Factsheet
Goldman Sachs Pathfinder Index

INDEX INFORMATION

Ticker	GSPATFDR
RIC	.GSPATFDR
Index Sponsor	Goldman Sachs International
Currency	USD
Number of Underliers (excluding cash position)	max. 11
Volatility Target (before Monthly Return Cap)	15.00%
Monthly Return Cap	4.00%
Leverage Cap	400%
Excess Returns	Calculated over the sum of (i) a notional cash deposit at the Federal Funds Rate, compounded daily, and (ii) 0.50% per annum deduction rate per unit of leverage, accruing daily
Deduction Rate per Unit of Leverage*	0.50% per annum
Index Calculator	Solactive AG
Index Launch Date	August 07, 2020

* Applied to the combined weight of the Equity Basket and U.S. Government Bonds in excess of 0%, with one unit of leverage equaling a combined weight of 100%

INDEX OVERVIEW

The Goldman Sachs Pathfinder Index (“GSPATFDR”):

- The Goldman Sachs Pathfinder Index (“GS Pathfinder Index”) is sponsored by Goldman Sachs International. The index was launched on August 7, 2020.
- The GS Pathfinder Index provides exposure to two asset classes:
  - U.S. Equities, through a basket of nine (9) ETFs comprised of stocks in various U.S. sectors, and
  - U.S. Government Bonds, through two (2) futures contract positions on 10-Year and 2- Year U.S. Treasury notes.
- The GS Pathfinder Index uses a rules-based strategy that
  - seeks a low-volatility basket of U.S. Equity assets (“Equity Basket”) on a monthly basis, subject to weight constraints (it should be noted that although the strategy seeks to construct a low volatility Equity Basket, the Equity Basket may be leveraged up to 400%, which would increase volatility);
  - employs a fixed income momentum signal to select the target U.S. Government Bond asset daily between the two futures contract positions on 10-Year and 2- Year U.S. Treasury notes; and
  - allocates between the Equity Basket and the target U.S. Government Bond asset daily, subject to a volatility target of 15%, a maximum leverage cap of 400%, minimum and maximum weights, and weight smoothing.
- The returns of the GS Pathfinder Index are based on the equally weighted returns of two sub-indices. Each sub-index is subject to a month-over-month return cap of 4.00%, although they measure returns by reference to reset dates that occur at different points during the month.
- The GS Pathfinder Index is calculated on an excess return basis over the sum of (i) a notional cash deposit at the Federal Funds Rate, compounded daily, and (ii) 0.50% per annum deduction rate per unit of leverage, accruing daily (which could result in 2% per annum if the maximum leverage of 400% is realized).

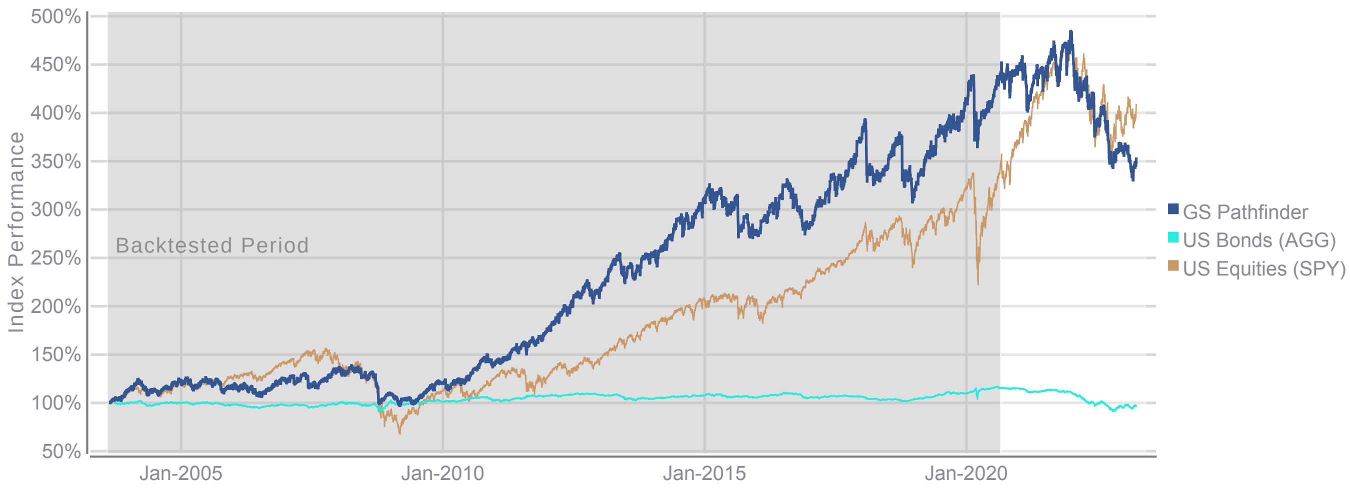
REBALANCING PROCESS

Step 1:	For U.S. Equities, every month on the rebalancing date, the strategy seeks a low volatility basket of 9 U.S. sector ETFs (the “Equity Basket”) by first identifying the minimum variance portfolios for the 3 look-back periods (the prior six months, three months and one month) respectively subject to certain weight constraints and then average the weights in the 3 identified equity asset portfolios. The strategy rebalances to the target equity weights over a 10-day period.
Step 2:	For U.S. Government Bonds, on a daily basis, the strategy employs a fixed income momentum signal to select the target U.S. Government Bond asset: either 10-Year or 2- Year U.S. Treasury futures.
Step 3:	On a daily basis, the strategy allocates between the Equity Basket and the target Bond asset, subject to a volatility target of 15%, a maximum leverage cap of 400%, minimum and maximum weights, and weight smoothing.
Step 4:	On a daily basis, the strategy calculates two sub-indices subject to a month-over-month return cap of 4.00%. Specifically, one sub-index looks at month-over-month returns between the 14th of each month and the other looks at month-over-month returns between the 27th of each month.
Step 5:	On a daily basis, average the returns of two sub-indices from the Step 4 to get the return of GS Pathfinder Index.

BASKET COMPOSITION

ASSET CLASS	UNDERLYING ASSET	TICKER	MIN WEIGHT (WITHIN ASSET CLASS)	MAX WEIGHT (WITHIN ASSET CLASS)	LEVERAGE CAP
U.S. Equities	Materials Select Sector SPDR Fund	XLB	0%	20%	400%
	Energy Select Sector SPDR Fund	XLE	0%	20%	
	Financial Select Sector SPDR Fund	XLF	0%	20%	
	Industrial Select Sector SPDR Fund	XLI	0%	20%	
	Technology Select Sector SPDR Fund	XLK	0%	20%	
	Consumer Staples Select Sector SPDR Fund	XLP	0%	20%	
	Utilities Select Sector SPDR Fund	XLU	0%	20%	
	Health Care Select Sector SPDR Fund	XLV	0%	20%	
	Consumer Discretionary Select Sector SPDR Fund	XLY	0%	20%	
U.S. Government Bonds	10Y UST Futures Position		0%	100%	
	2Y UST Futures Position		0%	100%	

INDEX PERFORMANCE VS. INDIVIDUAL ASSET CLASS SPECIFIC ETFs SINCE August 2003[1]



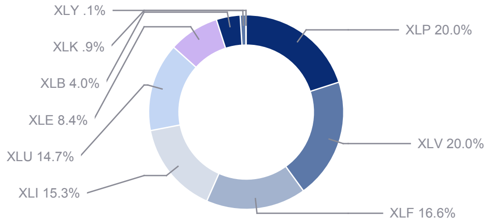
[1] Backtested performance untill the Index Launch Date August 07, 2020 (calculated by Goldman Sachs International prior to August 27, 2013, and calculated by Solactive AG, the calculation agent, thereafter). Backtested performance are for illustrative purposes only. GS provides no assurance or guarantee that the Index will operate or would have operated in the past in a manner consistent with the backtested performance.

The values of the individual asset class specific ETFs are total return (i.e., ETF dividends are reinvested). The total return versions are calculated by Solactive AG. The performance is normalized such that the graph shows the percentage change in the individual asset class specific ETFs and the index as compared to their respective closing levels on August 27, 2003. The results obtained from "back-testing" information should not be considered indicative of the actual results that might be obtained from an investment or participation in a financial instrument or transaction referencing the index.

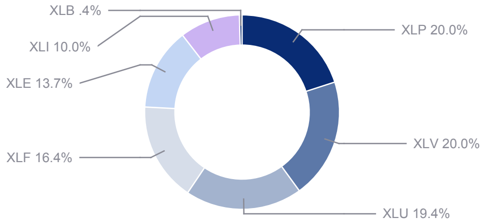
INDEX REPORTING
Goldman Sachs Pathfinder Index
Apr-03-2023

COMPOSITION WEIGHTINGS WITHIN THE U.S. EQUITIES ASSET CLASS

Weighting as of Apr-03-2023



Weighting as of Mar-01-2023

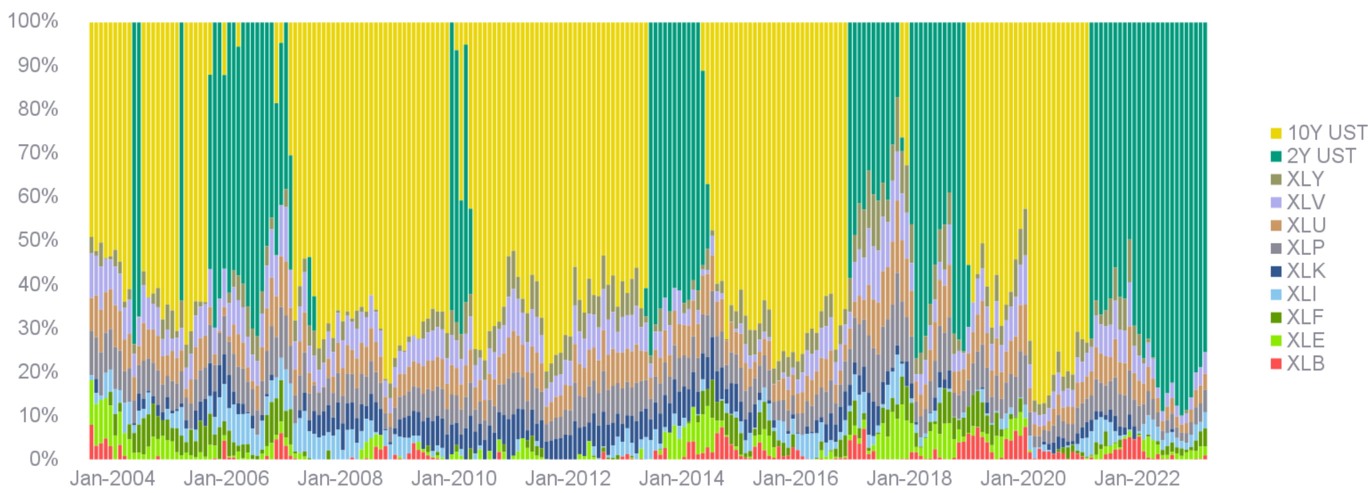


	XLB	XLE	XLF	XLI	XLK	XLP	XLU	XLV	XLY
Apr-2023	4.0%	8.4%	16.6%	15.3%	0.9%	20.0%	14.7%	20.0%	0.1%
Mar-2023	0.4%	13.7%	16.4%	10.0%	-	20.0%	19.4%	20.0%	-

This rebalancing may continue subsequent to the date of this disclosure statement supplement. Rebalancing may affect the performance of the index.

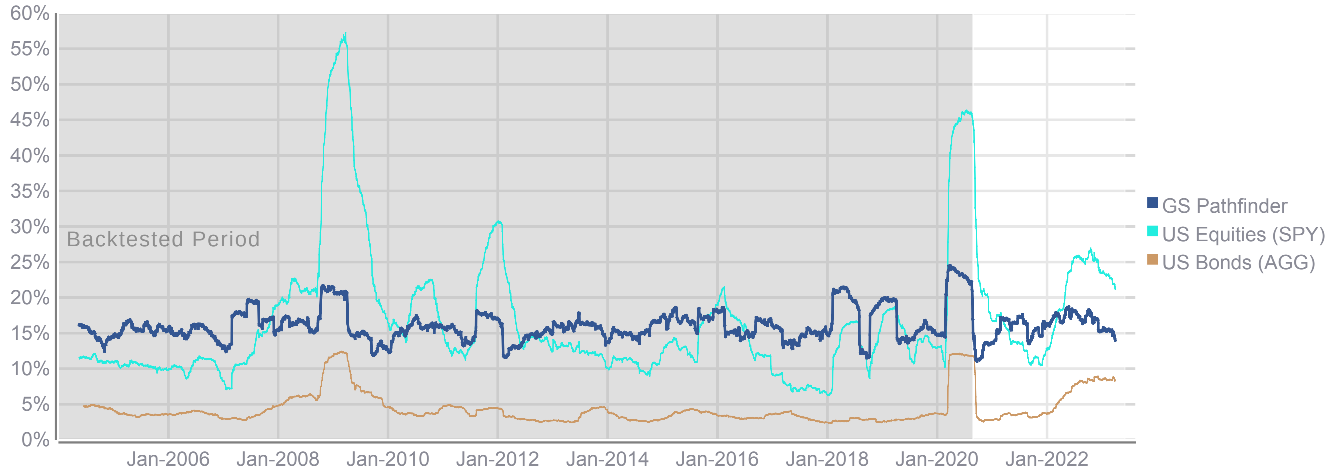
HISTORICAL COMPOSITION WITHIN THE INDEX (Rescaled to 100% Total Sum for Illustrative Purposes Only)

Includes back-tested, hypothetical performance; does not reflect actual index performance



ROLLING 6-MONTH REALIZED VOLATILITY (p.a.) (Before Monthly Return Caps)

Includes back-tested, hypothetical performance; does not reflect actual index performance



Backtested performance untill the Index Launch Date August 07, 2020 (calculated by Goldman Sachs International prior to August 27, 2013, and calculated by Solactive AG, the calculation agent, thereafter). Backtested performance 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 backtested performance.

STATISTICS[2]

AS OF APR-03-2023	GS Pathfinder	US Bonds (AGG)	US Equities (SPY)
Effective Performance (1M)	4.57%	2.39%	3.31%
Effective Performance (6M)	1.18%	3.43%	14.62%
Effective Performance (1Y)	-17.87%	-6.97%	-9.35%
Effective Performance (3Y)	-9.49%	-13.63%	58.83%
Effective Performance (5Y)	6.81%	-6.83%	57.56%
Performance (p.a.) (since August 2003)[3]	6.64%	-0.14%	7.45%
Volatility (p.a.) (since August 2003)[3] [4]	14.89%	4.93%	19.05%
Return over Risk (since August 2003)[5]	0.45	-0.03	0.39
Maximum Drawdown (since August 2003)[6]	31.75%	21.73%	56.46%

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[3] Calculated on a per annum percentage basis since August 2003.

[4] Calculated with daily returns since August 2003.

[5] Calculated by dividing the annualized performance by the annualized realized volatility since August 2003.

[6] The largest percentage decline experienced in the relevant measure from a previously occurring maximum level since August 2003.

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The Goldman Sachs Pathfinder Index is a rules-based strategy and aims to provide exposure to the underlying assets. The returns of the Goldman Sachs Pathfinder Index are based on the equally weighted returns of two sub-indices, which differ only in the timing of their monthly reset dates. Each sub-index is subject to a month-over-month return cap of 4.00%, although they measure returns by reference to reset dates that occur at different points during the month (the 14th and 27th of each month, respectively). As a result of the monthly return cap, the Index may substantially underperform an otherwise similar strategy without such feature or with a higher monthly return cap or with different reset dates. There is no guarantee that the strategy will not underperform some or all of the underlying assets. In particular, the Goldman Sachs Pathfinder Index may have a significant weight in one of those assets at the time of a sudden drop, or no exposure to one of those underlying assets at a time it has a strong performance. If less than 100% of the weight of the Goldman Sachs Pathfinder Index is allocated to the underlying assets, there will be an allocation to a hypothetical cash position that will earn no return.

Different strategies with a different set of underlying assets may significantly outperform the selected strategy. For parts of the backtesting period, the underlying assets 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 index methodology and transaction documentation.

The index was launched on August 7, 2020. Hypothetical performance from August 27, 2003 to August 6, 2020 is based on the historical levels of the eligible index components using the same methodology that is used to calculate the index (calculated by Goldman Sachs prior to 27Aug13, and calculated by the Calculation Agent Solactive thereafter).

Hypothetical performance prior to the launch of the index on August 7, 2020 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 (calculated by Goldman Sachs prior to 27Aug13, and calculated by the Calculation Agent Solactive thereafter). 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.

Back-tested performance is developed with the benefit of hindsight and has inherent limitations. PAST HYPOTHETICAL PERFORMANCE IS NOT A GUARANTEE OF FUTURE RETURNS. Specifically, back-tested results do not reflect actual trading, or the effect of material economic and market factors on the decision making process. The market and economic conditions present during the time period of the back-tested results is not representative of all possible market and economic conditions and scenarios that have occurred or will occur in the future. The macroeconomic risks of using the strategy in a different time period or the financial risk of executing trades in a live portfolio which include the potential market impact on security prices caused by buying or selling that could cause the model’s buy or sell prices to differ from the frictionless trades of the back-tested model. There are numerous factors related to the specific products, or markets in general, which cannot be, and have not been accounted for in the preparation of the Index information set forth, all of which can affect actual performance. Since trades have not actually been executed, results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have had on the decision-making process. Further, back-testing allows the security selection methodology to be adjusted until past returns are maximized. Actual performance may differ significantly from back-tested performance.

Performance information is shown net of 0.50% per annum deduction rate per unit of leverage, accruing daily (which could result in 2% per annum if the maximum leverage of 400% is realized), but there may be additional fees and costs that are separately applied to a financial product that references the index.

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DETAILED HISTORICAL MONTHLY PERFORMANCE[7]

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
2023	0.56%	-7.03%	4.57%										-2.24%
2022	-9.16%	-2.29%	-0.09%	-5.41%	3.61%	-6.75%	3.37%	-5.48%	-9.07%	2.32%	2.57%	-1.38%	-25.49%
2021	-3.03%	-7.24%	4.69%	3.94%	0.60%	-0.66%	3.15%	2.99%	-8.07%	8.25%	-3.63%	8.33%	7.95%
2020	3.16%	-11.81%	4.29%	3.00%	2.32%	0.48%	5.16%	2.13%	-1.23%	-4.84%	6.54%	1.06%	9.21%
2019	7.11%	0.11%	5.77%	3.77%	-3.20%	6.55%	-1.77%	4.86%	0.30%	-0.06%	1.90%	2.22%	30.55%
2018	2.20%	-11.43%	-2.27%	1.54%	0.62%	1.99%	4.69%	2.86%	0.63%	-11.46%	3.63%	-8.03%	-15.71%
2017	2.95%	5.62%	0.68%	2.77%	4.51%	-2.91%	3.96%	-1.09%	2.45%	1.80%	7.43%	0.73%	32.48%
2016	4.40%	1.15%	4.14%	-1.07%	0.28%	8.13%	1.67%	-5.00%	-0.84%	-4.97%	-5.82%	0.92%	2.07%
2015	2.19%	-0.25%	-0.77%	-1.12%	-0.10%	-4.75%	5.10%	-9.89%	2.15%	-0.12%	-2.17%	-1.48%	-11.35%
2014	-2.92%	4.89%	1.95%	3.03%	2.71%	3.63%	-6.16%	8.53%	-4.34%	4.71%	3.28%	1.68%	21.95%
2013	6.30%	4.84%	4.62%	3.08%	-6.51%	-2.33%	4.89%	-4.99%	3.67%	5.54%	0.87%	1.18%	22.13%
2012	3.07%	2.09%	3.24%	4.40%	-1.22%	5.04%	2.67%	0.97%	3.24%	-3.10%	0.12%	-3.15%	18.33%
2011	0.94%	3.63%	0.51%	4.74%	3.73%	-2.43%	3.19%	0.63%	-0.57%	3.07%	1.46%	4.45%	25.71%
2010	-4.47%	2.80%	1.93%	2.31%	-1.57%	2.99%	7.03%	1.69%	5.27%	1.86%	-2.13%	-1.53%	16.75%
2009	-5.49%	-5.32%	5.30%	-0.51%	-0.86%	0.18%	5.34%	2.85%	4.00%	-1.42%	7.45%	-1.68%	9.25%
2008	-1.87%	0.17%	3.49%	-3.29%	0.21%	-3.13%	-0.73%	3.69%	-11.62%	-12.86%	4.28%	3.87%	-17.99%
2007	1.84%	-2.35%	-0.07%	5.34%	-0.60%	-7.56%	-1.95%	5.13%	1.52%	3.41%	4.99%	-0.02%	9.25%
2006	0.86%	0.95%	-0.86%	0.06%	-3.75%	-0.72%	0.31%	3.29%	1.59%	4.45%	2.18%	-0.94%	7.41%
2005	-0.30%	-2.19%	-3.75%	1.28%	4.39%	0.87%	-1.77%	2.08%	-2.24%	-6.45%	1.33%	-0.36%	-7.31%
2004	1.02%	5.68%	0.32%	-6.76%	-0.68%	1.36%	-3.25%	4.09%	-0.34%	4.28%	-1.28%	4.64%	8.67%
2003								1.07%	2.93%	0.81%	1.46%	6.79%	13.63%

[7] Backtested performance untill the Index Launch Date August 07, 2020 (calculated by Goldman Sachs International prior to August 27, 2013, and calculated by Solactive AG, the calculation agent, thereafter). Backtested performance 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 backtested performance.

DETAILED HISTORICAL WEIGHTINGS[8]

	XLB	XLE	XLF	XLI	XLK	XLP	XLU	XLV	XLY	2Y UST	10Y UST
Aug-2003	10.7%	13.7%	-	1.6%	-	13.7%	10.0%	13.7%	5.1%	-	66.1%
Sep-2003	5.9%	18.0%	-	4.9%	6.0%	18.0%	18.0%	17.2%	2.0%	-	99.2%
Oct-2003	8.7%	23.2%	-	2.3%	-	23.2%	22.7%	23.2%	12.8%	-	118.4%
Nov-2003	12.7%	24.2%	-	15.1%	-	24.2%	24.2%	19.9%	0.6%	-	141.7%
Dec-2003	7.7%	23.4%	7.8%	12.9%	-	23.4%	22.8%	17.1%	1.9%	-	135.2%
Jan-2004	0.1%	13.2%	11.8%	13.8%	-	23.1%	23.1%	21.3%	9.2%	-	125.8%
Feb-2004	9.3%	20.9%	5.8%	8.0%	-	25.1%	25.1%	23.6%	7.6%	-	152.2%
Mar-2004	2.2%	13.6%	-	17.9%	-	18.8%	18.7%	18.7%	3.8%	-	166.1%
Apr-2004	-	10.1%	7.5%	11.1%	-	17.0%	17.0%	17.0%	5.4%	-	133.7%
May-2004	-	6.0%	18.2%	7.1%	1.9%	21.1%	21.1%	21.1%	9.0%	294.6%	-
Jun-2004	-	6.3%	25.6%	12.8%	15.5%	26.1%	17.4%	26.1%	0.8%	269.4%	-
Jul-2004	-	3.4%	23.6%	5.9%	6.9%	24.7%	24.5%	24.5%	9.2%	-	162.8%
Aug-2004	-	9.9%	25.1%	16.9%	1.5%	25.0%	22.4%	24.8%	0.1%	-	213.8%
Sep-2004	-	18.6%	27.1%	-	6.2%	27.1%	27.1%	21.0%	8.4%	-	221.8%
Oct-2004	3.1%	15.4%	20.5%	-	10.3%	31.0%	30.8%	25.7%	17.3%	-	239.5%
Nov-2004	-	17.2%	11.5%	-	5.8%	20.5%	20.5%	12.5%	14.4%	-	217.5%
Dec-2004	-	14.0%	14.6%	7.4%	8.8%	15.0%	14.7%	18.4%	17.9%	-	201.9%
Jan-2005	-	15.8%	11.9%	12.7%	2.5%	26.1%	26.1%	11.0%	24.6%	-	253.1%
Feb-2005	-	6.0%	19.6%	14.0%	1.8%	21.1%	20.9%	16.4%	5.7%	-	254.0%
Mar-2005	-	4.1%	17.8%	26.1%	3.3%	29.2%	19.3%	20.3%	24.9%	255.0%	-
Apr-2005	-	5.7%	8.3%	10.7%	6.7%	18.5%	6.9%	16.9%	18.5%	-	259.7%
May-2005	-	3.5%	20.8%	0.4%	-	20.8%	19.5%	20.8%	18.2%	-	251.4%
Jun-2005	-	1.8%	13.1%	9.2%	15.6%	25.6%	25.6%	25.6%	11.5%	-	226.2%
Jul-2005	-	5.6%	24.4%	-	14.8%	24.4%	24.4%	24.4%	4.0%	-	216.4%
Aug-2005	-	2.1%	22.9%	-	20.7%	23.6%	23.6%	23.5%	1.7%	-	210.8%
Sep-2005	-	13.3%	28.3%	15.9%	29.9%	34.6%	16.2%	34.6%	-	175.9%	48.4%
Oct-2005	1.1%	11.7%	10.1%	16.0%	23.5%	24.2%	9.8%	24.1%	-	279.6%	-
Nov-2005	-	0.3%	29.3%	27.1%	29.3%	29.5%	1.8%	29.3%	-	253.3%	-
Dec-2005	17.0%	4.8%	12.7%	33.3%	27.2%	34.4%	8.1%	34.4%	-	174.4%	48.3%
Jan-2006	1.8%	1.1%	23.6%	20.3%	30.4%	30.4%	4.6%	30.4%	9.6%	247.8%	-
Feb-2006	1.9%	1.6%	12.4%	34.5%	11.7%	34.5%	26.8%	34.0%	15.2%	227.4%	-
Mar-2006	-	7.3%	5.3%	28.3%	9.6%	33.1%	29.3%	30.6%	22.0%	206.1%	22.8%
Apr-2006	-	1.1%	12.7%	27.8%	9.5%	32.1%	23.9%	32.1%	21.3%	239.6%	-
May-2006	-	6.4%	7.7%	28.0%	1.1%	28.1%	13.0%	28.0%	27.5%	260.2%	-
Jun-2006	-	0.2%	4.1%	23.9%	12.1%	23.9%	7.5%	23.9%	23.9%	280.4%	-
Jul-2006	-	-	3.3%	19.3%	-	22.6%	22.5%	22.5%	22.3%	287.6%	-
Aug-2006	-	5.2%	3.8%	26.3%	5.5%	30.9%	30.7%	30.7%	20.4%	246.3%	-
Sep-2006	3.3%	9.0%	28.4%	16.8%	2.5%	39.2%	39.0%	39.0%	17.7%	205.2%	-
Oct-2006	-	15.2%	37.3%	19.7%	5.5%	44.2%	44.2%	44.2%	10.6%	179.3%	-
Nov-2006	18.5%	4.3%	33.2%	19.0%	-	36.9%	37.3%	37.3%	-	138.7%	74.7%
Dec-2006	24.1%	10.5%	37.8%	20.4%	-	46.4%	46.4%	46.4%	-	148.2%	19.7%
Jan-2007	12.6%	7.7%	24.2%	37.8%	-	49.4%	49.4%	49.4%	16.6%	153.0%	-
Feb-2007	3.6%	10.2%	32.2%	23.2%	-	34.7%	34.7%	34.7%	-	104.4%	122.3%
Mar-2007	1.0%	4.3%	2.2%	25.4%	0.3%	25.5%	23.8%	25.4%	19.2%	-	273.0%
Apr-2007	-	6.0%	-	31.7%	7.6%	31.7%	31.0%	31.8%	18.5%	-	241.7%
May-2007	-	2.8%	4.8%	36.7%	16.9%	36.9%	36.5%	36.5%	12.5%	-	216.5%

	XLB	XLE	XLF	XLI	XLK	XLP	XLU	XLV	XLY	2Y UST	10Y UST
Jun-2007	-	-	1.1%	20.2%	8.5%	20.2%	15.6%	20.2%	15.3%	51.8%	178.1%
Jul-2007	-	-	-	20.3%	18.2%	20.3%	2.9%	20.3%	19.6%	27.5%	217.2%
Aug-2007	-	-	-	20.2%	20.2%	20.2%	0.7%	20.2%	19.4%	-	296.2%
Sep-2007	-	-	-	18.3%	18.3%	18.3%	0.5%	18.3%	17.8%	-	241.5%
Oct-2007	-	-	8.3%	16.4%	24.7%	24.7%	17.5%	24.7%	7.2%	-	273.7%
Nov-2007	-	-	-	20.8%	16.1%	21.4%	14.5%	21.3%	12.3%	-	276.7%
Dec-2007	-	-	-	22.5%	20.6%	22.5%	22.5%	22.5%	1.9%	-	218.3%
Jan-2008	-	-	-	5.7%	16.2%	16.7%	16.7%	16.7%	11.5%	-	180.7%
Feb-2008	-	-	-	16.5%	14.9%	16.5%	15.9%	16.5%	2.1%	-	161.0%
Mar-2008	1.5%	-	-	19.6%	18.9%	19.7%	16.7%	19.6%	2.2%	-	206.8%
Apr-2008	-	-	-	13.7%	20.4%	24.5%	24.5%	24.5%	14.8%	-	237.4%
May-2008	-	6.6%	-	11.8%	17.5%	19.7%	19.7%	19.7%	3.6%	-	184.3%
Jun-2008	0.9%	11.4%	-	16.3%	8.9%	20.8%	20.8%	20.8%	3.9%	-	203.2%
Jul-2008	-	12.8%	-	10.5%	16.1%	19.7%	19.7%	19.7%	-	-	164.0%
Aug-2008	9.3%	9.0%	-	1.6%	21.7%	21.7%	21.7%	21.7%	1.7%	-	208.3%
Sep-2008	5.4%	7.6%	-	-	13.9%	13.9%	13.9%	13.9%	0.9%	-	163.6%
Oct-2008	3.6%	-	-	4.2%	0.2%	4.3%	4.3%	4.3%	0.5%	-	95.5%
Nov-2008	-	-	-	4.8%	0.8%	4.8%	4.3%	4.8%	4.7%	-	114.9%
Dec-2008	1.4%	-	-	5.9%	1.8%	5.9%	5.9%	5.9%	2.6%	-	97.5%
Jan-2009	0.3%	0.7%	-	6.8%	5.9%	7.8%	7.8%	7.8%	1.9%	-	110.7%
Feb-2009	0.1%	-	-	7.5%	7.2%	7.6%	7.6%	7.6%	0.5%	-	114.9%
Mar-2009	1.7%	-	-	4.2%	5.9%	6.6%	6.6%	6.6%	1.5%	-	84.4%
Apr-2009	6.1%	-	-	2.8%	9.2%	9.2%	9.2%	9.2%	0.3%	-	116.2%
May-2009	3.7%	3.1%	-	2.3%	9.2%	9.2%	9.2%	9.2%	0.2%	-	120.5%
Jun-2009	3.0%	1.3%	-	-	11.1%	11.1%	11.1%	11.1%	6.8%	-	120.2%
Jul-2009	2.0%	1.5%	3.2%	-	13.5%	13.6%	13.5%	13.5%	6.7%	-	142.1%
Aug-2009	1.1%	0.6%	-	3.3%	17.9%	17.9%	17.9%	17.9%	12.9%	-	170.8%
Sep-2009	0.8%	2.3%	2.3%	4.5%	20.9%	20.9%	20.9%	20.9%	11.0%	-	204.8%
Oct-2009	-	1.5%	-	6.2%	19.4%	19.4%	19.4%	19.4%	11.8%	-	190.5%
Nov-2009	-	-	-	-	16.6%	16.6%	16.6%	16.6%	16.6%	-	203.8%
Dec-2009	-	4.9%	-	-	27.2%	27.2%	27.2%	27.2%	22.3%	264.0%	-
Jan-2010	-	7.1%	6.1%	-	20.1%	25.0%	25.0%	25.0%	16.6%	247.4%	26.3%
Feb-2010	-	3.2%	-	5.9%	12.2%	21.5%	21.4%	21.4%	21.4%	114.1%	152.8%
Mar-2010	-	-	-	-	28.1%	28.1%	28.1%	28.1%	28.1%	230.3%	20.8%
Apr-2010	-	-	9.8%	-	29.3%	29.3%	29.3%	29.3%	19.5%	75.9%	166.1%
May-2010	-	-	-	5.1%	18.4%	18.4%	18.4%	18.4%	13.3%	-	272.9%
Jun-2010	-	8.0%	-	3.1%	17.1%	17.1%	17.1%	17.1%	6.1%	-	256.9%
Jul-2010	-	-	-	-	17.1%	17.1%	17.1%	17.1%	17.1%	-	291.0%
Aug-2010	-	7.7%	-	-	23.0%	23.0%	23.0%	23.0%	15.3%	-	277.5%
Sep-2010	-	0.2%	-	-	20.4%	20.4%	20.4%	20.4%	20.2%	-	232.4%
Oct-2010	5.5%	9.1%	-	-	20.1%	20.1%	20.1%	20.1%	5.5%	-	219.1%
Nov-2010	-	4.4%	4.4%	-	16.9%	17.5%	17.5%	16.0%	10.7%	-	162.9%
Dec-2010	-	-	-	-	23.8%	23.8%	23.8%	23.8%	23.8%	-	137.4%
Jan-2011	-	2.4%	0.3%	-	28.0%	28.3%	28.3%	28.3%	25.9%	-	155.6%
Feb-2011	-	6.2%	-	9.3%	23.1%	27.7%	27.7%	27.7%	16.8%	-	193.7%
Mar-2011	-	18.7%	-	-	25.4%	28.1%	28.1%	28.1%	12.1%	-	242.4%
Apr-2011	-	10.0%	6.5%	-	8.5%	25.0%	25.0%	25.0%	25.0%	-	248.7%
May-2011	-	7.2%	14.5%	-	24.0%	33.7%	24.0%	33.7%	31.6%	-	231.3%

	XLB	XLE	XLF	XLI	XLK	XLP	XLU	XLV	XLY	2Y UST	10Y UST
Jun-2011	-	3.6%	8.8%	4.4%	15.8%	32.6%	32.6%	32.6%	32.6%	-	237.3%
Jul-2011	-	1.7%	7.4%	-	23.2%	23.2%	23.2%	23.2%	14.0%	-	241.8%
Aug-2011	-	0.2%	-	-	10.3%	10.3%	10.3%	10.3%	10.2%	-	205.2%
Sep-2011	-	-	-	-	14.1%	14.1%	14.1%	14.1%	14.1%	-	250.4%
Oct-2011	-	-	-	-	17.2%	17.2%	17.2%	17.2%	17.2%	-	273.9%
Nov-2011	-	-	-	-	19.1%	19.1%	19.1%	19.1%	19.1%	-	296.9%
Dec-2011	-	-	-	-	22.7%	22.7%	22.7%	22.7%	22.7%	-	286.3%
Jan-2012	-	-	-	-	22.3%	22.3%	22.3%	22.3%	22.3%	-	285.2%
Feb-2012	-	-	-	-	35.2%	35.2%	35.2%	35.2%	35.2%	-	224.1%
Mar-2012	-	4.7%	-	-	23.0%	27.7%	27.7%	27.7%	27.7%	-	241.0%
Apr-2012	-	3.2%	-	-	26.8%	26.8%	26.8%	26.8%	23.6%	-	265.9%
May-2012	-	16.8%	-	-	17.2%	33.0%	33.0%	33.0%	32.0%	-	235.0%
Jun-2012	-	2.1%	1.5%	8.6%	30.0%	30.0%	30.0%	30.0%	17.9%	-	249.7%
Jul-2012	-	-	-	1.2%	29.8%	29.8%	29.8%	29.8%	28.6%	-	250.8%
Aug-2012	6.9%	-	4.3%	0.8%	31.9%	37.3%	37.3%	37.3%	30.7%	-	213.7%
Sep-2012	0.3%	-	1.6%	2.2%	27.8%	31.9%	31.9%	31.9%	31.9%	-	240.4%
Oct-2012	-	-	1.5%	11.4%	20.8%	33.6%	33.6%	33.6%	33.5%	-	231.9%
Nov-2012	-	-	4.2%	16.6%	21.2%	27.9%	27.9%	18.6%	23.2%	-	260.4%
Dec-2012	2.8%	-	-	13.5%	16.3%	32.5%	32.5%	32.5%	32.5%	-	237.3%
Jan-2013	5.2%	-	-	23.4%	11.9%	30.6%	30.4%	30.4%	20.2%	-	62.8%
Feb-2013	1.0%	0.8%	1.5%	11.9%	24.7%	26.1%	33.0%	33.0%	33.0%	-	107.7%
Mar-2013	-	-	-	5.4%	29.6%	35.1%	35.1%	35.1%	35.1%	-	224.7%
Apr-2013	0.7%	9.3%	-	8.3%	25.8%	27.6%	27.6%	21.6%	17.3%	-	221.9%
May-2013	-	-	-	20.2%	25.7%	25.7%	25.7%	25.7%	5.5%	24.9%	201.7%
Jun-2013	-	0.5%	-	17.3%	19.1%	19.0%	19.0%	12.9%	7.2%	322.6%	-
Jul-2013	8.3%	-	-	19.5%	24.6%	23.4%	24.6%	16.4%	6.4%	276.9%	-
Aug-2013	4.5%	4.3%	0.7%	5.1%	27.5%	27.5%	23.5%	23.8%	20.7%	262.3%	-
Sep-2013	10.6%	14.8%	-	4.1%	29.5%	29.5%	29.5%	29.5%	-	252.3%	-
Oct-2013	-	24.2%	0.4%	-	27.0%	24.1%	19.9%	27.0%	12.6%	264.8%	-
Nov-2013	-	31.3%	-	10.5%	31.3%	31.3%	31.3%	20.8%	-	243.4%	-
Dec-2013	-	18.9%	-	12.0%	30.9%	30.9%	30.9%	30.9%	-	245.5%	-
Jan-2014	2.4%	27.2%	0.2%	8.2%	28.6%	28.5%	27.8%	10.5%	9.4%	257.1%	-
Feb-2014	16.1%	16.7%	2.2%	-	29.1%	29.1%	29.1%	15.0%	8.2%	254.3%	-
Mar-2014	16.6%	31.1%	0.5%	-	31.6%	32.7%	32.7%	10.1%	8.3%	236.4%	-
Apr-2014	4.8%	29.3%	6.4%	1.0%	20.5%	30.9%	30.9%	12.4%	18.1%	245.7%	-
May-2014	5.9%	35.5%	21.2%	10.7%	23.9%	35.5%	35.5%	5.3%	4.0%	177.5%	45.1%
Jun-2014	11.2%	37.7%	15.4%	-	29.2%	38.4%	37.5%	3.6%	19.1%	59.2%	148.5%
Jul-2014	6.5%	31.6%	34.6%	-	39.2%	41.9%	32.6%	17.9%	5.2%	-	190.6%
Aug-2014	24.1%	11.6%	17.0%	-	28.0%	32.1%	31.3%	9.4%	7.0%	-	239.4%
Sep-2014	29.5%	5.8%	18.4%	1.4%	29.1%	32.8%	29.5%	5.0%	11.6%	-	236.9%
Oct-2014	19.5%	1.3%	19.1%	7.9%	12.8%	20.5%	20.5%	-	1.1%	-	271.7%
Nov-2014	13.6%	0.4%	27.2%	0.5%	28.2%	28.2%	27.4%	0.2%	15.4%	245.5%	-
Dec-2014	8.8%	3.2%	26.3%	5.5%	25.4%	27.1%	20.4%	2.5%	16.2%	245.5%	-
Jan-2015	3.2%	1.1%	19.9%	10.6%	18.0%	31.0%	31.0%	9.3%	31.0%	-	244.8%
Feb-2015	1.4%	0.0%	3.3%	9.1%	15.1%	20.7%	20.1%	13.2%	20.7%	-	211.9%
Mar-2015	0.7%	0.9%	3.2%	10.0%	11.4%	14.5%	10.1%	7.1%	14.5%	-	172.0%
Apr-2015	9.7%	8.0%	5.4%	0.9%	17.7%	19.5%	12.4%	5.2%	18.6%	-	232.1%
May-2015	11.5%	5.1%	15.0%	8.0%	5.1%	18.3%	9.1%	8.2%	10.8%	-	201.9%

	XLB	XLE	XLF	XLI	XLK	XLP	XLU	XLV	XLY	2Y UST	10Y UST
Jun-2015	7.2%	16.2%	21.0%	11.0%	0.2%	24.5%	12.8%	5.2%	24.3%	-	214.0%
Jul-2015	3.4%	17.5%	13.0%	14.8%	2.9%	26.0%	25.5%	2.9%	24.2%	-	249.7%
Aug-2015	1.1%	6.3%	9.8%	1.9%	4.7%	11.0%	10.3%	0.4%	9.3%	-	209.2%
Sep-2015	9.9%	-	4.7%	14.8%	-	14.8%	14.8%	0.3%	14.8%	-	255.2%
Oct-2015	2.4%	-	11.2%	16.9%	0.3%	17.5%	17.5%	4.3%	17.5%	-	266.3%
Nov-2015	3.7%	-	6.6%	11.9%	2.9%	17.5%	17.7%	11.3%	17.2%	-	290.4%
Dec-2015	9.3%	-	9.7%	11.6%	3.4%	14.2%	15.4%	5.4%	11.8%	245.5%	-
Jan-2016	8.4%	-	-	14.5%	0.8%	17.5%	17.5%	12.5%	16.4%	-	303.0%
Feb-2016	2.6%	-	-	16.6%	0.6%	16.6%	16.6%	15.3%	14.7%	-	261.0%
Mar-2016	0.3%	-	-	20.1%	6.1%	20.1%	20.1%	19.8%	14.0%	-	247.3%
Apr-2016	-	-	-	23.1%	1.3%	23.1%	22.9%	22.6%	22.5%	-	271.0%
May-2016	0.1%	0.7%	0.7%	21.1%	11.6%	21.8%	20.1%	17.7%	15.3%	-	268.0%
Jun-2016	0.9%	7.5%	8.2%	17.4%	4.9%	27.1%	27.1%	27.1%	15.4%	-	264.5%
Jul-2016	-	2.7%	-	12.9%	16.8%	29.9%	29.6%	29.9%	27.7%	-	250.6%
Aug-2016	0.2%	6.7%	0.9%	8.4%	22.4%	27.7%	24.9%	27.7%	19.7%	-	227.3%
Sep-2016	1.0%	1.2%	6.2%	5.0%	13.5%	16.4%	14.1%	16.8%	9.8%	-	249.8%
Oct-2016	1.3%	0.4%	16.0%	6.8%	22.7%	19.7%	12.6%	23.3%	17.2%	-	271.5%
Nov-2016	1.3%	1.5%	17.3%	12.5%	24.0%	25.0%	13.8%	16.5%	12.9%	-	238.6%
Dec-2016	17.7%	5.1%	21.2%	5.0%	19.2%	33.1%	18.5%	14.7%	31.1%	245.5%	-
Jan-2017	22.5%	8.5%	23.0%	23.6%	11.1%	41.0%	14.4%	36.4%	24.5%	195.0%	-
Feb-2017	14.5%	4.9%	9.3%	30.5%	17.8%	46.5%	26.0%	42.4%	41.9%	166.1%	-
Mar-2017	28.1%	8.0%	6.3%	19.3%	23.2%	43.0%	18.1%	38.3%	43.8%	171.9%	-
Apr-2017	5.0%	2.8%	3.1%	11.8%	38.3%	52.8%	45.8%	51.6%	52.6%	136.3%	-
May-2017	7.8%	5.5%	0.0%	7.9%	31.9%	48.6%	44.3%	48.4%	47.5%	157.9%	-
Jun-2017	-	23.0%	1.6%	6.4%	17.9%	47.2%	47.2%	47.2%	45.5%	163.8%	-
Jul-2017	0.1%	33.2%	14.2%	3.1%	20.3%	50.6%	50.6%	49.8%	31.0%	147.2%	-
Aug-2017	0.5%	20.5%	24.8%	22.5%	12.7%	47.4%	47.4%	41.0%	20.3%	163.1%	-
Sep-2017	0.3%	43.1%	12.9%	23.9%	3.9%	57.5%	57.5%	55.6%	32.8%	112.6%	-
Oct-2017	0.1%	37.0%	13.3%	45.6%	8.3%	66.2%	66.1%	44.9%	49.4%	69.2%	-
Nov-2017	0.5%	49.8%	25.4%	11.7%	2.4%	54.7%	55.5%	42.7%	38.7%	12.5%	106.0%
Dec-2017	0.7%	35.0%	30.9%	0.3%	22.9%	40.2%	53.6%	41.8%	43.4%	245.5%	-
Jan-2018	6.7%	26.6%	18.6%	3.9%	14.0%	42.9%	41.6%	25.2%	35.3%	185.3%	-
Feb-2018	6.7%	4.8%	12.8%	7.6%	2.6%	18.4%	18.4%	6.4%	14.5%	307.8%	-
Mar-2018	3.3%	7.5%	1.1%	8.4%	-	19.5%	19.5%	18.8%	19.5%	245.5%	-
Apr-2018	0.6%	18.8%	0.8%	3.6%	-	22.5%	22.6%	22.1%	21.8%	287.3%	-
May-2018	0.8%	25.1%	8.6%	7.9%	1.0%	28.3%	28.6%	22.4%	19.7%	257.8%	-
Jun-2018	9.5%	23.0%	2.4%	9.8%	12.0%	33.5%	35.6%	20.2%	32.0%	222.0%	-
Jul-2018	1.9%	21.5%	28.4%	14.0%	14.3%	42.0%	42.0%	16.3%	29.5%	190.1%	-
Aug-2018	0.4%	32.4%	32.1%	0.3%	8.0%	42.9%	42.9%	14.4%	41.0%	185.7%	-
Sep-2018	-	33.1%	28.7%	2.7%	16.9%	48.5%	47.9%	36.6%	29.4%	156.1%	-
Oct-2018	1.6%	16.9%	20.1%	0.4%	-	21.9%	19.3%	15.8%	18.6%	285.2%	-
Nov-2018	15.6%	12.0%	8.5%	0.8%	-	21.9%	21.9%	18.5%	10.2%	290.6%	-
Dec-2018	16.3%	4.8%	17.1%	4.8%	-	19.8%	19.8%	14.5%	2.0%	245.5%	-
Jan-2019	23.6%	0.8%	24.2%	-	-	24.2%	24.2%	24.0%	-	56.7%	222.4%
Feb-2019	21.8%	8.7%	28.7%	-	0.1%	28.7%	28.7%	26.6%	0.2%	-	256.5%
Mar-2019	29.4%	0.3%	32.9%	1.1%	0.9%	33.9%	33.9%	32.7%	4.3%	-	230.6%
Apr-2019	20.7%	4.4%	27.2%	12.1%	1.4%	39.5%	39.5%	29.6%	23.1%	-	202.5%
May-2019	15.8%	7.9%	16.7%	1.7%	10.4%	31.6%	31.6%	24.1%	18.4%	-	242.0%

	XLB	XLE	XLF	XLI	XLK	XLP	XLU	XLV	XLY	2Y UST	10Y UST
Jun-2019	6.3%	6.3%	17.7%	1.5%	-	23.0%	23.0%	23.0%	14.1%	-	266.6%
Jul-2019	-	21.5%	21.4%	1.2%	-	32.8%	33.7%	33.7%	24.2%	-	231.3%
Aug-2019	1.7%	19.4%	6.6%	9.3%	-	18.6%	24.4%	24.4%	17.8%	-	277.9%
Sep-2019	18.8%	8.9%	0.5%	13.9%	-	28.2%	28.2%	28.2%	14.3%	-	257.5%
Oct-2019	17.4%	19.3%	4.8%	5.8%	0.0%	30.6%	30.6%	30.6%	13.8%	-	246.8%
Nov-2019	26.3%	11.4%	1.2%	0.2%	0.2%	36.6%	36.6%	36.1%	34.3%	245.5%	-
Dec-2019	21.8%	21.4%	12.7%	1.0%	-	42.1%	42.1%	36.9%	32.5%	245.5%	-
Jan-2020	29.8%	8.1%	-	12.0%	-	45.8%	45.8%	45.0%	42.5%	-	171.1%
Feb-2020	6.7%	2.0%	-	12.9%	-	21.8%	21.7%	21.7%	21.7%	-	291.5%
Mar-2020	0.4%	-	-	4.0%	-	4.4%	4.3%	4.4%	4.4%	-	139.8%
Apr-2020	5.7%	-	-	0.7%	0.2%	5.8%	5.2%	5.8%	5.8%	-	201.9%
May-2020	5.6%	-	-	4.6%	2.2%	7.8%	3.1%	7.8%	7.8%	-	261.8%
Jun-2020	6.7%	-	-	1.2%	5.2%	10.7%	8.2%	10.7%	10.7%	-	311.6%
Jul-2020	5.1%	-	0.2%	-	10.4%	15.5%	15.3%	15.5%	15.5%	-	322.5%
Aug-2020	6.8%	-	2.5%	-	11.7%	19.7%	18.7%	19.7%	19.4%	-	301.4%
Sep-2020	5.7%	0.0%	5.4%	0.2%	8.5%	15.2%	12.5%	15.2%	13.1%	-	324.2%
Oct-2020	0.8%	0.1%	10.4%	1.5%	3.6%	16.2%	16.1%	16.1%	15.9%	-	319.3%
Nov-2020	7.3%	-	6.3%	0.3%	3.0%	15.5%	15.5%	15.5%	14.1%	-	322.3%
Dec-2020	5.4%	-	2.8%	6.0%	10.0%	23.3%	23.0%	22.9%	23.3%	245.5%	-
Jan-2021	2.7%	0.1%	4.1%	12.3%	10.4%	22.0%	19.1%	18.4%	20.8%	-	290.1%
Feb-2021	0.2%	1.1%	0.7%	14.6%	12.2%	17.9%	17.1%	17.9%	7.8%	-	245.4%
Mar-2021	2.0%	1.5%	0.9%	21.3%	10.7%	22.1%	22.1%	22.1%	7.7%	289.6%	-
Apr-2021	-	4.3%	11.6%	20.3%	8.2%	29.1%	29.1%	29.1%	13.8%	254.6%	-
May-2021	0.5%	8.9%	4.5%	24.7%	5.3%	26.6%	26.4%	26.4%	9.0%	245.5%	-
Jun-2021	4.8%	7.1%	13.9%	10.3%	4.8%	26.9%	26.5%	27.2%	14.6%	263.9%	-
Jul-2021	5.7%	6.6%	0.4%	21.6%	11.4%	26.1%	21.9%	29.4%	24.1%	253.0%	-
Aug-2021	9.2%	5.6%	0.9%	10.4%	14.0%	35.1%	34.8%	35.1%	30.3%	224.7%	-
Sep-2021	9.4%	1.9%	6.9%	3.4%	8.6%	29.7%	29.0%	29.7%	29.7%	251.7%	-
Oct-2021	18.9%	2.2%	-0.0%	1.7%	6.6%	29.4%	29.4%	29.4%	29.4%	253.2%	-
Nov-2021	20.5%	5.6%	-	1.1%	14.1%	40.2%	40.2%	40.2%	39.2%	199.0%	-
Dec-2021	18.4%	0.1%	0.2%	0.0%	11.8%	24.4%	24.2%	24.4%	18.5%	245.5%	-
Jan-2022	21.0%	1.3%	1.4%	2.0%	0.6%	22.9%	22.9%	22.9%	19.4%	285.5%	-
Feb-2022	7.6%	10.7%	0.2%	14.0%	-	18.5%	18.4%	18.4%	4.5%	307.8%	-
Mar-2022	1.9%	18.9%	2.0%	17.6%	-	22.2%	22.1%	22.1%	3.6%	289.6%	-
Apr-2022	0.8%	16.8%	0.4%	18.6%	-	18.6%	18.6%	18.1%	1.3%	306.8%	-
May-2022	5.0%	8.5%	3.5%	13.1%	-	13.1%	13.1%	9.4%	-	334.3%	-
Jun-2022	0.6%	3.4%	4.5%	8.5%	-	8.5%	8.5%	8.5%	-	341.4%	-
Jul-2022	0.4%	3.8%	8.0%	11.7%	0.3%	12.1%	12.1%	12.1%	-	339.5%	-
Aug-2022	4.2%	3.0%	8.4%	9.6%	2.8%	14.0%	14.0%	14.0%	-	329.9%	-
Sep-2022	-	5.1%	5.0%	7.7%	-	8.8%	8.7%	8.8%	-	315.0%	-
Oct-2022	-	3.3%	6.7%	6.4%	-	7.9%	6.9%	7.9%	0.3%	352.5%	-
Nov-2022	-	6.4%	2.3%	6.1%	-	8.7%	8.7%	8.7%	2.6%	344.9%	-
Dec-2022	0.1%	8.3%	3.1%	11.3%	-	11.4%	11.4%	11.4%	-	245.5%	-
Jan-2023	0.6%	7.1%	9.7%	14.4%	-	15.9%	15.9%	15.9%	-	320.4%	-
Feb-2023	0.4%	11.6%	13.9%	8.5%	-	16.9%	16.4%	16.9%	-	315.4%	-
Mar-2023	3.8%	8.0%	15.8%	14.6%	0.9%	19.0%	14.0%	19.0%	0.1%	293.6%	-

[8] Backtested performance untill the Index Launch Date August 07, 2020 (calculated by Goldman Sachs International prior to August 27, 2013, and calculated by Solactive AG, the calculation agent, thereafter). Backtested performance 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 backtested performance.