

Portfolio Strategy

March 2017

The Contribution of Commodities in Portfolios

Summary

- Commodities are key alternative investments that may offer diversification benefits for portfolio allocations through low correlations to other asset classes and its own sub-sectors.
- Historically moving in tandem with rising growth and inflation surprises, commodities may serve as a component of inflation hedging strategies for diversified portfolios.
- Investors may improve their portfolios by including broad commodities allocations; however, implementation choices of this exposure are central to the investment experience.

Commodities are all around us. We interact with them in our daily lives - from our morning breakfasts to our evening commutes. Since the dawn of civilization, commodities have driven economic, geopolitical, and social progress. With the rise of emerging economies boosting global commodity demand and the growth of modern technologies changing commodity usage, the role of commodities in society and the economy are ever expanding. Yet despite this central role, investment in commodities has been a hotly debated topic amongst investors.

Last year was certainly a turning point for the broad commodity complex, with the Bloomberg Commodity Index posting its first positive calendar year total return (+11.8%) since 2010 (see Table 1). Prior to 2016, many investors approached commodities with disinterest and scepticism, having witnessed the bursting of the commodity “super-cycle”, which began at the start of the century.

While investor attention has returned to commodities amid price stabilization and improving fundamentals, the asset class should not be overlooked as a critical component for strategic, long term portfolio allocations - particularly in a global landscape of evolving monetary policy, geopolitics, and demographics.

Natural resources are scarce and the supply for certain commodities is finite. Given that commodity markets are driven primarily by fundamental drivers relating to this scarcity in addition to geopolitics and weather, they tend to track global macroeconomic conditions closely. Additionally commodities such as oil, metals, and grains are critical inputs for products and services consumed daily, making their prices highly sensitive to cyclical growth trends and inflationary pressures.

Commodities (along with equities, fixed income, and currencies) are one of the four building block asset classes, with most other investment strategies and asset classes comprised of a mix of factors inherent to these four. The exposure to global economic activity, inflation, and macroeconomic market trends unique to commodities is not easily replicable and may provide distinct investing opportunities.

Since the financial crisis, most asset classes remain at elevated correlations, creating a scarcity of investments that provide true diversification. Commodities, however, remain an exception showcasing their role as a key alternative investment that investors should look to incorporate within their toolkits.

Table 1: Broad exposure may provide a robust method to capture fundamental drivers unique to commodity sectors.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Industrial Metals	72.3%	29.9% Agriculture	-4.1% Precious Metals	80.0% Industrial Metals	42.7% Precious Metals	4.6% Precious Metals	6.3% Precious Metals	5.2% Energy	11.6% Livestock	-11.5% Precious Metals	19.9% Industrial Metals
Precious Metals	27.1%	26.0% Precious Metals	-27.5% Agriculture	29.2% Precious Metals	38.5% Agriculture	-2.3% Livestock	4.0% Agriculture	-3.5% Livestock	-6.7% Precious Metals	-15.6% Agriculture	16.3% Energy
Agriculture	14.3%	20.7% Energy	-28.4% Livestock	18.9% Broad Commodity	16.8% Broad Commodity	-13.3% Broad Commodity	0.7% Industrial Metals	-9.5% Broad Commodity	-6.9% Industrial Metals	-18.8% Livestock	11.8% Broad Commodity
Broad Commodity	2.1%	16.2% Broad Commodity	-35.6% Broad Commodity	13.7% Agriculture	16.2% Industrial Metals	-14.4% Agriculture	-1.1% Broad Commodity	-13.6% Industrial Metals	-9.2% Agriculture	-24.7% Broad Commodity	9.5% Precious Metals
Livestock	-6.1%	-9.9% Industrial Metals	-47.3% Energy	-5.3% Energy	9.3% Livestock	-16.0% Energy	-3.5% Livestock	-14.3% Agriculture	-17.0% Broad Commodity	-26.9% Industrial Metals	2.1% Agriculture
Energy	-41.4%	-10.7% Livestock	-48.3% Industrial Metals	-15.1% Livestock	-10.5% Energy	-24.2% Industrial Metals	-9.4% Energy	-30.8% Precious Metals	-39.3% Energy	-38.9% Energy	-5.6% Livestock

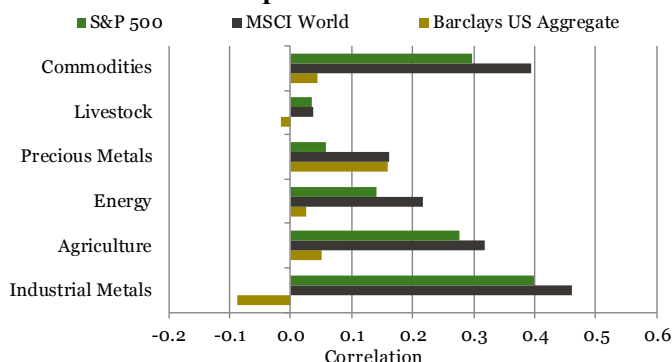
Source: Bloomberg, ETF Securities. Commodities represented by Bloomberg Commodity Total Return (TR) Index and sector sub-indices. Table data from 01/01/06 to 12/31/16.

Commodities serve as a key alternative investment

A significant contribution from holding commodities within portfolio allocations comes from its low correlation relative to other asset classes, to components of its own asset class, as well as to diversified portfolios. This low correlation stems from the fact that commodities are global assets driven by varying fundamentals. These distinct drivers lead to exposures beyond those factors offered from traditional financial assets like stocks and bonds.

Broad commodities have exhibited a relatively low positive relationship to both US and global equity markets (with 0.3 and 0.4 correlations to the S&P 500 and MSCI World indices respectively). Additionally, commodities tend to be less sensitive to fixed income markets as seen by its near zero correlation to the Barclays US Aggregate Index, with certain commodity sectors, such as industrial metals and livestock, having negative correlations (see Exhibit 1).

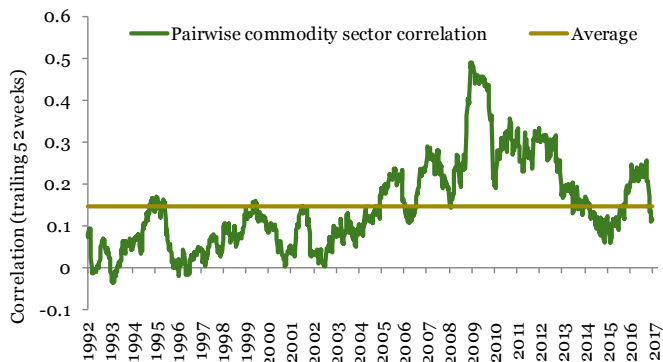
Exhibit 1: Commodities display low correlations to other asset classes such as equities and fixed income.



Source: Bloomberg, ETF Securities. Chart data from =01/02/91 to 02/28/17. Correlations based on total return indices. Commodity sectors represented by Bloomberg Commodity sub-indices.

Another source of diversification commodities offer is through the low correlation among commodity sub-sectors themselves. Unlike many equity sectors and bond segments (which historically remain highly correlated among their peers) commodity sub-sector pairs average a low correlation of 0.15 over time (see Exhibit 2).

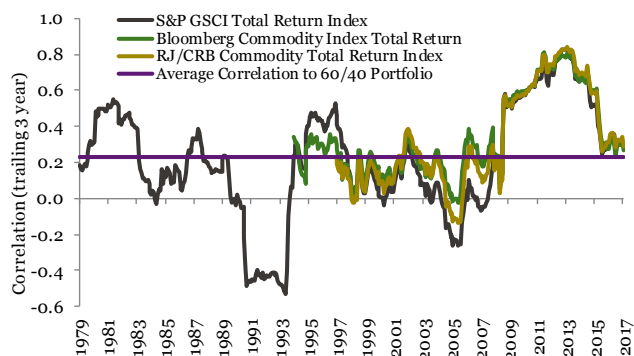
Exhibit 2: Commodity sectors historically exhibit low correlations amongst each other.



Source: Bloomberg, ETF Securities. Chart data from 01/03/92 to 03/17/17.

The correlation between each sector pair within the Bloomberg Commodity Index has ranged from slight negative values to a peak of about 0.5 during the 2008 financial crisis. Following the six year rout of commodity markets beginning in 2010 this correlation has reverted closer to the long term average.

Exhibit 3: Commodities' correlation to traditional stock/bond allocation is low over the long term.



Source: Bloomberg, ETF Securities. Chart data from 2/28/79 to 2/28/17. 60/40 portfolio consists of fixed 60% MSCI World TR Index, 40% Barclays US Aggregate Index.

Commodities further demonstrate their role as a key alternative investment through a low average correlation to diversified portfolios. Evaluating three major commodity indices, the average 3-year correlation to a fixed 60% stock and 40% bond allocation (60/40) is approximately 0.2 since 1979 (see Exhibit 3). While there have been periods of extremes, the experience over full market cycles may help provide critical diversification benefits.

Table 2: Commodities may help enhance portfolios by reducing risk and drawdowns while improving efficiency.

Risk profile	Balanced (60/40)	Conservative (20/80)	Aggressive (80/20)
Commodity Allocation	0%	10%	0%
Annualized Volatility	8.5%	7.6%	4.2%
Annualized Return	8.8%	8.6%	8.9%
Max drawdown (peak to trough)	-35.8%	-33.8%	-13.7%
Beta (vs Benchmark)	1.0	0.9	1.0
Correlation (vs Benchmark)	1.0	1.0	0.9
Sharpe Ratio	0.73	0.79	1.51

Source: Bloomberg, ETF Securities. Commodity = Bloomberg Commodity Index. Stock=composite of historic MSCI World and MSCI AC World indices. Bond = Barclays Global Aggregate Bond Index. Table data from 01/02/91-03/09/17.

Applying this more broadly highlights the true portfolio benefits of including commodities. By incorporating a commodity allocation investors may reduce portfolio volatility and drawdowns while increasing risk-adjusted returns. As shown in Table 2, a 10% allocation to commodities (funded from equities) can boost portfolio efficiency (higher Sharpe Ratios). Balanced risk profiles have benefited the most with the largest increase in Sharpe Ratios, but similar benefits have been yielded from the inclusion of commodities in conservative and aggressive risk profiles as well.

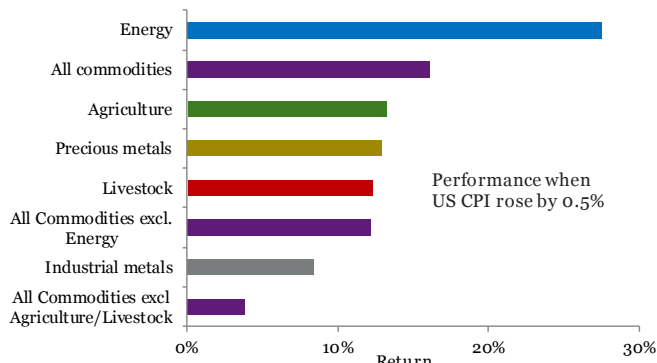
In an increasingly challenging investment landscape, portfolio diversification becomes an ever prudent approach for investors to take into consideration. The market exposures unique to commodities may help enhance the asset mix of traditional portfolios over time by providing diversification benefits, reduced drawdowns, and more efficient risk adjusted returns.

Cyclical nature linked to inflation and growth

Commodities as an asset class offer a unique factor risk exposure for investors. The core structure, activity and fundamentals of the global commodity market provides a high sensitivity to trends in inflation and growth. In this capacity commodities may serve as a core component within inflation hedging strategies.

Rising prices in food and energy remain central to many inflation measures such as the consumer price index (CPI). This overlap between commodity prices and inflationary pressures creates a natural link between the two. Historically, during months when US headline CPI rises by 0.5% annually, all commodities, as measured by the Bloomberg Commodity Index, rose 16% on average (see Exhibit 4). Given their high contribution to consumer and producers costs, energy (+28%) and agriculture/livestock (+13%/+12%) were top performing sectors during rising inflationary periods. Industrial metals, while still posting positive returns (+8%), was the least sensitive sector on average.

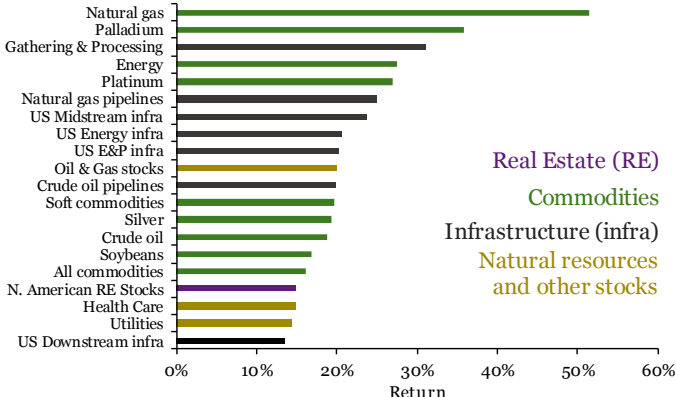
Exhibit 4: Commodities perform well when inflation rises.



Source: Bloomberg, ETF Securities. Chart data from 01/02/91 to 2/28/17.

The inflation hedging potential of commodities is further highlighted when compared among other real assets, such as real estate and infrastructure, which are also traditionally viewed as inflation hedges. When evaluating 50 commonly used real asset investments during months when US inflation rises by 0.5% annually, commodities rank highest among the top 20 performers returning 26% on average, followed by infrastructure averaging 22%. Among these top 20 performers were commodities within the energy and precious metals sectors (see Exhibit 5).

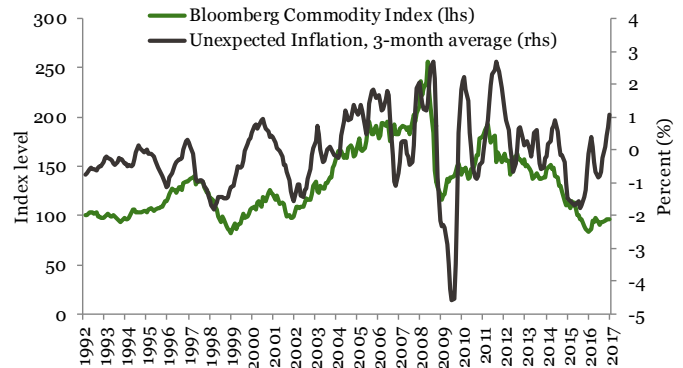
Exhibit 5: Average return when US CPI rose by 0.5%.



Source: Bloomberg, ETF Securities. Chart data from 01/02/91 to 02/28/17. E&P = exploration and production.

Among the real assets that perform best when CPI in the US, Europe, and United Kingdom are rising, commodities represented 40%, infrastructure 30% and real estate 15% on average.

Exhibit 6: Commodities tend to track inflations surprises.



Source: Bloomberg, US Federal Reserve, ETF Securities. Chart data from 03/31/92 to 02/28/17.

Commodities clearly track realized inflation on average over time, but they also can serve as hedges against another form of inflation risk – unexpected inflation. When comparing CPI forecasts from the Federal Reserve Bank of Cleveland to actual CPI figures, an estimate for unexpected inflation, or inflation surprises, can be constructed. When comparing broad commodity prices to 1-year unexpected inflation measures, commodities broadly track these inflation surprises over time, adding to their usefulness as a component tool to help hedge against inflation risk (see Exhibit 6).

Table 3: Rising growth and extreme inflationary periods have historically boded well for commodities.

		Slowing Growth		Rising Growth	
Low Inflation	REITs	1.1%	Commodities	1.4%	
	Bonds	0.9%	REITs	1.1%	
	Global Equities	0.6%	Global Equities	0.7%	
	Cash	0.5%	Bonds	0.5%	
	Commodities	0.4%	Cash	0.2%	
High Inflation	REITs	1.2%	REITs	1.7%	
	Bonds	1.1%	Commodities	1.3%	
	Cash	0.7%	Global Equities	0.7%	
	Commodities	0.2%	Cash	0.6%	
	Global Equities	-0.1%	Bonds	0.2%	

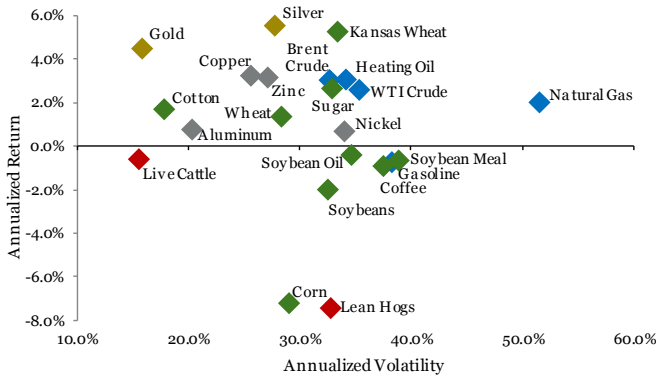
Source: Bloomberg, ETF Securities. Table data from 01/30/76 to 02/28/17. Commodities = S&P GSCI TR Index, Global equities = MSCI World TR Index, Bonds = Barclays US Aggregate TR Index, REITs (Real Estate Investment Trusts) = FTSE All Equity REIT Index, Cash = 3 month US Treasury bill. High/low inflation = top/bottom 20% of months in US headline consumer price index (CPI), Slowing/rising growth = US ISM Purchasing Manufacturing Index (PMI).

Inflation is also a key component of economic expansion, and investors interested in capturing this cyclicity in portfolios, may want to consider commodities with their high correlation to growth. As shown in Table 3, during months of extremely high or low inflation, commodities perform strongest when these extremes are accompanied by rising growth. Since 1976, during months when US CPI was among the top 20%, commodities averaged 1.3%; indicative of rising commodity demand at late stages of the economic cycle. Alternatively, when CPI was among the bottom 20% of months during rising growth, commodities performed slightly better (1.4%). This would typically occur at the start of an economic recovery following a drop in commodity prices creating a low base from which to recover.

Implementation choices remain central

Portfolios may be enhanced by incorporating a broad commodity allocation. Choices around implementation of this allocation, however, remain central to the portfolio impact and experience.

Exhibit 7: Commodities in same sector may vary greatly.



Many contest that the lack of homogeneity among different commodities and sectors precludes its asset class status. This low correlation among its constituents, however, amplifies the diversification benefits and commodities' role as a key alternative investment. Therefore, holding an allocation to the commodity complex may help improve portfolio experience over time.

Individual commodities, however, can vary greatly over short-term periods as well as across different phases of the market cycle. Depending on the selected commodity or sector, the risk-return experience can vary greatly, particularly for those more volatile or less liquid commodities (see Exhibit 7).

Table 4: Sectors can be driven by their own factors.

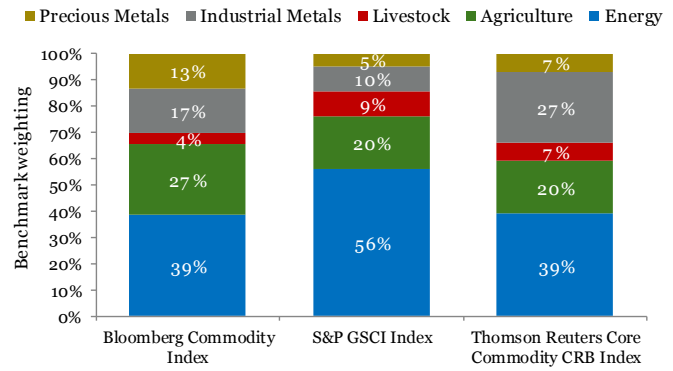
	Slowing Growth		Rising Growth	
Low Inflation	Energy	1.8%	Industrial Metals	1.2%
	Industrial Metals	1.2%	Precious Metals	0.9%
	Precious Metals	1.0%	Livestock	0.8%
	Agriculture	0.6%	Agriculture	0.4%
	Livestock	0.0%	Energy	-0.5%
High Inflation	Energy	2.3%	Agriculture	1.5%
	Industrial Metals	1.5%	Livestock	0.9%
	Livestock	0.5%	Precious Metals	0.1%
	Agriculture	0.3%	Energy	0.1%
	Precious Metals	0.0%	Industrial Metals	-0.1%

Source: Bloomberg, ETF Securities. Table data from 01/02/91 to 02/28/17. Sectors represented by Bloomberg Commodity total return sub-indices. High/low inflation = top/bottom 20% of months in US headline consumer price index (CPI). Slowing/rising growth = US ISM Purchasing Manufacturing Index (PMI)

Individual commodity sectors can also vary during different economic scenarios. While broad commodities tend to perform well in rising growth and extreme inflationary periods relative to other asset classes like stocks and bonds, individual commodity performance is more disparate. As shown in Table 4, depending on inflation and growth conditions, commodity sector performance may be vastly different than that of commodities as a whole.

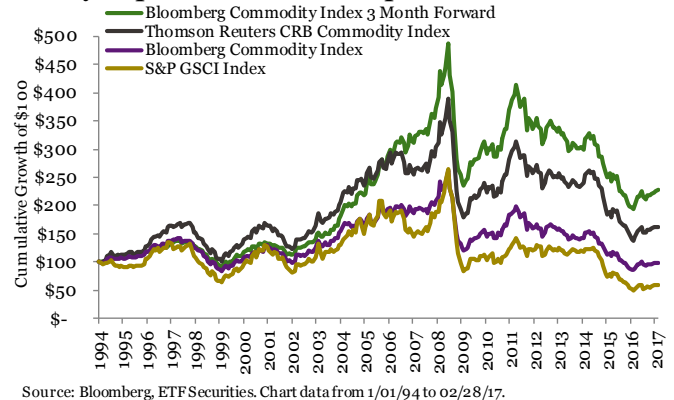
Investors should also note that diversified commodity indices come in many flavors, with different weightings and holdings. Evaluating exposures offered from three commonly referenced indices highlights the importance of knowing the index construction.

Exhibit 8: Broad commodity indices may have different sector constraints, exposures, and concentrations.



The S&P GSCI Index has a high concentration in the energy sector and will likely be driven by oil and gas markets. The Thomson Reuters CRB Index, on the other hand, has a high allocation to industrial metals, while the Bloomberg Commodity Index has more exposure to agriculture and precious metals (see Exhibit 8). Investors should utilize the commodity benchmark that best matches their investment objectives and outlook. In our view investors seeking to achieve the portfolio benefits of commodities as an asset class should look to those indices that offer the most diversification across sectors and individual commodity holdings.

Exhibit 9: Investing in longer dated contracts forward in time may improve investment experience.



With the exception of physical storage, tracking spot prices for most commodities is difficult. A common way investors participate directly in commodity markets is through futures contracts. This implementation, however, comes with additional factors - most notably contract selection. Many commodity indices track the future contract nearest to maturity. This provides the closest representation of the current market; nonetheless, for investors looking to maintain their investment, this can create volatility and a performance drag due to rolling into a new contract at maturity.

A way to help dampen this volatility, particularly for investors seeking continued exposure to commodities, is to hold longer dated contracts instead of the near term contracts. Historically this has helped reduce the performance impact of rolling contracts and the associated market volatility versus investing solely in the near month contract across broad commodity indices (see Exhibit 9).

Important Risks

The statements and opinions expressed are those of the author and are as of the date of this report. All information is historical and not indicative of future results and subject to change. Reader should not assume that an investment in any securities and/or precious metals mentioned was or would be profitable in the future. This information is not a recommendation to buy or sell. Past performance does not guarantee future results.

The ETFS Silver Trust, ETFS Gold Trust, ETFS Platinum Trust, ETFS Palladium Trust and Precious Metals Basket Trust are not investment companies registered under the Investment Company Act of 1940 or a commodity pool for purposes of the Commodity Exchange Act. Shares of the Trusts are not subject to the same regulatory requirements as mutual funds. These investments are not suitable for all investors. Trusts focusing on a single commodity generally experience greater volatility.

Commodities generally are volatile and are not suitable for all investors. Trusts focusing on a single commodity generally experience greater volatility. Please refer to the prospectus for complete information regarding all risks associated with the Trusts. Shares in the Trusts are not FDIC insured and may lose value and have no bank guarantee.

The value of the Shares relates directly to the value of the precious metal held by the Trust and fluctuations in the price could materially adversely affect investment in the Shares. Several factors may affect the price of precious metals, including:

- A change in economic conditions, such as a recession, can adversely affect the price of the precious metal held by the Trust. Some metals are used in a wide range of industrial applications, and an economic downturn could have a negative impact on its demand and, consequently, its price and the price of the Shares;
- Investors' expectations with respect to the rate of inflation;
- Currency exchange rates;
- interest rates;
- Investment and trading activities of hedge funds and commodity funds; and
- Global or regional political, economic or financial events and situations. Should there be an increase in the level of hedge activity of the precious metal held by the trust or producing companies, it could cause a decline in world precious metal prices, adversely affecting the price of the Shares. Should there be an increase in the level of hedge activity of the precious metal held by the Trusts or producing companies, it could cause a decline in world precious metal prices, adversely affecting the price of the shares.

Also, should the speculative community take a negative view towards the precious metal held by the Trusts, it could cause a decline in prices, negatively impacting the price of the shares. There is a risk that part or all of the Trusts' physical precious metal could be lost, damaged or stolen. Failure by the Custodian or Sub-Custodian to exercise due care in the safekeeping of the precious metal held by the Trusts could result in a loss to the Trusts.

The Trusts will not insure its precious metals and shareholders cannot be assured that the custodian will maintain adequate insurance or any insurance with respect to the precious metals held by the custodian on behalf of the Trust. Consequently, a loss may be suffered with respect to the Trust's precious metal that is not covered by insurance.

Commodities generally are volatile and are not suitable for all investors.

Please refer to the prospectus for complete information regarding all risks associated with the Trust.

Investors buy and sell shares on a secondary market (i.e., not directly from Trusts). Only market makers or "authorized participants" may trade directly with the Trusts, typically in blocks of 50k to 100k shares.

The Bloomberg Commodity Index is a broadly diversified commodity price index distributed by Bloomberg Indexes. The S&P GSCI Index provides investors with a reliable and publicly available benchmark for investment performance in the commodity markets. The Thomson Reuters Core Commodity RJ/CRB Commodity Index is a basket of 19 commodities, and acts as a representative indicator of today's global commodity markets. The MSCI World Index is a free-float weighted equity index developed to track developed world markets, and does not include emerging markets. The S&P 500 Index is a capitalization-weighted index of 500 stocks selected by the Standard & Poor's Index Committee designed to represent the performance of the leading industries in the U.S. economy. The Barclays US Aggregate Bond Index (Barclays Agg) is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The FTSE NAREIT All Equity REITS Total Return Index is a market capitalization weighted index that includes all tax qualified REITs in the US. The Consumer Price Index (CPI) is a measure that examines the weighted average of prices of a basket of consumer goods and services; headline includes all categories while core excludes food and energy. The ISM Purchasing Manufacturing PMI Index (PMI) is an indicator of the economic health of the manufacturing sector. A commodities super-cycle is an approximately 10-35 year trend of rising commodity prices. Pairwise correlation refers to the average correlation between all combinations of two distinct variables among a set of variables. Bloomberg 3 Month Forward Index is a version of the Bloomberg Commodity (BCOM) Index where the lead and future contracts look 3 months ahead of the BCOM index contract calendar. The Barclays Global Aggregate Index is a flagship measure of global investment grade debt from twenty-four local currency markets. The MSCI AC World Index is a free-float weighted equity index that includes both emerging and developed world markets. Correlation is a measure of fluctuation between two variables, cumulative return is the aggregate amount an investment has gained or lost over time, annualized return is amount of money earned by an investment each year over a given time period, volatility is a measure of dispersion of returns, Sharpe ratio indicates the average return minus the risk-free return divided by the standard deviation of return on an investment. Max drawdown defines as the maximum loss from a peak to a trough based on a portfolio past performance. Beta is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.

Commodities generally are volatile and are not suitable for all investors. This material must be accompanied or preceded by the prospectus. Carefully consider each Trust's investment objectives, risk factors, and fees and expenses before investing. Please [click here](#) to view the prospectus.

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