Goldman Sachs

Goldman Sachs Canopy Index

Key Facts

Bloomberg Ticker	GSCANOPY
Index Launch Date	March 7, 2024
Index Sponsor	Goldman Sachs International
Index Calculator	Goldman Sachs International
Currency	USD
Max Underliers	5 Core Assets + 3 Alternative Strategies
Volatility Target	8%
Leverage Cap	120%
Return Type	Excess Return
Index Deduction Rate[2]	0.50% per annum
Rebal/Servicing Cost[1,2]	Backtested high of 3.29% p.a. Backtested average of 2.42%

[1] Goldman Sachs Global FICC and Equities, as of March 7, 2024. Data from June 3, 2003 to March 6, 2024. Backtested performance for the Goldman Sachs Canopy Index up to 03/06/2024 and live performance thereafter. Performance figures are net of 0.50% index fee, transaction and servicing costs. Backtesting analysis/simulated results are for illustrative purposes only. GS provides no assurance or guarantee that the index will operate or would have operated in the past in a manner consistent with the backtesting analysis. Backtested performance may use slightly different data sources, approximation and limited differences in methodology to those prescribed in the index disclosure document.

[1,2] The Goldman Sachs Canopy Index is calculated on an excess return basis, and is subject to servicing costs (accruing daily) and rebalancing costs (applied to the volume of daily turnover)which may be meaningful. Further, a deduction rate of 0.50% per annum (accruing daily) is applied to the Goldman Sachs Canopy Index. For more information about the costs and deductions, see ***goldmansachsindices.com/products/GSCANOPY***

In addition, the Index is also subject to a volatility control mechanism that adjusts the exposure of the Index to the Base Index in order to achieve a volatility control level of 8%. To the extent the realized volatility of the Base Index is greater than 8%, exposure to the Base Index will be re-allocated to a hypothetical cash position. Because the volatility mechanisms look at historical volatility, they may not decrease exposure to the relevant measure right before a significant and quick downturn in the market, and may not increase exposure to other measures quickly enough during a market recovery, both of which could have a material adverse impact on the performance of the Index.

Goldman Sachs Canopy Index

A Portable Alpha Strategy

Objective

Goldman Sachs Canopy Index is a USD excess return index that is designed to combine a regime-based asset allocation strategy with an alternative investment strategy.

Approach

The Index employs both a growth and inflation signal to allocate to traditional asset classes which rebalances semi-monthly and uses an alternative strategy that has the ability to go long and short the market for additional sources of returns. The Index targets 8% volatility.

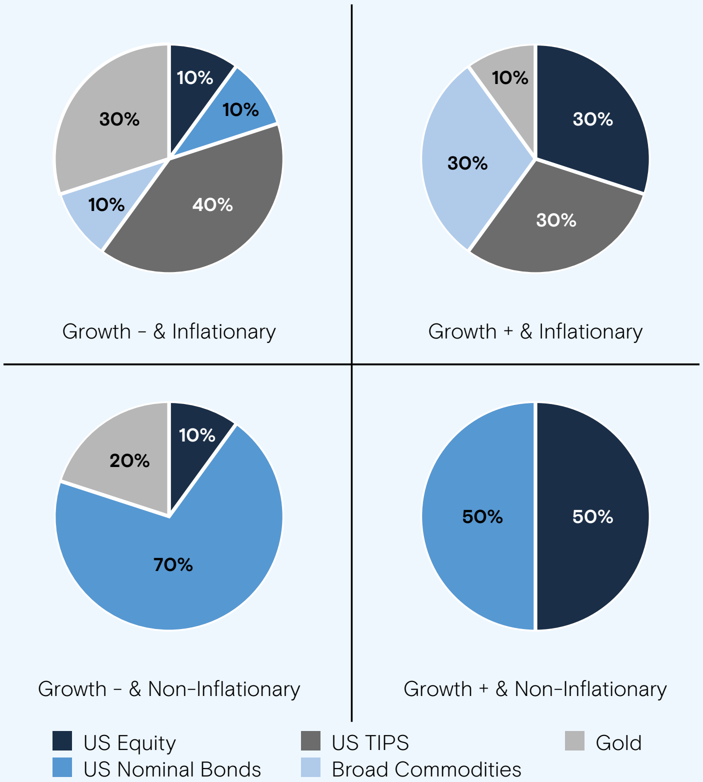
Holdings

- US Equities, US Nominal Bonds, US Inflation Linked Bonds, Broad Commodities, Gold.
- GS Alternative Strategy Basket.

GS Canopy Base Index

The base index has a multi-asset portfolio that aims to achieve long term performance under a potential wide range of different economic regimes. **The base index allocates based on regimes that take into account both growth and inflation.**

GS Canopy Base Index



- The Growth Indicator in the strategy is determined based on The Conference Board Leading Economic Index® for U.S (LEIIndex).
- The Inflationary Regime Indicator in the strategy is determined based on the Federal Reserve Bank of New York, Multivariate Core Trend Inflation

Alternative Strategy

Aims to provide exposure to a basket of **uncorrelated diversified long/short strategies** to provide **additional diversification** and potential return to traditional asset classes

The underlying strategies aim to take advantage of several behavioral biases from market participants.

Equity Intraday Momentum

Equity Overnight Mean Reversion

Commodity Curve

Cross Asset Risk Premia

The full names of the 3 GS Strategies are:

1. GS Equity Intraday Alpha
   (combination of Intraday Momentum and Overnight Mean Reversion)
2. GS Cross Asset Risk Premia Linear Strategy
   (combination of Cross Asset Trend and Cross Asset Skewness)
3. GS Commodity Curve Strategy

GS Canopy Base Index

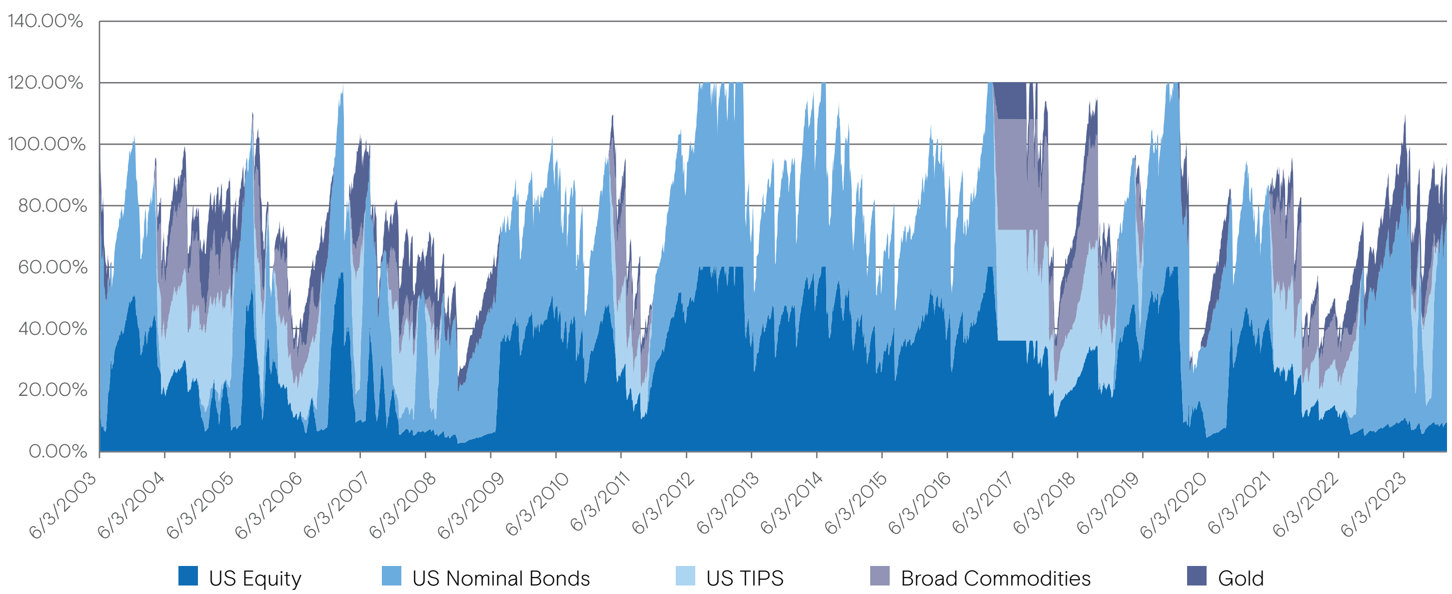
Growth

The **Growth Indicator** (rising growth/ decreasing growth) in the strategy is determined based on ***The Conference Board Leading Economic Index***® forU.S (LEIIndex).

Inflation

The **Inflationary Regime Indicator** (inflationary regime/non-inflationary regime) in the strategy is determined based on the **Federal Reserve Bank of New York**, Multivariate Core Trend Inflation.

GS Canopy Base Index Weightings



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Alternative Alpha Strategy

Equity Intraday Momentum

The strategy monitors the relevant US equity market and may rebalance every 30 minutes based on an intraday trend signal.

Overnight Mean Reversion

The strategy will be either long or short futures contracts overnight if the relevant US equity market has fallen or risen in the last 30 minutes prior to close.

Commodity Curve

The strategy serves as an additional source of potential returns by exploring the potential opportunity that arises from the imbalance in trading by different commodities market participants.

Cross Asset Risk Premia

The strategy seeks to benefit from both up and down price trends by taking either long or short positions to all asset classes (equities, fixed income, credit, commodities) to address a variety of different market conditions. It also intends to benefit from mean reversion of the assets by taking either a long or short position if the asset has experienced significantly either a negative or positive return compared to its historical average return.

GS Canopy Base Index

Core Portfolio + **Alternatives Portfolio** = **GS Canopy Index**

- Every day, the Core Portfolio seeks exposure to 5 different assets based on the growth and inflation regime.

Represents 2/3 of the risk of the overall index

- The Alternatives Portfolio is comprised of 3 strategy assets that exhibit potentially strong diversification.

Represents 1/3 of the risk of the overall index.

- GS Canopy benefits from both traditional and alternative assets, and embeds an 8% volatility target mechanism

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Hypothetical Backtested and Historical Performance Statistics (June 3, 2003 – February 29, 2024)[1]

	GS Canopy Index	US Equities	US 10y Treasuries	Commodities
GS Canopy Index	100.00%	41.12%	26.14%	36.55%
US Equities		100.00%	-20.04%	38.98%
US 10y Treasuries			100.00%	-14.71%
Commodities				100.00%

What is Correlation?

In investing, correlation describes how assets move relative to each other. Positively correlated assets move in the same direction, while negatively correlated assets move in opposite directions. The less correlated two assets are, the more they can potentially improve risk adjusted returns.

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Back-Tested Performance

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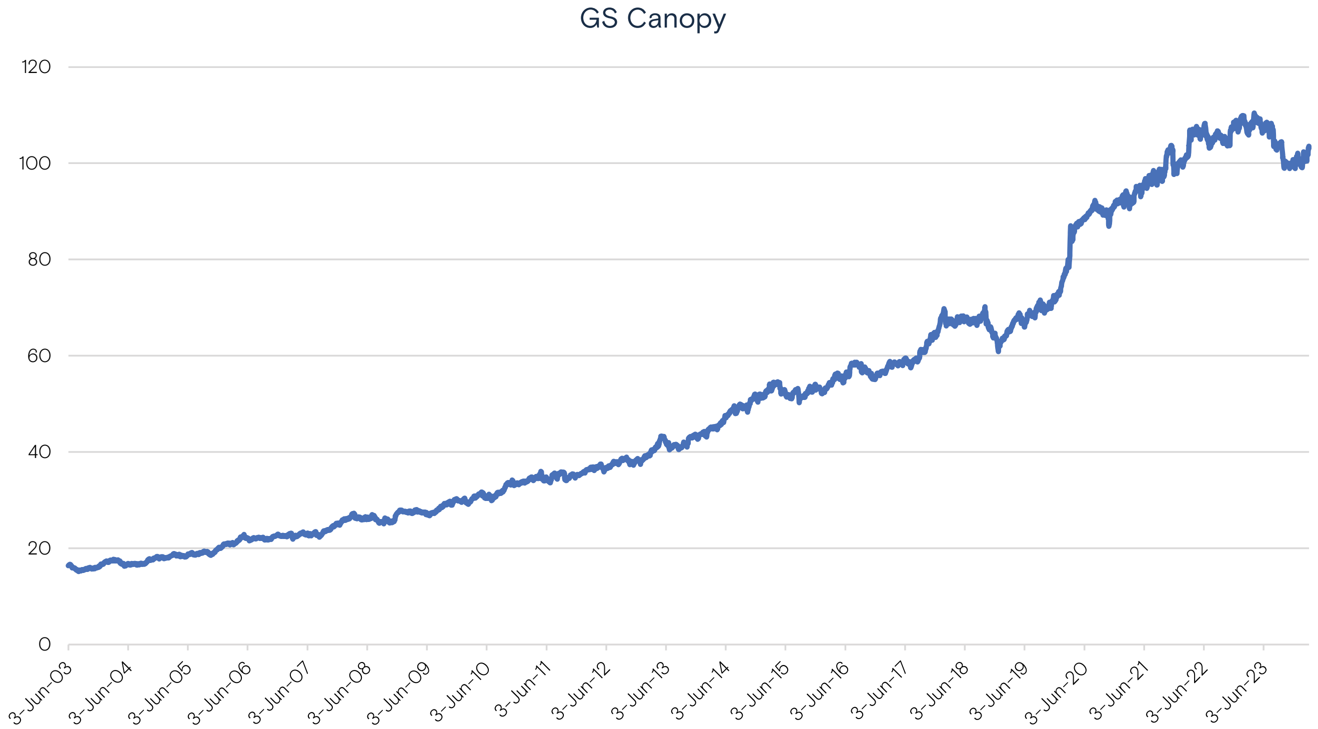

Performance

ANNUALIZED RETURN SINCE INCEPTION (1/3/2000) *JUNE 3, 2003 – DECEMBER 29, 2023*	9.26%
1 YEAR RETURN *DECEMBER 30, 2022 TO DECEMBER 29, 2023*	-5.35%
3 YEAR ANNUALIZED RETURN *DECEMBER 31, 2020 TO DECEMBER 29, 2023*	3.11%
5 YEAR ANNUALIZED RETURN *DECEMBER 31, 2028 TO DECEMBER 29, 2023*	10.30%

Selected Key Risks

The "Selected Key Risks" is intended to summarize certain risks associated with the Goldman Sachs Canopy Index, but is not exhaustive, and should be read in conjunction with the "Certain Risk Factors and Additional Information about the Index" section at the end of the Methodology. The "Selected Key Risks" should not be regarded as offering advice on the advisability of investing in products that may be linked to the Index or the investment strategy underlying the Index. You should also read any relevant documentation that may highlight further risks particular to any product linked to the Index, or arising from the relationship between the terms of such product and the features of the Index.

- The Index deductions, including the asset servicing costs, asset transaction costs, index deduction rate, and asset-level excess return deductions (in addition to any costs or deductions embedded in any constituents of the Underlying Assets), will have a negative impact on Index performance.
- The value of the Index depends on the value of the Underlying Assets, which may increase or decrease over time. Neither the Index nor the Underlying Assets include any element of downside protection or guaranteed return. The value of the Underlying Assets, or the Index itself, may fall substantially below its value as of the Launch Date or any other particular day.
- The Index relies on strategies that are based on widely available financial and academic research, and any historical premiums associated with such strategies may not continue into the future as the benefits of such strategies become more widely recognized and implemented by market participants.
- The performance of the Index is dependent on the particular market regime-based fixed weight allocation strategy used by the Index, and the use of a different fixed weight allocation strategy could have a material impact on the performance of the Index. The assumptions underlying the Index's market regime-based fixed weight allocation strategy may be incorrect. The Index assumes that certain broad classes of assets will perform relatively better or worse under certain market regimes. However, there can be no assurance that over-weighted Underlying Assets will perform better, or under-weighted Underlying Assets will perform worse, in a particular market environment.
- The Underlying Alternative Assets may not be as uncorrelated to the Underlying Core Assets as they have been historically, which may have a material adverse impact on Index performance.
- No assurances can be given that the volatility control mechanism will achieve its purpose or that the realized volatility of the Index will approximate 8%. Because the volatility control mechanism look at historical volatility, they may not decrease exposure to the relevant measure right before a significant and quick downturn in the market, and may not increase exposure to other measures quickly enough during a market recovery, both of which could have a material adverse impact on the performance of the Index.
- The Index's volatility control mechanism may cause the Index to have low exposure to one or more Underlying Assets for a prolonged period of time, which may cause the Index to underperform and may frustrate its investment rationale. The Index includes a volatility control mechanism that can reduce an Underlying Asset's target weight – and therefore the impact of such Underlying Asset on the Index's performance – in order to maintain the historical realized volatility of the Base Index below a stated Volatility Target. This can cause the level of the Index to underperform a strategy similar to the Index without such a volatility control mechanism, potentially materially so.
- The Index has a very limited performance history. The Index will only be calculated live from the Launch Date and the hypothetical index data prior to that date was calculated using historical and hypothetical

data. **You should not take any historical or hypothetical index performance information as an indication of the future performance of the Index.**

- Many of the Underlying Assets track the value of futures. Futures markets are vulnerable to disruption, and the performance of futures may not correspond to the performance of their underlying assets.
- The Satellite Equity Component will have a negative performance if there is a sharp equity sell-off followed by a recovery in the same day, sharp equity appreciation followed by a decline in the same day or no clear intraday performance trend, which could have a material adverse impact on the performance of the portion of the Index exposed to the Satellite Equity Component.
- The Satellite Equity Component will have a negative performance if there is a sharp equity sell-off after market open the next day, followed by a significant decline during last 30 minutes prior to market close the previous day. The Satellite Equity Component will also have a negative performance if there is a sharp equity appreciation after market open the next day followed by a significant rally during last 30 minutes prior to market close the previous day or no clear overnight mean reversion. This could have a material adverse impact on the performance of the portion of the Index exposed to the Satellite Equity Component.
- The Satellite Commodity Component may have negative performance if shorter dated futures positions perform better than longer dated futures positions, which could have a material adverse impact on the performance of the Index.
- The Cross Asset Skew Constituent does not capture every type of reversion behavior and may underperform in certain market conditions, such as when the level of an underlying asset constituent keeps on relatively increasing (decreasing) despite exhibiting a higher (lower) relative skewness with respect to other underlying asset constituents of the same asset class.
- The Cross Asset Trend Constituent may not be able to rebalance the full amount in accordance with the relevant signal on a particular day, as a result of the maximum rebalance move constraint. As such, the Cross Asset Trend Constituent may take longer to fully reflect the direction of the signal (for example changing from synthetically long exposure to synthetically short exposure) in particular with respect to those less liquid underlying constituents. Having the underlying constituents remain in the opposite direction of the signal could have a negative impact on the Cross Asset Trend Constituent’s performance compared to a strategy without such rebalance move constraints, potentially materially so.

Goldman Sachs Treatment of Incidents

- The treatment of incidents affecting Benchmarks administered by Goldman Sachs is subject to a specific "Policy on Global Benchmark Incidents and Restatements " (the Policy") (1) in addition to the oversight of the Index Committee.

- Incidents include errors or anomalies with respect to the published level of a Benchmark which has resulted from various events including, but not limited to, a third party restating input data consumed by Goldman Sachs, a discrepancy between the documentation and the implementation of a Benchmark, a documentation error, a calculation error, a publication error or a third party error.

- After identification of such incidents, should Goldman Sachs determine it is required by the Policy, Goldman Sachs will recalculate and republish the Benchmark level for a period starting up to three weekdays prior to the incident being identified and until the day the Benchmark is corrected (the "Restatement"). This period is defined as the "Restatement Period".

- This means that the benchmark levels prior to the Restatement Period will not be corrected, even if impacted by an incident.

- The Restatement is implemented in such a way that the daily returns of the Benchmark are corrected for each day in the Restatement Period. Investors will be notified of such Restatement via a notice posted on the Marquee website.

- A Restatement may alter the calculation of cash flows of instruments linked to the Benchmark within the Restatement Period. In such case, the relevant contractual provisions set out in the legal documentation of the instrument will apply. Please note that the Restatement can lead to different calculated cash flows (higher or lower) than if the Restatement had not occurred.

- For every incident resulting in incorrect rates of costs being deducted from the Benchmark level from the date of an incident and onwards ("Additional Costs" (2)) the relevant Goldman Sachs Group entity shall offer to reimburse any such Additional Costs, where due and payable as determined by Goldman Sachs, to investors in, or counterparties to, financial instruments linked to or referencing the Benchmark, in accordance with, and where permitted by, applicable laws and regulations and the contractual provisions and offering documents of the relevant instruments. Any reimbursement of Additional Costs shall be limited to the Additional Costs accrued during the three (3) years prior to the date on which the incident was identified.

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