



GS Finance Corp.

Medium-Term Notes, Series F | Warrants, Series G
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S&P 500® Daily Risk Control 5% USD Excess Return Index Overview

This section constitutes only a brief overview of the S&P 500® Daily Risk Control 5% USD Excess Return Index. The S&P 500 Daily Risk Control 5% USD Excess Return Index is described in more detail under “The Underliers — S&P 500® Daily Risk Control 5% USD Excess Return Index” in the underlier supplement referred to in “About This Index Supplement” below.

The S&P 500® Daily Risk Control 5% USD Excess Return Index (current Bloomberg symbol: “SPXT5UE Index”), which we also refer to in this index supplement as the “Excess Return index,” is the excess return version of the S&P 500® Daily Risk Control 5% USD Total Return Index (the “Risk Control index”), meaning that the Excess Return index is designed to measure the return on a hypothetical investment in the Risk Control index borrowed at a rate of the Secured Overnight Financing Rate (SOFR) plus 0.02963%. Any percentage increase in the Risk Control index will be offset by a rate of SOFR plus 0.02963%.

Prior to December 20, 2021, the Excess Return index measured the return on a hypothetical investment in the Risk Control index borrowed at the overnight U.S. dollar LIBOR rate.

The Risk Control index is intended to provide investors with exposure to the S&P 500® Total Return Index (the “Total Return index”) subject to a risk control strategy that dynamically increases or decreases the exposure to the Total Return index in an attempt to achieve a 5% volatility target. The Risk Control index’s exposure to the Total Return index can be greater than, less than or equal to 100%. Exposure in excess of 100% is achieved by hypothetically borrowing cash at a rate of SOFR plus 0.02963%. Exposure of less than 100% is achieved by hypothetically selling some of the exposure to the Total Return index, which results in a hypothetical cash position that accrues interest at the rate of SOFR plus 0.02963%.

Prior to December 20, 2021, the Risk Control index’s exposure in excess of 100% was achieved by hypothetically borrowing cash at a rate of overnight U.S. dollar LIBOR. Exposure of less than 100% was achieved by hypothetically selling some of the exposure to the Total Return index, which resulted in a hypothetical cash position that accrued interest at the overnight U.S. dollar LIBOR rate.

As a result, extremely limited historical information regarding the performance of the Excess Return index and the Risk Control index subsequent to their discontinued use of overnight U.S. dollar LIBOR is available, which may make it difficult for you to make an informed decision with respect to an investment in the securities.

The Total Return index is a total return-based calculation of the S&P 500® Index. The S&P 500® Index includes a representative sample of 500 companies in leading industries of the U.S. economy.

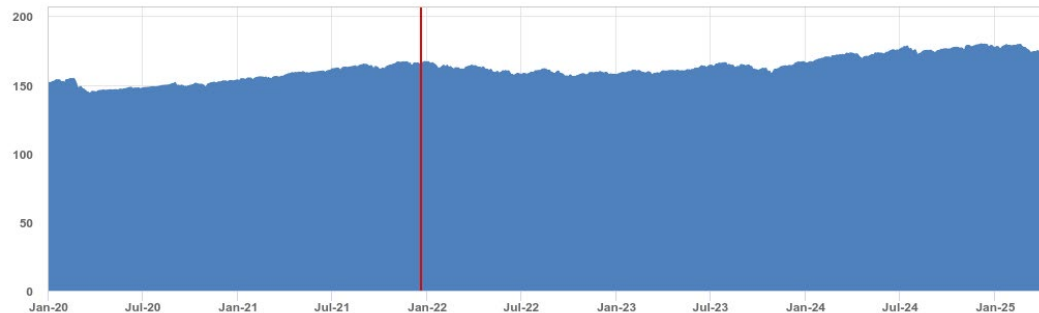
We have derived all information contained in this index supplement regarding the Excess Return index from publicly available information. Additional information about the Excess Return index is available on the following website: spglobal.com/spdji/en/indices/strategy/sp-500-daily-risk-control-5-index. We are not incorporating by reference the website or any material it includes in this index supplement.

Quick Facts

Sponsor	S&P Dow Jones Indices LLC
Calculation Agent	S&P Dow Jones Indices LLC
Index Currency	USD
Reuters Ticker	.SPXT5UE
Bloomberg Ticker	SPXT5UE
Rebalancing	Daily
Index Members	Variable
Geographical Coverage	US
Type	Excess Return
Launch Date	September 10, 2009
History Available Since	February 5, 1990

Historical Performance

The graph below shows the daily historical closing levels of the Excess Return index from January 2, 2020 through April 1, 2025. As a result, the below graph does not reflect the global financial crisis which began in 2008, which had a materially negative impact on the price of most equity securities and, as a result, the level of most equity indices. We obtained the closing levels in the graph below from Bloomberg Financial Services, without independent verification. **You should not take the historical levels of the Excess Return index as an indication of its future performance.**



Annualized Return and Annualized Volatility

The following table provides the annualized return and annualized volatility of the Excess Return index for each applicable period ended April 1, 2025. Annualized return represents the average rate of return per annum, calculated as the geometric average of the percentage change of the Excess Return index during the applicable time period. Annualized volatility is a measure of the historical variability of returns, and is calculated as the square root of 252 multiplied by the sample standard deviation of the daily logarithmic returns of the Excess Return index during the applicable time period. **You should not take any annualized return or annualized volatility information regarding the Excess Return index as an indication of its future performance.**

	Annualized Return	Annualized Volatility
1 Year	0.39%	5.26%
3 Years	2.00%	4.92%
5 Years	3.74%	4.79%
Since January 2, 2020	2.59%	5.07%

Your investment in securities linked to the Excess Return index involves certain risks. See “Selected Risk Factors” on page S-3 to read about investment risks relating to such securities. Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the accuracy or adequacy of this index supplement, the applicable pricing supplement, the applicable product supplement, if any, the applicable general terms supplement, if any, the accompanying underlier supplement, the accompanying prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

The securities are not bank deposits and are not insured by the Federal Deposit Insurance Corporation or any other governmental agency, nor are they obligations of, or guaranteed by, a bank.

Goldman Sachs & Co. LLC

April 2025 S&P 500® Daily Risk Control 5% USD Excess Return Index Supplement dated April 21, 2025.



April 2025 S&P 500® Daily Risk Control 5% USD Excess Return Index Supplement

Dated April 21, 2025

Comparative Performance Data

Index Performance Compared to the Risk Control Index, the Total Return Index and its Parent Index

For comparative purposes, the graph below shows the performance, from January 2, 2020 through April 1, 2025, of the S&P 500® Daily Risk Control 5% USD Excess Return Index (in black), the S&P 500® Daily Risk Control 5% USD Total Return Index (in gray), the S&P 500® Total Return Index (in green) and the S&P 500® Index (in blue).

For comparative purposes, each of the S&P 500® Daily Risk Control 5% USD Excess Return Index, the S&P 500® Daily Risk Control 5% USD Total Return Index, the S&P 500® Total Return Index and the S&P 500® Index have been adjusted to have a closing level of 100.00 on January 2, 2020 by dividing the applicable closing level on each day by that index's closing level on January 2, 2020 and multiplying the quotient by 100.00.

The daily historical closing levels of the indices used to create this graph were obtained from Bloomberg Financial Services, without independent verification. **You should not take this graph or the historical closing levels of the indices used to create this graph as an indication of the future performance of any index, including the S&P 500® Daily Risk Control 5% USD Excess Return Index, or the correlation (if any) between the level of the S&P 500® Daily Risk Control 5% USD Excess Return Index and the levels of the S&P 500® Daily Risk Control 5% USD Total Return Index, the S&P 500® Total Return Index or the S&P 500® Index.**

Comparative Performance of the S&P 500® Daily Risk Control 5% USD Excess Return Index (SPXT5UE Index), the S&P 500® Daily Risk Control 5% USD Total Return Index (SPXT5UT Index), the S&P 500® Total Return Index (SPTR Index) and the S&P 500 Index (SPX)



Index Annualized Return Compared to the Risk Control Index, the Total Return Index and its Parent Index

The following table provides a comparison of the annualized returns of the S&P 500® Daily Risk Control 5% USD Excess Return Index, the S&P 500® Daily Risk Control 5% USD Total Return Index, S&P 500® Total Return Index and the S&P 500® Index for the applicable period ended April 1, 2025. Annualized return represents the average rate of return per annum, calculated as the geometric average of the percentage change of the applicable index during the applicable time period. **You should not take the annualized returns of the indices as an indication of the future performance of any index, including the S&P 500® Daily Risk Control 5% USD Excess Return Index.**

Comparison of Annualized Returns of the S&P 500® Daily Risk Control 5% USD Excess Return Index, the S&P 500® Daily Risk Control 5% USD Total Return Index, the S&P 500® Total Return Index and the S&P 500® Index

	1 Year	3 Years	5 Years	Since January 2, 2020
S&P 500® Index	7.42%	7.41%	17.92%	11.00%
S&P 500® Total Return Index	8.88%	9.08%	19.76%	12.76%
S&P 500® Daily Risk Control 5% USD Total Return Index	5.53%	6.56%	6.53%	5.29%
S&P 500® Daily Risk Control 5% USD Excess Return Index	0.39%	2.00%	3.74%	2.59%



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Selected Risk Factors

An investment in securities linked to the Excess Return index is subject to the risks described below as well as the risks and considerations described in the accompanying underlier supplement no. 44, the applicable pricing supplement, the applicable product supplement, if any, the applicable general terms supplement, if any, the accompanying prospectus supplement and the accompanying prospectus. The following risk factors are discussed in greater detail in the accompanying underlier supplement no. 44.

- The Estimated Value of Your Securities At the Time the Terms of Your Securities Are Set On the Trade Date (as Determined By Reference to Pricing Models Used By GS&Co.) Is Less Than the Original Issue Price Of Your Securities
- Your Securities Are Subject to the Credit Risk of GS Finance Corp., as Issuer, and the Credit Risk of The Goldman Sachs Group, Inc., as Guarantor
- The Market Value of Your Securities May Be Influenced by Many Unpredictable Factors
- If the Value of an Underlier Changes, the Market Value of Your Securities May Not Change in the Same Manner
- The Return on Your Securities Will Not Reflect Any Dividends Paid on Any Underlier Stock
- You Have No Shareholder Rights or Rights to Receive Any Underlier Stock
- Past Performance is No Guide to Future Performance
- The Policies of the Applicable Underlier Sponsor and Changes that Affect Such Underlier, or the Underlier Stocks Comprising Such Underlier, Could Affect the Amount Payable on Your Securities and Their Market Value
- Except to the Extent The Goldman Sachs Group, Inc. Is One of the Companies Whose Common Stock Comprises the Applicable Underlier, and Except to the Extent That We or Our Affiliates May Currently or in the Future Own Securities of, or Engage in Business With, the Applicable Underlier Sponsor or the Issuers of the Underlier Stocks, There Is No Affiliation Between the Issuers of the Underlier Stocks or Such Underlier Sponsor and Us
- Notwithstanding That the Title of the Excess Return Index Includes the Phrase "Risk Control," the Excess Return Index May Decrease Significantly More or Increase Significantly Less Than the S&P 500® Total Return Index
- The Return on Your Securities is Based on the Excess Return Index Which Reflects Excess Return and Will Be Reduced By Borrowing Costs at the Excess Return Index Level
- There Is No Assurance that Calculating Realized Volatility as the Greater of Short-Term Volatility and Long-Term Volatility Is the Best Way to Measure Realized Volatility
- The Excess Return Index Will Not Reflect the Most Current Volatility of the Total Return Index
- There Is No Guarantee that the Excess Return Index Will Achieve Its Volatility Target
- You May be Exposed to Borrowing Costs at the Risk Control Index Level
- Controlled Volatility Does Not Mean the Excess Return Index Will Have Lower Volatility Than the Total Return Index
- Low Volatility Does Not Necessarily Mean that the Risk Control Index Will Outperform the Total Return Index or that the Excess Return Index Will Have Positive Performance
- There May Be Overexposure to the Total Return Index in Falling Stock Markets or Underexposure in Rising Stock Markets
- The Exposure to the Total Return Index May Be Rebalanced Into a Hypothetical Cash Position on Any or All Days During the Term of the Securities
- On December 20, 2021, Each of the Excess Return Index and the Risk Control Index Discontinued Its Use of Overnight U.S. Dollar LIBOR For All Purposes and Replaced Such Rate
- The Historical Levels of SOFR Are Not an Indication of the Future Levels of SOFR
- Certain Risks Related to SOFR



April 2025 S&P 500[®] Daily Risk Control 5% USD Excess Return Index Supplement Dated April 21, 2025

About This Index Supplement

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This index supplement constitutes a supplement to the documents listed below and therefore should be read in conjunction with such documents:

- Underlier supplement no. 44 dated March 20, 2025
- Applicable prospectus supplement:
 - For notes: prospectus supplement dated February 14, 2025
 - For warrants: prospectus supplement dated February 14, 2025
- Prospectus dated February 14, 2025

We have not authorized anyone to provide any information or to make any representations other than those contained in or incorporated by reference in this index supplement, the accompanying underlier supplement no. 44, the accompanying prospectus supplement or the accompanying prospectus. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may provide. This index supplement addendum is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this index supplement addendum, the accompanying index supplement no. 44, the accompanying prospectus supplement and the accompanying prospectus is current only as of the respective dates of such documents.

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