GS Global Factor Index (“GSGFI5E”)

Monthly Report as of April 4, 2023
For Financial Representative Use Only

FICC and Equities

Index Key Facts

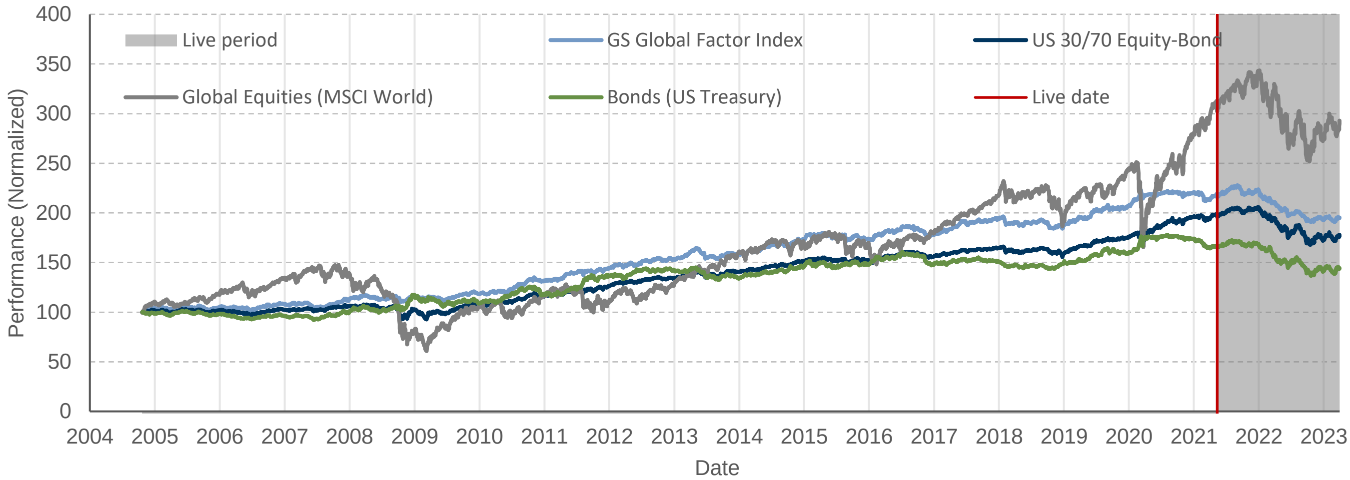
Ticker	GSGFI5E Index
Index Sponsor	Goldman Sachs International
Index Calc. Agent	S&P Dow Jones LLC
Launch Date	May 12, 2021
Volatility Target	5%
Leverage Cap	150%
Return Type	Excess Return[1,2]
Index Deduction Rate	0.85% p.a.[2]

Overview

The GS Global Factor Index (the “Index”) is a rules based index, calculated on an excess return basis[2], that seeks to:

- **Be globally diversified**:
  Provide exposure to a global basket of stocks with exposures to the Value, Momentum, Low Beta and Quality factors (the "Underlying Equity Asset") and a 10-Year U.S. Treasury Rolling Futures Index (the "Underlying Fixed Income Asset") (together, the “Underlying Assets” [1])
- **Allocate based on the business cycle**:
  Every month, the index allocates between the Underlying Equity Asset and the Underlying Fixed Income Asset based on the market regime, as inferred from a signal of economic activity
- **Dynamically manage risk:**
  Allocate weights between the Underlying Assets such that the risk contribution (based on a weighted volatility measure) of each Underlying Asset, as adjusted by the multiplier based on the market regime, is approximately equal

Strategy Realized and Backtested Performance[3, 4]



Key Realized and Backtested Performance Statistics[3, 4]

	Return last 1 month	Return Year-to-Date	Ann. Return last 2 years (p.a.)	Ann. Return last 5 years (p.a.)	Ann. Return since Oct 2004 (p.a.)	Volatility since Oct 2004 (p.a.)	Return over Risk since Oct 2004[5]	Maximum Drawdown since Oct 2004[6]
GS Global Factor Index	1.81%	1.23%	-4.20%	0.47%	3.69%	4.76%	0.78	-16.29%
US 30/70 Equity-Bond	2.98%	3.05%	-4.13%	1.96%	3.17%	5.84%	0.54	-18.53%
Global Equities (MSCI World)	2.68%	6.51%	-0.27%	6.52%	6.00%	16.50%	0.36	-58.96%
Bonds (US Treasury)	3.26%	2.36%	-6.18%	-0.46%	2.02%	6.48%	0.31	-23.22%

[1] Excess returns for each Underlying Asset are calculated over the return that could be earned on a notional cash deposit at the Federal Funds Rate (with such deduction applied at the underlying asset level). Before applying the excess return deduction described, the Underlying Equity Asset is calculated on a net total return basis (with net stock dividends reinvested) and the Underlying Fixed Income Asset is calculated on a total return basis

[2] The weighted excess returns of the Underlying Assets are further reduced by an additional index deduction rate of 0.85% per annum (with such deduction applied at the Index level)

[3] GS FICC and Equities as of April 4, 2023. Backtested performance until the Index Launch date of May 12, 2021. Backtested performance is 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 backtested performance. Performance figures are net of 0.85% per annum index deduction rate and deductions at the underlying asset level. Hypothetical performance prior to the launch of the index on May 12, 2021 refers to simulated performance data created by applying the Index's calculation methodology and strategy to historical levels of the Underlying Assets and signal of economic activity. Such simulated performance data has been produced by the retroactive application of a back-tested methodology. Backtesting analysis results are for illustrative purposes only and no future performance of the index can be predicted based on the simulated performance or the historical returns described herein. The historical Index information from May 12, 2021 reflects the actual performance of the index (in the chart above, this historical index information can be found to the right of the vertical dotted line marker). Goldman Sachs provides no assurance or guarantee that the Index will operate or would have operated in the past in a manner consistent with the backtested data. Official index levels of the GS Global Factor Index are calculated by the calculation agent: S&P Dow Jones LLC.

[4] 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 (net of 0.85% p.a. fee) rebalancing monthly to 30% of US Equity Futures Rolling Strategy Index (FRSIUSE) and 70% of US Government Bonds Futures Rolling Strategy Index (FRSIUSB). The indices are shown on an excess return basis by subtracting fed funds in order to make them comparable.

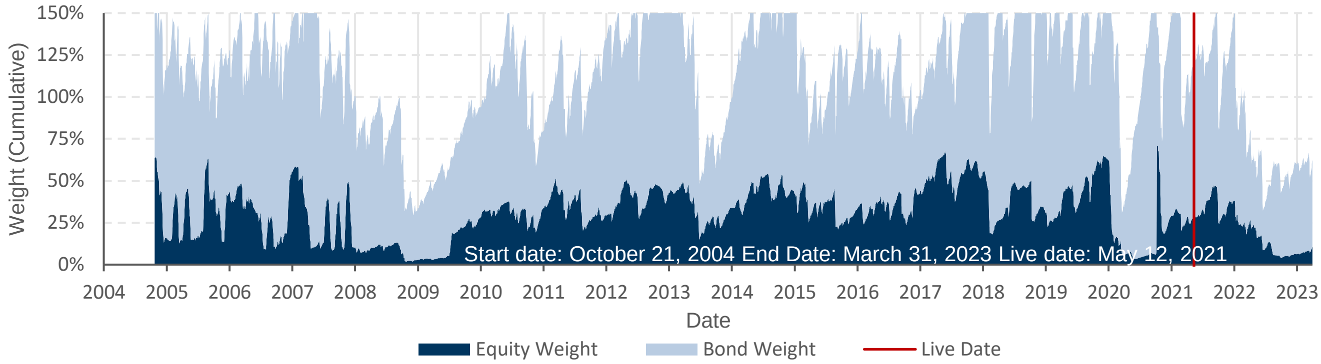
[5] Calculated by dividing the annualized performance by the annualized realized volatility since October 21, 2004

[6] The largest percentage decline experienced in the relevant measure from a previously occurring maximum level

Market Regime Determined in the Index and Average Strategy Weights (Post Volatility Control)

Regime / Asset Class	Regime / Weights (Mar-23)[1]	Regime / Weights (Feb-23)[1]	Weight Change
Market Regime	**Lower Economic Growth**	**Lower Economic Growth**	*n/a*
Equity	**8.53%**	**7.48%**	*+1.05%*
Fixed Income	**51.30%**	**53.80%**	*-2.51%*

Historical Weights (Post Volatility Control)[2]



Excess Returns of Index Components (In USD)[2,3]

Underlying Assets	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2023
Equity	4.86%	-3.06%	1.73%										3.40%
Fixed Income	1.98%	-2.92%	2.92%										1.89%
Index	1.33%	-1.88%	1.81%										1.23%

Monthly Realized and Backtested Returns[2]

in %	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year Rtn	Ann Vol	Sharpe
2004										0.89%	1.21%	1.96%	4.11%	5.94%	0.69
2005	-0.04%	-0.31%	-0.67%	1.08%	1.69%	0.21%	-1.58%	1.02%	-0.39%	-2.38%	0.72%	0.93%	0.19%	4.93%	0.04
2006	0.42%	-0.02%	-0.46%	0.42%	-1.45%	-0.19%	1.08%	1.84%	1.07%	0.41%	1.07%	-0.88%	3.29%	4.87%	0.51
2007	-0.46%	1.24%	-0.26%	1.20%	-2.42%	-1.75%	-0.23%	1.64%	1.35%	1.43%	3.16%	-0.15%	4.70%	5.11%	0.84
2008	1.64%	1.29%	0.77%	-1.67%	-1.30%	-0.08%	0.27%	1.03%	-1.40%	-2.30%	3.12%	1.33%	2.58%	5.85%	0.44
2009	-1.16%	-0.67%	1.65%	-0.94%	-0.86%	-0.44%	1.98%	1.19%	1.32%	-0.28%	2.55%	-2.18%	2.07%	4.27%	0.48
2010	0.17%	1.12%	0.44%	1.10%	-0.93%	2.04%	3.03%	1.19%	3.01%	0.76%	-0.70%	-0.03%	11.67%	5.05%	2.31
2011	0.28%	0.95%	-0.05%	3.53%	1.42%	-0.45%	1.32%	0.18%	-0.75%	1.36%	0.17%	1.55%	9.87%	5.10%	1.94
2012	1.77%	0.34%	-0.76%	2.04%	-1.31%	1.59%	1.40%	0.57%	0.61%	-0.93%	1.10%	-0.73%	5.76%	4.34%	1.37
2013	0.71%	1.85%	2.12%	2.36%	-3.12%	-2.64%	0.60%	-1.21%	1.98%	1.41%	-0.07%	-0.55%	3.29%	4.25%	0.78
2014	0.49%	2.09%	-0.68%	1.24%	2.50%	0.36%	-1.19%	2.27%	-1.86%	2.64%	1.86%	-0.61%	9.35%	4.26%	2.20
2015	2.80%	0.16%	-0.01%	-0.27%	-0.09%	-1.74%	1.87%	-2.46%	0.90%	0.61%	-0.84%	-0.61%	0.21%	5.02%	0.04
2016	1.95%	0.77%	1.84%	-0.02%	-0.22%	2.27%	1.02%	-1.29%	-0.04%	-1.75%	-2.45%	0.70%	2.71%	4.61%	0.59
2017	0.79%	1.78%	0.32%	1.54%	2.37%	-0.83%	0.59%	1.14%	-0.72%	0.50%	1.00%	0.38%	9.18%	3.60%	2.60
2018	-0.18%	-2.64%	0.87%	-1.24%	1.22%	-0.58%	0.58%	1.32%	-1.22%	-3.19%	1.44%	0.08%	-3.60%	4.48%	-0.76
2019	2.27%	-0.27%	2.46%	-0.13%	0.43%	2.95%	-0.60%	2.68%	-0.94%	0.58%	-0.16%	0.55%	10.17%	4.61%	2.21
2020	3.51%	1.37%	0.37%	0.64%	0.23%	0.13%	0.83%	-0.35%	0.01%	-2.23%	1.66%	0.74%	7.03%	4.18%	1.68
2021	-1.47%	-2.52%	0.19%	1.80%	1.14%	0.69%	2.11%	0.77%	-3.61%	0.58%	-0.26%	1.80%	1.05%	4.93%	0.21
2022	-3.54%	-0.69%	-1.61%	-3.03%	-0.04%	-2.58%	1.48%	-1.87%	-2.74%	-0.27%	1.40%	-0.95%	-13.67%	5.24%	-2.62
2023	1.33%	-1.88%	1.81%										1.23%	4.93%	0.94

[1] The Market Regime shown in the table for a given Month is determined on the last Index Business Day of the month and would apply to the underlying asset weights in the following month.

[2] GS FICC and Equities as of April 4, 2023. Backested performance until the Index Launch date of May 12, 2021. Backtested performance is 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 backtested performance. Performance figures are net of 0.85% per annum index deduction rate and deductions at the underlying asset level. Hypothetical performance prior to the launch of the index on May 12, 2021 refers to simulated performance data created by applying the Index's calculation methodology and strategy to historical levels of the Underlying Assets and signal of economic activity. Such simulated performance data has been produced by the retroactive application of a back-tested methodology. Backtesting analysis results are for illustrative purposes only and no future performance of the index can be predicted based on the simulated performance or the historical returns described herein. The historical Index information from May 12, 2021 reflects the actual performance of the index (in the chart above, this historical index information can be found to the right of the vertical dotted line marker). Goldman Sachs provides no assurance or guarantee that the Index will operate or would have operated in the past in a manner consistent with the backtested data. Official index levels of the GS Global Factor Index are calculated by the calculation agent: S&P Dow Jones LLC.

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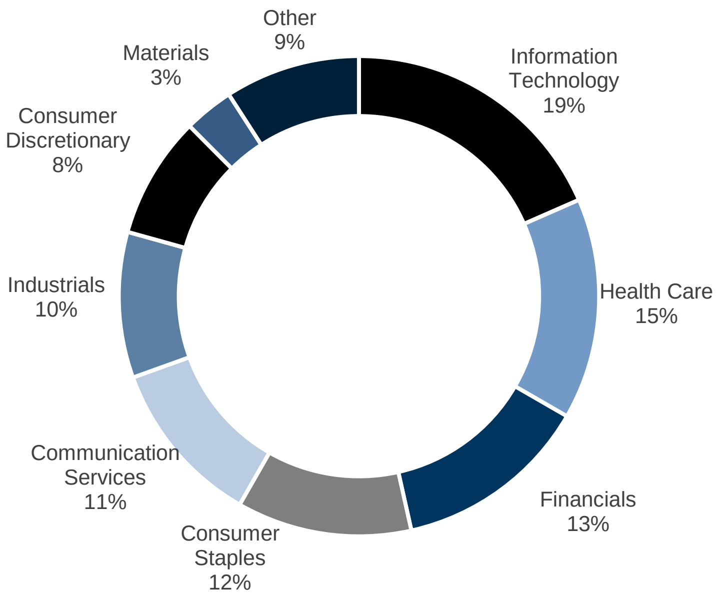
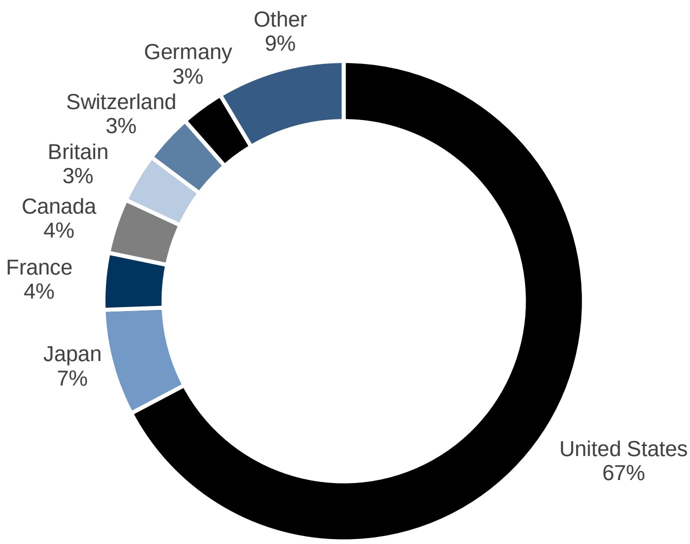
Underlying Equity Asset – Sector Exposure and Geographic Exposure as of March 31, 2023[1]

Sector Exposure of the Underlying Equity Asset as of March 31, 2023



Geographic Exposure of the Underlying Equity Asset as of March 31, 2023



Underlying Equity Asset Composition – Top 25 Stocks as of March 31, 2023[1]

Name	Bloomberg Ticker	Country Code	Sector	Weight
Microsoft Corp	MSFT UW	US	Information Technology	1.83%
Apple Inc	AAPL UW	US	Information Technology	1.75%
Alphabet Inc-CL A	GOOGL UW	US	Communication Services	1.25%
Texas Instruments Inc	TXN UW	US	Information Technology	0.94%
Novartis AG-Reg	NOVN SE	CH	Health Care	0.88%
Activision Blizzard Inc	ATVI UW	US	Communication Services	0.88%
Cadence Design Sys Inc	CDNS UW	US	Information Technology	0.87%
Kimberly-Clark Corp	KMB UN	US	Consumer Staples	0.87%
Meta Platforms Inc-Class A	META UW	US	Communication Services	0.86%
Procter & Gamble Co/the	PG UN	US	Consumer Staples	0.86%
Vertex Pharmaceuticals Inc	VRTX UW	US	Health Care	0.83%
General Mills Inc	GIS UN	US	Consumer Staples	0.81%
Public Storage	PSA UN	US	Real Estate	0.81%
WW Grainger Inc	GWW UN	US	Industrials	0.80%
AT&T Inc	T UN	US	Communication Services	0.80%
Gilead Sciences Inc	GILD UW	US	Health Care	0.77%
Philip Morris International	PM UN	US	Consumer Staples	0.77%
Hologic Inc	HOLX UW	US	Health Care	0.76%
Hershey Co/the	HSY UN	US	Consumer Staples	0.76%
Bank of Montreal	BMO CT	CA	Financials	0.74%
Omnicom Group	OMC UN	US	Communication Services	0.74%
Abbvie Inc	ABBV UN	US	Health Care	0.74%
Ameriprise Financial Inc	AMP UN	US	Financials	0.73%
The Cigna Group	CI UN	US	Health Care	0.72%
Johnson & Johnson	JNJ UN	US	Health Care	0.72%

[1] GS FICC and Equities as of April 4, 2023. Data as of March 31, 2023. Official index levels of the GS Global Factor Index are calculated by the calculation agent: S&P Dow Jones LLC.

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Different strategies with a different set of underlying assets may significantly outperform the selected strategy. For parts of the backtesting period, the underlying assets showed in this presentation have had strong performances. Backtested and past performance figures are not a reliable indicator or guarantee of future results.

The strategy is not actively managed. For further information and disclosure about the strategy, including in particular relevant risk factors, please refer to the related transaction documentation.

The index was launched on May 12, 2021. Hypothetical performance from October 21, 2004 to May 11, 2021 is based on the historical levels of the eligible index components using the same methodology that is used to calculate the index.

Hypothetical performance prior to the launch of the index on May 12, 2021 refers to simulated performance data created by applying the index's calculation methodology and strategy to historical prices of the index components that comprise the index. Such simulated performance data has been produced by the retroactive application of a back-tested methodology, and may reflect a bias towards strategies that have performed well in the past. No future performance of the index can be predicted based on the simulated performance or the historical returns described herein.

All back-tested index values for periods prior to the launch date of an index are hypothetical, and they are provided "AS IS" for informational and educational purposes only. Back-tested performance is NOT an indicator of future actual results. There are limitations inherent in hypothetical results particularly that the performance results do not represent the results of actual trading using client assets, but were achieved by means of retroactive application of a back-tested model that was designed with the benefit of hindsight. The results reflect performance of a strategy not historically offered to investors and do NOT represent returns that any investor actually attained. Back-tested results are calculated by the retroactive application of an index methodology and a model constructed on the basis of historical data and based on assumptions integral to the model which may or may not be testable and are subject to losses.

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