for Eurosystem monetary policy and intra-day credit operations by the Eurosystem either upon issue or at any or all times during their life. Such recognition will depend upon the ECB being satisfied that Eurosystem eligibility criteria have been met. [As of the Original Issue Date, such criteria were not met]]

/[No. Whilst the designation is specified as "no" at the date of this Pricing Supplement, should the Eurosystem eligibility criteria be amended in the future such that the notes are capable of meeting them the notes may then be deposited with one of the ICSDs as common safekeeper [, and registered in the name of a nominee of one of the ICSDs acting as common safekeeper] [include this text for Registered Notes]. Note that this does not necessarily mean that the notes will then be recognised as eligible collateral for Eurosystem monetary policy and intra-day credit operations by the Eurosystem at any time during their life. Such recognition will depend upon the ECB being satisfied that Eurosystem eligibility criteria have been met.]

Clearing: [Euroclear Bank SA/NV and Clearstream Banking, société anonyme] [other applicable clearing system]

Gross-up and Call in the Case of Tax Law Changes: [For notes subject to gross-up and call in the case of tax law changes: Applicable; see "Description of the Program — Payment of Additional Amounts" and "— Redemption and Repayment — Redemption Upon Obligation to Pay Additional

Amounts" in the offering circular] [For all other notes: The Issuer will not gross up any payments due on the notes and will not compensate the Holder for any amount that may be withheld or due because of tax law changes with regard to withholding tax or certain reporting requirements nor therefore will the right of the Issuer to redeem the notes arising from the payment of additional amounts be applicable; see "Description of the Program — Payment of Additional Amounts" and "— Redemption and Repayment" in the offering circular]

Calculation Agent: Goldman Sachs International

Underwriter: [Name, address, description] [None]

Guarantor: None

Listing: [Application has been made to the Luxembourg Stock Exchange for the notes to be listed on the Official List of the Luxembourg Stock Exchange and admitted to trading on the Euro MTF. See "Listing and General Information" in the offering circular".] [Other] [For all other notes: None.]

[Section 871(m): [The Issuer has determined that the notes will not be subject to withholding under Section 871(m) of the U.S. Internal Revenue Code] [Other]

Prohibition of Sales to EEA and UK Retail Investors: [Applicable/Not Applicable] (If the notes clearly do not constitute "packaged" products, "Not Applicable" should be specified. If the notes may constitute "packaged" products and no KID will be prepared, "Applicable" should be specified.)

Prohibition of Offer to Private Clients in Switzerland: [Applicable/Not Applicable]

[Cut-off Date: [Applicable/Not Applicable] [If applicable - [●] Business Days]

[Postponement Following FX Disruption Event and Payments in USD: [Applicable/Not Applicable] [If applicable, number of business days (if other than 15) in the definition of FX Disruption Event Cut-Off Date]

[Q&A

[How do the notes work?

We have designed the notes for investors who wish to receive a payment amount that is linked to ●.

As discussed in the offering circular, the notes offered by this Pricing Supplement are indexed notes that are part of a series of debt securities entitled “Euro Medium-Term notes, Series H” issued by us. The notes rank equally with all our other unsecured and unsubordinated debt and will mature on [*Stated maturity date*]. For more details, see [“Additional Terms Specific to Your Note” and] “Description of the Program — Features Common to All Notes” and “— Indexed Notes” in the offering circular.]

Will I receive periodic interest payments?

[*Insert plain-English description of coupon payments or statement that there are none.*]

What will I receive on the stated maturity date?

[*Insert plain-English description of payments at maturity.*]

What will I receive if I sell my note before the stated maturity date?

If you sell your note prior to the stated maturity date, which is [*Stated maturity date*], you will receive the market price for your note on the date of sale. The market price for your note on any given day may be influenced by many factors, such as the prevailing level of each of the underlyers, the volatility of each of the underlyers, expectations regarding the development of the reference price of each of the underlyers, the period until maturity and our creditworthiness. As a result, depending on the impact of these factors, if you sell your note prior to the stated maturity date, you may receive significantly less than the face amount of the note. It is also very unlikely that the secondary market price of your note will correlate with the prices of the underlyer or the underlyer components. For more details, see “Risk Factors — Considerations Relating to Notes Generally — The Market Price of Any Notes We May Issue May Be Influenced by Many Unpredictable Factors and If You Buy a Note and Sell It Prior to the Stated Maturity Date, You May Receive Less Than the Face Amount of Your Note” in the offering circular.

Who publishes the underlyer and what does it measure?]

[HYPOTHETICAL EXAMPLES]

[ADDITIONAL INVESTMENT CONSIDERATIONS SPECIFIC TO YOUR NOTE]

An investment in your note is subject to risks described in the offering circular under “Risk Factors” and “Risk Factors — Considerations Relating to Indexed Notes” in particular and to the risks described below. Your note is a riskier investment than ordinary debt securities. Also, your note is not equivalent to investing directly in the underlying components — i.e., the [contracts, securities, stocks or bonds] comprising the underlying to which your note is linked. You should carefully consider whether the notes are suited to your particular circumstances.

In this Pricing Supplement, when we refer to an underlying, we mean [any of the underlyers] [the underlying], or any successor underlying to [any of the underlyers] [the underlying], as [they] [it] may be modified, replaced or adjusted from time to time as described under “Description of the Program — Indexed Notes” in the offering circular. When we refer to an underlying sponsor as of any time, we mean the entity that determines and publishes [any of the underlyers] [the underlying], as appropriate and then in effect, including any successor sponsor. When we refer to the [underlying components] [underlying contracts, securities, stocks or bonds] as of any time, we mean the [contracts, securities, stocks or bonds] that comprise any of the underlyers as then in effect, after giving effect to any additions, deletions or substitutions. References herein to the “underlying components” are references to the underlying [contracts, securities, stocks or bonds] by reference to which the indices are calculated.

Assuming No Changes in Market Conditions or Our Creditworthiness and Other Relevant Factors, the Value of Your Note on the Date of This Pricing Supplement (As Determined by Reference to Pricing Models Used by Goldman Sachs and Taking Into Account Our Credit Spreads) Is and the Price You May Receive For Your Notes May Be Significantly Less than the Original Issue Price

The value or quoted price of your note at any time will reflect many factors and cannot be predicted. If Goldman Sachs makes a market in the notes, the price quoted by us or our affiliates for your note would reflect any changes in market conditions and other relevant factors, including a deterioration in our creditworthiness or perceived creditworthiness whether measured by our credit ratings or other credit measures. These changes may adversely affect the market price of your notes, including the price you may receive for your notes in any market making transaction. The quoted price could be higher or lower than the original issue price, and may be higher or lower than the value of your note as determined by reference to pricing models used by Goldman Sachs and taking into account our credit spreads.

If at any time a third party dealer quotes a price to purchase your note or otherwise values your note, that price may be significantly different (higher or lower) than any price quoted by Goldman Sachs. See “Risk Factors —

Considerations Relating to Notes Generally — The Market Price of Any Notes We May Issue May Be Influenced by Many Unpredictable Factors and If You Buy a Note and Sell It Prior to the Stated Maturity Date, You May Receive Less Than the Face Amount of Your Note” in the offering circular.

Furthermore, if you sell your note, you will likely be charged a commission for secondary market transactions, or the price will likely reflect a dealer discount.

There is no assurance that Goldman Sachs or any other party will be willing to purchase your note, and in this regard Goldman Sachs is not obligated to make a market in your note. See “Risk Factors — Considerations Relating to Notes Generally — Any Notes We May Issue May Not Have an Active Trading Market” in the offering circular.]

[Other investment considerations specific to the note being offered.]

[Any rate of return you may earn on an investment in your note may be lower than that which you could earn on a comparable investment in the underlying [contracts, securities, stocks and bonds] or other underlying components. Depending on the tax treatment applicable to your note, tax liabilities could affect the after-tax rate of return on your note to a comparatively greater extent than the after-tax

return on the [contracts, securities, stocks and bonds].

[Payments on your note are economically equivalent to the amounts that would be paid on a combination of other instruments. For example, payments on your note are economically equivalent to the amounts that would be paid on a combination of an interest-bearing bond bought, and an option sold or bought, by the holder (with an implicit option premium paid over time to or by the holder). The discussion in this paragraph does not modify or affect the terms of the notes or the U.S. income tax treatment of the notes as described under "United States Taxation" in the offering circular.]

[ADDITIONAL TERMS SPECIFIC TO YOUR NOTE

We refer to the notes offered by this Pricing Supplement, including your note, as the notes. The notes are part of a series of debt securities, entitled “Euro Medium-Term notes, Series H”, that we may issue under the Fiscal Agency Agreement from time to time. The notes are also “indexed notes”, as defined in the offering circular. This Pricing Supplement summarize specific financial and other terms that apply to the notes, including your note; terms that apply generally to all Series H Euro Medium-Term notes are described under “Description of the Program” in the offering circular. The terms described in this Pricing Supplement supplement those described in the offering circular and, if the terms described here are inconsistent with those described there, the terms described here are controlling.

Please note that the information about the original issue date, original issue price and net proceeds to us on the front cover page of this Pricing Supplement relates only to the initial offer and sale of the notes. If you have purchased your note in a subsequent market-making transaction, information about the price and date of any such transaction will be provided in a separate confirmation of sale.

[In anticipation of the sale of the notes, we and our affiliates may enter into hedging transactions as described under “Indexed Notes — Hedging in Connection with Issuance of Indexed Notes” in the offering circular.]

In addition to the terms described in the summary information section of this Pricing Supplement, the following terms will apply to your note:

[Type of note

[Other terms specific to the note being offered.]

[If applicable: Insert a description of the possibility to reduce subscriptions and the manner for refunding excess amount paid by applicants.]

[If applicable: Insert details of the minimum and/or maximum amount of application, (whether in number of securities or aggregate amount to invest).]

[If applicable: Insert the method and time limits for paying up the securities and for delivery of the securities.]

[If applicable: Insert a full description of the manner and date in which results of the offer are to be made public.]

[If applicable: Insert the procedure for the exercise of any right of pre-emption, the negotiability of subscription rights and the treatment of subscription rights not exercised.]

[If applicable: Insert an indication of the expected price at which the securities will be offered or the method of determining the price and the process for its disclosure and an indication of the amount of any expenses and taxes specifically charged to the subscriber or purchaser.]

[If applicable: Insert the time period, including any possible amendments, during which the offer will be open and description of the application process.]

[Any rate of return you may earn on an investment in your note may be lower than that which you could earn on a comparable investment in the underlying [contracts, securities, stocks and bonds] or other underlying components. Depending on the tax treatment applicable to your note, tax liabilities could affect the after-tax rate of return on your note to a comparatively greater extent than the after-tax return on the [contracts, securities, stocks and bonds].

[Payments on your note are economically equivalent to the amounts that would be paid on a combination of other instruments. For example, payments on your note are economically equivalent to the amounts that would be paid on a combination of an interest-bearing bond bought, and an option sold or bought, by the holder (with an implicit option premium paid over time to or by the holder). The discussion in this paragraph does not modify or affect the terms of the notes or the U.S. income tax treatment of the notes as described under “United States Taxation” in the offering circular.]

[INFORMATION ABOUT THE [UNDERLYER] [UNDERLYERS][STOCK][STOCKS][BOND][BONDS]

We have compiled all information regarding the [underlyer] [underlyers] [stock] [stocks] [bond] [bonds] discussed in this Pricing Supplement, including their make-up, method of calculation and changes in their components, from publicly available information.

[We accept responsibility as to the correct reproduction of such information, but do not accept any further or other responsibility, including any responsibility for the calculation, maintenance or publication of, or for any error, omission or disruption in, [the underlyer] [any of the underlyers] [the stock] [any of the stocks] [the bond] [any of the bonds], and do not make any representation or give any warranty that the publicly available information about the [underlyer] [underlyers] [stock] [stocks] [bond] [bonds] is accurate or complete.

The information set forth below reflects the policies of, and is subject to change by, the [relevant] underlyer sponsor or sponsors. [The] [Each] underlyer sponsor owns the copyright and all other rights to the [respective] underlyer. [The underlyer sponsor does not have] [No underlyer sponsor has] any obligation to continue to publish, and may discontinue publication of, the [relevant] underlyer at any time.]

[We do not intend to provide any post-issuance information with respect to [the] [any] [underlyer] described in the offering circular or this pricing supplement, if not otherwise required by all applicable laws and regulations.]

[The Underlyer] [Stock] [Bond]

[Information specific to each of the underlyers, stocks or bonds used in the note being offered. If the underlyer is described in the offering circular, include a cross-reference. If the note is linked to a stock or basket of stocks, indicate the ISIN code of the relevant stock or stocks and the relevant weightings of each stock in the basket.]

More information on the ● [insert name of underlyer], including information about historical and future performance and volatility of the ● [insert name of underlyer], is available on the following website: <http://www.●.com>. We are not incorporating this website or any material it

includes by reference into this Pricing Supplement or the offering circular.

References herein to the underlyer sponsor with respect to ● [insert name of underlyer] are references to ● in its capacity as sponsor of the ● [insert name of underlyer].

[Licensing]

We [expect to enter] [have entered] into a non-exclusive license agreement with ●, whereby we, in exchange for a fee, [will be] [are] permitted to use the ● [insert name of underlyer] in connection with the offer and sale of the notes. We are not affiliated with ●; the only relationship between ● and us is the licensing of the use of the ● [insert name of underlyer] and trademarks relating to the ● [insert name of underlyer].

● is under no obligation to continue the calculation and dissemination of the ● [insert name of underlyer]. The notes are not sponsored, endorsed or promoted by ●. No inference should be drawn from the information contained in this pricing supplement that ● makes any representation or warranty, implied or express, to The Goldman Sachs Group, Inc., any holder of the notes or any member of the public regarding the advisability of investing in securities generally or in the notes in particular or the ability of the ● [insert name of underlyer] to track general [stock] [bond] market performance.

● determines, composes and calculates the underlyer without regard to your note. ● has no obligation to take into account your interest, or that of anyone else having an interest, in your note in determining, composing or calculating the underlyer.

● is not responsible for and has not participated in the determination of the terms, prices or amount of your note and will not be responsible for or participate in any determination or calculation regarding the principal amount of your note payable at the stated maturity date. ● has no obligation or liability in connection with the administration, marketing or trading of your note.

Neither we nor any of our affiliates accepts any responsibility for the calculation,

maintenance or publication of the • [*insert name of underlying*] or any successor underlying.

- disclaims all responsibility for any errors or omissions in the calculation and dissemination of the underlying or the manner in which the underlying is applied in determining any [initial underlying level or final underlying level] or any amount payable upon maturity of the notes.]

ADDITIONAL INFORMATION ABOUT THE PLAN OF DISTRIBUTION

[For non-syndicated offerings: We have agreed to sell to [Goldman Sachs International], and [Goldman Sachs International] has agreed to buy from us, the aggregate face amount of the notes specified on the front cover of this Pricing Supplement. [Goldman Sachs International] intends to resell the notes at the original issue price applicable to the notes to be resold in offshore transactions in reliance upon Regulation S under the Securities Act. Any notes sold by [Goldman Sachs International] to dealers may be resold by such dealers in negotiated transactions or otherwise, at varying prices determined at the time of sale, which prices may be different from the original issue price. In the future, [Goldman Sachs International] and our other affiliates may repurchase and resell the notes in market-making transactions, with resales being made at prices related to prevailing market prices at the time of resale or at negotiated prices.

The notes have not been registered under the Securities Act and may not be offered or sold in the United States or to U.S. persons (as those terms are defined in Regulation S under the Securities Act) unless an exemption from the registration requirements of the Securities Act is available. In particular, hedging transactions involving the notes may not be conducted other than in compliance with the Securities Act. Each purchaser of a note is deemed to agree to comply with the foregoing.

The address of Goldman Sachs International is Plumtree Court, 25 Shoe Lane, London EC4A 4AU, United Kingdom.

[The original issue price reflects a discount of ●% representing a fee payable to ●.] [Goldman Sachs International may [also] pay an [additional] commission of ●% of the principal amount of the notes to ● in connection with the sale of the notes.]]

[For syndicated offerings: Subject to the Terms Agreement, dated ●, between us on the one hand and the Purchasing Agents named below (collectively, the "Purchasing Agents") on the other, which incorporates certain provisions of the Distribution Agreement, dated [●] between us and Goldman Sachs International, as amended or

restated, if applicable, we have agreed to sell, and each of the Purchasing Agents has agreed to purchase, severally but not jointly, at a price of ●% of the principal amount of the notes, the principal amount of the notes set forth opposite their names in the table below:

Purchasing Agent	Principal amount of notes
Goldman Sachs International	●
●	●
●	●

Each of the Purchasing Agents will receive underwriting discounts and commissions in the amount of ●% of the principal amount of the notes underwritten by it. [A selling concession of ●% will be paid in respect of the aggregate principal amount of the notes sold by a Purchasing Agent.] The Purchasing Agents may pay a distribution fee for the placement of the notes.

[Include address of lead Purchasing Agent(s)]

The Purchasing Agents propose to offer the notes at the original issue price set forth on the cover page of this Pricing Supplement in offshore transactions in reliance upon Regulation S under the Securities Act. After the notes have been released to investors, the offering price and other selling terms may from time to time be varied by the Purchasing Agents.

The notes are new issue securities with no established trading market. Goldman Sachs International or other affiliates of us, and the other Purchasing Agents, may repurchase and resell the notes in market-making transactions, with resales being made at prices related to prevailing market prices at the time of resale or at negotiated prices. None of them, however, is obligated to do so and any of them may discontinue market-making at any time without notice.

Each of the Purchasing Agents has agreed with us that:

- [Applicable selling restrictions.]

For more information about the plan of distribution and possible market-making activities, see "Plan of Distribution" in the offering circular.



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