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Potential Advantages of a Lower Allocation to Energy: The S&P GSCI Light Energy

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S&P Dow Jones Indices (S&P DJI) offers a number of strategies that track various commodities markets. The most widely recognized of these is the S&P GSCI, which is designed to measure the performance of a broad-based, production-weighted, investable representation of the global commodities market. Energy-related futures make up more than half of the index composition.

For a less-energy-intensive commodity market measure, there is the S&P GSCI Light Energy. It tracks the same designated contracts as the headline S&P GSCI, but it divides its contract production weights in the energy sector by four, increasing the relative weights of other S&P GSCI commodity components. Therefore, the index offers a commodity exposure that is more evenly weighted across the five major commodity sectors: energy, industrial metals, precious metals, agriculture, and livestock.

Exhibit 1 compares the methodologies of the S&P GSCI Light Energy and the Bloomberg Commodity Index (BCOM). These two indices are representations of a more equal-weighted view of commodities markets. Their performance is similar, and due to lower energy weights, each index has shown much less volatility than the headline S&P GSCI.

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The S&P GSCI Light Energy divides its contract production weights in the energy sector by four.

This increases the relative weights of other S&P GSCI commodity components.

Exhibit 1: Methodology Comparison

CHARACTERISTIC	S&P GSCI LIGHT ENERGY	BCOM
Year Launched	1991	1998
Summary	The S&P GSCI Light Energy is a subindex of the S&P GSCI. It is designed to measure the same designated contracts as the S&P GSCI, but its contract production weights in the energy sector are divided by four, increasing the relative weights of non-energy S&P GSCI constituents and thereby providing a diversified benchmark of broad commodity market performance.	The BCOM is designed to be a highly liquid and diversified benchmark for commodity investments. The BCOM provides broad-based exposure to commodities, and no single commodity or sector dominates the index.
Constituent Selection and Weighting Methodology	• The S&P GSCI Light Energy is calculated primarily on a world-production-weighted basis and comprises the principal physical commodities that are the subject of active, liquid futures markets. • The S&P GSCI Light Energy rebalances annually.	• The BCOM rebalances annually, weighted 2/3 by liquidity and 1/3 by world production, and weight caps are applied at the commodity, sector, and group level for diversification. • No single commodity has less than 2% or more than 15% of the index, and no sector accounts for more than 33% of the index. • The BCOM rebalances annually.
Number of Constituents	At the start of 2020, the S&P GSCI Light Energy had 24 constituents.	At the start of 2020, the BCOM had 23 constituents.
2020 Target Weights	Energy: 28.73% Industrial Metals: 19.82% Precious Metals: 8.38% Agriculture: 29.58% Livestock: 13.49%	Energy: 29.94% Industrial Metals: 17.46% Precious Metals: 17.40% Agriculture: 29.40% Livestock: 5.80%
Rolling Methodology	Rolled by 20% each day over five business days	Rolled by 20% each day over five business days
Rolling Schedule	5th-9th business day of month	6th-10th business day of month

Source: S&P Dow Jones Indices LLC, Bloomberg LP. Data as of Jan. 1, 2020. Table is provided for illustrative purposes.

Exhibit 2 compares the performances of the S&P GSCI Light Energy, S&P GSCI, S&P GSCI Ultra Light Energy, and BCOM.

The S&P GSCI Light Energy is calculated primarily on a world-production-weighted basis.

Exhibit 2: Risk/Return Profile of Broad Commodity Indices

TIME FRAME	S&P GSCI LIGHT ENERGY	S&P GSCI	S&P GSCI ULTRA LIGHT ENERGY	BCOM
ANNUALIZED RETURNS (%)				
1-Year	-25.80	-41.01	-20.45	-22.31
3-Year	-9.15	-13.33	-8.02	-8.60
5-Year	-8.68	-12.82	-7.44	-7.76
10-Year	-6.82	-10.43	-5.60	-6.74
ANNUALIZED RISK (%)				
1-Year	19.9	34.0	15.6	16.8
3-Year	13.8	24.1	10.9	12.2
5-Year	13.7	22.6	11.2	12.9
10-Year	14.8	20.8	13.5	14.2
RISK-ADJUSTED RETURN				
1-Year	-1.30	-1.21	-1.31	-1.33
3-Year	-0.66	-0.55	-0.74	-0.71
5-Year	-0.64	-0.57	-0.66	-0.60
10-Year	-0.46	-0.50	-0.42	-0.48

Source: S&P Dow Jones Indices LLC. Bloomberg. Data from Dec. 31, 2009, to March 31, 2020. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes. The S&P GSCI Ultra Light Energy divides the contract production weights in the energy sector by 8.

There are a few reasons for the risk-adjusted outperformance of S&P DJI's offerings over the BCOM for the 1-, 3-, and 10-year periods. One reason involves the weighting breakdown of the indices. Even though energy, agriculture, and industrial metals were similar at the sector level, weights of several individual commodities were substantially different.

It comprises the principal physical commodities that are the subject of active, liquid futures markets.

For example, in energy, the BCOM is heavily exposed to natural gas, with an 8% target weighting in 2020, while the S&P GSCI Light Energy has only a 1.5% target weighting. Natural gas has also been one of the most-volatile commodities historically, which for some makes it a less-attractive component of a broad commodity index.

The other two major differences came from livestock and precious metals. The target weight for livestock was close to eight percentage points higher for the S&P GSCI Light Energy than for the BCOM in 2020, while for precious metals, the S&P GSCI Light Energy was nine percentage points lower.

Exhibit 3: 2020 Target Weights

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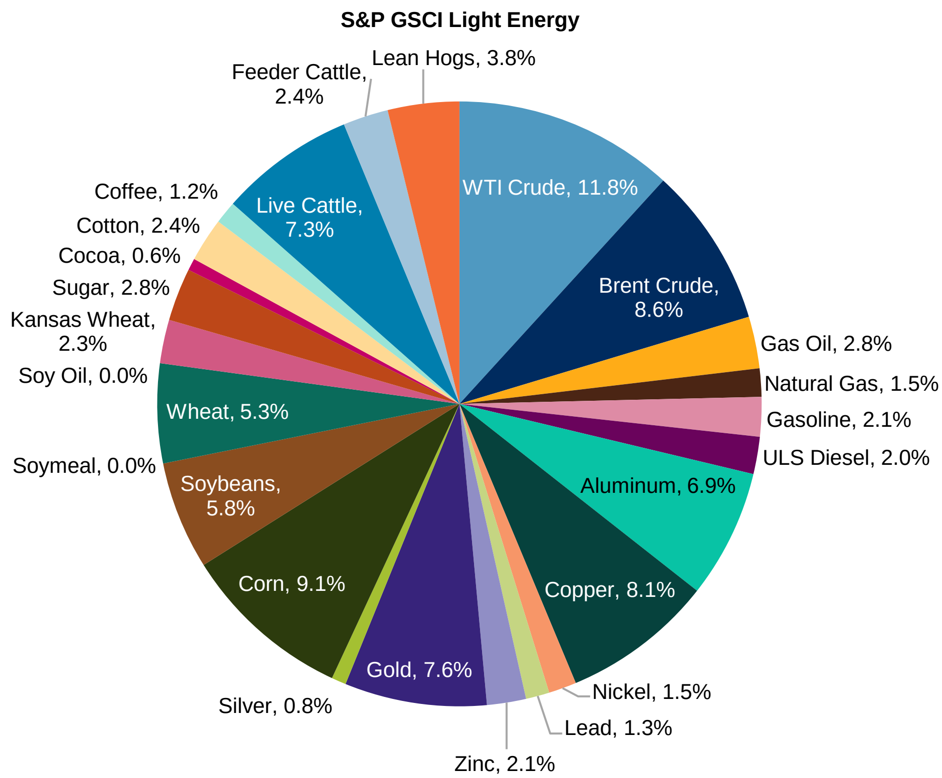
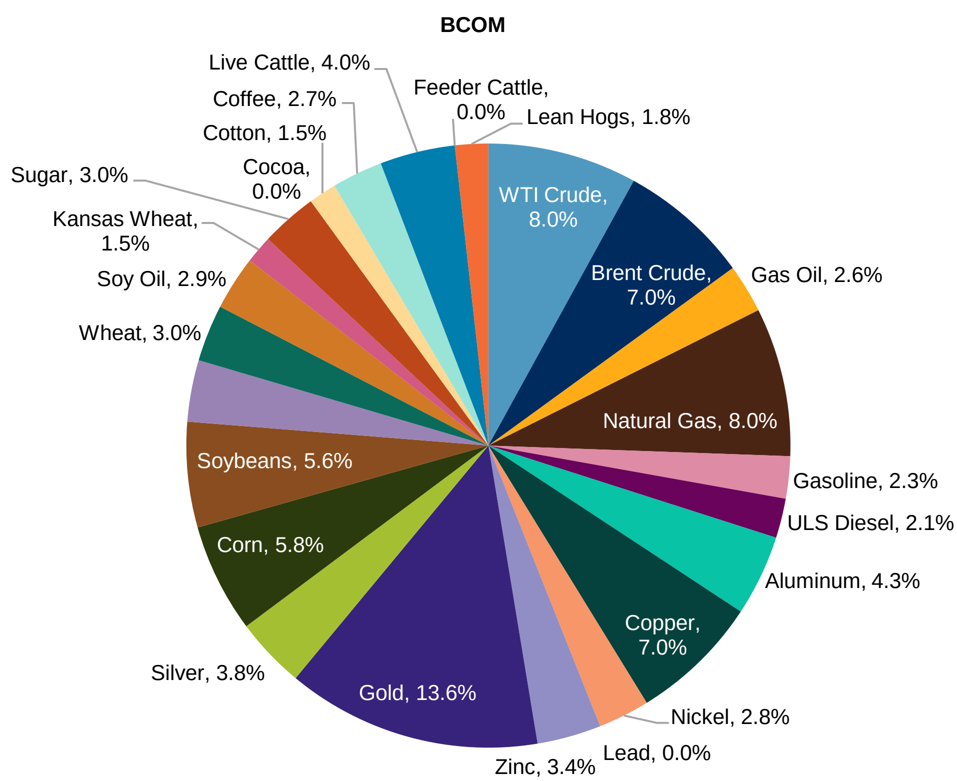
The S&P GSCI Light Energy has only a 1.5% target weighting to natural gas.

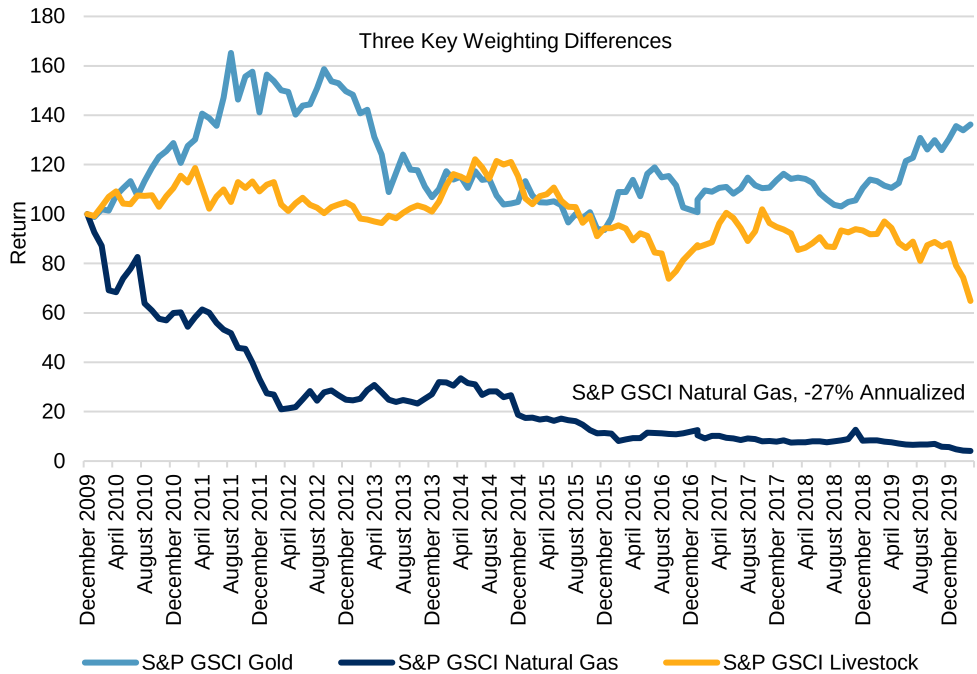




Source: S&P Dow Jones Indices LLC. Data as of Jan. 1, 2020. Charts are provided for illustrative purposes.

Exhibit 4 illustrates the significant underperformance of the S&P GSCI Natural Gas over the past 10 years. It had the worst performance among the three indices with the largest differences in weighting. On an annualized basis, natural gas fell a substantial 27% over the period. With the BCOM's 8% 2020 target weighting versus the S&P GSCI Light Energy's 1.5%, it is easy to see how the higher weighting of the more volatile and poorly performing commodity led to the recent underperformance of BCOM. The persistent underperformance of natural gas is a function of global oversupply, which is unlikely to abate in the foreseeable future. The performance impacts of gold and livestock were minimal in comparison.

Exhibit 4: Performance of the Most-Significant Weighting Differences between the S&P GSCI Light Energy and BCOM



Source: S&P Dow Jones Indices LLC. Data from December 2009 to March 2020. Index performance based on total return in USD. Past Performance is no guarantee of future results. Chart is provided for illustrative purposes.

IMPORTANT CHARACTERISTICS OF THE S&P GSCI LIGHT ENERGY

1. Reduced Energy Weighting

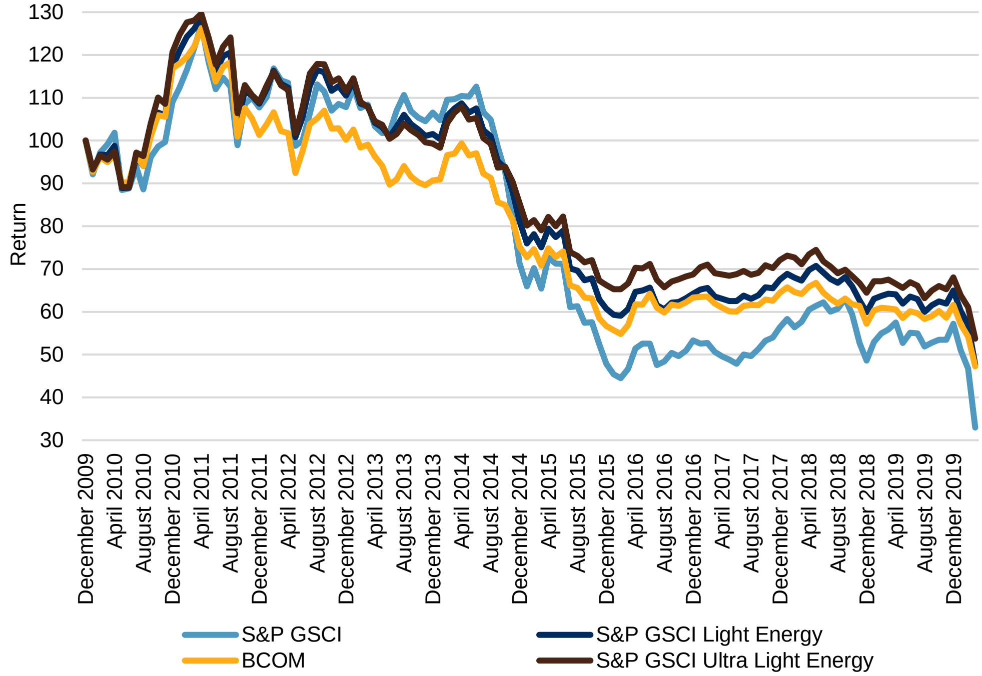
For reduced exposure to energy and more exposure to other commodities, the S&P GSCI Light Energy could be a suitable benchmark and investment universe.

For market participants looking for reduced exposure to energy and more exposure to other commodities, the S&P GSCI Light Energy could be a suitable benchmark and investment universe.

Energy is a volatile commodity group that has been in structural decline for some time, so diminishing energy weighting may be a prudent approach for investors. As we see in Exhibit 5, indices with lower energy weightings outperformed the more heavily energy-weighted headline S&P GSCI.

The S&P GSCI Light Energy may be an attractive alternative for investors looking to reduce their overall exposure to the traditional energy sector.

Exhibit 5: 10-Year Performance of Broad Commodity Indices



Source: S&P Dow Jones Indices LLC, Bloomberg. Data from December 2009 to March 2020. Index performance based on total return in USD. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

2. ESG Considerations

To date, the focus of environmental, social, and governance (ESG) integration in the investment process has been on individual companies and broad equity sectors, but an individual's commodity market investments can be sympathetic to ESG principles. For example, carbon footprint is a major theme across most strong ESG ratings. An index with reduced commodity exposure to energy may garner a more palatable ESG rating if direct exposure to fossil fuels is reduced. However, it is hard to say one commodity is more environmentally friendly than another because it is necessary to look across the lifecycle, from mining or growing to processing and market delivery, to obtain a complete picture of its environmental footprint. That said, for investors looking to reduce their overall exposure to the traditional energy sector, the S&P GSCI Light Energy may be an attractive alternative.

3. Broad Commodity Beta

The S&P GSCI Light Energy uses an adjusted-production weighting methodology, whereas the BCOM's methodology is based on the futures markets' trading volumes. Even with a lower energy weighting, the S&P GSCI Light Energy offers a balanced reflection of the real-world importance of each commodity constituent in the index.

The headline S&P GSCI is characterized by its unrestrained approach to balancing commodity exposures, allowing the index to adjust to changes in

The S&P GSCI Light Energy offers a balanced reflection of the real-world importance of each commodity constituent in the index.

relative physical production levels. Aside from basic liquidity measures, the only constraint built into the index is production weights. These weights are based on the average output over the past five years, which prevents one unusual year from skewing index construction. By maintaining the production weight approach, albeit with the additional constraint of a lower energy weight, the S&P GSCI Light Energy can still reflect the often dramatic shifts of the underlying commodities market.

The BCOM adopts a much more restrictive weighting methodology. Individual commodities are capped at a 15% allocation, and all variations on the same commodity are limited to a maximum of 25% (for instance, WTI crude and Brent crude) of that commodity's allocation. In addition, no commodity sector can exceed a 33% allocation, and each commodity must have at least a 2% allocation. While these rules enforce a high level of diversification and prevent any one commodity from dominating the index, the absolute capping of the weights can be subjective and arbitrary.

USING THE S&P GSCI LIGHT ENERGY IN A PORTFOLIO

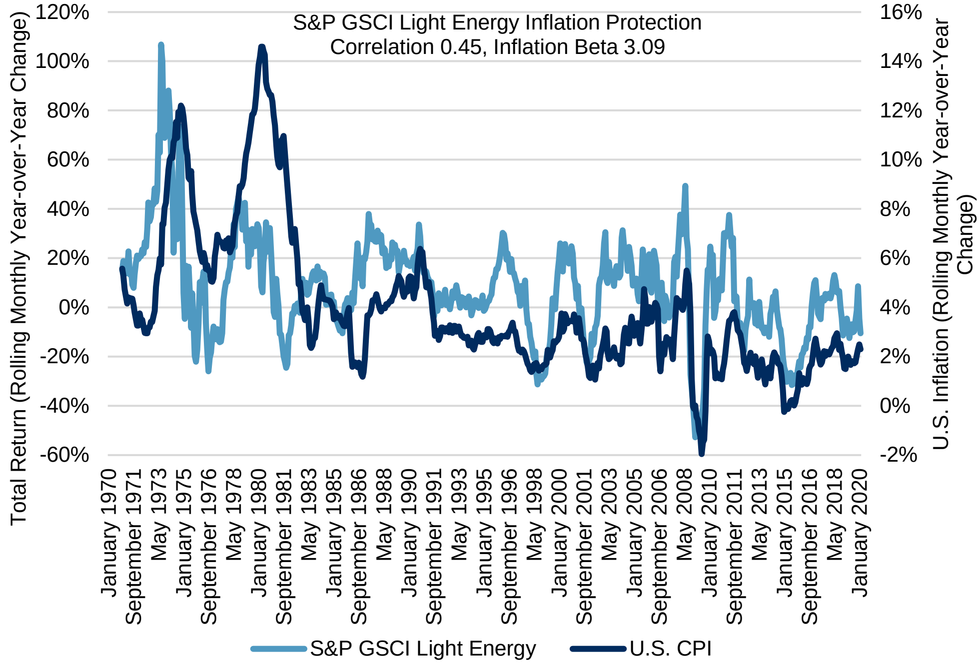
Even though the diversification and inflation protection arguments touted by long-only commodity advocates have diminished over the past decade, it can still be valuable to avoid such parameters by using the S&P GSCI Light Energy.

It can still reflect the often dramatic shifts of the underlying commodities market.

History would suggest that there is some positive relationship between the level of inflation and returns of a broad basket of commodities, but the contemporaneous nature of this relationship can make it difficult to capture unless exposure is held continuously. Exhibit 6 compares monthly year-over-year percentage changes in inflation to the S&P GSCI Light Energy and calculates an inflation beta measure for commodities. Inflation beta is a measure of the responsiveness of an asset's returns to observed changes in inflation.

Commodities tend to have low correlations to equities and bonds.

Exhibit 6: S&P GSCI Light Energy Inflation Protection



Source: S&P Dow Jones Indices LLC, Federal Reserve Bank of St. Louis. Data from December 1969 to February 2020. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance. Inflation is defined as the year-over-year percentage change in the monthly U.S. CPI. Average year-over-year S&P GSCI Light Energy returns since index inception.

They may also offer investors valuable diversification benefits.

Diversification is always protective in investing. Adding low or negatively correlated asset classes to a portfolio has the potential to lower overall portfolio volatility without sacrificing returns, thereby potentially improving risk-adjusted returns. Commodities tend to have low correlations to equities and bonds, and they may offer investors valuable diversification benefits (see Exhibit 7). While the S&P GSCI Light Energy has a slightly higher correlation to equities than does the energy-heavy S&P GSCI, the increase is not meaningful.

A long-term view of commodities performance is important.

Exhibit 7: Correlation of Monthly Asset Returns

CORRELATION	S&P GSCI LIGHT ENERGY	S&P GSCI	S&P 500	S&P GSCI GOLD	S&P REAL ASSETS INDEX	S&P U.S. AGGRE-GATE BOND INDEX	BCOM
S&P GSCI Light Energy	1.0000	-	-	-	-	-	-
S&P GSCI	0.9431	1.0000	-	-	-	-	-
S&P 500	0.5390	0.5303	1.0000	-	-	-	-
S&P GSCI Gold	0.3852	0.2721	0.0224	1.0000	-	-	-
S&P Real Assets Index	0.7359	0.6901	0.8195	0.3164	1.0000	-	-
S&P U.S. Aggregate Bond Index	0.1630	0.1786	0.1425	0.2138	0.4188	1.0000	-
BCOM	0.9687	0.8893	0.5086	0.4564	0.7302	0.1593	1.0000

Source: S&P Dow Jones Indices LLC. Data from April 2005 to March 2020. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

A long-term view of commodities performance is important. Exhibit 8 compares the relative rolling three-year performance of a 55% equity/40% bond/5% commodity portfolio and a typical 60% equity/40% bond portfolio. Since the 2008 global financial crisis, a portfolio with a small allocation to the S&P GSCI Light Energy has performed much like the traditional equity/bond portfolio.

The S&P GSCI Light Energy offers investors broad commodity beta exposure.

Exhibit 8: Return Profile of Portfolios with and without Commodities

PERIOD	60/40 PORTFOLIO	55/40/5 PORTFOLIO WITH S&P GSCI	55/40/5 PORTFOLIO WITH S&P GSCI LIGHT ENERGY	55/40/5 PORTFOLIO WITH BCOM
ANNUALIZED RETURNS (%)				
1-Year	-5.38	-5.83	-5.52	-5.27
3-Year	5.07	4.80	4.88	5.05
5-Year	6.30	5.91	6.03	6.25
10-Year	9.49	8.73	8.98	9.37
20-Year	4.82	4.60	4.67	4.81
ANNUALIZED VOLATILITY (%)				
1-Year	17.16	17.15	16.98	16.99
3-Year	13.46	13.38	13.28	13.33
5-Year	12.06	11.94	11.86	11.93
10-Year	11.29	11.22	11.12	11.14
20-Year	12.20	11.88	11.84	12.00
SHARPE RATIO				
1-Year	-0.31	-0.34	-0.32	-0.31
3-Year	0.38	0.36	0.37	0.38
5-Year	0.52	0.50	0.51	0.52
10-Year	0.84	0.78	0.81	0.84
20-Year	0.40	0.39	0.39	0.40

Source: S&P Dow Jones Indices LLC, Bloomberg LP. Data from December 1999 to March 2020. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance. 60/40 and 55/40/5 portfolios are hypothetical portfolios.

CONCLUSION

It has historically outperformed its counterpart, the BCOM.

Assessing the importance of each commodity in broad indices is difficult. Unlike equities and fixed income, commodities do not naturally lend themselves to a common weighting scheme, such as market capitalization, which cannot be easily replicated in the commodities market. S&P DJI offers a myriad of indices tracking commodities markets, utilizing a variety of weighting and constituent selection criteria. No single basket of commodities will meet all investors' requirements, as market participants have different views on how commodity indices should be constructed. The S&P GSCI Light Energy offers broad commodity beta exposure with a lower energy weighting than the headline S&P GSCI. With its lower weighting to natural gas, which has been the weakest-performing commodity over the past decade, it has historically outperformed its counterpart, the BCOM.

For more information on commodities and their use in a portfolio, please see S&P DJI's research paper, "Rethinking Commodities," published in January 2020.

PERFORMANCE DISCLOSURE

The S&P GSCI Light Energy was launched May 1, 1991. The S&P Real Assets Index was launched December 31, 2015. The S&P U.S. Aggregate Bond Index was launched July 15, 2014. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at www.spdji.com. Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its datafeed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

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Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities 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.

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