Goldman Sachs Xenith Index
GSXENITH

Monthly Report as of November 1, 2023
For Financial Representative Use Only

FICC and Equities

Index Key Facts

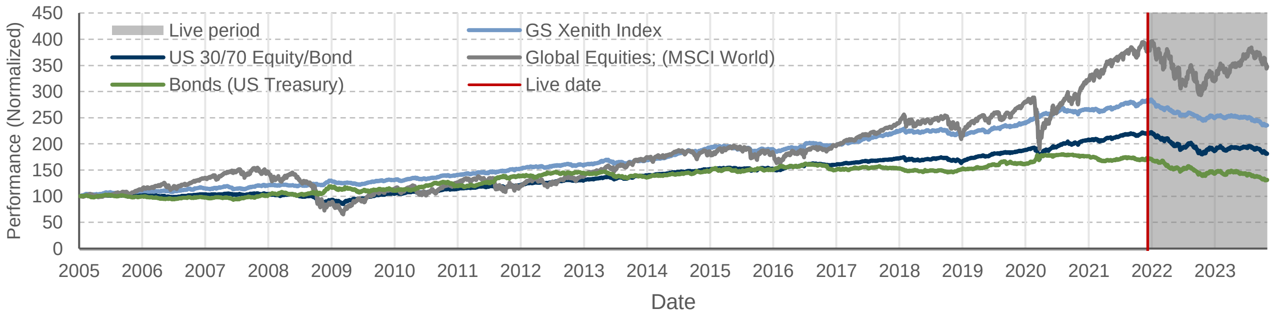
Ticker	GSXENITH Index
Index Sponsor	Goldman Sachs International
Index Calc. Agent	Goldman Sachs International
Launch Date	December 8, 2021
Volatility Target	5%
Leverage Cap	125%
Return Type	Excess Return
Index Deduction Rate[2]	0.50% p.a.
Rebal/Servicing Cost[1,2]	Backtested high of 0.70%p.a., backtested average of 0.54%

Overview

The Goldman Sachs Xenith Index (the "Index") is a rules based index that seeks to:

- **Be diversified**:
  Allocates exposure, subject to a volatility control feature, to US Equities, US Treasuries, Gold or Copper, and a Commodity Curve Strategy
- **Allocate based on the business cycle**:
  Exposure is allocated through to one of two fixed weight baskets, based on a signal of economic activity that indicates either a rising growth regime or a decreasing growth regime
- **Dynamically manage risk:**
  Adjust the exposure to the basket daily such that it targets 5% volatility, subject to a cap on increased exposure in order to try to provide more consistent returns, even during periods of market volatility

Strategy Backtested and Historical Performance (January 5, 2005 – October 31, 2023)[1,2,3]



Backtested and Historical Performance Statistics (January 5, 2005 – October 31, 2023)[1,2,3]

	1M return	YTD return	3Y return (p.a.)	5Y return (p.a.)	Return since Jan 2005 (p.a.)	Volatility since Jan 2005 (p.a.)	Risk adj. return since Jan 2005	Max drawdown since Jan 2005
GS Xenith Index	-1.37%	-5.64%	-2.85%	1.54%	4.65%	4.90%	0.95	-17.52%
US 30/70 Equity/Bond	-2.22%	-3.00%	-2.89%	1.51%	3.22%	5.82%	0.55	-19.68%
Global Equities (MSCI World)	-2.90%	7.88%	8.14%	8.27%	6.86%	16.41%	0.42	-57.82%
Bonds (US Treasury)	-2.38%	-8.66%	-9.55%	-2.24%	1.44%	6.54%	0.22	-27.96%

Backtested and Historical Excess Returns of Index Components for 2023[1,2]

Assets	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2023
Equity	5.41%	-2.71%	2.64%	1.29%	-0.49%	5.93%	2.48%	-2.08%	-4.97%	-2.65%			4.33%
Bond	7.23%	-5.19%	4.42%	-0.04%	-3.46%	-0.21%	-2.97%	-3.59%	-8.35%	-5.91%			-17.53%
Copper	10.90%	-3.55%	0.12%	-5.03%	-6.52%	3.08%	6.61%	-5.45%	-2.21%	-2.37%			-5.67%
Gold	5.59%	-5.58%	7.17%	0.65%	-1.79%	-2.66%	2.11%	-2.16%	-5.08%	6.87%			4.20%
Com. Curve	0.84%	0.59%	0.14%	0.02%	0.08%	-1.01%	-0.34%	0.09%	-0.62%	0.34%			0.12%
Index	1.85%	-1.45%	1.33%	0.04%	-0.92%	0.00%	-0.86%	-1.30%	-3.01%	-1.37%			-5.64%

[1]Source: Goldman Sachs FICC and Equities, as of November 1, 2023. Backtested data from January 5, 2005 to December 8, 2021 and live performance thereafter. Backtested 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 above backtesting analysis. Backtested performance is simulated performance data created by applying the Goldman Sachs Xenith Index's calculation methodology and strategy to historical prices of the assets underlying the Goldman Sachs Xenith Index . No future performance of the Goldman Sachs Xenith Index can be predicted based on the backtested performance.

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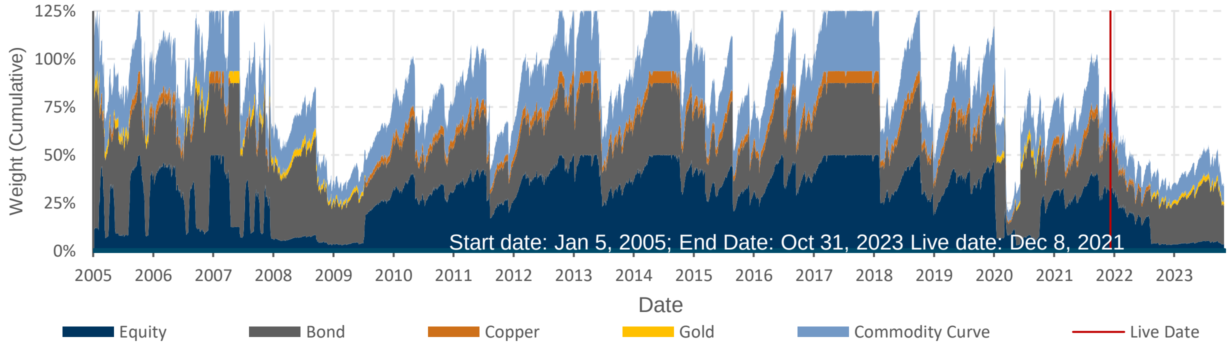
[3]MSCI World (NDDUWI) is a live index published by MSCI Inc. US Treasury 7-10y (LT09TRUU) is a live index published by Bloomberg. The "US 30/70 Equity-Bond" is tracking an excess return index rebalancing monthly to 30% of US Equity Futures Rolling Strategy Index (FRSIUSE) and 70% of Bloomberg US Aggregate Total Return Value Unhedged USD (LBUSTRUU). The indices are shown on an excess return basis by subtracting fed funds in order to make them comparable.

Average Strategy Weights (Post Volatility Control)[1]

Asset Class	Name	Ticker	Weights (Oct-23)	Weights (Sep-23)	Weight Change
US Equity	Goldman Sachs Fixed Weighted Series 197 TR Strategy	GSIS0197	3.80%	4.89%	-1.09%
US Treasury	iShares® 20+ Year Treasury Bond ETF	TLT	22.76%	29.26%	-6.50%
Copper	Bloomberg Copper Subindex	BCOMHG	0.00%	0.00%	0.00%
Gold	Bloomberg Gold Subindex	BCOMGC	1.91%	2.44%	-0.54%
Commodity Curve	Goldman Sachs Commodity CRV2 Strategy	ABGSCRV2	9.51%	12.24%	-2.73%

Historical Weights (Post Volatility Control, January 5, 2005 – October 31, 2023)[1]



Monthly Realized and Backtested Returns[1,2]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year Rtn
2005	2.61%	0.97%	0.02%	0.59%	1.94%	1.49%	-1.71%	0.07%	-0.70%	-1.12%	1.62%	1.47%	**7.42%**
2006	1.76%	0.49%	-0.54%	0.98%	-0.63%	-0.14%	0.84%	1.60%	1.78%	0.67%	1.74%	-1.60%	**7.12%**
2007	-0.73%	1.48%	0.38%	2.20%	-1.85%	-1.69%	-0.56%	1.21%	2.17%	1.63%	1.41%	-0.40%	**5.25%**
2008	0.59%	-0.21%	0.50%	-0.90%	-0.93%	0.87%	-0.38%	0.95%	1.05%	-1.66%	3.81%	3.20%	**6.97%**
2009	-3.26%	-0.53%	1.27%	-1.44%	-0.74%	0.12%	2.32%	1.17%	1.18%	-0.38%	2.08%	-0.76%	**0.91%**
2010	-0.92%	0.89%	1.86%	1.52%	-1.63%	-0.25%	1.64%	0.65%	2.47%	0.15%	-0.28%	1.64%	**7.92%**
2011	0.20%	2.08%	-0.28%	1.44%	0.54%	-1.03%	0.88%	1.01%	-0.24%	2.44%	0.37%	0.83%	**8.50%**
2012	1.47%	0.77%	-0.13%	0.72%	-0.86%	1.18%	0.86%	0.66%	0.72%	-1.50%	0.93%	-0.73%	**4.11%**
2013	1.14%	0.86%	1.26%	2.32%	-1.29%	-1.60%	0.80%	-1.15%	1.29%	1.77%	0.26%	0.49%	**6.21%**
2014	-0.09%	2.28%	0.33%	1.08%	2.42%	1.14%	0.15%	3.58%	-1.85%	1.13%	1.59%	1.31%	**13.77%**
2015	1.06%	0.66%	-0.56%	-0.71%	-0.56%	-1.68%	1.61%	-2.95%	-0.08%	2.26%	-0.50%	-0.15%	**-1.69%**
2016	-1.01%	0.48%	2.19%	-0.13%	0.35%	2.87%	2.05%	-0.82%	-0.14%	-1.91%	-0.21%	0.26%	**3.92%**
2017	1.37%	2.41%	-0.38%	0.83%	1.46%	0.72%	1.09%	1.99%	-0.32%	1.22%	1.48%	1.35%	**14.01%**
2018	1.25%	-1.35%	-0.34%	-0.63%	1.00%	-0.29%	0.74%	1.18%	-0.77%	-3.56%	0.61%	-1.41%	**-3.61%**
2019	1.96%	0.63%	1.80%	0.76%	-2.12%	2.93%	0.29%	2.14%	-0.25%	0.56%	1.48%	0.15%	**10.71%**
2020	3.43%	2.08%	0.81%	1.39%	-0.30%	1.26%	2.75%	-2.13%	-0.01%	-2.16%	3.37%	0.53%	**11.38%**
2021	-1.09%	-0.11%	-0.14%	2.01%	0.25%	1.43%	1.72%	0.89%	-2.90%	2.71%	0.88%	0.92%	**6.63%**
2022	-3.98%	-1.16%	-0.11%	-3.05%	-0.20%	-2.08%	1.46%	-1.27%	-2.44%	-1.20%	1.82%	-0.67%	**-12.29%**
2023	1.85%	-1.45%	1.33%	0.04%	-0.92%	0.00%	-0.86%	-1.30%	-3.01%	-1.37%			**-5.64%**

Live performance

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Selected Risk Factors

These “Selected Key Risks” are intended to summarize certain risks associated with the Goldman Sachs Xenith Index, but are not exhaustive, and should be read in conjunction with the risk included in the Goldman Sachs Xenith Index Methodology.

The growth indicator may not correctly predict periods of rising and decreasing economic growth, which could have a material adverse impact on Goldman Sachs Xenith Index performance.

Because the growth indicator is only published once a month, it may not capture very recent economic trends.

The growth indicator may trigger a change in asset allocations even when economic trends are short lived and have already reversed.

If, during a period when the growth indicator is predicting rising economic growth, U.S. equities and copper perform negatively, the negative impact on the Goldman Sachs Xenith Index will be greater than would have been the case if the negative performance of U.S. equities and copper had occurred during a period when the growth indicator predicted declining economic growth.

If, during a period when the growth indicator is predicting declining economic growth, fixed income and gold perform negatively, the negative impact on the Goldman Sachs Xenith Index will be greater than would have been the case if the negative performance of fixed income and gold had occurred during a period when the growth indicator predicted increasing economic growth.

The Commodity Curve Component may underperform in rising or decreasing growth environments or may not be as uncorrelated to the other components as it has been historically, both of which may have a material adverse impact on Goldman Sachs Xenith Index performance. Because the Goldman Sachs Xenith Index makes an equal allocation to the Commodity Curve Component regardless of the current market regime, these risks exist in periods of both rising and decreasing growth.

Because the volatility target mechanism looks at historical volatility it may not decrease exposure to the Underlying Assets right before a significant and quick downturn in the market, and may not increase exposure other Underlying Assets quickly enough during a market recovery, both of which could have a material adverse impact on the performance of the Goldman Sachs Xenith Index.

The Goldman Sachs Xenith Index deductions, including the rebalancing and servicing costs, index deduction and excess return deductions will have a negative impact on the Goldman Sachs Xenith Index performance.

The Equity Component will not move exposure out of the S&P 500® Index futures contracts in the case of a sharp equity overnight selloff (between the market close of one day and the market open of the next day), which could have a material adverse impact on the performance of the portion of the Goldman Sachs Xenith Index exposed to the Equity Component.

The Equity Component will have a negative performance if there is a sharp equity sell-off followed by a recovery 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 Goldman Sachs Xenith Index exposed to the Equity Component..

The Commodity Curve 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 Goldman Sachs Xenith Index.

The Goldman Sachs Xenith Index has a very limited performance history. The Goldman Sachs Xenith Index will only be calculated live from December 8, 2021 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.**

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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.

(1) In the event of a discrepancy between the provisions of the Policy and the information set out in this document, the provisions of the Policy shall prevail. Please note that the policy can be changed at Goldman Sachs discretion

(2) Any increased cost which has occurred as a result of or derived from any incorrect asset weights or asset quantities arising from an incident does not constitute "Additional Costs".